Journal of the Myanmar Academy of Arts and Science
Vol. XVIII, No.9B
Contents
Educational Psychology

AN ANALYTICAL STUDY OF TEACHER EDUCATORS' SOCIAL INTELLIGENCE*

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Abstract

The main purpose of this study is to develop a social intelligence scale for Myanmar teacher educators and then to investigate the teacher educators' social intelligence. Both quantitative and qualitative approaches were used in this study. A total of 1102 teacher educators from three education universities and nine education colleges participated as a sample and cluster sampling technique was used in this study. An appropriate social intelligence scale for Myanmar teacher educators was developed by applying two parameter logistic model of item response theory (IRT). The results showed that the accuracies of ability estimates of the scale are sufficient on the ability scale of between -1 and + 3. According to the discrimination indices, the items are fairly good items to provide appropriate discrimination for the whole test. Considering their difficulty indices, it is concluded that the test is fairly difficult. The results showed that among the four dimensions of social intelligence, social awareness stood the highest whereas social skill was found to be the weakest. According to the result of independent sample t-test, there were no significant differences in social intelligence by gender and marital status. But, concerning their professional specialization, teacher educators in pedagogic majoring had higher social intelligence than those in non-pedagogic majoring. The results of ANOVA revealed that younger teacher educators were higher socially intelligent than older teacher educators.

Keywords: Social Intelligence, Social Awareness, Social Information Process, Acceptance, Social Skill.

Introduction

Individuals are born distinct from each other and are unique in their own way. But, they need to relate and interact with others interpersonally for their survival, growth and development. That "No man is an island," shows man's relationship to other people as very important. Man is a social being, and in his everyday living, he comes to meet and interact with different types of people with different personalities. Because of individual differences, man comes to experience misunderstandings, conflicts, quarrels and frustrations in life if he cannot manage and direct his social relations. Compromising differences, resolving conflicts, and enhancing personal and social relations have now become a challenge to every individual (Lull, 1911, cited in Gardner, 1983).

To respond to these needs, everyone's social intelligence is deemed to be important. Social intelligence is different from academic ability and a key element in what makes people succeed in life. Many people accept that social intelligence is just as important element of human social development. So far, undoubtedly, social intelligence appears to be an important one of the psychological abilities that relate to success in life, achieving social goals. Therefore, Kolski-Anderaco (2010) said that social intelligence helps one knows of social, identifying the social and self-awareness. It helps in understanding and analyzing of others social intelligence.

Teachers' social intelligence is imperative not only for their personal well-being but also to motivate student learning. Students are the leaders of tomorrow and the leaders of tomorrow are in the hands of the teachers who are the future of a nation. The future of the nation lies in the

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* Best Paper Award Winning Paper in Educational Psychology (2019)

hands of the teacher educators because they are able to mold the prospective teachers into qualified teachers and good citizens. Therefore, teacher educator's social intelligence is deem important because it directly influences the teacher's achievement and performance. If the teacher educators do not have sufficient social intelligence then they are less competent which directly influence the prospective teachers and the education system (Murata, 2008).

Nowadays, social intelligence has become an existing topic with enormous implications for many areas. Moreover, there has been no research on developing a social intelligence scale for Myanmar teacher educators and investigating the relationship between social intelligence and teacher educators' job performance in Myanmar. Moreover, the results may further help the administrators to enhance social intelligence among the teacher educators.

Purpose of the Study

The main purpose of the study is to develop a social intelligence scale for Myanmar teacher educators. The specific aims of the present study are,

1. To examine the social intelligence level of teacher educators
2. To explore the strength of teacher educators' social intelligence by gender, age, marital status and professional specialization

Definitions of Key Terms

Social Intelligence: Social intelligence is the ability to understand, aware, adapt, interact, and cooperate successfully with other people for their mutual satisfaction in any social situation (Marlowe, 1986 & Albrecht, 2009).

Teacher Educator: Teacher educator is anyone who educates teachers. Teacher educators are identified as those educators who provide formal instruction or conduct research and development for educating prospective and practicing teachers (Fisher, 2008).

Review of Related Literature

Theories and Definitions of Social Intelligence

The definition of social intelligence is still being debated in the literature. Mainly social intelligence is comprised of two words 'Social' and 'Intelligence'. "Social" means to relate to the human society. "Social" is related to society as a system of common life. It is the society that makes an individual culture. According to ancient Indian Philosopher, the inner self of man has three parts: Mind, Intelligence and Ego. Due to coordination of the Mind, the external senses become active and due to it, the Intelligence becomes active. This kind of intelligence comprehends the fields of skills in behavior which include the qualities of personality and character, temperament, mood, honesty, decisiveness, humor, nature, these indicate the individual's "Social Intelligence". So, according to Jones and Day (1997), high social intelligence is possessed by those who are able to handle people well.

Interestingly, social intelligence has two key constituents which are distinctly personal and social in nature, one is intrapersonal intelligence and other is interpersonal intelligence. Intrapersonal intelligence is the ability of the person to gain access to his or her own internal, emotional life while interpersonal intelligence is the ability to notice and make distinctions among other individuals.

It is almost a century before, when Thorndike (1920) included the construct 'Social Intelligence' in a model of human intellectual abilities. Thorndike (1920) divided intelligence into three facets; understanding and managing ideas (Abstract Intelligence), concrete objects (Mechanical Intelligence) and people (Social Intelligence). Thorndike (1920) originally defined social intelligence as "the ability to understand and manage men and women, boys and girls - to act wisely in human relations". Adequate adjustment in social situations is the index of social intelligence (as cited in Yahyazadeh & Lotfi, 2012).

Originally, Thorndike had a psychometric view of social intelligence. The psychometric view describes social intelligence as general intelligence applied to social situations or the ability to understand and manage people measurable by tests. Thorndike required a "genuine situation with real persons" for the measurement of social intelligence. It was rare that the behaviour of genuine persons served as stimuli. Therefore, Thorndike subsequently failed to find a way to measure social intelligence. Thorndike (1920) noted that "convenient tests of social intelligence are hard to devise. Social intelligence shows abundantly in the nursery, on the playground, in barracks and factories and salesroom, but it eludes the formal standardised conditions of the testing laboratory.

Social Intelligence and Classroom Discipline Strategies

A teacher's most important activity in a typical class environment is the one related to classroom discipline strategies. Learning and teaching cannot take place in a classroom without discipline (Marzano et al., 2003). Disciplinary problems have long been recognized as a major issue in schools. Classroom discipline management refers to control of time and behavior of students as well as of teachers in a classroom setting. Classroom discipline management involves many interrelated and complicated facets arising from class and environment. The teacher, as the class manager, is expected to lead the class environment, as stated by Lemlech(1988) considering these dimensions as an orchestra. Another important dimension of classroom management is to prepare the physical conditions of the class, to create a proper learning environment and a good student-teacher relationship.

Classroom discipline management involves teachers encouraging positive social interactions as well as active management in learning and self-motivation. They shape a positive learning society in which the students are actively engaged in individual learning process and classroom management. Classroom discipline management strategies play an effective role in building positive teachers and students relationships (Wang et al., 1993).

Classroom discipline management strategies are a set of interactions that assist teachers to influence students' behavior and teach them to act positively. These interactions are developed not only to reduce teacher's stress level but to help these professional people and students to establish social climates of cooperation, a setting in which children and adults can learn together, play together, and build quality relationship (Danforth & Boyle, 2007).

It is important to study how teachers promote classroom discipline and limit or reduce disruptive behavior of students. Scholars argue that high intelligent quotient (IQ) does not necessarily guarantee success in a person's life. It is not responsible for the differences beyond personality factors and characteristics (as cited in Mehrabian, 2000). Hence, other forms of "intelligence" were investigated. Moreover, social intelligence is yet an effective element in classroom discipline management. Albrecht (2005) claimed, the teachers whose behaviors are

associated with high social intelligence, stress the value of collaboration. Similarly, there is a need for educational system which equips the students to state their opinions obviously in order to make themselves understood, and to try to understand the others before they show any reactions to the behavior.

One concept of social intelligence referred to it as the "ability to read non-verbal cues or make accurate social inferences" and "one's ability to accomplish relevant objectives in specific social settings". According to Zirkel (2000), social intelligence is closely related to one's own, personality and individual behavior. Those with social intelligence are fully aware of themselves and understand their environment. This enables them to control their emotions, make decisions about their goals in life. Her model centered on the term "purposive behavior" which is deliberate action taken after evaluating one's environment, opportunities and risks and the goals set.

Methodology

The main purpose of this study is to develop a social intelligence scale for Myanmar teacher educators by two parameter logistic model of item response theory (IRT). Then, this study sought to examine the social intelligence of teacher educators.

Sample of the Study

The participants for this study were selected from five regions and three states, Yangon Region, Mandalay Region, Sagaing Region, Ayeyawady Region, Bago Region, Shan State, Mon State and Kayin State were selected. The number of participated teacher educators and their respective education universities and colleges are as shown in Table 3.1.

Table 1 Number of Participated Teacher Educators with Respect to the Selected Education Universities and Colleges

No.	Name of Education Universities and Colleges	Total
1	Yangon University of Education	105
2	Sagaing University of Education	111
3	University for the Development of National Races of the Union	167
4	Yankin Education College	91
5	Thingangyun Education College	78
6	Sagaing Education College	63
7	Mandalay Education College	56
8	Pathein Education College	90
9	Pyay Education College	90
10	Taunggyi Education College	89
11	Mawlamyine Education College	90
12	Hpa-an Education College	72
	Total	1102

Instruments for the Social Intelligence

In this study, social intelligence scale was mainly adapted from Tromso Social Intelligence Scale (TSIS) by Silvera, Martinussen, and Dahl (2001). The TSIS is a self-report instrument including 21 items. Each of the subscales comprises of 7 items. The TSIS measures intelligence on the base of three different subscales: Social Information Process (SIP), Social Skill (SS) and Social Awareness (SA).

Then, 40 items of this instrument were also adapted from Interaction Rating Scale Advanced (IRSA) by Anme (2014). The Cronbach's alpha value was 0.89. The IRSA includes 6 subscales: self-control, expressivity, sensitivity, assertiveness, acceptance, and regulation. Each observed behavior is rated on a 5-point Likert scale.

Moreover, among 28 items of Interpersonal Reactivity Index (IRI) developed by Davis (1980), 8 items which were culturally inappropriate for Myanmar teacher educators were eliminated. The remaining 20 items were included in this study. IRI is a 5-point Likert scale. The internal consistency (Cronbach alpha) reliability coefficient was .80 for the whole scale. The measure has four subscales, each made up of 7 different items. These four subscales are: Perspective Taking, Empathic Concern, Personal Distress and Fantasy**.**

Furthermore, some items were adapted from the Revised Self-Monitoring Scale (RSMS) by Lennox and Wolfe in 1984. It consists of two subscales: social sensitivity and self-regulation. The RSMS is a 6-point Likert scale. The Cronbach's alpha for the RSMS was .82.

Finally, only 18 items were adapted from Interpersonal Relationships Questionnaire (IRQ) by Steinwachs (n.d.,). The IRQ is a self-report instrument including 117 items. The IRQ measures on the base of five different subscales: Assertion of needs, Feedback, Conflict, Interpersonal closeness and Emotional experience. The internal consistency coefficient of IRQ was 0.90.

There are 12 items in social sensitivity, 7 items in self-regulation, 10 items in expressivity, 10 items in assertiveness, 10 items in acceptance, 7 items in social skill, 7 items in social information process, 7 items in social awareness, 7 items in perspective taking, 6 items in empathic concern, 7 items in personal distress, 10 items in conflict and 8 items in closeness before conducting expert review.

The response scale for each item is "Do not agree" and "Agree". After preparing the measuring scale, expert review was conducted for face validity and content validity by 11 experts from the YUOE, SUOE, YU and another two experts who have special knowledge in the field of educational psychology. According to the valuable advices of the experts, some items were modified. For item clarity, the wording and content of items were also revised in accordance with the result of expert review. Furthermore, preliminary test administration was conducted in March, 2017. The test was done with a total sample of 102 teacher educators. Firstly, the 108 items were analyzed by using the BILOG-MG 3 Program. According to the result, difficulty parameter was obtained, applying one parameter logistic model. In the study, the difficulty parameter ranges from -3.02 to +1.9. The mean of the b value is -1.8. The internal consistency (Cronbach's Alpha) of the whole scale with 108 items was 0.79. After editing and modifying, totally 9 items which may assess low ability of SI were deleted and so that remain 99 items can be said to be more relevant to social intelligence scale. After that, Cronbach's alpha was run on the overall scale with 99 items and it was 0.81.

Data Analysis and Results

The most appropriate social intelligence scale for Myanmar teacher educators was developed by using two parameter logistic model of item response theory (IRT). Furthermore, this study investigated whether the factors such as gender, marital status, age and professional specialization are related or not with teacher educators' social intelligence and job performance. Then, the correlation and multiple regression of teacher educators' social intelligence and their

job performance were further explored. By conducting the statistical analysis, findings and results are discussed in the following section of this chapter.

The Confirmatory Factor Analysis for Social Intelligence Scale (SIS)

In this study, the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.877; it was above the recommended value of 0.7 that is indicating sufficient items for each factor. Then, Bartlett's Test of Sphericity was significant ($p < .000$) which means that the variables are highly correlated enough to provide a reasonable basic for factor analysis. The four factors also have eigenvalues greater than 1.0, which is a common criterion for a factor to be useful.

Although the four factor eigenvalues were greater than 1.0 and the true communalities were larger than 0.20 after the extraction, the loading of the four factors was scattered. Throughout this analysis process, items with initial values of less than 0.2 and those without loading were discarded. After doing several steps, 74 items out of 99 items were eliminated because they had low or no loadings with any other factors. By taking out 74 items, the communalities were all above 0.2; it indicated that the relation between each item and other items is satisfactory. Given these overall indicators, factor analysis was conducted with 25 items.

After extraction, some of the factors were retained and some were dismissed. After rotation, the first factor accounted for 12.07% of the variance, the second factor accounted for 9.93% of the variance, the third factor accounted for 9.08% of the variance and the fourth factor accounted for 8.18% of the variance. Examination of the scree plot was shown in Figure. The first factor was much larger than subsequent factors in term of eigenvalue magnitude; eigenvalue of successive factors drop off quite drastically. Four factors were retained within the sharp descent, before eigenvalue level off. Based on the plot, it appears only four factors should be interpreted.
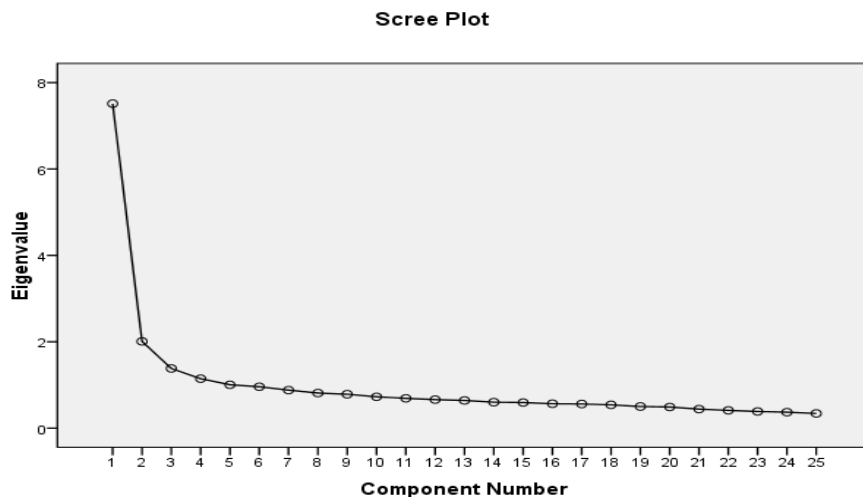
Figure 1 Scree Plot of Eigenvalues for Items of the Social Intelligence Scale

Check the Assumption of Unidimensionality

In order to apply an IRT analysis, assumption of unidimensionality should be held. To investigate this assumption, a principal factor analysis was conducted. The values of eigenvalue 1, 2, 3, 4, 5, 6, 7 were 7.02, 2.48, 2.27, 2.05, 1.49, 1.14, 1.08 and so on and thus eigenvalue 1 was larger enough than other eigenvalues to determine that the test data satisfy the assumption of

unidimensionality. It can be said that the test data satisfy the assumption of local independence. Therefore, the test items were unidimentional.

Item Parameter Estimation

Item parameter and ability parameters were estimated by BILOG-MG 3 Software Package (Zimowski, Muraki & Bock, 2003) which is capable of large-scale production applications with unlimited numbers of items of respondents. The Social Intelligence Scale was analyzed by 2PL model in this study, so there was no c or guessing parameter for these items. In Table 4.1, item parameters a and b of 25 items were estimated and the obtained parameter estimates of each item respectively are presented.

Table 2   Mean, Standard Deviation, Maximum and Minimum Values of Discrimination and Difficulty Parameters

	Parameters	
	Discrimination (a)	Difficulty (b)
Mean	0.67	0.84
Standard Deviation	0.18	0.75
Maximum	1.05	1.88
Minimum	0.33	-0.39

Item Characteristic Curves and Item Information Curves

The item characteristic curve (ICC) serves as the foundation of item response theory. ICC also summarizes much of the information conveyed by item analysis and suggests how this information might be used to understand the relationship between the attribute being measured and test responses (Crocker & Algina, 1986). The higher the item discrimination, the more peaked the information function will be, thus, higher discriminations parameters provide more information about individuals whose ability (θ) lie near the item's difficulty value. The following figure illustrates the item characteristics curves (ICCs) for 25 items of the test.
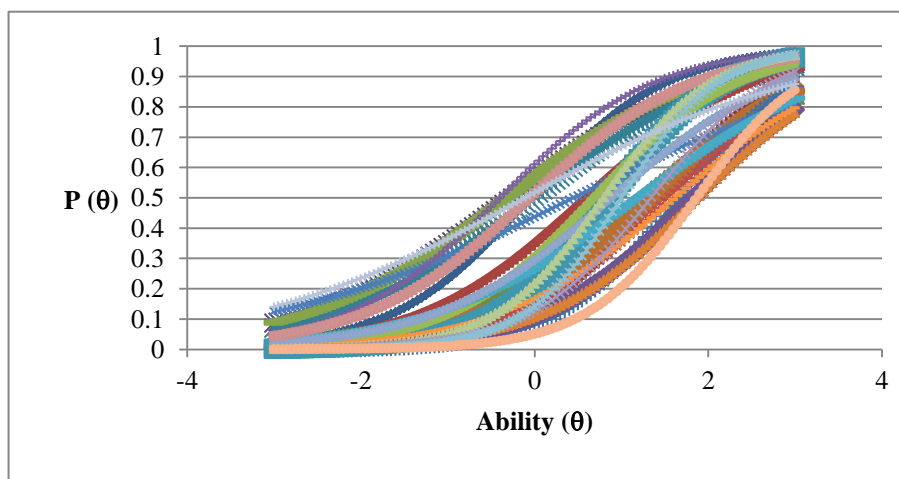
Figure 2   Item Characteristics Curves for the Test with 25 items

Test Characteristic Function and Test Information Function

The test characteristic curve (TCC) for the 25-items test was graphed to learn the peculiarities of the test as a measuring instrument. The TCC shows how test scores on the test are

related to the ability θ of the examinee (Hambleton, Swaminathan & Roger, 1991). The TCC is a true score (τ) of an examinee with ability θ in IRT.

The TIC shows that the test has smaller standard errors across the ability scale from -1 to +3, and larger standard error at the low and high ends of the scale. According to the Figure 4.5, the maximum amount of information I (θ) = 7.51 is at θ = 1.1. Ability estimates are more precise across the ability scale from -1 to +3 than at the low and high ends of the scale. Therefore, it was concluded that this test composed of 25 items could be suitable for teacher educators whose social intelligence was θ = 1.1. However, smaller standard errors are associated with highly discriminating items for which the correct answers cannot be obtained by guessing (Hambleton et al., 1991, p.95, cited in Nu Nu Khaing, 2011).
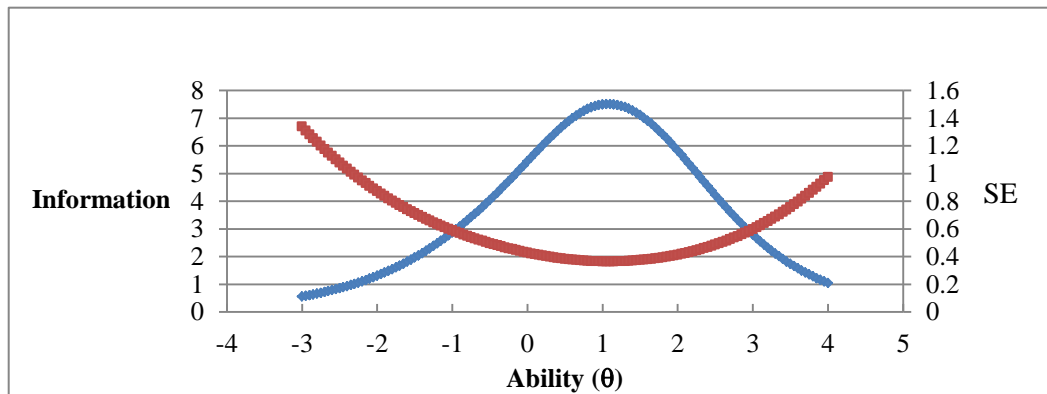
Figure 3   Test Information Curve for the Test with 25 items

Transformation from Ability Scaled Scores to IQ Scaled Scores

According to the testing process, firstly we have raw scores of social IQ scales. Then, the raw scores were converted into the scaled scores (ability (θ) scaled score and IQ scaled score) in order to interpret fairly and accurately compared and ensure that people who tool a more difficult test are not penalized and people who took a less difficult test are not given an unfair advantage. According to IRT test developing process, the ability (θ) scaled scores have been converted because they are expressed with decimal, plus sign and minus sign that are difficult to understand by people who are not expert in testing field. Therefore, they are converted into IQ scaled scores. The standardized IQ scaled score has a mean of 100 and standard deviation of 15. To transform the IQ scaled score, the multiplication of the ability (θ) scaled score and standard deviation (15) and then added to mean (100). It follows that

IQ score = ability score $\times$ 15 + 100

After the ability (θ) scaled scores transformed to the corresponding IQ scaled scores, descriptive statistics of teacher educators' social intelligence were done.

Descriptive Statistics of Social Intelligence for Teacher Educators

After that, descriptive statistics of teacher educators' social intelligence was examined. Teacher educators' social intelligence was measured by Social Intelligence Scale which included four dimensions: social information process, social awareness, acceptance and socil skill. The descriptive statistics corresponding to dimensions of social intelligence were reported in the following table.

Table 4.2   Descriptive Statistics of Teacher Educators' Social Intelligence

Variables	Mean	SD
Social Information Process	111.45	21.64
Social Awareness	119.91	14.97
Acceptance	108.20	19.76
Social Skill	103.39	26.41
Social Intelligence	119.23	15.73

Social Intelligence Scale (SIS) consisted of 25 items and it was divided into four dimensions. According to the results of Table, the mean value of Social Intelligence was 119.23 and standard deviation was 15.73. So, it may be concluded that Myanmar teacher educators had high level of social intelligence because the mean score of teacher educators' social intelligence we above average according to the IQ score ranges.

Moreover, the mean score for social awareness was the highest among the four dimensions of social intelligence. It can be assumed that teacher educators have the highest ability to be aware of one's and other's action when in the relationship. However, the mean score for social skill was the lowest among the four dimensions of social intelligence. It can be concluded that teacher educators tend to be weak in ability to modify behaviours when enter in a new situation and the ability to get to know new people.

Comparison of Teacher Educators' Social Intelligence by Gender

This study tried to investigate how teacher educators differ in social intelligence by gender because males and females were not same in their nature. Descriptive analysis revealed the differences in means and standard deviations of social intelligence by gender. The mean scores of male and female teacher educators were reported in Table.

Table 3 showed the mean comparison for social intelligence between males and females. It was observed that the mean score of female teacher educators were slightly higher than that of male teacher educators in social intelligence. In other words, female teacher educators seemed to be better than male teacher educators in social intelligence level.

As independent sample t-test was used to analyze the data in order to determine if a significant difference existed in social intelligence by gender. According to the result of table, there was no significant difference in teacher educators' social intelligence by gender. So, it can be said that gender is not a related factor of social intelligence among the teacher educators.

Table 3   The Result of Independent Sample *t*-test for Social Intelligence by Gender

Variable	Gender	Mean	*t*	*df*	Sig (2-tailed)	Mean Difference
Social Intelligence	Male	108.74	-.057	1100	.955	-.073
	Female	108.81				

Comparison of Teacher Educators' Social Intelligence by Marital Status

In order to test whether teacher educators were different in social intelligence with respect to marital status, descriptive analysis was conducted. It was observed that the mean score of married teacher educators was higher than that of single teacher educators in social intelligence.

To obtain the more detailed information of social intelligence by marital status,

independent sample t-test was executed again. The result of independent sample t-test indicated that there was no significant difference by marital status in social intelligence.

Table 4   The Result of Independent Sample t-test for Social Intelligence by Marital Status

Variable	Marital Status	Mean	*t*	*df*	Sig (2-tailed)	Mean Difference
Social Intelligence	Single	108.30	-.84	1092	.397	-.778
	Married	109.07				

Comparison of Teacher Educators' Social Intelligence by Age

By using the descriptive statistics, the teacher educators' social intelligence by their age was examined. Based on the results of Table, it was observed that the mean score of younger teacher educators (21 years to 30 years) was the highest in social intelligence. Younger teacher educators seem to be more socially intelligent than older teacher educators.

Table 5   Descriptive Statistics for Social Intelligence by Age

Variable	Age	N	Mean	SD
Social Intelligence	21yrs- 30yrs	184	111.30	12.81
	31yrs- 40yrs	161	109.26	12.85
	41yrs- 50yrs	378	108.35	15.68
	51yrs- 60yrs	379	106.60	16.00

To make the confirmation of the significant difference of teacher educators' social intelligence by age group, one way analysis of variance was executed. The following table showed ANOVA result of mean comparison for social intelligence by age. According to the result of Table 6, there was significant difference in teacher educators' social intelligence by age group at 0.01 level.

Table 6   ANOVA Table of Mean Comparison for Social Intelligence by Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3362.641	3	1120.880	5.283**	.001
Within Groups	232978.168	1098	212.184		
Total	236340.809	1101			

For making mean comparisons among age group, Tukey HSD comparison procedure was again employed and the main effect for different age on teacher educators' social intelligence was interpreted by using multiple comparison method. It can be seen that the mean score of teacher educators in youngest age group (21 years to 30 years) were higher than that of teacher educators in oldest age group (50 years to 60 years) in social intelligence at 0.01 level.

Table 7   Result of Tukey HSD Multiple Comparison for Social Intelligence by Age

Variable	(I) Experience	(J) Experience	Mean Difference (I-J)	Sig
Social Intelligence	21yrs -30yrs	51yrs- 60yrs	4.71**	.001

**The mean difference in significant at the 0.01 level.

Comparison of Teacher Educators' Social Intelligence by Professional Specialization

In Education Universities and Colleges, there are two main specializations: pedagogic majors such as Educational Theory, Educational Psychology and Methodology and non-pedagogic majors such as Physics, Chemistry, etc. In order to test whether teacher educators

were different in social intelligence with respect to professional specialization, the descriptive statistic for social intelligence of teacher educators from different professional specialization were compared.

According to the table, the mean scores of teacher educators in pedagogic majoring were higher than that of teacher educators in non-pedagogic majoring. Thus, it can be said that the teacher educators in pedagogic majoring seem to be more socially intelligent than teacher educators in non-pedagogic majoring.

To obtain more detailed information with respect to professional specialization, independent sample t-test was conducted. According to the result of independent sample t-test, there was significant difference in social intelligence at 0.05 level by professional specialization. It can be said that the social intelligence of teacher educators in pedagogic majoring were higher than that of teacher educators in non-pedagogic majoring.

Table 8   The Result of Independent Sample *t*-test of Social Intelligence by Professional Specialization

Variable	Professional Specialization	Mean	*t*	*df*	Sig (2-tailed)	Mean Difference
Social Intelligence	Pedagogic Majoring	109.56	1.99	1100	.04	2.14
	Non-pedagogic Majoring	107.42				

Conclusion, Discussion and Recommendation

Conclusion and Discussion

In this study, a Social Intelligence Scale for Myanmar teacher educators was developed by the use of two parameter logistic model of item response theory (IRT). Firstly, according to the confirmatory factor analysis of social intelligence scale, 74 items out of 99 items were eliminated because they had communality values of less than 0.2. Therefore, factor analysis was conducted with 25 items that consisted of four dimensions: social information process, social awareness, acceptance and social skill.

It was found that the obtained test information curve functioned only from the range of -1 to +3. Therefore, it can be said that this scale more precisely assesses the teacher educators with high SI level. It could be suitable for teacher educators whose social intelligence ability ($\theta = 1.1$). It is concluded by a consideration of their discrimination indices, the items are fairly good items to provide appropriate discrimination or information for the whole test. According to the value of item difficulty, it is concluded that the test is fairly difficult.

As the results of descriptive statistic of the whole social intelligence, it can be seen that teacher educators in this study have high level of social intelligence. It can be concluded that Myanmar teacher educators have high ability to get along well others and to cooperate with other people. Among the four dimensions of social intelligence scale, social awareness was the highest that it can be assumed that teacher educators have the highest ability to comprehend and appropriately react to both broad problems of society and interpersonal struggles and to being aware of other people. Whereas social skill was found to be the weakest among social intelligence dimensions, it can be concluded that teacher educators tend to be weak in ability to modify behaviours when enter in a new situation and the ability to get to know new people.

Observing social intelligence in gender, marital status, age, and professional specialization were analyzed. An independent sample t-test result by gender indicated that there was no significant difference between male and female teacher educators in social intelligence. This result was consistent with international data Kamalpreet (2013) found that there was no significant difference in social intelligence of male and female secondary school teachers. Moreover, these results were also consistent with Parto, Shahram, and Taghi (2013) who found no significant differences by gender and experience with social intelligence. However, this finding was inconsistent with Birknerova, Frankovsky, and Zbihlejova (2013) who found significant differences between male's and female's social intelligence. To be specific, male had higher level of social skill than female, and also demonstrated that male had higher level of social awareness than female.

According to the result of independent sample t-test, there was no significant difference by marital status of teacher educators. This finding determined a same result from other researchers Joshua (2014) which reported that there was no significant difference between single and married teachers in social intelligence. However, Sultana (1983) found that there was a significant difference in social intelligence between single and married teachers; married teachers were found to be higher in social intelligence.

When social intelligence was examined across age group, it was observed that younger teacher educators were higher socially intelligent than older ones based on the ANOVA result. Next, specific dimensions of social intelligence were examined across age group and it was found that the teacher educators in the youngest group (21yr - 30yr) were better than the other two groups (31yr-40yr and 51yr-60yr) in social information process and social awareness. With regard to social skill, the teacher educators in youngest group (21yr - 30yr) were better than the other groups. Naturally, it is not a surprised fact that younger teacher educators were more active and sociable than older teacher educators. Moreover, these results were consistent with Promsri (2014) who revealed statistically significant differences among teachers in different age groups in relation to social intelligence. The result showed that younger teachers had high social intelligence than older teachers.

An independent sample t-test result of social intelligence by professional specialization indicated that teacher educators in pedagogic majoring seem to be more socially intelligent than those in non-pedagogic majoring. According to each dimension, teacher educators in pedagogic majoring were higher in acceptance dimension than those in non- pedagogic majoring. This result was new finding in this field. It can be concluded that the teacher educators in pedagogic majoring are likely to have the ability to understand and respect the other's opinion or position.

Recommendations

The following strongly recommendations can be made based on the findings of this study;

1. The Social Intelligence Scale (SIS) could be used by any universities, institutions, colleges and organizations in assessing their employees' social competence. Especially, it was the most suitable for teacher educators.
2. The Social Intelligence Scale (SIS) could be used by superintendents in discovering the social competencies of their teacher educators. This scale helps them develop a better and healthy working and social environment for the teacher educators.
3. Development of instructional materials and modules based on social intelligence could be devised by using the characteristics of the teacher educators and students under each level

of social skill. This will help to enhance the interpersonal relationship of teacher educators and their students.

4. Supervisors need to learn how to work with resistants and blockers strengthening their satisfaction with much recognition for their effort, providing more opportunities to take part in capacity building training programs that can excel teacher educator's job performance together with high social intelligence.

5. Since social learning is more complex than cognitive learning, training in social competencies for the successful development of social intelligence in organisations should be undertaken according to specific guidelines.

6. The practical implications of this study may help organizations to improve the social intelligence level of teacher educators to have good performance in order to enhance the educational system.

7. Guidance and counseling center should be established in all educational universities and colleges to orient teacher educators to develop social intelligence and job performance.

Suggestions

According to the achieved results, it can be suggested more attention need to be devoted on those social skill and social awareness dimensions among social intelligence scale which have the greatest effect on overall organizational performance. Unfortunately, teacher educators' social skill was the weakest among the dimensions according to the descriptive analysis result. Actually, human beings are sociable creatures and have developed many ways to communicate with messages, thought and feelings with others. Additionally, educators must communicate well to effectively collaborate with colleagues and update supervisors on student progress. Therefore, the administrators must be reflection and consideration on this dimension.

The second variable or factor that companies also need to pay attention to is social awareness. It is the ability to comprehend and appropriately react to both broad problems of society and interpersonal struggles. In fact, in this study, it is satisfactory in that social awareness dimension was found to be the highest in all social intelligence dimensions. Hence, to maximize organizational performance, superintendents need to direct their attention to invest more on enhancing social skill and social awareness of teacher educators. Directing attention to social skill and social awareness can increase happiness, satisfaction and give a better outlook on life.

Social intelligence can be learned, nourished and developed through education or training (Gardner, 1983; Harris, 2007; Goleman, 1995). Therefore, it is exactly the time to implement nation-wide capacity building training programs facilitated by international collaboration whenever needed. The next section discusses limitations and further research emanating from this study.

Acknowledgements

References

Albrecht, K. (2005). *Social intelligence: The new science of success*. San Fransisco: Pfeiffer. Retrieved February 14,2016, from http://www.karlalbrecht. Infodb/crisis.onnigeria09

Birknerova, Z., Frankvsky, M., & Zbilejova, L. (2013). Social intelligence in the context of personality traits of teachers, *American International Journal of Contemporary Research,* 7(7), 11-17.

Crocker, L. M., & Algina, J. (1986). *Introduction to classical and modern test theory*. New York: Holt, Rinehart and Winston.

Danforth, S., & Boyle, J. R. (2007). *Cases in behavior management.* Upper Saddle River, NJ: Merrill Prentice-Hall Inc.

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. New York: Basic Books. Retrieved May 11, 2015, from http://books.google.com/ books?id=4Do-bFrt9tUC

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. New York: Basic Books. Retrieved May 11, 2015, from http://books.google.com/ books?id=4Do-bFrt9tUC

Goleman, D. (1995). *Emotional Intelligences*. New York. Bantam Books.

Hambleton, R. K., Swaminathan, H., & Rogers, H. J. (1991). *Fundamentals of item response theory*. Newbury Park, CA: Sage Publications, Inc.

Harris, B. (2007). *Supporting the emotional work of school leaders*. California: Paul Chapman Publishing.

Jones, K., & Day, J. D. (1997). Discrimination of two aspects of cognitive-social intelligence from academic intelligence. *Journal of Educational Psychology*, 89(3), 486-497.

Joshua, K. (2014). The effects of Age on social and emotional intelligence and the surprising implications for business leaders. *Journal of Business*, 45(2).

Kamalpreet, K. T. (2013). A study of social and emotional intelligence of secondary school teachers. *International Journal of Behavioral Social and Movement Sciences*. Vol:02.

Kolski-Anderaco, A. (2010). *Social intelligence*. Smart Business Network Inc. kolskiandreacoa@upmc.edu or (412) 647-8728.

Lemlech, J. K. (1988). *Classroom management*. 2nd Edition. Longman Inc.: New York.

Marzano, R. J., Marzano, J. S., & Pickering, D. (2003). *Classroom management that works: Research-based Strategies for Every Teacher*. Alexandria, VA: Association for Supervision and Curriculum Development.

Mehrabian, A. (2000). Beyond IQ: Broad-based measurement of individual success potential or emotional intelligence. *Genetic Social and General Psychology Monographs*, 126(2), 133-240.

Murata, A. (2008). Human error management paying emphasis on decision making and social intelligence. Forth International Workshop on Computational Intelligence & Application, Hiroshima University, Japan.

Nu Nu Khaing., Yamada, T., & Ishii, H. (2011). Developing two equivalent spatial ability tests for Myanmar middle school students. *Bulletin of the Graduate School of Education and Human Development,* Nagoya University Press, 8(1), 49-67.

Parto, E., Shahram, A., & Taghi, A. H. (2013) Relationship between social intelligence with effective influence among physical education expertise in Isfahan education organizations. *World Applied Sciences Journal*. 28(12).

Promsri, C. (2014). An empirical study on social intelligence of Thai employees in a private organization. *Proceedings of Eurasia Business Research Conferenc. Nippon Hotel, Istanbul, Turkey.*

Steinwachs, J.(n.d.,). Interpersonal Relationships Questionnaire (IRQ). Retrieved May 3, 2015, from http://www.pearsonassessments.com/NR/.../Assess_Focus_ Spring_ 02.pdf

Sultana, M. (1983). Synthetic studies in the field of heterocyclic chemistry. *Journal of hertercyclic chemistry*. 26(5), 1167-1513.

Thorndike, E. L. (1920). Intelligence and its use. *Harper's Magazine,* 140, 227-235.

Wang, M. C., Haertel, G. D., & Walberg, H. J. (1993). Towards a knowledge base for school learning. *Review of Educational Research*, 63(3), 249-250.

Yahyazadeh, S., & Lotfi, F. (2012). The relationship between social intelligence and job satisfaction among MA and BA teachers, *International Journal of Education Science,* 4(3), 209-213.

Zimowski, M., Muraki, E., Mislevy, R. J., & Bock, R. D. (2003). BILOG-MG 3: Item analysis and test scoring with binary logistic models. Chicago, IL: Scientific Software. [Computer software.]

Zirkel, S. (2000). *Social intelligence: The development and maintenance of purposive behavior – The Handbook of Emotional Intelligence.* San Francisco, CA: Jossey-Bass.

PERFECTIONISM AND PSYCHOLOGICAL WELL-BEING OF STUDENT TEACHERS

Su Nwe Win[1] and Moe Moe Naing[2]

Abstract

The primary purpose of this study was to investigate the effect of perfectionism on psychological well-being of student teachers. Descriptive survey method and quantitative approach were used in this study. A total of 1200 student teachers (600 males and 600 females) attending the first year to fifth year from Yangon University of Education, Sagaing University of Education and University for the Development of the National Races of the Union participated in this study. Revised Almost Perfect Scale (APS-R) and Psychological Well-Being Scale (PWBS) were used as research instruments. Revised Almost Perfect Scale consisted of 23 items and three subscales: high standards, order and discrepancy. Psychological Well-Being Scale consisted of 42 items and six subscales: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance. In this study, by using cluster analysis, three distinct perfectionism profiles (i.e., adaptive, maladaptive and non-perfectionists) were extracted. There was no significant difference in perfectionism types by gender and university. But, concerning the education level, significant differences were found. There were significant differences in psychological well-being by gender, education level and university. And then, the between-group differences were examined through a series of univariate analyses of variance based on the perfectionism profile membership. As expected, in overall psychological well-being and all its factors: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, self-acceptance, significant differences were found among adaptive perfectionist, maladaptive perfectionist and non-perfectionist student teachers.

Keywords: perfectionism, psychological well-being

Introduction

Significance of the Study

Nowadays, the prevalence of perfectionism among university students has been reported particularly high (Rice & Ashby, 2007), and new theories have been presented to explain its impacts (Fallahchai, Fallahi & Jami, 2017). According to Grzegorek, Slaney, Franze, and Rice (2004), the problems caused by it have the relatively high frequency. Researches have shown that adaptive perfectionism is associated with psychological adjustment (Miquelon, Vallerand, Grouzet & Cardinal, 2005), more positive forms of self-esteem regulation (Trumpeter, Watson, & O'Leary, 2006), higher self-esteem (Chufar & Pettijohn, 2013) and willingness to do challenging work and higher average at university or school (Bieling, Israeli, Smith & Antony, 2003). Researchers also reported that negative or maladaptive perfectionism is related to fear of failure (Stoeber & Rambow, 2007), suicide risk (O'Connor, 2007), eating disorders, hopelessness and insomnia (Bieling, Israeli & Antony, 2004), and anxiety disorders and depression (Iarovici, 2014).

Student teachers are also university students. Therefore, there may be perfectionism problems among student teachers who are university students. It does not matter if their perfectionistic personality traits are normal. But, it can be problematic if there are abnormal or maladaptive perfectionists among them. According to Fallahchai et al. (2017), maladaptive perfectionists have lower levels of psychological well-being than adaptive perfectionists.

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Therefore, student teachers who have maladaptive personality traits may have lower levels of psychological well-being. Psychological well-being means not only the presence of positive emotions and happiness and contentment but also the development of one's potential , having some control over one's life, having a sense of purpose (working towards valued goals) and experiencing positive relationships (Huppert, 2009).

Individuals with high levels of well-being are likely to be more productive at work and contribute to their communities (Anand & Nagle, 2016). Therefore, psychological well-being is also essential for student teachers. Student teachers who have lower levels of psychological well-being may have problems in their academic performance and lower levels of achievement. And, it is sure they will not become good teachers. This can be dangerous for the country. It is necessary to remedy them and raise their psychological well-being levels. If this study is made, student teachers' problems concerned with perfectionism and psychological well-being levels may be discovered. If so, remedial interventions and supports may be instituted to solve this problems and challenges.

Purposes of the Study

1. To cluster student teachers according to their perfectionism types
2. To examine the differences in perfectionism types of student teachers by gender, education level and university

3. To examine the differences in psychological well-being of student teachers by gender, education level and university

4. To investigate the differences in psychological well-being among adaptive perfectionist, maladaptive perfectionist and non-perfectionist student teachers

5. To investigate the differences in the factors of psychological well-being among adaptive perfectionist, maladaptive perfectionist and non-perfectionist student teachers

Definitions of Key Terms

Perfectionism: Perfectionism is a personality characteristic typified by a tendency to set and strive toward extremely, often unrealistically, high standards for performance and achievement. It can be either adaptive or maladaptive in nature (Stoeber & Otto, 2006).

Adaptive Perfectionism: Adaptive perfectionism is a personality trait characterized by the tendency to strive toward high performance or achievement standards in the absence of a corresponding tendency toward overly critical self-evaluation (Stoeber & Ottto, 2006).

Maladaptive Perfectionism: Maladaptive perfectionism is a personality trait characterized by the tendency to strive toward high performance or achievement standards and to be overly critical in evaluations of one's behavior (Stoeber & Otto, 2006).

Non-Perfectionists: Non-perfectionists are individuals who set low to average standards for performance or achievement (Rice & Ashby, 2007).

Psychological Well-Being: Psychological well-being is defined as states that emerge from feeling of satisfaction with one's close interpersonal relationships and with one's occupation and financial situations (Bar-on, 2005).

Review of Related Literature

Adaptive and Maladaptive Dimensions of Perfectionism

Numerous researchers have investigated the psychological correlates of perfectionism, using a maladaptive and adaptive conceptualization of the construct (Musch, 2013). Some studies have utilized a dimensional approach in which perfectionism dimensions are combined to form independent factors and some have utilized a group-based approach in which perfectionism dimensions are used to form groups or subtypes of perfectionists (Stoeber & Otto, 2006). These subtypes include adaptive perfectionists, who possess high achievement or performance standards in the absence of overly critical self-evaluations; maladaptive perfectionists, who possess high achievement or performance standards in the presence of overly critical self-evaluations; and non-perfectionists, who possess low to average achievement or performance standards (Rice & Ashby, 2007).

Stoeber (2012b) reported that when these subtypes are compared, maladaptive perfectionists typically demonstrate higher levels of negative processes, outcomes and characteristics than the other groups and adaptive perfectionists show lower levels of negative processes, outcomes and characteristics than the other groups. Likewise, maladaptive perfectionists demonstrate lower levels and adaptive perfectionists demonstrate higher levels of positive processes, outcomes and characteristics than the other groups (Stoeber, 2012b). The correlation between perfectionism dimensions is less an issue for studies that employ a group-based approach because these studies use either dichotomization of perfectionism facet scores or cluster analysis to create groups with minimal overlap in the facets comprised of adaptive and maladaptive perfectionism. Therefore, the group-based approach in which perfectionism types were operationalized using the APS-R was used in the current study.

Multidimensional Model of Psychological Well-Being

Carol Ryff (1995) suggested that well-being should be defined with respect to positive properties. She developed a model which consists of six core dimensions of psychological well-being (Ryff, 1989a). Ryff's six dimensions of psychological well-being evoke different challenges that people have to encounter as they try to function positively (Ryff & Keyes, 1995) and these six dimensions are described separately with explanation and clarification as follows.

(i) Self-acceptance

Self-acceptance is a kind of self-evaluation that includes awareness and acceptance of both personal strengths and weaknesses (Ryff, 1989a). Self-acccepting persons have a realistic perception of the self, including both their good and bad qualities and they are able to accept themselves (Ryff & Singer, 2003). Holding positive attitudes towards oneself is a core characteristic of positive psychological functioning (Ryff, 1989a).

(ii) Positive Relations with Others

This dimension of psychological well-being is linked to the ability to express strong feelings of empathy and affection for all human beings and to be capable of greater love, deeper friendship with others and more complete identification with others (Ryff & Singer, 1996). Positive relations and social support are the most common sources of happiness among people (Reis, 2012).

(iii) Autonomy

Ryff (1989a) equates autonomy with attributes such as self-determination, independence, internal locus of control, individuation and internal regulation of behavior. Underlying these attributes is the belief that an individual's thoughts and actions are his own and the agencies or causes outside his control should not determine them (Christopher, 1999).

(iv) Environmental Mastery

Environmental mastery refers to the ability of a person to manage the environment and to mould environments or to choose environments, which align with his or her needs and values (Ryff, 1989a). It means being able to control complex environmental and life situations (Ryff, 1989a) and to seize opportunities which present themselves.

(v) Purpose in Life

According to Ryff (1989a), a person who functions positively has goals, intentions and a sense of direction, all of which contribute to the feeling that life is meaningful. Purpose in life can be described as the perceived significance of one's existence and it involves the setting and reaching of goals which contribute to the appreciation of life (Ryff, 1989a; Ryff & Keyes, 1995).

(vi) Personal Growth

An individual must continue to develop the self through growth in various facets of life to achieve peak psychological functioning (Ryff, 1989a). This means that an individual needs to continually evolve and solve problems thereby expanding his or her talents and abilities. Thus, this aspect of positive functioning is dynamic and involves a continual process of developing one's potential (Ryff & Singer, 2008).

Method

Sample of the Study

Student teachers from Yangon University of Education, Sagaing University of Education and University for the Development of the National Races of the Union were selected as the participants of the study. A total number of 1200 student teachers attending the first year to fifth year participated in this study. The sample consisted of 400 student teachers (200 males and 200 females) from YUOE, 400 student teachers (200 males and 200 females) from SUOE, 400 student teachers (200 males and 200 females) from UDNR.

Research Instruments

Revised Almost Perfect Scale (APS-R) developed by Slaney, Rice, Mobley, Trippi, and Ashby (2001) was used to measure the dimensions of perfectionism. APS-R has 23 items with three subscales: High Standards (7 items), Discrepancy (12 items), and Order (4 items). Each item was assessed along a 4-point Likert Scale ranging from Strongly Disagree to Strongly Agree. The reliability coefficient of the whole scale was 0.862.

Psychological Well-Being Scale developed by Carol Ryff (1989) was used to measure psychological well-being and the 42-item version was used in this study. This scale consists of six subscales: Autonomy (7 items), Environmental Mastery (7 items), Personal Growth (7 items), Positive Relations with Others (7 items), Purpose in Life (7 items), and Self-acceptance

(7 items). Each item was assessed along a 4-point Likert scale ranging from Strongly Disagree to Strongly Agree. The reliability coefficient of the whole scale was 0.810.

Data Collection Procedure

Firstly, research instruments, APS-R and PWB scales, were adapted to Myanmar version. Then, expert review was conducted for face validity and content validity of the instruments. According to their suggestions and recommendations, the questionnaires were modified. Afterward, a pilot testing was conducted to find out whether it had clarity in Myanmar Language and whether it was appropriate, relevant and clear to the students or not. Then, data collection was carried out at the three Universities of Education to collect the required data for the study. After collecting the data, data analysis process was conducted by step-by-step.

Data Analysis and Findings

Perfectionism Profiles and Grouping

Cluster analysis was used to identify groups of perfectionists and non-perfectionists based on the participants' scores on the APS-R. A two-step procedure involving both hierarchical and non-hierarchical analyses was conducted following the approach of other researchers in studies of adaptive and maladaptive perfectionists (i.e. Rice & Slaney, 2002; Ashby & Bruner, 2005; Gucciardi, Mahoney, Jalleh, Donovan & Parkes, 2012). As a first step, a hierarchical analysis using Ward's linkage method with the Euclidean distance measure was performed. Ward's hierarchical method was chosen because it reduces the within cluster differences found in other methods (Aldenderfer & Blashfield, 1984). Standardized z scores of High Standards and Discrepancy factors were used as variables in the analysis. The agglomeration coefficient and dendrograms generated from Ward's hierarchical method identified three solutions (three, four and five clusters) to be considered in the non-hierarchical analysis. Based on the theoretical background of the present study, a three-cluster solution was chosen for the subsequent analysis. A non-hierarchical *k*-means cluster analysis was conducted using the three-cluster solution.

Table 1 Mean Differences in High Standards and Discrepancy Among Perfectionism Profile Groups

Factors of Perfectionism	Perfectionism Type	N	Mean		SD		F	p
			Raw Score	z Score	Raw Score	z Score		
High Standards	AP	335	24.44	.85	1.828	.70	672.780***	.000
	NP	590	20.32	-.73	1.625	.62		
	MP	275	23.61	.53	2.051	.79		
Discrepancy	AP	335	24.61	-.84	4.115	.76	726.655***	.000
	NP	590	28.66	-.10	3.368	.62		
	MP	275	35.88	1.23	3.680	.68		

***p<0.001

Note: AP= Adaptive Perfectionists Group
        MP= Maladaptive Perfectionists Group
        NP= Non-perfectionists Group

Distribution of Student Teachers According to Demographic Variables Across the Three Perfectionism Clusters

To investigate whether the distribution of gender, education level and university (demographic variables) across the three perfectionism clusters was significantly different or not, Chi-square Test was performed.

Table 2 Distribution of Student Teachers According to Gender, Educational Level and University Across the Three Perfectionism Clusters

	Cluster 1 Adaptive Perfectionists (N = 335)	Cluster 2 Non-Perfectionists (N = 590)	Cluster 3 Maladaptive Perfectionists (N = 275)	Total	χ^2
Gender					3.244 (2), $p = .198$
Male	159 (26.5%)	291 (48.5%)	150 (25%)	600	
Female	176 (29.3%)	299 (49.8%)	125 (20.8%)	600	
Education Level					
1st Year	79 (32.9%)	84 (35%)	77 (32.1%)	240	
2nd Year	57 (23.8%)	132 (55%)	51 (21.3%)	240	36.820 (8)*** $p=$**.000**
3rd Year	68 (28.3%)	115 (47.9%)	57 (23.8%)	240	
4th Year	53 (22.1%)	139 (57.9%)	48 (20%)	240	
5th Year	78 (32.5%)	120 (50%)	42 (17.5%)	240	
University					
UDNR	103 (25.8%)	212 (53%)	85 (21.3%)	400	
YUOE	122 (30.5%)	180 (45%)	98 (24.5%)	400	5.194 (4), $p = .268$
SUOE	110 (27.5%)	198 (49.5%)	92 (23%)	400	

***$p<0.001$

Table 2 showed that the gender distribution across the three groups did not differ significantly. It could be interpreted that there was no association between perfectionism type and gender. But, significant differences were found in education level across the three clusters. In Adaptive group, the numbers of first year students and fifth year students were the highest and, in Maladaptive group, the numbers of first year students was the highest. In Non-Perfectionist group, the numbers of second year and fourth year students were the highest. Therefore, it could be assumed that there was a relationship between perfectionism type and education level. According to the result table, no significant differences were found in university across the three groups. It could be said that there was no association between perfectionism type and university.

Student Teachers' Psychological Well-Being

To explore the student teachers' psychological well-being, descriptive statistics were carried out and the results were shown in Table 3.

Table 3   Descriptive Statistics for Student Teachers' Psychological Well-Being

Psychological Well-Being	N	Minimum	Maximum	Mean	SD
Autonomy	1200	10	28	19.18	2.92
Environmental Mastery	1200	10	28	19.53	2.58
Personal Growth	1200	13	28	21.36	2.65
Positive Relations with Others	1200	9	28	20.35	2.86
Purpose in Life	1200	13	28	20.61	2.59
Self-Acceptance	1200	11	28	19.76	2.46
Total Psychological Well-Being	1200	87	162	120.78	11.20

Concerning the factors of psychological well-being, the mean score of personal growth was the highest, those of purpose in life and positive relations with others were the second highest, those of self-acceptance and environmental mastery were the third highest and that of autonomy was the lowest.

Comparison of Student Teachers' Psychological Well-Being by Gender

To find out the differences in student teachers' psychological well-being by gender, the analysis was made.

Table 4   Results of Independent Sample *t* test for Student Teachers' Psychological Well-Being by Gender

Psychological Well-Being	Gender	N	Mean	SD	*t*	*p*
Autonomy	Male	600	19.38	2.92	2.453	.014*
	Female	600	18.97	2.92		
Environmental Mastery	Male	600	19.54	2.68	.156	.876
	Female	600	19.52	2.48		
Personal Growth	Male	600	21.25	2.93	-1.494	.135
	Female	600	21.48	2.33		
Positive Relations with Others	Male	600	20.36	2.88	.101	.920
	Female	600	20.34	2.84		
Purpose in Life	Male	600	20.40	2.86	-2.759	.006**
	Female	600	20.81	2.27		
Self-Acceptance	Male	600	19.65	2.54	-1.537	.124
	Female	600	19.87	2.38		
Total Psychological Well-Being	Male	600	120.58	11.87	-.626	.531
	Female	600	120.99	10.49		

According to the results of *t*-test, there were significant differences in two factors, in autonomy at 0.05 level and in purpose in life at 0.01 level. This finding could be interpreted that male student teachers' autonomy was higher than that of female student teachers and female student teachers' purpose in life was higher than that of male student teachers. But, there were no significant mean differences in the other four factors and total psychological well-being with respect to gender.

Comparison of Student Teachers' Psychological Well-Being by Education Level

In order to test whether student teachers were different in psychological well-being by education level, the analysis was conducted.

Table 5 ANOVA Results of Student Teachers' Psychological Well-Being by Education Level

Psychological Well-Being	Education Level	N	Mean	SD	F	*p*
Autonomy	1.1	240	19.05	3.01	3.661**	**.006**
	2.1	240	18.80	2.84		
	3.1	240	18.93	2.72		
	4.1	240	19.44	2.86		
	5.1	240	19.66	3.11		
Environmental Mastery	1.1	240	19.05	2.64	6.212***	**.000**
	2.1	240	19.35	2.35		
	3.1	240	19.40	2.57		
	4.1	240	19.72	2.44		
	5.1	240	20.13	2.78		
Personal Growth	1.1	240	21.66	2.71	5.539***	**.000**
	2.1	240	21.09	2.24		
	3.1	240	20.97	2.79		
	4.1	240	21.19	2.67		
	5.1	240	21.90	2.70		
Positive Relations with Others	1.1	240	20.41	3.14	.812	.517
	2.1	240	20.28	2.63		
	3.1	240	20.23	2.93		
	4.1	240	20.20	2.81		
	5.1	240	20.61	2.76		
Purpose in Life	1.1	240	21.24	2.90	6.011***	**.000**
	2.1	240	20.64	2.30		
	3.1	240	20.39	2.36		
	4.1	240	20.14	2.64		
	5.1	240	20.62	2.60		
Self-Acceptance	1.1	240	19.41	2.55	3.436**	**.008**
	2.1	240	19.66	2.23		
	3.1	240	19.74	2.27		
	4.1	240	19.78	2.31		
	5.1	240	20.22	2.85		
Total Psychological Well-Being	1.1	240	120.81	11.45	3.768**	**.005**
	2.1	240	119.83	10.05		
	3.1	240	119.67	10.90		
	4.1	240	120.47	11.12		
	5.1	240	123.14	12.12		

**p<0.01, ***p<0.001

To obtain more detailed information for education level, Post-Hoc Test was carried out by Tukey's multiple comparison procedure.

Table 6   Results of Post-Hoc Analysis for Student Teachers' Psychological Well-Being by Education Level

Psychological Well-Being	(I) Education Level	(J) Education Level	Mean Difference (I-J)	p
Autonomy	5.1	2.1	.854*	.012
Environmental Mastery	4.1	1.1	.667*	.036
	5.1	1.1	1.083***	.000
		2.1	.783**	.007
		3.1	.733*	.015
Personal Growth	1.1	3.1	.692*	.033
	5.1	2.1	.813**	.007
		3.1	.933**	.001
		4.1	.708*	.027
Purpose in Life	1.1	3.1	.846**	.003
		4.1	1.096***	.000
Self-Acceptance	5.1	1.1	.808**	.003
Total Psychological Well-Being	5.1	2.1	3.313*	.010
		3.1	3.471**	.006

*$p<0.05$, **$p<0.01$, ***$p<0.001$

According to the results, in autonomy, it could be easily seen that the mean score of fifth year students was higher than that of second year students. Therefore, it could be interpreted that fifth year students were able to live autonomously and assessed the selves based on their own personal values and standards significantly better than second year students. In environmental mastery, the mean score of fourth year students was higher than that of first year students. Moreover, in environmental mastery, the mean score of fifth year students was higher than those of first year, second year and third year students. It could be assumed that senior students had the better ability to manage the environment and to relate to different people in diverse situations and adapt to various contexts upon demand than their junior students.

In personal growth, the mean score of first year students was higher than that of third year students. It could be interpreted that first year students had the ability to develop their talents and abilities and to accomplish goals more than third year students. Moreover, fifth year students were higher in personal growth than second year, third year, and fourth year students. It could also be said that, except for first year students, second year, third year and fourth year students had a sense of personal growth lower than their seniors, fifth year students. In purpose in life, the mean score of first year students was higher than those of third year and fourth year students. It could be interpreted that first year students had goals which contribute to the appreciation of their life more than their seniors, third year and fourth year students.

Likewise, in self-acceptance, the mean score of fifth year students was significantly higher than first year students. It could be interpreted that, since fifth year students were older and more mature, they had more self-acceptance than first year students. In general psychological well-being, the mean score of fifth year students was higher than those of second year and third year students. Therefore, it could be assumed that second year and third year students had lower levels of psychological well-being than their seniors, fifth year students.

Comparison of Student Teachers' Psychological Well-Being by University

In order to test whether student teachers were different in psychological well-being with respect to their university, the analysis was conducted.

Table 7   ANOVA Results of Student Teachers' Psychological Well-Being by University

Psychological Well-Being	University	N	Mean	SD	F	*p*
Autonomy	UDNR	400	18.98	2.74	1.759	.173
	YUOE	400	19.37	3.01		
	SUOE	400	19.18	3.01		
Environmental Mastery	UDNR	400	19.59	2.44	.217	.805
	YUOE	400	19.53	2.71		
	SUOE	400	19.47	2.60		
Personal Growth	UDNR	400	21.18	2.55	2.286	.102
	YUOE	400	21.57	2.57		
	SUOE	400	21.34	2.82		
Positive Relations with Others	UDNR	400	20.54	2.83	1.696	.184
	YUOE	400	20.17	2.96		
	SUOE	400	20.33	2.77		
Purpose in Life	UDNR	400	20.91	2.48	6.351**	**.002**
	YUOE	400	20.64	2.70		
	SUOE	400	20.27	2.56		
Self-Acceptance	UDNR	400	19.48	2.19	4.335*	**.013**
	YUOE	400	19.83	2.59		
	SUOE	400	19.98	2.57		
Total Psychological Well-Being	UDNR	400	120.68	10.64	.265	.767
	YUOE	400	121.11	11.46		
	SUOE	400	120.56	11.50		

*p<0.05, **p<0.01

To obtain more exact information for university, Post-Hoc Test was carried out by Tukey's multiple comparison procedure.

Table 8   Results of Post-Hoc Analysis for Student Teachers' Psychological Well Being by University

Psychological Well-Being	(I) University	(J) University	Mean Difference (I-J)	*p*
Purpose in Life	UDNR	SUOE	.648**	**.001**
Self-Acceptance	SUOE	UDNR	.497*	**.012**

*p<0.05, **p<0.01

According to the results, in total psychological well-being, the mean scores of participants from the three universities were not significantly different. But for purpose in life, the mean score of UDNR students was higher than that of SUOE students. It could be interpreted that student teachers from UDNR had purposes, goals and intentions to achieve success more than student teachers from SUOE. Moreover, in self-acceptance, the mean score of SUOE students was higher than that of UDNR students. It could be assumed that student teachers from SUOE had more

positive views about their life and more satisfied with their life than student teachers from UDNR.

The Impact of Perfectionism Type on Psychological Well-Being of Student Teachers

To investigate the differences in psychological well-being and all its factors among adaptive perfectionist, maladaptive perfectionist and non-perfectionist student teachers, the analysis was conducted.

Table 9 ANOVA Results of Student Teachers' Psychological Well-Being by Their Perfectionism Type

Factors of Psychological Well-Being	Perfectionism Type	N	Mean	SD	F	p
Autonomy	AP	335	20.59	3.06	59.140***	**.000**
	NP	590	18.64	2.38		
	MP	275	18.60	3.23		
Environmental Mastery	AP	335	21.09	2.50	99.060***	**.000**
	NP	590	18.98	2.12		
	MP	275	18.81	2.79		
Personal Growth	AP	335	22.86	2.60	89.628***	**.000**
	NP	590	20.61	2.15		
	MP	275	21.15	2.92		
Positive Relations with Others	AP	335	21.93	2.85	81.770***	**.000**
	NP	590	19.79	2.33		
	MP	275	19.61	3.14		
Purpose in Life	AP	335	22.17	2.59	99.540***	**.000**
	NP	590	19.91	2.08		
	MP	275	20.20	2.78		
Self-Acceptance	AP	335	21.01	2.45	71.951***	**.000**
	NP	590	19.45	2.10		
	MP	275	18.91	2.63		
Total Psychological Well-Being	AP	335	129.64	10.46	191.793***	**.000**
	NP	590	117.38	8.50		
	MP	275	117.29	11.27		

***p<0.001

To obtain more detailed information for the differences among perfectionism types, Post-Hoc Test was carried out by Tukey's multiple comparison procedure.

Table 10   Results   of   Post-Hoc   Analysis   for   Student   Teachers'   Psychological Well-Being by Their Perfectionism Type

Psychological Well-Being	(I) Perfectionism Type	(J) Perfectionism Type	Mean Difference(I-J)	*p*
Autonomy	AP	NP	1.941***	.000
		MP	1.981***	.000
Environmental Mastery	AP	NP	2.112***	.000
		MP	2.275***	.000
Personal Growth	AP	NP	2.248***	.000
		MP	1.704***	.000
	MP	NP	.544**	.007
Positive Relations with Others	AP	NP	2.148***	.000
		MP	2.320***	.000
Purpose in Life	AP	NP	2.257***	.000
		MP	1.971***	.000
Self-Acceptance	AP	NP	1.563***	.000
		MP	2.099***	.000
	NP	MP	.536**	.005
Total Psychological Well-Being	AP	NP	12.27***	.000
		MP	12.35***	.000

***$p < 0.001$

According to the results, it could be easily seen that adaptive perfectionist group of student teachers had higher mean scores in overall psychological well-being and all its components than maladaptive group and non-perfectionist group. It could be interpreted that adaptive group of student teachers had a higher level of psychological well-being than both maladaptive and non-perfectionist groups of student teachers. Maladaptive perfectionists and non-perfectionists were not significantly different in overall psychological well-being and its four components. But, in personal growth and self-acceptance, the differences between the mean scores of non-perfectionist and maladaptive perfectionist student teachers were significant. It could be interpreted that although the personal growth of maladaptive perfectionists was lower than the adaptive group, theirs was still higher than those of non-perfectionists, but it was more difficult for maladaptive perfectionists to accept themselves and their existence than non-perfectionists.

Conclusion, Discussion and Recommendations

Conclusion, Discussion and Suggestions

In   concluding   the   results,   education   level   related   difference   was   found   to   be   on perfectionism types. It was found that in Adaptive group, the numbers of first year students and fifth year students were the highest and, in Maladaptive group, the number of first year students was the highest. In Non-Perfectionist group, the number of first year students was the lowest. Therefore, it can be said that first year students have more perfectionistic tendencies than their seniors. Among them, as there are adaptive perfectionists, there are also maladaptive

perfectionists. Therefore, teacher trainers should be aware of the students who are maladaptive when teaching them. As they are just first year students, their education level is low as compared to their senior students, so teachers should teach and support them to reduce their maladaptive tendencies and should also help while they are trying to change themselves. Moreover, gender related difference was found to be on two factors of psychological well-being. Males were higher in autonomy and females were higher in purpose in life.

Moreover, education level related difference was found to be on overall psychological well-being. The oldest students in the university, fifth year students had highest levels of psychological well-being than their juniors. Therefore, it can be said that the higher the education level, the higher the psychological well-being. Therefore, teachers should teach junior students how to live well and peacefully in their life and give emotional support to raise their psychological well-being. In addition, university related difference was found on two factors of psychological well-being. Among the three universities, UDNR students were the highest in purpose in life. Therefore, teachers from YUOE and SUOE should be aware of this fact and help students have more purposes, more goals and more intentions to achieve success like UDNR students. Moreover, SUOE students were the highest in self-acceptance. Therefore, teachers from YUOE and UDNR should be aware of this fact and teach students to accept themselves including both their good and bad qualities. Finally, in concluding the results, perfectionism had a significant effect on psychological well-being of student teachers. It is found that adaptive perfectionists had a higher level of psychological well-being than maladaptive perfectionists and non-perfectionists. Therefore, if societies including parents, teachers and caregivers found that their children, student teachers, are perfectionists, they should be careful whether their perfectionistic traits are adaptive or maladaptive.

Parents, teachers and caregivers should cultivate the children to improve their adaptive perfectionistic traits and to reduce maladaptive perfectionistic tendencies so as to enhance their psychological well-being. Moreover, it is important that parents and teachers themselves should not be maladaptive perfectionists because their behaviors and thinking can influence their children. By cultivating the student teachers not to have maladaptive perfectionistic tendencies, their psychological well-being will be high and they will become physically and mentally healthy and strong teachers who will be able to serve the interest of the country.

Limitations of the Study

A major limitation of this study is cross-sectional study design, so causal-relationships among the variables could not be established. Longitudinal studies should be employed to test the hypotheses. But, due to the shortage of time and relevant resources, such kind of design was impossible for this study. Another limitation is that the sample size was not sufficient to represent the whole student teachers because the participating institutions were drawn only from three Universities of Education. More than twenty Colleges of Education are still left to be included in this study. Moreover, only questionnaire survey method was used in this study and it should be followed up by qualitative research methods to obtain in-depth information about perfectionistic traits and psychological well-being.

Recommendations for Future Research

To confirm and validate the findings of this study, it is suggested longitudinal studies should be undertaken. The present study has some necessities because of its recruited scope and

selected sample. In this study, the sample used is student teachers from three Universities of Education. To be more representative, future research should be conducted not only with student teachers from Universities of Education but also with student teachers from Education Colleges. Moreover, since perfectionism problems can also happen among state school students, future research in this area should be carried out for basic education students.

References

Aldenderfer, M.S., & Blashfield, R.K. (1984). *Cluster analysis.* Newbury Park, CA: Sage.

Anand, K., & Nagle, Y.K. (2016). Perceived stress as predictor of psychological well-being. *The International Journal of Indian Psychology, 3*(4), 211-217.

Ashby, J.S., & Bruner, L.P. (2005). Multidimensional perfectionism and obsessive-compulsive behaviors. *Journal of College Counselling, 8*(1), 31-40.

Bar-On, R. (2005). The impact of emotional intelligence on subjective well-being. *Perspectives in Education, 23*, 41-61.

Bieling, P.J., Israeli, A.L., & Antony, M.M. (2004). Is perfectionism good, bad, or both? Examining models of the perfectionism construct. *Personality and Individual Differences, 36*(6), 1373-1385.

Bieling, P.J., Israeli, A.L., Smith, J., & Antony, M.M. (2003). Making the grade: The behavioral consequences of perfectionism in the classroom. *Personality and Individual Differences, 35*(1), 163-178.

Christopher, J. C. (1999). Situating psychological well-being: Exploring the cultural roots of its theory and research. *Journal of Counseling & Development, 77*, 141-152.

Chufar, B.M., & Pettijohn, T. (2013). Meeting high standards: The effect of perfectionism on task performance, self-esteem, and self-efficacy in college students. *Psychology Behavior Science, 2*, 117-123.

Fallahchai, R., Fallahi, M. & Jami, A.M. (2017). Perfectionism and well-being in graduate, undergraduate and Ph.D. students: Adaptive versus maladaptive. *Iranian Evolutionary Educational Psychology Journal, 1*(2), 48-57.

Grzegorek, J.L., Slaney, R.B., Franze, S., & Rice, K.G. (2004). Self-Criticism, dependency, self-esteem and grade point average satisfaction among clusters of perfectionists and nonperfectionists. *Journal of Counseling Psychology, 51*(2), 192-200.

Gucciardi, D.F., Mahoney, J., Jalleh, G., Donovan, R.J., & Parkes, J. (2012). Perfectionistic profiles among elite athletes and differences in their motivational orientations. *Journal of Sport and Exercise Psychology, 34*, 159-183.

Huppert, F. A. (2009). Psychological well-being: Evidence regarding its causes and consequences. *Appiled Psychology: Health and Well-being, 1*(2), 137-164.

Iarovici, D. (2014). *Mental health issues and the university student.* Baltimore, MD: Johns Hopkins University Press.

Miquelon, P., Vallerand, R.J., Grouzet, F.M., & Cardinal,G. (2005). Perfectionism, academic motivation, and psychological adjudtment: An integrative model. *Personality and Social Bulletin, 31*(7), 913-924.

Musch, E. (2013). *The impact of perfectionism type on the career self-efficacy, vocational identity, and intrest differentiation of college students.* (Doctoral Dissertation, The   Florida State University , Florida, US). Retrieved October 2, 2018, from https://www.google.com.mm/url?sa= t& source= web &rct = j &url=https://fsu.digital.flvc.org/islandora/object/fsu:183838/datastream/PDF/view&ved=2ahUKEwj0z 8TBlo3eAhUWdysKHSpnBD8QFjAAegQIBBAB&usg=AOvVaw2A1ZmLa3hhnXgx-W9Nxw

O'Connor, R. C. (2007). The relations between perfectionism and suicidality: A systematic review. *Suicide and Life-Threatening Behavior, 37*(6), 698-714.

Rice, K.G., & Ashby, J.S. (2007). An efficient method for classifying perfectionists. *Journal of Counseling Psychology, 54*(1), 72-85.

Rice, K.G., & Slaney, R.B. (2002). Clusters of perfectionists: Two studies of emotional adjustment and academic achievement. *Measurement and Evaluation in Counseling and Development, 35*, 35-48.

Ryff, C. D. (1989a). Happiness is everything or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*(6), 1069-1081.

Ryff, C. D. (1995). Psychological well-being in adult life. *Current Directions in Psychological Science, 4*(4), 99-104.

Ryff, C.D., & Singer, B.H. (1996). Psychological well-being: Meaning, measurement and implications for psychotherapy research. *Psychotherapy adn Psychosomatics, 65*, 14-23.

Ryff, C.D., & Singer, B.H. (2003). Flourishing under fire: Reesilience as a prototype of challenged thriving. In C. Keyes, & J. Haidt (Eds.), *Positive psychology and the life well-lived* (pp. 15-36). Washington, DC: APA.

Ryff, C.D., & Singer, B.H. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of Happiness Studies, 9*(1), 13-39.

Stoeber, J. (2012b). The 2×2 model of perfectionism: A critical component and some suggestions. *Personality and Individual Differences, 53*, 541-545.

Stoeber, J., & Rambow, A. (2007). Perfectionism in adolescent school students: Relations with motivation, achievement and well-being. *Personality and Individual Differences, 42*(7), 1379-1389.

Stoeber,J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review, 10*(4), 295-319.

Trumpter, N., Watson, P., & O'Leary, B.J. (2006). Factors within multidimensional perfectionism scales: Complexity of relationships with self-esteem, narcissism, self-control, and self-criticism. *Personality and Individual Differences, 41*(5), 849.

THE RELATIONSHIP BETWEEN ACADEMIC RESILIENCE AND ACADEMIC STRESS OF SECONDARY SCHOOL STUDENTS

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Abstract

The main purpose of this study was to explore the relationship between academic resilience and academic stress of secondary school students. Descriptive survey method and quantitative research design were used in this study. This study was conducted with a sample of 821 (366 boys and 455 girls) secondary school students studying in eight schools of four districts in Yangon Region. The required sample was selected by using random sampling technique. As the research instruments, Resilience and Youth Development Questionnaire developed by Thomas. L. Hanson & Jin-Ok Kim (2007) and Formal Academic Stress Inventory developed by Tabachnick, B.G. and Fidell, L.S. (2007) were applied in this study. As a result of descriptive statistics, most of the students in this study were resilient students and they also have average academic stress. The results of *t*-test revealed that there was a significant difference between students' academic resilience by gender but the students' academic stress was not. ANOVA results showed that there were significant differences in students' academic resilience and academic stress according to age, districts and schools. Then, the academic stress of secondary school students had significant differences with regard to their parents' education and no. of siblings. The results also showed that there was a significant relationship between academic resilience and academic stress of secondary school students.

Keywords: Academic Resilience, Academic Stress, Secondary School Students

Introduction

Education is a mindful purpose to train the children for fulfilling the responsibilities of adult life. For education, children access to school to learn new knowledge and develop cognition. Students spend most of their times at the school. They are encountered by a number of demands. A great source of demands comes from school and they also have pressure from their parents to excel their grades in their class. When a student is unable to cope with these demands conveniently, he will experience stress. Everyone is bombarded with everyday stresses. It affects the part of life. In school, adolescents often see themselves as being evaluated according to their academic performance and the force to achieve is an important measure of their success (Ang & Huan, 2006).

In Myanmar, high school students are mostly middle and late adolescents. In the present world, adolescents are facing enhanced difficulties due to fierce competition, peer pressure, parental expectations, and so on in their lives which give rise to many psychosomatic problems such as stress, anxiety, tension, failure, frustration and emotional turbulences in daily life. Parents' expectation towards their children is to pass the matriculation examination with high marks and many distinctions. This is the main source of stress among students. As Grade 9 is the foundation of matriculation level, they also are under pressure of achieving high grades in examinations. Although there is a high level of stress, resilient students can reduce its adverse effects. Therefore, students need to be resilience ones for reducing stress.

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Purpose of the Study

The main purpose of this study was to explore the relationship between academic resilience and academic stress of secondary school students. The specific objectives of this study are:

1. To study academic resilience and academic stress of Grade 9 students

2. To compare academic resilience and academic stress of Grade 9 students by gender, age, districts and schools

3. To compare the academic stress of Grade 9 students according to parents' education and no. of siblings

4. To find out the relationship between academic resilience and academic stress of Grade 9 students

Scope and Procedure

A total of 821 Grade 9 students were selected from eight schools in four districts of Yangon Region by using simple random sampling method. Questionnaire survey method and quantitative research design were used in this study.

Definition of Key Terms

The following definitions of the key terms were used in this study.

Academic Stress: Academic stress is defined as a state of distress resulted from a student's evaluation of excessive academic demands (e.g., excessive assignments, excessive amount of exams), generally ending up with negative impacts on students' mental and physical health as well as their performance in school (Shruthers et al., 2000).

Academic Resilience: Academic resilience is defined as the ability to effectively deal with setback, stress or pressure in the academic setting (Fallon, 2010).

Secondary School Students: In this study, secondary school students refer to Grade 9 students.

Review of Related Literature

Fostering Resilience in the School Context

Without any hesitation the most influential source for fostering and developing resilience in children and youth is the family. But right after families, the next major influence goes to the schools. Primary schools and their staff play a key role in children's development. Since the compulsory schooling is just an entering stage of Life-long learning and knowledgeable adulthood, the amount of time that our children spend in school (that covers at least one third of their active day) is critically important. Through student-centered and holistic education all included children and youth should get enough stimulations and opportunities to develop various competences, life skills and optimistic life orientation. For all children, but especially for those whose families cannot appreciate their role, school and teachers have the opportunity, chance and responsibility to create and competently cover wider educational goals and life skills. Benard, (1998) found that teachers were the most frequently faced positive role models for children, outside their circle of family members. Furthermore, there are so many personal life stories that

communicate the powerful role that schools and teachers have to tip the scales from risk to resilience.

Teacher's Role in Fostering Resilience

Schools foster positive development and avoid problems in the general population (Masten et al., 2008). When a protective environment is established and protective factors are increased, school climate and attendance will improve as well as students' academic achievement.

A teacher should never be only an instructor of academic skills, but also a confident and positive model for personal identification. As a person and as a professional, he or she should convey caring support to students by listening to them, demonstrating kindness, respect, compassion throughout the educational process. By expressing high expectations, teachers can structure and guide students' behavior and challenge their learning motivation and efficiency. Finally, a teacher is the one who should provide numerous opportunities for students to participate and contribute within a class, school and local environment to express their opinions, ideas, creativity and knowledge, to make choices, solve problems, work together, help others, interact with each other and with the community.

Benard (1998) recognized teachers as promoters of three crucial environmental protective factors:

- **Connection** that is transmitted through authentic relationships that communicate respect, availability, interest, and compassion. Such rapport also builds the critical motivational foundation for successful learning.

- **Competence** that follows high expectations, guided learning strategies and understanding metacognition. Such an approach influences the learning structure, guides behavior and challenges students with higher learning goals.

- **Contribution** that builds class and school community, personal value, involvement, responsibility, belonging by enhancing students' active and reflective learning, critical thinking, dialogue, collaborative work, curriculum planning, using participatory evaluating strategies, creating class rules, peer support, community service and connection.

Factors Influencing Academic Stress

Environmental factors also contribute to the challenges encountered by adolescents. A variety of studies have identified factors contributing to academic stress and mental health problems. These include demographic factors (e.g., gender, age, ethnicity, socio-economic status), individual factors (e.g., personal characteristics), family factors (e.g., parents bonding, family connectedness, conflict with parents), school factors (e.g., school connectedness, conflict with teachers), and peer factors (e.g., bullying) (Ang & Huan, 2006b; Grant, et al., 2003; Mates & Allison, 1992; McMahon, et al., 2003).

Age as a developmental factor is mentioned by many authors. Children aged 9-14 most frequently experience problems with school, siblings, parents, and friends. Adolescents aged 14-17 years most commonly show four types of problems: school, parents, friends, and boyfriend/girlfriend problems. Young adolescents have their own specific developmental needs. Early adolescence is a period of physical, intellectual, emotional, and social development, which

involves many challenges which can enhance stress (Gerler, 1991). In this study, children at the age of 14-15 years have least stress among three age groups of 14-15 years, 16-17 years and 18 and above years. 18 years and above old students' academic stress has been found to be highest for all age groups in this study.

Gender is considered to be a predictor of academic stress and mental health. Boys mention more school problems and athletic performances as stressors, while girls nominate more interpersonal problems and oral presentations as stressors (Pincus & Friedman, 2004; Romano, 1997). However, in the study of Karr & Johnson (1991), stress perceived by girls and boys was the same. Romano (1997) found boys more likely to use acting out or anger as a coping device, while girls talked more with others to reduce stress, but De Anda et al. (1997) did not find any difference in gender with respect to coping strategies. In this study, the mean score for academic stress of male students is higher than females but there is no significant difference in academic stress between gender.

Siblings played a major role in an individual's development and had a significant effect on their academic and behavioral outcomes. A study of Latino adolescents in the United States indicated that the presence of at least one older sibling was related to higher quality sibling relationships and more academic motivation between sibling (Alfaro & Umaña-Taylor, 2010). The finding of this study indicates that only children have less stress than students have more siblings. A study of American adolescents in grades 7 to 12 indicated that lower household income and lower parental education in adolescence each were associated with higher prevalence of depression (Goodman, Slap, & Huang, 2003).

Parental factors

Cultural values influence parental expectations and their willingness to invest in their children's education. Parental expectations are often very high in Asian cultures that are influenced by the Confucian tradition. Students' whose parents were more educated have balanced educational expectations for their children. These students have less academic stress than students' whose parents were less educated. This study found that students' whose parents were primary school level educated parents have much stress than that of graduated level educated parents.

Relationships with teachers also played an important role in students' academic performance. Teachers have been shown to exert pressure upon students and influence parents to control their children's academic activities (West, et al., 1982). A study of students aged 10 to 16 years in Australia found that students were less likely to report experiencing somatic and depressive symptoms when they saw their relationship with teachers as supportive. Conversely, a higher level of depressive symptoms was reported when this relationship was perceived as stressful (Murray-Harvey & Slee, 2007).

Peer relationships also have been shown to contribute to academic stress. Research has suggested that a low level of popularity and poor peer relationships were associated with adolescent depression (Hall-Lande, Eisenberg, Christenson, & Neumark-Sztainer, 2007). Positive peer relationships could be protective for students because they improved academic performance through better motivation and involvement in school activities (Gonzales, Cauce, Friedman, & Mason, 1996; Shin, Daly, & Vera, 2007). Additionally, conflict with peers was also reported to be responsible for students' stress (Sun, Dunne, Hou, et al., 2012).

Method

Sample of the Study

Table 1 Number of Participants Included in This Study

Characteristics	Yangon Region								Total
	East		West		South		North		
School	H-1	H-3	H-5	H-2	H-1	H-1	H-2	BH-2	
Township	NO	SD	KMD	LMT	DL	TT	IS	MGD	
Male	39	53	49	61	35	38	49	42	366
Female	107	71	31	34	51	59	65	37	455
Total	146	124	80	95	86	97	114	79	821

Note: NO=North Okkalapa(School-1), SD=South Dagon(School-2), KMD=KyiMyinTaing(School-3), LMT=Lanmataw(School-4), DL=Dala(School-5), TT=Twantay(School-6), IS=Insein(School-7), MGD=Mingalar don(School-8)

Instrumentation

To measure the academic resilience of Grade 9 students, Resilience and Youth Development Questionnaire was used in this study. It was developed by Thomas. L. Hanson and Jin-Ok Kim in 2007. The questionnaire consists of 39 items using a Four-points Likert respond format (1-Not at all true, 2-A little true, 3-Pretty much true, and 4-Very much true). The questionnaire was composed of school resilience, home resilience, community resilience, peer resilience and internal assets.

To assess students' academic stress, Formal Academic Stress Inventory was used in this study. It was developed by Tabachnick, B.G. and Fidell, L.S. in 2007. This inventory consists of 29 items using a Five-points Likert respond format (1-Strongly disagree, 2-Disagree, 3-Neutral, 4-agree, 5-Strongly agree). It has six subscales – teachers stress, result stress, tests stress, peer stress, time management stress, and self-inflicted stress.

All the measures used in this study were adapted to Myanmar Version. After preparing the measuring scales, expert review was conducted for face validity and content validity by fourteen experts from Yangon University of Education and two experts from former lecturer who have special knowledge and close relationship in the field of educational psychology and educational test and measurement.

The pilot study was done with a sample of 70 Grade 9 students (35 boys and 35 girls) from Basic Education High School (Khattiya), Twantay in Yangon Region. The internal consistency (Cronbach's alpha) of Academic Resilience and Academic Stress were .875 and .799 respectively.

Data Analysis and Findings

Comparison for Academic Resilience and Academic Stress of Grade 9 Students

By using the descriptive procedure with the data obtained from the self-reported survey questionnaire, students' academic resilience and academic stress can be estimated.

Table 2 Descriptive Statistic for Academic Resilience and Academic Stress of Grade 9 Students

Variable	N	No. of Items	Mean	Mean (%)	SD
Academic Resilience	821	39	119.94	76.88	14.90
Academic Stress	821	27	80.93	59.94	13.46

Descriptive analyses revealed that the means and standard deviations of academic resilience and academic stress for the whole sample are 76.88% (SD=14.90) and 59.94% (SD=13.46), respectively (see Table 2). These findings showed that the academic resilience and academic stress of students in this study were somewhat satisfactory. Stress is necessary and unavoidable concomitant of daily living necessary because without some stress, everyone would be listless and apathetic creatures (Lazarus & Folkman, 1984).

Table 3 Mean Percentage and Standard Deviation for Factors of Academic Resilience and Academic Stress of Grade 9 Students

Variable	Factors	No. of Items	Mean(%)	SD
Academic Resilience	Community	3	74.25	15.10
	School	13	*72.97*	12.97
	Peer	3	**81.50**	20.83
	Home	7	80.56	13.22
	Internal assets	13	78.35	10.34
Academic Stress	Teacher	9	61.67	12.10
	Result	4	**65.19**	16.35
	Test	3	56.85	18.82
	Peer	4	62.47	16.10
	Time management	3	*51.72*	17.06
	Self-inflicted	4	56.83	15.74

It can be clearly seen that the mean score for peer resilience was highest and school resilience was lowest. The mean score for result stress was highest and time management stress was lowest. This can be said that the students had much stress concerning their exam results but good time management skill.

Table 4 Comparison for Academic Resilience and Academic Stress *of Grade 9 Students* by Gender

Variable	Gender	Mean	SD	t	Sig.
Academic Resilience	Boy	75.91	10.24	-2.627**	.009
	Girl	**77.66**	8.90		
Academic Stress	Boy	**60.47**	10.67	1.352	.177
	Girl	59.53	9.35		

*p<.05, **p<.01

The mean score for girls were higher in academic resilience than that of boys. The academic stress for boys were higher than that of girls. the result of independent sample t-test confirmed that there was a statistically significant difference in academic resilience by gender at 0.01 level. There was no significant difference between boys and girls in academic stress.

Table 5 **Comparison for Each Factor of Academic Resilience of Grade 9 Students by Gender**

Factor	Gender	Mean	SD	*t*	Sig.
Community	Boy	**76.50**	15.97	*3.868****	*.000*
	Girl	72.44	14.13		
School	Boy	**73.05**	13.09	*.146*	.884
	Girl	72.91	12.90		
Peer	Boy	79.21	21.28	*-2.830***	*.005*
	Girl	**83.33**	20.30		
Home	Boy	77.94	13.84	*-5.188****	*.000*
	Girl	**82.68**	12.30		
Internal assets	Boy	76.78	11.14	*-3.939****	*.000*
	Girl	**79.62**	9.47		

**p<.01, ***p<.001

Based on the results shown in Table 5, there were statistically significant differences in community resilience, home resilience and internal assets by gender at 0.001 level and peer resilience of students at 0.01 level. It was found that boys have greater community and school resilience because they are more likely to participate in community and school activities. Girls have profound resilience in peer, home and internal assets because they support and care towards their peers facing stressful life circumstances and they have strong relationship with adults. There was no statistically significant difference in school resilience. It can be said that most boys and girls have the same opportunities to learn and respond during instruction.

Table 6 **Comparison for Each Factor of Academic Stress of Grade 9 Students by Gender**

Factor	Gender	Mean	SD	*t*	Sig.
Teacher	Boy	**62.24**	13.16	1.218	.224
	Girl	61.21	11.16		
Result	Boy	**65.75**	16.83	.884	.377
	Girl	64.74	15.95		
Test	Boy	**58.23**	19.62	1.892	.059
	Girl	55.74	18.10		
Peer	Boy	61.24	16.84	-1.957	.051
	Girl	**63.45**	15.41		
Time management	Boy	51.02	16.86	-1.051	.294
	Girl	**52.28**	17.21		
Self-inflicted	Boy	**59.22**	15.94	**3.944*****	**.000**
	Girl	**54.90**	15.32		

***p<.001

Although there were no significant differences in teacher stress, result stress, test stress, peer stress and time management stress by gender, t*here was statistically significant difference in self-inflicted stress at 0.001 level.* Therefore, adolescents can experience high levels of stress as they are in a developmental period with significant psychological, social and physical changes (Williams, Holmbeck, & Greenley, 2002). The most significant stressors during adolescence were related to school where adolescents spent much of their time (Ang & Huan, 2006a).

Table 7　Comparison for Academic Resilience and Academic Stress of Grade 9 Students by Age

Variable	Age	Mean	SD	F	Sig.
Academic Resilience	14-15	**77.10**	9.52	.761	.468
	16-17	76.65	9.61		
	18 and above	*74.32*	9.63		
Academic Stress	14-15	**58.97**	9.85	**6.446****	**.002**
	16-17	61.40	9.87		
	18 and above	*63.01*	12.09		

**p<.01

Although there were no significant differences in academic resilience for all age groups of Grade 9 students, there were significant differences in academic stress according to age at 0.01 level. To obtain more detailed information of which age had significant differences, Post Hoc Test was executed by Scheffe multiple comparison procedure (see Table 8).

Table 8　The Results of Multiple Comparison for Academic Stress of Grade 9 Students by Age

Variable	(I)Age	(J)Age	Mean difference(I-J)	Sig.
Academic Stress	16-17 years	14-15 years	2.43**	.003

*p<0.05, **p<0.01

It can be said that students at the age of 14-15 years were more willingness to learn and positive relationship with teachers and peers. These students can have less amount of academic stress. According to the result of multiple comparison analysis, academic stress of students was dependent upon their age. It can be concluded that Grade 9 students' academic resilience in this study did not depend on their age.

Table 9　Comparison for Academic Resilience and Academic Stress of Grade 9 Students According to Districts

Variable	District	Mean	SD	F	Sig.
Academic Resilience	East	76.92	9.31	**7.925*****	**.000**
	West	*74.05*	10.26		
	South	77.67	8.99		
	North	**78.64**	9.23		
Academic Stress	East	**58.46**	9.73	**3.948****	**.008**
	West	60.95	10.37		
	South	59.72	9.20		
	North	*61.35*	10.40		

**p<0.01, ***p<0.001

ANOVA result revealed that there were significant differences for academic resilience of Grade 9 students across four districts at 0.001 level. For academic stress, the differences were significant at 0.01 level from students in four districts of Yangon Region. Being Grade 9 students, they have different levels of resilience and stress on the basis of their districts.

Table 10   The Results of Multiple Comparison for Academic Resilience and Academic Stress of Grade 9 Students According to Districts

Variable	(I) District	(J) District	Mean difference(I-J)	Sig.
Academic Resilience	East		2.872*	.020
	South	West	3.618**	.004
	North		4.592***	.000
Academic Stress	North	East	2.89*	.023

*p<0.05, **p<0.01, ***p<0.001

The results showed that there were significant mean differences between East District and West District at 0.05 level, South District and West District at 0.01 level and North District and West District at 0.001 level for academic resilience. This can be said that students from West District had poor socio-emotional adjustment, poor communication skills, limited parental education and family discord than other three districts.

For academic stress, there was a significant mean difference between North District and East District at 0.05 level. It can be said that students from North District may have heavy academic workload and pressure from the teacher may be excessive. Their parents and teachers expected them to get good grades in exams, competition for grades and finishing the assignments at school.

Table 11   Comparison for Academic Resilience and Academic Stress of Grade 9 Students According to Schools

Variable	Schools	Mean	SD	F	Sig.
Academic Resilience	School-1	77.23	9.30	**3.951*****	**.000**
	School-2	76.56	9.35		
	School-3	75.02	8.37		
	School-4	**73.23**	11.59		
	School-5	76.68	8.88		
	School-6	78.55	9.04		
	School-7	78.30	9.21		
	School-8	**78.88**	9.28		
Academic Stress	School-1	**55.96**	9.59	**7.237*****	**.000**
	School-2	61.40	9.08		
	School-3	62.14	11.33		
	School-4	59.95	9.43		
	School-5	59.01	9.51		
	School-6	60.34	8.91		
	School-7	**64.51**	9.40		
	School-8	59.16	10.534		

***p<.001

ANOVA result showed that there were significant differences in Grade 9 students' academic resilience and academic stress by schools at 0.001 level. In order to find out which particular school had significant difference in academic resilience and academic stress, Post Hoc Test was conducted (see Table 12).

Table 12 The Results of Multiple Comparison for Academic Resilience and Academic Stress of Grade 9 Students According to Schools

Variable	(I)School	(J)School	Mean difference(I-J)	Sig.
Academic Resilience	School-6	School-4	5.317*	.034
	School-8		5.648*	.010
Academic Stress	School-2	School-1	5.45**	.004
	School-3		6.18**	.004
	School-7	School-1	8.55***	.000
		School-8	5.35*	.050

*p<0.05, **p<0.01, ***p<0.001

For academic resilience, the differences were significant at 0.05 level for School-6 and School-8 with School-4. For academic stress, the significant difference was existed at 0.01 level for School-2 and School-3 with School-1 and at 0.001 level for School-7 with School-1 and at 0.05 level for School-7 with School-8. The instructional plan of School-4 may have inadequate resources and lack promotion of self-concept and self-esteem. Students from School-1 were low in academic stress. It can be said that their school provided opportunity to learn advanced content and higher order thinking skills. Students have frequent and high-quality teacher-student interactions. They themselves may have engagement and participated in goal-setting.

Table 13 Comparison for Academic Stress of Grade 9 Students by Parents' Education

Variable	Education Level	Mean	SD	F	Sig.
Academic Stress by Father's Education	Primary	61.64	9.45	**6.910***	**.000**
	Middle	61.35	9.46		
	High	60.42	9.29		
	Graduate	**57.54**	11.01		
Academic Stress by Mother's Education	Primary	61.35	9.49	**7.255***	**.000**
	Middle	61.38	10.08		
	High	60.38	9.68		
	Graduate	**57.44**	**9.97**		

***p<.001

ANOVA result showed that there were significant differences among parents' education in academic stress of Grade 9 students at 0.001 level. To obtain more detailed information, multiple comparison (Post Hoc- Scheffe) was calculated (see Table 14).

Table 14 The Results of Multiple Comparison for Academic Stress of Grade 9 Students by Parents' Education

	(I)FEdu	(J)FEdu	Mean difference(I-J)	Sig.
Academic Stress by Father's Education	Primary	Graduate	4.096*	.038
	Middle		3.812**	.001
	High		2.877**	.011
Academic Stress by Mother's Education	Primary	Graduate	3.909*	.024
	Middle		3.945***	.000
	High		2.947*	.011

*p<0.05, **p<0.01, ***p<0.001

According to Table 14, the results explained that Primary education level parents were significantly different with Middle education level, High education level and Graduate education

level parents. Therefore, students whose parents' were Primary education level had highest academic stress. It can be said that the more the parent was educated, the less the academic stress of the student.

Table 15 Comparison for Academic Stress of Grade 9 Students According to the no. of Siblings

Variable	No.	N	Mean	SD	F	Sig.
No. of Siblings	Only one child	148	**58.76**	10.760	**5.236****	**.001**
	1-3	594	59.85	9.785		
	4-7	68	61.85	9.084		
	8-10	11	69.83	7.784		

**p<0.01

ANOVA result indicated that the significant difference existed among no. of siblings in academic stress at 0.01 level. To be specific, multiple comparison (Post Hoc- Scheffe) was calculated to exemplified the significant differences (see Table 16).

Table 16 The Results of Multiple Comparison for Academic Stress of Grade 9 Students According to the no. of Siblings

	(I)NSib	(J)NSib	Mean difference(I-J)	Sig.
No. of Siblings	8-10	Only one child	11.073**	.005
	8-10	1-3	9.986*	.012

*p<0.05, **p<0.01

The result of the multiple comparison analysis revealed that students who had 8-10 no. of siblings were statistically significant with students who were only one child at 0.01 level and with those students who had 1-3 no. of siblings at 0.05 level. According to the result, the more the number of siblings, the more the stress of students.

The Relationship Between Academic Resilience and Academic Stress of Grade 9 Students

Table 17 Correlation Between Academic Resilience and Academic Stress of Grade 9 Students

Variable	Academic Resilience	Academic Stress
Academic Resilience	1	-.096**
Academic Stress		1

**Correlation is significant at the 0.01 level (2-tailed).

The table indicated that there was a significant negative relationship between academic resilience and academic stress of Grade 9 students at 0.01 level. Although there is a high level of stress, resilient students can reduce its adverse effects. So, students need to be resilient ones for reducing stress.

Conclusion, Discussion and Recommendations

Conclusion and Discussion

This study was conducted to find out the relationship between academic resilience and academic stress of secondary school students. A total of 821 Grade 9 students: 44.6% (366) boys and 55.4% (455) girls from eight high schools of four districts in Yangon Region were selected as participants for this study. According to the result of independent sample t-test, there was a

significant gender difference for academic resilience of Grade 9 students. It showed that girls were more resilient than boys. Wright & Masten (2005) concluded that girls are more resilient than boys and also girls are less exposed to risky behaviors than boys. According to ANOVA result, there was no significant difference between age for academic resilience of Grade 9 students. Therefore, resilience does not depend on the age. It is mostly associated with the gender, school, family and community. According to districts, academic resilience for North District was highest among the four districts. ANOVA result pointed out that there was a significant difference in academic resilience of Grade 9 students among districts. Post Hoc Test result showed that students from East, South and North District were significant from students West District. This may be said that students from North District had good socio-emotional adjustment and good communication skills. Among the eight schools, students from School-6 and School-8 were high in academic resilience by comparing with School-4. This may be possible that these schools had strong leadership by principal, safe and orderly school atmosphere that rewards student achievement and effective classroom management.

For academic stress, although the mean score for boys were slightly higher than girls, there was no significant gender difference according to the result of independent sample t-test. They found that stress perceived by girls and boys was the same. According to the ANOVA result, academic stress has significant difference between age of the students. Students at the age of 16-17 years old students were different from 14-15 years old students. It may be said that adolescent is a period of physical, intellectual, emotional, and social development, which involves many challenges which can enhance stress. Students at the age of 18 years and above old were not consistent with the Grade 9 level because of the socioeconomic status of their parents and their development of physical, mental and cognitive skills. Therefore, they may have highest stress in concerning academic situation than others students. ANOVA result showed that there were significant differences in academic stress of Grade 9 students according to districts. Students from North District had highest academic stress and those from East district had lowest among four districts. It may be said that students from North District may have heavy academic workload and pressure from the teacher may be excessive. Their parents and teachers expected them to get good grades in exams, competition for grades and finishing the assignments at school. Moreover, there was a significant difference in academic stress according to schools. Students from School-1 had least academic stress by comparing with other schools in this study. This school may provide committed relationship between teachers and students and a motivational context for learning that recognizes differences in students' backgrounds, interests, and prior knowledge. The significant difference was existed for School-2, School-3 and School-7 with School-1 and for School-7 with School-8.

The mean score for academic stress of Grade 9 students according to parents' education showed that students whose parents had graduate level were lowest. There was a significant difference in academic stress of Grade 9 students according to parents' education. ANOVA result also showed that there was a significant difference in academic stress of Grade 9 students according to the no. of siblings. Students who had 8-10 no. of siblings had statistically significant difference with students who were only one child and with those students who had 1-3 no. of siblings. It may be possible that these students may not have positive sibling relationship. Adolescents with positive sibling relationships experienced better coping and less stress than students with negative sibling relationships. Moreover, according to the Pearson's Correlation, there was a significant negative relationship between academic resilience and academic stress

(r=-0.096) of Grade 9 students at 0.01 level. A high level of stress is associated with poor personal resilience in withstanding stress, as well as poor quality of life.

Recommendations for Future Research

To explore the academic stress of students, researcher should consider variables not only academic resilience but also parental support, self-esteem and psychological well-being etc. More research should be done on the students' academic resilience and academic stress with a study of longitudinal design to clarify the grade appropriate differences in academic resilience and academic stress and how their grade level affects their level of academic resilience and academic stress. Further studies should be investigated for every Grade level to have comparison between different Grades. To be concluded, it is hoped that the findings presented in this study will provide some insights in the influence of academic resilience and academic stress in the future.

References

Ang, R. P.,& Huan, V. S. (2006a). Academic expectations stress inventory: Development, factor analysis, reliability, and validity. *Educational and Psychological Measurement.*

Benard, B. (1998). How to Be a Turnaround Teacher/Mentor. Reaching Today's Youth, Spring 1998. Pridobljeno 12.5.2009 s svetovnega spleta: http://www.resiliency.com/htm/ turnaround.htm

Bossy, S. (2000). Academic pressure and impact on Japanese students. *McGill Journal of Education, 35*(1), 71–89.

De Anda, D. d., Baroni, S., Boskin, L., Buchwald, L., Morgan, J., Ow, J., . . . Weiss, R. (2000). Stress, stressors and coping among high school students. *Children and Youth Services Review, 22*(6), 441–463.

Gonzales, N. A., Cauce, A. M., Friedman, R. J., & Mason, C. A. (1996). Family, peer, and neighborhood influences on academic achievement among African-American adolescents: One-year prospective effects. *American Journal of Community Psychology*

Hall-Lande, J. A., Eisenberg, M. E., Christenson, S. L., & Neumark-Sztainer, D. (2007). Social isolation, psychological health, and protective factors in adolescence.

Lazarus, R.S. and Folkman, S. (1984). Stress, Appraisal, and Coping. New York, NY:

Lee, M., & Larson, R. (2000). The Korean 'Examination hell': Long hours of studying, distress, and depression. *Journal of Youth and Adolescence, 29*(2), 249–271.

Masten, A., Best, K., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. Development and Psychopathology, 2, 425–444.

Murray-Harvey, R., & Slee, P. T. (2007). Supportive and stressful relationships with teachers, peers and family and their influence on students' social/emotional and academic experience of school. *Australian Journal of Guidance and Counselling*

Sun, J., Dunne, M. P., & Hou, X.-Y. (2012). Academic stress among adolescents in China. *Australasian Epidemiologist*

Tabachnick, B.G. and Fidell, L.S., (2007). Using Multivariate Statistics. (5th Edn), Needham Heights, MA: Allyn & Bacon, 649.

their significance to urban LSES minority students. *Journal of Negro Education*

Thomas. L. Hanson and Jin-Ok Kim in (2007). Resilience and Youth Development Questionnaire. California Healthy Kids Survey.

Torres, J. B., & Solberg, V. S. (2001). Role of self-efficacy, stress, social integration, and family support in Latino college student persistence and health. *Journal of Vocational Behavior*

Wang, M.C., & Gordon, E.W. (Eds.). (1994). Educational resilience in inner-city America: Challenges and prospects. Hillsdale, NJ: Lawrence Erlbaum Associates.

West, C. K., Wills, C. L., & Sharp, A. (1982). Academic stress among early and mid-adolescents in England and in the United States. *The Journal of Early Adolescence*

Williams, P. G., Holmbeck, G. N., & Greenley, R. N. (2002). Adolescent health psychology. *Journal of Consulting and Clinical Psychology*

Zajacova, A., Lynch, S. M., & Espenshade, T. J. (2005). Self-efficacy, stress, and academic success in college. *Research in Higher Education*

SOCIAL COMPARISONS OF IN-SERVICE TEACHERS AND THEIR EFFECTS ON ADJUSTMENT AND EMOTIONS

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Abstract

The purpose of this study was to explore the impact of social comparisons on teachers' adjustment (adjustment indicators: job satisfaction, teachers' sense of efficacy, intentions to quit, and burnout) and emotions. The study explored the differences in teachers' uses of social comparisons, adjustment and emotions according to region, age, years of teaching experiences, and designations and the effects of each type of social comparisons on teachers' adjustment and emotions were also studied. A total of 757 teachers (370 teachers from Yangon Region and 387 teachers from Kayin State) were chosen as a sample. Self-regulation strategy questionnaire composed of three subscales, each with two items; 5 items Teacher Satisfaction Survey; Teachers' Sense of Efficacy Scale that involved 24 items; Occupational Commitment Scale with 3 items; Maslach Burnout Inventory with three subscales with 22 items; and Teacher Emotions Scale with three subscales that consisted of 12 items were used as instruments for the study.According to this study, there were significant difference in teachers' sense of efficacy, personal accomplishment, and anxiety by region. Teachers from Yangon Region were higher in teachers' positive adjustment and less in anxiety than teachers from Kayin State. The results of ANOVA revealed that teachers with greater teaching experiences could make more adjustment and had more positive emotions than fewer teaching experienced teachers. In addition, senior teachers were found with greater intentions to quit and burnout and with less job satisfaction and teachers' sense of efficacy than primary teachers. Senior teachers' depersonalization and anger were higher and their personal accomplishment was lower than other teachers. Upward social comparison was explored to provide teachers' positive adjustment and positive emotions though horizontal social comparison was related with teachers' negative adjustment and negative emotions. Downward social comparison was found no relation with teachers' adjustment and emotions.

Keywords: Social Comparisons, In-service Teachers, Adjustment, Emotions

Introduction

Social comparisons serve as a motivational strategy to make adjustment on individual's awful emotions. Festinger(1954) defined it as a process used by an individual to deliberately select social information in order to judge his/her opinions and abilities but also to reduce his/her uncertainty with regard to his/her own worth. In order to satisfy this need, one can compare oneself to targets that are relatively similar to oneself (i.e. horizontal comparison), or to targets who are slightly better (i.e. upward comparison) or worse than oneself (i.e.downward comparison). Thus, social comparisons are typically portrayed as strategic processes, which are executed to satisfy certain motives or goals (Taylor et al., 1996). Specifically, social comparison is mostly understood as a process which is engaged to fulfill fundamental needs such as self-evaluation, self-enhancement, and self-improvement (Kruglanski & Mayseless, 1990; Suls, Martin, & Wheeler, 2002; Wood & Taylor, 1991).

Purpose of the Study

The purpose of the study is to examine how three forms of social comparison affect on measures of burnout, job satisfaction, and sense of efficacy, intentions to quit, and emotions of in-service teachers.

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Research Questions

1. Are there differences in three forms of social comparisons of in-service teachers by region, years of teaching experiences, age, and designation?
2. Are there differences in job satisfaction, sense of efficacy, intentions to quit, burnout, and emotions of in-service teachers by region, years of teaching experiences, age, and designation?
3. Are there correlation between in-service teachers' social comparisons, adjustment, and emotions?
4. Are there the effects of downward social comparison of in-service teachers on their adjustment and emotions?
5. Are there the effects of horizontal social comparison of in-service teachers on their adjustment and emotions?
6. Are there the effects of upward social comparison of in-service teachers on their adjustment and emotions?

Definitions of Key Terms

Social Comparison: According to Festinger (1954), human beings have the drive to assess their opinions and to know more about their abilities and when they are incapable of evaluating their opinions and abilities; they tend to compare themselves with others. This is called social comparison.

In-service Teachers: Teachers who are currently employed in the school setting and currently teaching.

Adjustment: Adjustment has been considered as an index to integration; a harmonious behavior of the individual by which other individuals of the society recognize the person as well adjusted (Pathak, 1990).

Emotions: Emotions are all those feelings that so change men as to affect their judgments, and that are also attended by pain or pleasure. Such are anger, pity, fear and the like, with their opposites (Aristotle, 384-322BCE).

Review of Related Literature

Teachers' Emotions

About 40% to 50% of working time of teachers is spent in the classroom (OECD, 2011) and therefore if we say that emotions of teachers mean that emotions occur while teaching. The emotions teachers experience is extremely dependent on students' engagement and performance (Frenzel, 2009). Teachers are to experience anger or frustration when their students misbehave in the classroom and these behaviors destroyed their teaching plans (Sutton, 2007). The three most commonly experienced types of emotions by teachers are enjoyment, anger and anxiety (Scherer et al, 2004). Experiencing enjoyment is more common in teachers rather than anger and anxiety (Frenzel, & Gotz, 2007).

Job Satisfaction

Job satisfaction has been defined as a pleasurable emotional state of the appraisal of one's job; an effective reaction and an attitude towards one's job (Weiss, H.M. 2002). In educational

settings, job satisfaction among teachers is offering a sense and feeling of accomplishment, interest and challenge (Howard & Frink, 1996). If the teacher has positive feelings towards job, his job satisfaction level will be high and if he has negative feelings towards job, job satisfaction level will be low.

Burnout

Originally, burnout was defined as a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach & Jackson, 1981). Emotional exhaustion exists when teachers are unable to physically and emotionally provide for students due to overwhelming feelings of fatigue and stress (Byrne, 1991). Once it occurs, it can decrease individual enthusiasm. Consequently, high levels of emotional exhaustion lead to a withdrawal from people around them in work. Such withdrawal ends with depersonalized reactions to people and toward the job. Depersonalization is the condition in which teachers develop negative and cynical attitudes towards their work situation, including interactions with students, parents, and colleagues (Burke et al., 1996). The development of burnout occurs within those two processes (Demerouti et al., 2001). Because of withdrawal from working conditions, it will also decrease work effort and results in the third component, reduced personal accomplishment.

Intentions to Quit

Intention to leave is defined as individuals' perceived likelihood that they will be staying or leaving the working organization (Bigliardi, Petroni & Ivo Dormio, 2005). It is not the actual action of quitting, but the wanting and desires to do commitment that may contribute to quitting (Klassen & Chiu, 2011).

Self-efficacy

Self-efficacy is defined as people's beliefs about their capacities to produce designated levels of performance and exercise influence over events that affect their lives (Bandura, 1994). Bandura said that self-efficacy is one of the most important predictors of human motivations. According to him, self-efficacy is one's belief about the ability to perform a task.

Self-regulatory Mechanisms

Self-regulation of motivation and sociocognitive functioning is determined by several self-regulatory mechanisms (Bandura, 1986, 1988). Social comparisons, one of the self-regulatory mechanisms, play a role in self-appraisal capabilities (Festinger, 1954; Goethals & Darley, 1977; Suls & Miller, 1977).

Social Comparisons

In Festinger (1954) original theory, he postulated that people need to maintain the accurate and stable view of them. For this purpose, people find information about their capabilities. If objective standards for this information are not available, people make social comparisons with others. Some people make social comparison even if objective standards are available (Klein, 1997). This is called self-evaluation, one of the main motives for social comparisons. Sometimes, when people do not accurately evaluate themselves, they try to create and maintain self-image. This is called self-enhancement in which people make comparisons with the ones who are worse than they do. The third need of social comparisons is self-improvement. Self-improvement is made by information of others who are better than ones' own abilities. Therefore, social comparison is the process which is to fulfill the needs such as self-

evaluation, self-enhancement, and self-improvement (Kruglanski & Mayseless, 1990; Suls, Martin, & Wheeler, 2002; Wood & Taylor, 1991).

Method

Sample of the Study

Participants for this study included 757 in-service teachers from the schools in districts of Yangon Region and Kayin State. This sample included 370 teachers from Yangon Region and 387 teachers from Kayin State, 246 primary teachers, 306 junior teachers, and 205 senior teachers.

Instrumentation

To explore the effects of social comparisons on in-service teachers' adjustment and emotions, six types of questionnaires were used. First, six-item Social Comparison Scale (α=0.78) was used to determine social comparisons of teachers and it was adapted from a self-regulation strategy questionnaire by Heckhausen and colleagues (Optimization of Primary and Secondary Control, OPS; Haase et al., 2008). Second, job satisfaction was scored by using five-item scale by Moe et al. (2010) (α=0.756). Third, teachers' sense of efficacy was determined using Teachers' Sense of Efficacy Scale Survey (Ohio State Teacher Efficacy Scale) developed by Megan Tschannen-Moran and Mary Anita Woolfolk Hoy in 2001 (α=0.926). Fourth, a three-item Occupational Commitment scale by Hackett et al. (2001) (α= 0.894) was used to measure teachers' intention to quit. Fifth, teachers' burnout was determined by using 22-item scale from the Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1986) (α=0.789). Sixth, a 12-item Teacher Emotions Scale (TES, Frenzel et al., 2009) (α=0.713) was used to score teachers' emotions related to instructional activities.

Data Analysis and Results

To find out the differences in three types of social comparisons, adjustment indicators, and emotions of in-service teachers by region, descriptive statistics and independent sample *t* test were made.

Table 1 Descriptive Statistics and Results of Independent Sample *t* Test for In-service Teachers' Adjustment Indicators by Region

Adjustment Indicators	Region	N	Mean	SD	*t*	*df*	*p*
Job Satisfaction	Yangon	370	14.96	2.04	1.285	755	.199
	Kayin	387	14.77	2.01			
Teachers' Sense of efficacy	Yangon	370	91.63	10.57	2.782**	755	**.006**
	Kayin	387	89.47	10.78			
Intentions to Quit	Yangon	370	7.21	3.38	.495	755	.620
	Kayin	387	7.09	3.15			
Burnout	Yangon	370	29.26	17.45	-1.211	755	.226
	Kayin	387	30.69	15.00			

Note: **p<0.01

Only in-service teachers' sense of efficacy was significant between Yangon Region and Kayin State. Teachers from Yangon Region had more sense of efficacy than teachers from Kayin State.

Table 2 Descriptive Statistics and Results of Independent Sample *t* test for In-service Teachers' Burnout by Region

Burnout	Region	N	Mean	SD	*t*	*df*	*p*
Emotional Exhaustion	Yangon	370	16.81	10.32	.844	755	.399
	Kayin	387	16.22	8.87			
Burnout	**Region**	**N**	**Mean**	**SD**	***t***	***df***	***p***
Personal Accomplishment	Yangon	370	38.94	8.08	4.115***	755	**.000**
	Kayin	387	36.37	9.03			
Depersonalization	Yangon	370	3.38	5.29	.449	755	.654
	Kayin	387	3.22	4.19			

Note: ***p<0.001

According to the results of *t* test, teachers' personal accomplishment was significantly different by region at 0.001 level.

Table 3 Descriptive Statistics and Results of Independent Sample *t* Test for In-service Teachers' Emotions by Region

Teachers' Emotions	Region	N	Mean	SD	*t*	*df*	*p*
Enjoyment	Yangon	370	13.22	1.85	1.915	755	.056
	Kayin	387	12.97	1.69			
Anxiety	Yangon	370	7.97	2.22	-2.725**	755	**.007**
	Kayin	387	8.38	1.88			
Anger	Yangon	370	9.13	2.21	.138	755	.891
	Kayin	387	9.11	2.03			
Teachers' Emotions Total	Yangon	370	30.32	4.07	-.506	755	.613
	Kayin	387	30.48	3.44			

Note: **p<0.01

According to the results of *t* test, there was significant difference in anxiety of teachers by region at 0.01 level.

One-way analysis of variance was calculated to find out the differences in types of social comparisons, adjustment indicators, and emotions of in-service teachers among different years group of teaching, age, and designation.

Table 4   Descriptive Statistics and ANOVA Results for Adjustment Indicators of In-service Teachers by Years of Teaching and Their Levels of Significance

Adjustment Indicators	Years of Teaching	N	Mean	SD	F	p
Job Satisfaction	1-10	187	14.99	1.99		
	11-20	231	14.62	1.99		
	21-30	193	14.74	2.16	3.181	**.023**
	31-40	146	15.23	1.91		
Teachers' sense of efficacy	1-10	187	90.71	10.69		
	11-20	231	89.85	10.99		
	21-30	193	90.30	10.97	.891	.445
	31-40	146	91.65	10.01		
Intentions to Quit	1-10	187	7.16	3.10		
	11-20	231	7.67	3.43		
	21-30	193	6.66	3.07	3.593	**.013**
	31-40	146	6.95	3.35		
Burnout	1-10	187	29.44	15.04		
	11-20	231	32.05	17.37		
	21-30	193	29.27	16.25	1.913	.126
	31-40	146	28.39	15.76		

According to Table 4, there were significant differences in the mean scores of teachers' job satisfaction and intentions to quit according to years of teaching. To look at the differences in detail, Post hoc with Tukey method and the results were shown in Table 5.

Table 5 Results of Post Hoc Test of Adjustment Indicators by Years of Teaching

Adjustment Indicators	(I)Years of Teaching	(J)Years of Teaching	Mean Difference (I-J)	p
Job Satisfaction	11-20	31-40	-.603*	.025
Intentions to Quit	11-20	21-30	1.003**	.009

Note: *p<0.05, **p<0.01

According to Table 5, from 11 to 20 years of teaching was different significantly different at 0.05 level with 31 to 40 years of teaching in job satisfaction and for intentions to quit, the mean score of that 11-20 years of teaching was much more higher than 21-30 years of teaching group and different at 0.05 and 0.01 level for each one. It could be concluded that teachers who were with lesser teaching experiences were higher in intentions to quit and lower in job satisfaction.

Table 6   Descriptive Statistics and ANOVA Results for In-service Teachers' Emotions by Years of Teaching and Their Levels of Significance

Teachers' Emotions	Years of Teaching	N	Mean	SD	F	p
Enjoyment	1-10	187	13.02	1.83	6.127	**.000**
	11-20	231	12.83	1.61		
	21-30	193	13.08	1.82		
	31-40	146	13.62	1.80		
Anxiety	1-10	187	8.24	1.90	3.189	**.023**
	11-20	231	8.41	2.15		
	21-30	193	8.18	1.99		
	31-40	146	7.75	2.17		
Anger	1-10	187	9.01	2.05	3.287	**.020**
	11-20	231	9.45	2.06		
	21-30	193	9.09	2.30		
	31-40	146	8.78	1.98		
Teachers' Emotions Total	1-10	187	30.27	3.30	.767	.513
	11-20	231	30.69	3.75		
	21-30	193	30.35	4.28		
	31-40	146	30.14	3.61		

According to Table 6, there were significant differences in teachers' enjoyment, anxiety, and anger according to years of teaching. To explore the differences specifically, post hoc test with Tukey method was used and the results were presented in Table 7.

Table 7   Results of Post Hoc Test of Teachers' Emotions by Years of Teaching

Teachers' Emotions	(I)Years of Teaching	(J)Years of Teaching	Mean Difference (I-J)	p
Enjoyment	31-40	1-10	.595*	.012
		11-20	.785***	.000
		21-30	.539*	.027
Anxiety	31-40	11-20	-.665*	.012
Anger	31-40	11-20	-.665*	.015

Note: *p<0.05, ***p<0.001

According to the results of Table 7, for enjoyment, 31-40 years of teaching group was significantly different with 11-20 years of teaching group at 0.001 level, and significant with (1-10) years of teaching group at 0.05 level and slightly different with (21-30) group at 0.05 level. The mean score of 11-20 groups was higher than 31-40 years of teaching group in both anxiety and anger and significant at 0.05 level. It could be concluded that the most experienced teachers were the happier groups in teaching profession with less anxiety and anger.

Table 8   Descriptive Statistics and ANOVA Results for Adjustment Indicators of In-service Teachers by Age and Their Levels of Significance

Adjustment Indicators	Age	N	Mean	SD	*F*	*p*
Job Satisfaction	21-30	158	15.15	2.11		
	31-40	239	14.48	1.95		
	41-50	134	14.86	2.00	4.756	**.033**
	51-60	226	15.06	2.02		
Teachers' Sense of efficacy	21-30	158	90.66	10.55		
	31-40	239	89.28	11.41		
	41-50	134	91.40	10.31	1.699	.166
	51-60	226	91.22	10.27		
Intentions to Quit	21-30	158	7.30	3.31		
	31-40	239	7.45	3.32		
	41-50	134	6.77	3.16	1.714	.163
	51-60	226	6.94	3.21		
Burnout	21-30	158	31.68	16.83		
	31-40	239	30.92	16.71		
	41-50	134	29.96	15.61	2.137	.094
	51-60	226	27.86	15.59		

According to Table 8, there was significant difference in teachers' job satisfaction according to teachers' age. Post hoc test with Tukey method was carried out to find out the differences in job satisfaction of teachers among different age group. Table 9 presented the results.

Table 9 Results of Post Hoc Test of Adjustment Indicators by Age

Adjustment Indicators	(I)Age	(J)Age	Mean Difference (I-J)	*p*
Job Satisfaction	31-40	21-30	-.675**	.006
		51-60	-.585*	.010

Note: *p<0.05, **p<0.01

According to the results of Table 9, teachers' job satisfaction of age group (31-40) was significant with the age groups of (21-30) and (51-60) at 0.01 and 0.05 level respectively. It could be said that the middle-aged teachers were the least satisfied with their work though the youngest and the oldest teachers were the most satisfied with their work.

Table 10 Descriptive Statistics and ANOVA Results for In-service Teachers' Emotions by Age and Their Levels of Significance

Teachers' Emotions	Age	N	Mean	SD	*F*	*p*
Enjoyment	21-30	158	13.15	1.85		
	31-40	239	12.75	1.62		
	41-50	134	13.31	1.63	4.659	**.003**
	51-60	226	13.29	1.92		
Anxiety	21-30	158	8.34	2.04		
	31-40	239	8.45	2.06		
	41-50	134	8.05	1.88	3.581	**.014**
	51-60	226	7.87	2.15		

Teachers' Emotions	Age	N	Mean	SD	*F*	*p*
Anger	21-30	158	9.15	2.11		
	31-40	239	9.38	2.10		
	41-50	134	8.90	2.10	2.213	.085
	51-60	226	8.95	2.13		
Teachers' Emotions Total	21-30	158	30.64	3.66		
	31-40	239	30.58	3.60		
	41-50	134	30.25	3.50	.917	.432
	51-60	226	30.11	4.13		

According to Table 10, there were significance differences in teachers' enjoyment and anxiety according to teachers' age. To find out the differences in detail, post hoc with Tukey method was carried out and the results were shown in the Table 11.

Table 11   Results of Post Hoc Test of Teachers' Emotions by Age

Teachers' Emotions	(I)Age	(J)Age	Mean Difference (I-J)	*p*
Enjoyment	31-40	41-50	-.557*	.018
		51-60	-.539**	.006
Anxiety	31-40	51-60	.580*	.013

Note: *p<0.05, **p<0.01

According to Table 11, the mean scores of (31-40) age group were lower than that of (41-50) and (51-60) age groups and significant at 0.05 and 0.01 level for emotion of enjoyment. For anxiety, (31-40) age group' mean score was higher than that of 51-60 age group and significant at 0.05 level. It could be concluded that the oldest teachers enjoyed their work the most with the least anxiety.

Table 12   Descriptive Statistics and ANOVA Results for In-service Teachers' Social Comparisons by Designation and Their Levels of Significance

Social Comparisons	Designation	N	Mean	SD	*F*	*P*
Horizontal Social Comparison	PAT	246	5.66	1.26	.328	.721
	JAT	306	5.71	.98		
	SAT	205	5.63	1.13		
Upward Social Comparison	PAT	246	6.52	.87	1.871	.155
	JAT	306	6.42	.82		
	SAT	205	6.37	.93		
Downward Social Comparison	PAT	246	5.99	1.07	6.129	**.002**
	JAT	306	5.90	1.04		
	SAT	205	5.65	1.08		
Social Comparisons Total	PAT	246	18.18	2.54	2.872	.057
	JAT	306	18.03	2.21		
	SAT	205	17.65	2.47		

Note: PAT= Primary Assistant Teacher, JAT= Junior Assistant Teacher, SAT= Senior Assistant Teacher

According to Table 12, there was no significant difference in all types of social comparison according to designation. To find out the differences in detail, post hoc with Tukey method was used and the results were shown in Table 13.

Table 13 Results of Post Hoc Test of Social Comparisons by Designation

Social Comparisons	(I)Designation	(J)Designation	Mean Difference (I-J)	*p*
Downward Social Comparison	SAT	PAT	-.343**	.002
		JAT	-.247*	.028

Note: *p< 0.05, **p<0.01

According to Table 13, the mean score of senior assistant teacher was lower than both primary assistant teacher and junior assistant teacher for downward social comparison and significant at 0.01 and 0.05 level respectively. It could be said that primary assistant teachers and junior assistant teachers were using downward social comparison more than senior assistant teachers.

Table 14 Descriptive Statistics and ANOVA Results for In-service Teachers' Adjustment Indicators of Teachers by Designation and Their Levels of Significance

Adjustment Indicators	Designation	N	Mean	SD	*F*	*p*
Job Satisfaction	PAT	246	15.40	2.14	13.306	**.000**
	JAT	306	14.62	1.91		
	SAT	205	14.58	1.94		
Teachers' Sense of efficacy	PAT	246	92.65	9.78	8.236	**.000**
	JAT	306	90.03	10.60		
	SAT	205	88.71	11.59		
Intentions to Quit	PAT	246	6.86	3.24	8.764	**.000**
	JAT	306	6.83	3.15		
	SAT	205	7.95	3.32		
Burnout	PAT	246	27.33	14.88	7.990	**.000**
	JAT	306	29.85	15.74		
	SAT	205	33.40	17.95		

According to Table 14, there were significant differences in teachers' job satisfaction, sense of efficacy, intentions to quit, and burnout according to designation. To look out the differences specifically, post hoc with Tukey method was used and the results were shown in Table 15.

Table 15 Results of Post Hoc Test of Adjustment Indicators by Designation

Adjustment Indicators	(I)Designation	(J)Designation	Mean Difference (I-J)	*p*
Job Satisfaction	PAT	JAT	.781***	.000
		SAT	.823***	.000
Teachers' Sense of efficacy	PAT	JAT	2.614*	.012
		SAT	3.939***	.000
Intentions to Quit	SAT	PAT	7.263**	.001
		JAT	7.453***	.000
Burnout	SAT	PAT	4.606***	.000
		JAT	2.691*	.039

Note: *p<0.05, **p<0.01, ***p<0.001

According to the results of Table 15, the mean score of primary assistant teacher in job satisfaction was higher than junior assistant teacher and senior assistant teacher and significantly different at 0.001 level. For teachers' sense of efficacy, the mean score of primary assistant teacher also was higher than junior assistant teacher and senior assistant teacher and with junior assistant teacher, it was significant at 0.05 level and it was significantly different with senior assistant teacher at 0.001 level. The mean score of senior assistant teacher was higher than primary and junior assistant teacher in the scale of intentions to quit. They were significant with the former at 0.01 level and with the latter is at 0.001 level. In burnout scale, the mean score of senior assistant teacher also was higher than primary assistant teacher and junior assistant teacher. Senior assistant teacher and primary assistant teacher were significant at 0.001 level and with junior assistant teacher, senior assistant teacher was significant at 0.05 level.

Table 16 Descriptive Statistics and ANOVA Results for In-service Teachers' Burnout by Designation and Their Levels of Significance

Burnout	Designation	N	Mean	SD	*F*	*p*
Emotional Exhaustion	PAT	246	15.44	8.70	3.705	**.025**
	JAT	306	16.44	9.45		
	SAT	205	17.90	10.67		
Personal Accomplishment	PAT	246	38.78	8.11	3.312	**.037**
	JAT	306	37.18	8.84		
	SAT	205	36.91	8.96		
Depersonalization	PAT	246	2.62	3.67	8.681	**.000**
	JAT	306	3.09	4.20		
	SAT	205	4.42	6.28		

According to Table 16, the mean scores were significantly different in emotional exhaustion, personal accomplishment, and depersonalization according to designation. To view the differences in detail, post hoc test with Tukey method was carried out and the results were shown in Table 17.

Table 17   Results of Post Hoc Test of Burnout by Designation

Burnout	(I)Designation	(J)Designation	Mean Difference (I-J)	*p*
Emotional Exhaustion	PAT	SAT	-2.459*	.018
Depersonalization	SAT	PAT	1.802***	.000
		JAT	1.331**	.005

Note: *p<0.05, **p<0.01, ***p<0.001

According to Table 17, the mean score of senior assistant teacher was higher than primary assistant teacher and they were significant at 0.05 level in the emotional exhaustion scale. For depersonalization scale, the mean score of senior assistant teacher was higher than both primary and junior assistant teacher. Senior assistant teacher was significant with primary assistant teacher at 0.001 level and with junior assistant teacher, it was significant at 0.01 level.

Table 18   Descriptive   Statistics   and   ANOVA   Results   for   In-service   Teachers'
Emotions by Designation and Their Levels of Significance

Teachers' Emotions	Designation	N	Mean	SD	*F*	*p*
Enjoyment	PAT	246	13.12	1.89	.071	.931
	JAT	306	13.09	1.72		
	SAT	205	13.06	1.72		
Anxiety	PAT	246	8.20	2.00	1.563	.210
	JAT	306	8.04	1.92		
	SAT	205	8.37	2.33		
Anger	PAT	246	8.84	2.05	3.786	**.023**
	JAT	306	9.17	2.08		
	SAT	205	9.38	2.21		
Teachers' Emotions Total	PAT	246	30.17	3.68	1.778	.170
	JAT	306	30.30	3.42		
	SAT	205	30.80	4.29		

According to Table 18, there was significant difference only in anger according to designation. To explore the differences in detail, post hoc test with Tukey method was carried out and the results were shown in Table 19.

Table 19 Results of Post Hoc Test of Teachers' Emotions by Designation

Teachers' Emotions	(I)Position	(J)Position	Mean Difference (I-J)	*p*
Anger	PAT	SAT	-.539*	.019

Note: *p<0.05

According to Table 19, the mean score of primary assistant teacher was less than that of senior assistant teacher in subscale of anger. They are significantly different at 0.05 level. It could be said that senior assistant teachers experienced more anger than the other teachers. More emotional exhaustion, depersonalization, and job satisfaction might lead to anger.

Relationship Between In-service Teachers' Social Comparisons and Adjustment Indicators

The following Table 20 presented the correlations between three types of social comparisons and adjustment indicators of In-service teachers.

Table 20 Intercorrelations of In-service Teachers' Social Comparisons and Adjustment Indicators

VA	HS	US	DS	JS	SE	IQ	EE	PA	DP	BU
HS	-	.294***	.470***	.114**	-.040	.066	.160***	-.087*	.123**	.174***
US		-	.484***	.257***	.134***	-.178***	-.074*	.140***	-.004	-.118**
DS			-	.127***	.099**	-.039	.038	.050	.067	.016
JS				-	.203***	-.293***	-.234***	.176***	-.058	-.236***
SE					-	-.092*	-.180***	.372***	-.110**	-.350***
IQ						-	.452***	-.132***	.362***	.441***
EE							-	.095**	.601***	.813***
PA								-	-.127***	-.586***
DP									-	.712***

***Correlation is significant at the 0.001 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).
Note: VA= Variables, HS= Horizontal Social Comparison, US= Upward Social Comparison, DS= Downward Social Comparison, JS= Job Satisfaction, SE= Teachers' Sense of Efficacy, IQ= Intentions to Quit, EE= Emotional Exhaustion, PA= Personal Accomplishment, DP= Depersonalization, BU= Burnout

According to Table 20, the teachers' horizontal social comparison, upward social comparison, and downward social comparison were significantly correlated with job satisfaction. Upward and downward social comparison was significantly correlated with teachers' sense of efficacy. Upward social comparison was correlated with teachers' intentions to quit. Horizontal and upward social comparisons were significantly correlated with emotional exhaustion and personal accomplishment which were subscales of burnout. One of the subscales of burnout, depersonalization, was correlated only with horizontal social comparison.

Relationship Between In-service Teachers' Social Comparisons and Emotions

To find out the correlation between social comparison and emotions of in-service teachers, Pearson product-moment correlation was carried out. The following Table 21 presented the correlations between three types of social comparisons and emotions of in-service teachers.

Table 21 Intercorrelations of In-service Teachers' Social Comparisons and Emotions

VA	HS	US	DS	SC	EJ	AX	AG	EM
HS	-	.294***	.470***	.783***	.113**	.100**	.122**	.177***
US		-	.484***	.716***	.397***	-.085*	-.079*	.096**
DS			-	.841***	.221***	.068	-.010	1.137***
SC				-	.296***	.046	.024	.178***
EJ					-	-.165***	-.145***	.300***
AX						-	.521***	.764***
AG							-	.780***
EM								-

***Correlation is significant at the 0.001 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).
Note: VA= Variables, HS= Horizontal Social Comparison, US= Upward Social Comparison, DS= Downward Social Comparison, EJ= Enjoyment, AX= Anxiety, AG= Anger

According to Table 21, horizontal and upward social comparisons were significantly correlated with teachers' emotions of enjoyment, anxiety and anger. Downward social comparison was significantly correlated with enjoyment. To find out in detail the predictive powers of social comparisons to teachers' adjustment indicators and emotions, multiple regression analysis was conducted.

Table 22   Multiple Regression Analysis Between Social Comparisons and Teachers' Job Satisfaction

Variables	B	β	t	p	R	R²	Adj R²	F
(Constant)	10.801		18.644***	**.000**	.260	.068	.064	18.201****
HS	.086	.048	1.190	.234				
US	.583	.251	6.209***	**.000**				
DS	-.031	-.017	-.377	.706				

Note: ***p< 0.001

Note: Constant= Job Satisfaction, HS= Horizontal Social Comparison, US= Upward Social Comparison,
        DS= Downward Social Comparison

The result showed that job satisfaction was a significant predictor of uses of social comparisons of teachers. Upward social comparison was a significant predictor of job satisfaction (β = .251, p<.001). It could be interpreted that the more the teachers used upward social comparison, the more they had job satisfaction. The adjusted R^2 value was .064. This could be interpreted that approximately 6% of the variance in job satisfaction could be predicted from social comparisons. The model equation to predict job satisfaction from teachers' uses of social comparisons was as follows.

$$JS=10.801+0.583US$$

Table 23 Multiple Regression Analysis Between Social Comparisons and Teachers' Sense of efficacy

Variables	B	β	t	p	R	R²	Adj R²	F
(Constant)	78.989		26.296***	**.000**	.140	.019	.017	7.496**
US	1.387	.113	2.737**	**.006**				
DS	.443	.044	1.072	.284				

Note: **p<0.01, ***p<0.001
Note: Constant= Teachers' Sense of Efficacy, US= Upward Social Comparison, DS= Downward Social Comparison

The results showed that teachers' sense of efficacy were significant predictor of teachers' uses of social comparisons. Upward social comparison was a significant predictor of teachers' sense of efficacy (β= 0.113, and p<0.01) in positive direction. It could be interpreted that the more the teachers used upward social comparison, they more they had sense of efficacy. The adjusted R^2 was 0.017. It could be said that approximately 2% of the variance in teachers' sense of efficacy could be predicted from teachers' uses of social comparisons. The model equation to predict teachers' sense of efficacy from teachers' uses of social comparisons was as follows.

$$SE= 78.989+1.387US$$

Table 24   Multiple Regression Analysis Between Social Comparisons and Teachers' Intentions to Quit

Variables	B	β	t	p	R	R²	Adj R²	F
(Constant)	11.444		13.143***	**.000**	.178	.032	.031	24.823***
US	-.667	-.178	-4.982***	**.000**				

Note: ***p<0.001

Note: Constant= Intentions to Quit, US= Upward Social Comparison

The results showed that teachers' intentions to quit were significant predictors of teachers' uses of social comparisons. Upward social comparisons was also significant predictors of teachers' intentions to quit (β=-0.178, and p<0.001, but upward social comparison in negative direction. It could be interpreted that the more the teachers used upward social comparison, the less they had intentions to quit. The adjusted R² was 0.031. It could be said that approximately 3% of the variance in teachers' intentions to quit can be predicted from teachers' uses of social comparisons. The model equation to predict teachers' intentions to quit from teachers' uses of social comparisons was as follows.

$$IQ=11.444-0.667US$$

Table 25   Multiple Regression Analysis Between Social Comparisons and Teachers' Burnout

Variable	B	β	t	p	R	R²	Adj R²	F
(Constant)	33.354		7.225***	**.000**	.174	.030	.029	23.536***
HS	3.321	.228	6.183***	**.000**				
US	-3.447	-.185	-5.010***	**.000**				

Note: ***p<0.001
Note: Constant= Teachers' Burnout, HS= Horizontal Social Comparison, US= Upward Social Comparison

The result showed that teachers' burnout was a significant predictor of teachers' uses of social comparison. Horizontal social comparison was a significant predictor of teachers' burnout (β= 0.228, p< 0.001) and upward social comparison was a significant predictor of teachers' burnout in negative direction (β= -0.185, p< 0.001). This could be interpreted that the uses of horizontal social comparison could increase teachers' burnout and uses of upward social comparison could decrease teachers' burnout. The adjusted R² was 0.029. It could be said that approximately 3% of the variance in teachers' burnout could be predicted from teachers' uses of social comparisons. The model equation to predict teachers' burnout from teachers' uses of social comparisons was as follows.

$$BU=33.354+3.321HS-3.447US$$

Table 26   Multiple Regression Analysis between Social Comparisons and Teachers' Emotions

Variables	B	β	t	p	R	R²	Adj R²	F
(Constant)	25.754		23.561***	**.000**	.188	.035	.032	9.236***
HS	.479	.142	3.496**	**.001**				
US	.118	.027	.665	.506				
DS	.198	.056	1.268	.205				

Note: **p<0.01, ***p<0.001

Note: Constant = Teachers' Emotions, HS = Horizontal Social Comparison, US= Upward Social Comparison, DS= Downward Social Comparison

According to the results of table 26, teachers' emotions were significant predictors of teachers' uses of social comparisons. Horizontal social comparison only could predict teachers' emotions (β= 0.142, p< 0.01). It could be interpreted that the more the teacher used horizontal social comparison; the teachers had more possibility of experiencing the emotions (enjoyment, anxiety, and anger). The adjusted R^2 was 0.032. It could be said that approximately 3% of the variance in teachers' emotions could be predicted from teachers' uses of social comparisons. The model equation to predict teachers' emotions from teachers' uses of social comparisons was as follows.

$$EM=25.754+0.479HS$$

Table 27 Multiple Regression Analysis between Social Comparisons and Teachers' Emotions (Enjoyment)

Variables	B	β	t	p	R	R²	Adj R²	F
(Constant)	7.829		16.238***	**.000**				
HS	-.034	-.022	-.568	.570				
US	.776	.381	9.933***	**.000**	.399	.159	.156	47.558***
DS	.079	.047	1.143	.253				

Note: ***p<0.001

Note: Constant = Enjoyment, HS = Horizontal Social Comparison, US = Upward Social Comparison, DS= Downward Social Comparison

The result showed that one of teachers' emotions, enjoyment was a significant predictor of teachers' uses of social comparisons. Upward social comparison was a significant predictor of teachers' enjoyment (β=0.381, p<0.001). It could be said that using upward social comparison could increase teachers' enjoyment. The adjusted R^2 was 0.156. It can be said that approximately 16% of the variance in teachers' enjoyment could be predicted from teachers' uses of social comparisons. The model equation to predict teachers' enjoyment from teachers' uses of social comparisons was as follows.

$$EJ=7.829+0.776US$$

Table 28 Multiple Regression Analysis between Social Comparisons and Teacher's Emotions (Anxiety)

Variables	B	β	t	p	R	R²	Adj R²	F
(Constant)	8.652		14.483***	**.000**				
HS	.254	.137	3.648***	**.000**	.156	.024	.022	9.439***
US	-.296	-.125	-3.329**	**.001**				

Note: **p<0.01, ***p< 0.001

Note: Constant: Anxiety, HS = Horizontal Social Comparison, US= Upward Social Comparison

The result showed that teachers' anxiety was a significant predictor of teachers' uses of social comparisons. Horizontal social comparison was significant a predictor of teachers' anxiety (β= 0.137, and p<0.001) though upward social comparison was a significant predictor of teachers' anxiety in negative direction (β= -0.125, p<0.01). It could be interpreted that the more the teachers used horizontal social comparison, they could have more anxiety. The uses of upward social comparison could decrease teachers' anxiety. The adjusted R^2 was 0.022. It could be said that approximately 2% of the variance in teachers' anxiety could be predicted from

teachers' uses of social comparisons. The model equation to predict teachers' anxiety from teachers' uses of social comparisons was as follows.

$$AX=8.652+0.254HS-0.296US$$

Table 29 Multiple Regression Analysis between Social Comparisons and Teachers' Emotions (Anger)

Variables	B	β	t	p	R	R²	Adj R²	F
(Constant)	9.383		15.348***	**.000**				
HS	.301	.159	4.231***	**.000**	.171	.029	.027	11.396***
US	-.306	-.126	-3.358**	**.001**				

Note: **p< 0.01, ***p<0.001

Note: Constant: Anger, HS = Horizontal Social Comparison, US= Upward Social Comparison

The results showed that teachers' anger was a significant predictor of teachers' uses of social comparisons. Horizontal social comparison was a significant predictor of teachers' anger (β=0.159, p<0.001) though upward social comparison was a significant predictor of teachers' anger in negative direction (β= -0.126, p<0.01). It could be interpreted that horizontal social comparison could increase teachers' anger and the uses of upward social comparison could decrease teachers' anger. The adjusted R² was 0.027. It could be said that approximately 3% of the variance in teachers' anger could be predicted from teachers' uses of social comparisons. The model equation to predict teachers' anger from teachers' uses of social comparisons was

$$AG=9.383+0.301HS-0.306US.$$

Conclusion, Discussion and Recommendations

Conclusion, Discussion and Recommendations

According to the results of the findings, more experienced teachers, older teachers, and primary teachers were those who were more satisfied with work, with lower intentions to quit, higher sense of efficacy, lower burnout and lower negative emotions. According to Demerouti et al (2001), they reported that younger employees and those higher educated tend to be experiencing more burnout. Maslach and Leiter (1997) defined burnout as an index of dislocation between what people really were and what they had to do.

Senior assistant teachers were with more emotional exhaustion and depersonalization as in the findings. As senior assistant teachers reached their deadline of strivings, they could be exhausted about their work. Emotional exhaustion led to depersonalization. Primary assistant teachers (older teachers) had passed the deadline of strivings and become used to the problems faced and their emotional exhaustion and depersonalization were less than younger teachers. According to the researchers like Lopez, Santiago, Godas, Castro, Villardefrancos, and Ponte (2008) reported that disruptive behavior of students was the main cause of teacher emotional exhaustion. Senior assistant teachers might also still be influenced by the systematic training of educational universities and they might also have great expectations about education of their students. Because of their expectations, they were not easy to overcome or accept the real situations because of their great expectations once they encountered the failures.

Burnout and motivation for teaching were also in negative relation (Hakanen et al., 2006) and the exhaustion dimension of burnout could predict teachers' intentions to quit from the

profession (Leung & Lee, 2006). Hong (2012) said that the ones who left the profession had weaker self-efficacy than the ones remained in the profession. In my findings, the most experienced teachers, the youngest, and the oldest teachers were found to be the happiest ones with enjoyment, less anxiety, and less anger. Workload and student behavior were significant predictors of anxiety (Ferguson, Frost & Hall, 2012). Job satisfaction, teachers' sense of efficacy, personal accomplishment, and teacher's enjoyment could be in some part of decreasing burnout, intentions to quit, anxiety and anger.

According to Bishay, 1996, job satisfaction increased with age. It was consistent with my findings in which the older ones were with greater job satisfaction. In contrast with novice teachers, experienced teachers were more satisfied with their work (Klassen & Chiu, 2010) and were more likely to apply affective instruction, manipulate unruly students and use successful teaching strategies (Van Maele & Van Houtte, 2012). Experienced teachers could resist the unpredictable conditions of classroom environment with less stress (Claessens et al., 2016) and they could be in good relation with all pupils no matter what their performance and behavior were (Wubbels et al., 2014). The powers of the influence of inertial situations of daily life in schools and home environment could not be neglected.

As in the results of overall sample, all teachers used upward social comparison the most and their job satisfaction, sense of efficacy and more enjoyment were found in them too. Upward social comparison had an effect on decreasing teachers' burnout, intentions to quit, anxiety and anger according to the results of regression. Tesser (1988) proposed that upward social comparison could help teachers to focus on positive role model who had overcome difficulties and could provide teachers' motivation. It was the nature of the job facing with difficulties in every aspect. If the teachers were practiced or taught to delay resilience in them in educational universities, they would be successful when facing with challenges again and again in their service as teachers. The success experienced by teachers because of their successful students might be helpful for their self-esteem. If there were programs for teachers which encourage young teachers to exhibit their qualities about teaching and teaching related activities, that would make teachers satisfy their job. In addition, workshops held for teachers should be more meaningful in some way, for instance, discussing about how to manage the classroom with well-designed lesson plan or exploring the subjects intensely into the deepest part of them. If the workload they had experienced gave them some success or some reward, they would try the best though it made them face difficulties, hard time or even failures. The successful teachers would be models or inspirations for their junior teachers and using upward social comparisons, the teachers would have more job satisfaction, sense of efficacy, personal accomplishment, and enjoyment. Seta (1982) said that participants who worked with a superior partner performed better than participants who worked with an inferior partner.

References

Antoniou, A.S, Polychroni, F., & Vlachakis, A.N. (2006). Gender and age differences in occupational stress and professional burnout between primary and high school teachers in Greece. *Journal of Managerial Psychology , 21*, 682-690.

Bandura, A. (1994). Self-efficacy. In V. R. (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71-81). New York.

Bigliardi, B., Petroni, A., & Dormio, A.I. (2005). Organizational socialization, career aspirations and turnover intentions among design engineers. *Leadership and Organizational Development Journal , 26* (6), 424-441.

Bishay, A. (1996). Teacher motivation and job satisfaction: A study employing the experience sampling method. *Journal of Undergraduate Sciences , 3*, 147-154.

Burke, R.J., Greenglass, E.R., & Schwarzer, R. (1996). Predicting teacher burnout over time: Effects of work stress, social support, and self-doubts on burnout and its consequences. *Anxiety, Stress, and Coping , 9*, 261-275.

Byrne, B. (1991). Burnout: Investigating the impact of background variables for elementary, intermdiate, secondary, and university educators. *Teaching and Teacher Education , 7* (2), 197-209.

Claessens, L., Van Tartwijk, J., Pennings, H., Van der Want, A., Verloop, N., Van den Brok, P., & Wubbles, T. (2016). Beginning and experienced secondary school teachers' self and student schema in positive and problematic teacher-student relationships. *Teaching and Teacher Education , 55* (1), 88-99.

Corcoran, K., Crusius, J., & Mussweiler, T. (2011). Social comparison: Motives, standards, and mechanisms. *In D.Chadee (Ed.), Theories in socia psychology* , 119-139.

Day, C., & Leitch, R. . (2001). Teachers' and teacher educators' lives: The role of emotion. *Teaching and Teacher Education , 17* (4), pp. 403-415.

Demerouti, E., & Bakker, A.B., Nachreiner, F., & Schaufeli, W.B. (2001). The job demands resources model of burnout. *Journal of Applied Psychology , 86* (3), 499-512.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations , 7*, 117-140.

Frenzel, A.C. & Goetz, T. (2007). Emotional experiences of teachers during teaching. *Journal of Educational Psychology , 21* (3), 283-295.

Frenzel, A.C., Goetz, T., Liidtke, O., Pekrun, R., & Sutton, R. (2009). Emotional transmission in the classroom: Exploring the relationship between teacher and student enjoyment. *Journal of Educational Psychology , 101*, 705-716.

Goethals, G.R., & Darley, J.M. (1977). Social comparison theory: An attributional approach. In J.M. Suls, & R.L. Miller (Eds.), *Social comparison processes: Theoretical and empirical perspectives* (pp. 259-278). Washington, DC: Hemisphere.

Hargreaves, A. (2001). Emotional geographies of teaching. *Teachers College Record , 103*, 1056-1080.

Hargreaves, A. (1998). The emotional practice of teaching. *Teaching and Teacher Education , 14* (8), 835-854.

Howard, J., & Frink, D. (1996). The effects of organizational restructure on employee satisfaction. *Group and Organization Management , 21* (3), 278-303.

Klassen, R., & Chiu, M.M. (2010). Effects of teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology , 102*, 741-756.

Klein, W. (1997). Objective standards are not enough: Affective, self-evaluative, and behavioral responses to social cognition infromation. *Journal of Personality and Social Psychology , 72*, 763-744.

Klessen, R.M., & Chiu, M.M. (2011). The occupational commitment and intention to quit of parcticing and pre-sevice teachers: Influence of self-efficacy, job stress, and teaching context. *Contemporary Educational Psychology , 36*, 114-129.

Kruglanski, A.W., & Mayseless, O. (1990). Classic and current socal comparison research: Expanding the perspective. *Psychological Bulletin , 108*, 195-208.

Lopez, J.M.O.,Santiago, M.J., Godas, A., Castro, C., Villardefrancis, E., & Ponte, D. (2008). An integrative approach to burnout in secondary school teachers: Examining the role of student disruptive behavior and disciplinary issues. *International Journal of Psychology and Psychological Therapy , 8* (2), 259-270.

Manassero, M.A., Buades, E.G., Torrens, G., Ramis, C., Vazquez, A., Ferrer, V.A. (2006). *Teacher burnout: Attributional aspect psychology in Spain* (Vol. 10).

Maslach, C., & Jackson, S.E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior , 2*, 99-113.

Maslach, C., & Leiter, M.P. (1997). *The truth about burnout.* San Francisco: Jossey Bass.

OECD. (2011). Education at glance: OECD indicators.

Pekrun, R., Goetz, T., Titz, W., & Perry, R.P. (2002a). Academic emotions in students' self regulated learning and achievement: A program of qualitative and quantitative research. *Journal of Educational Psychology , 37*, 91-106.

Scherer, K.R., Wranik, T., Sangsue, J., Tran, V., & Scherer, U. (2004). Emotions in everyday life: Probability of risk factors, appraisal and reaction patterns. *Social Science Information , 43*, 499-570.

Seta, J. (1982). The impact of comparison processes on coactors' task performance. *Journal of Personality and Social Psychology , 42*, 281-291.

Suls, J., Martin, R., & Wheeler, L. (2002). Social comparison: Why, with whom, and with what effect? *Current Directions in Psychological Science , 11* (5), 159-163.

Suls, J.M., & Miller, R.L. (1977). *Social comparison processes: Theoretical and empirical perspectives.* Washington, DC, Hemisphere.

Sutton, R. (2007). Teachers' anger, frustration, and self-regulation. *Emotion in education* , 251-266.

Taris, T.W., Le Blanc, P.M., Schaufeli, W.B., & Schreurs, P.J.G. (2005). Are there causal relationships between the dimensions of the Maslach Burnout Inventory? A review and two longitudinal tests. *Work and Stress , 19*, 238-255.

Taylor, S.E., Wayment, H.A., & Carrillo, M. (1996). In R. M. Sorrentino, & E. T. Higgins (Eds.), *Handbook of Motivation and Cognition* (Vol. 3, pp. 3-27). New York, NY: Guilford Press.

Tesser, A. (1988). Toward a self-evaluation maintenance model of social behavior. In M.Zanna (Ed.), *Advances in experimental social psychology* (Vol. 21, pp. 181-227). Academic Press.

Troman, G., & Woods, P. (2001). *Primary teacher's stress* (1st ed.). (P. Woods, Ed.) Psychology Press.

Van Maele, D., & Van Houtte, M. (2012). The role of teacher and faculty trust in forming teachers' job satisfaction: Do years of experience make a difference? *Teaching and Teacher Education , 28*, 879-889.

Weiss, H. (2002). Deconstructing job satisfaction: Separating evaluations, beliefs and affective experiences. *Human Resource Management Review , 12* (2).

Wood, J.V., & Taylor, K.L. (1991). Serving self-relevant gaols through social comparison. *In J.Suls & T.A. Wills (Eds.), Social comparison: Contemporary theory and research* , 23-49.

Wubbles, T., Brekelmans, M., den Brok, P., Wijsman, L., Mainhard, T., & van Tartwijk, J. (2014). Teacher-student relationships and classroom management. In E.T. Emmer, E. Sabornie, C. Evertson, & C. Weinstein (Eds.), *Handbook of classroom management*

POSITIVE EMOTIONS, EGO-RESILIENCE AND PERSONAL TRIVINGS OF STUDENT TEACHERS

Theingi Win[1] and Khin Myo Thein[2]

Abstract

The primary purpose of this study was to investigate the relationship of positive emotions, ego-resilience and personal strivings of student teachers. Quantitative perspective was used in this study. Yangon University of Education (YUOE), Sagaing University of Education (SUOE) and University for the Development of National Races of the Union (UDNR) were purposefully selected for this study. A total of 750 student teachers attending at the first year to final year classes participated in this study. Adapted Version of Positive and Negative Affect Schedule (PANAS) developed by Watson, Clark & Tellegen (1988), Ego-Resiliency Scale (ER89) developed by Block & Kremen, (1996), Letzring et al., (2005) and Personal Strivings Assessment Packet (PSAP) developed by Emmons (1999) were used as research instruments. PANAS consists of 10 positive emotions and ER89 consists of 14-items .In PSAP, participants were asked to generate a list of 10 strivings. The participants were also asked to rate each of their strivings along six dimensions; importance, progress, personal growth, positivity, self-transcendence, and personal expressiveness (Emmons, 1999; Waterman, 1993; Beaumont, 2012 cited in Seaton, 2013). The results of independent sample t-test indicated that significant difference was found in ego-resilience of student teachers by gender. ANOVA results also found that there were significant differences in self-ratings of personal strivings by university. Again, significant difference was found in positive emotions by level of education. Moreover both positive emotions and ego-resilience were positively correlated with ratings of personal strivings. Therefore, it could be said that individuals who experience more positive emotions have higher ratings of personal strivings. Similarly, individuals who are higher in ego-resilience have higher ratings of personal strivings. Positive emotions and ego-resilience were also positively correlated with each other. In sum, regression analysis showed that both positive emotions and ego-resilience were the significant predictors of personal strivings in positive direction.

Keywords: Positive Emotions, Ego-resilience, Personal Strivings

Introduction

Human beings typically encounter a variety of difficulties and challenges during the course of their lives, ranging from daily hassles to major life events. It is common for individuals to feel that they have grown through difficult life circumstances. Human seems to be in the pursuit of happiness, continually striving to attain what they perceive to be "the good life". Individuals achieve and maintain their well-being mostly from the life domain on which they place greatest importance (Oishi,2000 cited in Ingrid, 2009).The goals that people strive for, the manner in which they strive for them influence their subjective well-being. When people describe their ideas about living happy and meaningful life, they usually discuss their life goals and wishes for the future. Therefore, psychologists see goal striving as vital to the well-being and good life (Seligman & Csikszentmihalyi, 2000). The good life entails to take either a hedonic or eudaimonic perspective. According to Ryan and Deci (2001) hedonism involves pursuing the pleasurable things that life has to offer, coupled with avoiding pain and discomfort. But eudaimonia involves cultivating and expressing inner virtues and fulfilling one's potential (King, Ells, & Burton, 2004 cited in Seaton, 2013; Waterman, 1993). Those who subscribe to a

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eudaimonic perspective view lasting happiness as something that goes beyond just experiencing moments of positive emotions.

It is believed that the experience of positive emotions can lead to greater or lasting happiness and can build one's enduring personal resources and character strength over time (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009, Fredrickson & Joiner, 2002). Fredrickson's (1998) broaden-and-build theory of positive emotions suggests that positive emotions function to broaden an individual's array of thoughts and actions and thus, they expand attention, promote divergent thinking and encourage growth by providing new experiences. Individual differences in trait resilience (ego-resilience) predict the ability to capitalize on positive emotions (Tugade & Fredrickson, 2007). Ego-resilience individuals may be more effective at self-regulation with respect to the effective use of emotions. Thus ego-resilient individuals should be more likely to identify goals than are less resilient individuals. Moreover, they may actually be more effective in the use of positive emotions in striving toward such goals.

The university environment can be a challenging place, full of distractions and stressful events in the students' daily life. Student teachers also have goals in different domains of their life: work and school, home and family, social relationships. To accomplish their personal goals, they have to make different strivings to pursue happiness, well-being and the good life. It is important for them to become aware of their capacity to adapt to negative life circumstances and to maintain a positive outlook. Positive emotions depict well-going life, achieved goals and adequate resources (Clore et al., 2001 cited in Vulpe & Dafinoik, 2012). According to Fredrickson (1998), positive emotions build enduring aspects of character (such as ego-resilience) that afford lasting well-being. Ego-resilience individuals can dynamically and resourcefully regulate their level of self-control. Therefore, this study wants to investigate personal strivings of student teachers with positive emotions and ego-resilience.

Purposes of the Study

The main objective of the research is to study positive emotions, ego-resilience and personal strivings of student teachers. The specific objectives of this study are:

- To find out whether there is a difference in positive emotions, ego-resilience and personal strivings of student teachers by gender
- To examine whether there is a difference in positive emotions, ego-resilience and personal strivings of student teachers by university
- To assess whether there is a difference in positive emotions, ego-resilience and personal strivings of student teachers by level of education
- To assess the relationship between positive emotions and personal strivings of student teachers
- To examine the relationship between ego-resilience and personal strivings of students teachers
- To find out the relationship between positive emotions and ego-resilience of student teachers

Research Questions

- Are there significant differences in positive emotions, ego-resilience and personal strivings of student teachers by gender?

- Are there significant differences in positive emotions, ego-resilience and personal strivings of student teachers by university?
- Are there significant differences in positive emotions, ego-resilience and personal strivings of student teachers by level of education?
- Is there a significant relationship between positive emotions and ego-resilience of student teachers?
- Is there a significant relationship between positive emotions and personal strivings of student teachers?
- Is there a significant relationship between ego-resilience and personal strivings of student teachers?

Definition of the Key Terms

Positive Emotions: According to the broaden-and-build theory, although certain discrete positive emotions phenomenologically distinct, all share the ability to broaden people's momentary thought-action repertoires and build their enduring personal resources, ranging from physical, intellectual, and psychological resources (Fredrickson,1998,2001).

Ego-resilience: Ego-resilience is the characteristic ability to modify one's level of ego-control (ability to control impulses) to suit the demands of the environment (Block, 1993 cited in Letzring et al., 2005).

Personal Strivings: Personal strivings are what an individual is characteristically trying to accomplish (e.g., striving to be physically attractive or to be a kinder and more tolerant person) (Emmons, 1986, 1999).

Review of Related Literature

Positive Emotions

Negative emotions are associated with specific action tendencies (Fredrickson, 2001; Frijda, 2008 cited in Cohn, 2008). Negative emotions chiefly occur when the individual encounters a problem. They are often relevant to immediate survival or problem solving. Positive emotions seldom occur in response to a pressing threat. They are often relevant to finding opportunities and building resources (Fredrickson, 2001). It has long been unclear why positive emotions were present during times of stress or hardship and how these positive emotions are evolutionary adaptive (Fredrickson, 2001). First, even psychology described the stress process mainly in terms of negative emotions, sometimes positive emotions could co-occur with negative emotions (Folkman, 2008) or sometimes they could dominate (D'Zurilla & Nezu, 2010 cited in Vulpe & Dafinoik, 2012) when: (1) the stressful event is considered as an opportunity or a challenge; (2) the persons are thinking that they are able to cope with the problem; (3) the individuals use adaptive coping strategies (Schanowitz & Nicassio, 2006). The three perspectives representing a significant departure from traditional approaches to the study of positive emotions are (a) neglected relative to negative emotions (b) confused with related affective state and (c) functions linked to urges to approach or continue.

The Broaden-and-Build Theory of Positive Emotions

Traditional approaches to the study of emotions focused on a specific action tendency. Fredrickson developed an alternative model for positive emotions that better capture their unique

effects. This model is called the broaden-and-build theory of positive emotions. Positive emotions appear to broaden peoples' momentary thought-action repertories and build their enduring personal resources (Fredrickson 1998, 2001). The theory advances two hypotheses: (1)the broaden hypothesis, which states that, positive emotions expand one's attention (Gasper & Clore,2002), cognition (Fredrickson, 2004), and (2)the build hypothesis, which advocate that even short-lived positive emotions may have long term effects by enhancing physical, psychological, cognitive and social resources,(Cohen et al., 2009).

To form and establish her theory, Fredrickson (2004) identified the five core propositions:

(a) positive emotions broaden thought and action repertories

(b) positive emotions undo lingering negative emotions

(c) positive emotions fuel psychological resiliency

(d) positive emotions build personal resources

(e) positive emotions fuel psychological and physical well-being

Ego-resilience

Hinkle (1974) found that individuals could live through problems and they seemed to be "invulnerable". The term invulnerability has later been replaced with 'resilience'. Wagnild and Young (1990) conceptualized resilience as a personality trait of personal strength. Block (1980) adopted this view and examined resilience through a psychoanalytic lens. The result of this exploration was the term ego-resilience. The concept of ego-resiliency was introduced by Block (1980), together with the concept of ego-control. These two constructs constitute the foundations of Block's theory of personality. The Ego has the task of controlling impulses and facilitating the individual's adaptation to reality. Ego-control is responsible for controlling one's impulses in specific situations. Ego-resilience then functions as a dynamics capacity which systematically modifies control. The role of ego-resilience was proposed to maintain linkage between the ego structures. It also maintains the personality system within tenable adaptive bounds. Ego-resilience characterizes an enduring ability to adapt to new and changing environmental circumstances.

Personal Goals and Personal Strivings

Goals are defined as internal representations of desired outcomes (Austin & Vancouver, 1996). The goal construct has given form and substance to the amorphous concept of "meaning in life". Personal strivings, as personalized goals, represent choices that individuals make as they direct their lives toward particular outcomes. Emmons (1991) proved that people's choice of activities in daily life events and their mood were influenced by personal strivings.

The heuristic value of personal strivings predicates the levels of affective, cognitive, and physical well-being. Emmons (1996) organized the research findings on personal strivings and well-being into 3 domains: goal content (what a person is trying to do, for example striving for achievement or intimacy-related outcomes), goal orientation (how the person typically frames goals, for example in approach or avoidance terms), and goal parameters (e.g. structural properties of goal systems, for example conflict or independence within goal systems).

Ego-resilience, Positive Emotions, and Personal Strivings

Ego-resilient individuals have a superior ability to modify their behavior in the pursuit of important goals. They are more likely to set the types of goals that are consistent with eudaimonic perspective. Ego-resilience is also associated with higher levels of ego development. Ego-resilience involves positive adjustment in the face of challenges. Therefore, the capacity to experience positive emotions is posited to be a fundamental human strength and a key aspect of well-being.

Method

Sample of the Study

Three Universities of Education, Yangon University of Education (YUOE), Sagaing University of Education (SUOE) and University for the Development of National Races of the Union (UDNR) were selected for this study. A total of 750 students attending at the first year to final year classes participated in this study. The sample consists of 250 students (124 males and 126 females) from YUOE, 250 students (125males and 125 females) from SUOE and 250 students (123 males and 127 females) from UDNR.

Instruments

This study included three instruments. In order to indicate how much the students felt positive emotions over the past four weeks, Adapted Version of Positive and Negative Affect Schedule (PANAS), (Watson, Clark & Tellegen, 1988) which consists of 10 positive items was used. The respondents indicated their positive affect on a five-point likert scale. Internal consistency (Cronbach's alpha) of PANAS was 0.834.

Then, students' ego-resiliency was measured by using Ego-resilience Scale (ER89), (Block &Kremen, 1996, Letzring et al., 2005) which comprises 14 items. This measure was coded by using four-point likert scale. Cronbach's alpha of ER89 was 0.735.

Emmons' (1999) Personal Strivings Assessment Packet (PSAP) was used to measure participants' personal goal strivings, or what an individual typically trying to accomplish. Participants were asked to generate a list of 10 strivings in responses to the sentence stem "I typically trying to….". Then participants were also asked to rate each of their strivings along six dimensions; importance, progress, personal growth, positivity, self-transcendence, and self-expressiveness (Emmons,1999; Waterman,1993; Beaumont, 2012 cited in Seaton, 2013) on a four-point likert scale. Cronbach's alpha of PASP was 0.845.

Procedure

All the items used in this study were adapted to Myanmar version. Expert review was conducted for face validity and content validity by the experts in the educational psychology field. Pilot study was conducted with the sample of 60 student teachers from Yangon University of Education in the first week of December. And then, the wording and phrases of some items was modified. The selected sample from selected universities was conducted in the last week of December. After collecting the required data, data analysis process was conducted.

Findings

To investigate positive emotions, ego-resilience and personal strivings of student teachers, descriptive statistics was carried out and the results were shown in table 4.1.

Table 4.1: Descriptive Statistics for Student Teachers' Positive Emotions, Ego-resilience and Personal Strivings

Variables	N	Mean%	Minimum	Maximum	SD
Positive emotions	750	68.25	20	184.44	13.74
Ego-resilience	750	69.73	39.29	100	9.79
Personal Strivings	750	70.97	39.67	100	10.46

According to table 4.1, the mean percentage of positive emotions was 68.25%. It could be assumed that the student teachers from three Universities of Education had high experience of positive emotions over the past four weeks. The mean percentage of ego-resilience was 69.73%. The result showed that the student teachers from three Universities of Education had high ego-resilience. They had high ability to modulate and monitor impulses and adaptively tuned to their environment. The mean percentage of personal strivings was 70.97%. It could be said that the student teachers had high personal strivings to accomplish their personal goals in different domains of their lives.

To investigate student teachers' self- ratings of personal strivings, descriptive statistics was carried out and the results were shown in table 4.2.

Table 4.2 Descriptive Statistics for Student Teachers' Self-ratings of Personal Strivings

Self-ratings of Personal Strivings	N	Mean	Minimum	Maximum	SD
Importance	750	40.06	11	88	6.92
Progress	750	32.68	15	56	5.84
Positivity	750	37.77	19	61	5.92
Personal Growth	750	34.06	18	65	6.02
Self-transcendence	750	33.79	16	71	7.01
Personal Expressiveness	750	34.56	12	77	7.71

Table 4.2 showed that mean score of importance was the highest in six ratings. The mean score of positivity was the second highest. The mean scores of personal growth, self-transcendence and personal expressiveness were nearly identical. However, they are lower than importance and positivity ratings and higher than progress rating. The mean score of progress is the lowest.

To find out whether there was gender difference in positive emotions, ego-resilience and personal strivings of student teachers, mean comparison of male and female student teachers were described in table 4.3.

Table 4.3 Descriptive Statistics and Independent Sample *t-test* for Student Teachers' Positive Emotions, Ego-resilience and Personal Strivings by Gender

Variables	Gender	N	Mean	SD	t	df	p
Positive Emotions	Male	371	30.68	6.51	-1.37	748	.891
	Female	379	30.74	5.86			
Ego-resilience	Male	371	39.52	5.15	2.327*	748	.020
	Female	379	38.59	5.75			
Personal Strivings	Male	371	213.3	30.68	.424	748	.672
	Female	379	212.5	30.07			

Note:$*p < 0.05$

According to the results of table 4.3, there was significant difference in ego-resilience at 0.05 level by gender. It could be interpreted that male student teachers had higher ability to regulate impulses and adapt the level of self-control in the presence of various stressors than female student teachers.

To find out whether there was gender difference in self-ratings of personal strivings of student teachers, descriptive statistics and the independent sample t-test were conducted. The mean comparisons of male and female student teachers were described in table 4.4.

Table 4.4 Descriptive Statistics and Independent Sample *t-test* for Student Teachers' Self-ratings of Personal Strivings by Gender

Self-ratings of Personal Strivings	Gender	N	Mean	SD	t	df	p
Importance	Male	371	39.45	7.58	-1.712	748	.087
	Female	379	40.49	5.95			
Progress	Male	371	33.42	5.84	3.448*	748	.001
	Female	379	31.96	5.71			
Positivity	Male	371	37.70	5.94	-4.8	748	.632
	Female	379	37.87	5.78			
Personal-growth	Male	371	34.39	5.93	1.393	748	.164
	Female	379	33.75	6.01			
Self-transcendence	Male	371	33.78	6.95	.09	748	.928
	Female	379	33.77	7.04			
Personal Expressiveness	Male	371	34.55	7.92	-1.3	748	.896
	Female	379	34.59	7.46			

Note:$*p < 0.05$

The results of independent sample *t*-test showed that there was significant difference in progress rating at 0.05 level by gender. It could be interpreted that male student teachers were more satisfied with their progress towards each of their strivings than female student teachers. But, significant differences were not found in others self-ratings of personal strivings by gender.

Table 4.5 showed that the mean comparison of positive emotions, ego-resilience and personal strivings of student teachers from Universities of Education included in this study.

Table 4.5 Descriptive Statistics and ANOVA Result of Positive Emotions, Ego-resilience and Personal Strivings of Student Teachers by University

Variable	University	N	Mean	SD	F	*p*
Positive emotions	University 1	250	30.43	7.189	.401	.670
	University 2	250	30.81	5.622		
	University 3	250	30.90	5.624		
Ego-resilience	University 1	250	39.40	5.362	1.677	.188
	University 2	250	39.20	5.284		
	University 3	250	38.54	5.778		
Personal Strivings	University 1	250	215.3	31.45	5.079**	.006
	University 2	250	207.7	30.28		
	University 3	250	215.6	31.8		

Note: **$p < 0.01$

ANOVA results showed that there was significant difference in personal strivings of student teachers at 0.01 level among three universities of education. To find out which University had the greatest difference in personal strivings, Post Hoc test was executed by Tukey HSD method (see Table 4.6).

Table 4.6 The Result of Tukey HSD Multiple Comparison for Student Teachers' Personal Strivings by University

Variable	(I)University	(J)University	Mean Difference (I-J)	*p*
Personal Strivings	University 1	University 2	2.51*	.02
	University 3		2.62*	.014

Note: *$p<0.05$

The result of Post Hoc Test showed that personal strivings of student teachers from University 1 and University 3 were significantly higher than those of University 2 at 0.05 level. Therefore, the student teachers from University 1 and University 3 had higher personal strivings when compared with the student teachers from University 2.

To investigate whether there were significant differences in self-ratings of personal strivings by university, descriptive statistics and one way ANOVA was described in table 4.7.

Table 4.7 Descriptive Statistics and ANOVA Result of Student Teachers' Self-ratings of Personal Strivings of by University

Self-ratings of Personal Strivings	University	N	Mean	SD	*F*	*p*
Importance	University 1	250	41.15	6.59	4.876**	.008
	University 2	250	39.09	7.09		
	University 3	250	39.68	6.61		
Progress	University 1	250	32.19	5.97	8.623***	.000
	University 2	250	31.94	5.56		
	University 3	250	33.91	5.74		

Self-ratings of Personal Strivings	University	N	Mean	SD	*F*	*p*
Positivity	University 1	250	38.36	5.69	3.077*	.047
	University 2	250	37.12	5.77		
	University 3	250	37.88	6.06		
Personal-growth	University 1	250	34.12	5.79	2.789	.062
	University 2	250	33.44	5.92		
	University 3	250	34.66	6.17		
Self-transcendence	University 1	250	34.12	7.11	4.647*	.010
	University 2	250	32.67	6.85		
	University 3	250	34.54	6.90		
Personal Expressiveness	University 1	250	35.37	7.71	5.034**	.007
	University 2	250	33.36	7.65		
	University 3	250	34.98	7.56		

Note: $*p < 0.05, **p < 0.01, ***p < 0.001$

ANOVA result found that there were significant differences in importance, progress, positivity, self-transcendence and personal expressiveness ratings of personal strivings except personal growth ratings. To find out which University had the greatest difference in different ratings, Post Hoc test was executed by Tukey HSD method (see Table 4.8).

Table 4.8 The Result of Tukey HSD Multiple Comparison for Student Teachers' Ratings of Personal Strivings by University

self-ratings of personal strivings	(I)University	(J)University	Mean Difference (I-J)	*p*
importance	University 1	University 2	3.62*	.010
		University 3	2.95*	.044
Progress	University 3	University 1	3.43**	.003
		University 2	3.95***	.000
Positivity	University 1	University 2	2.59*	.038
Personal growth	University 3	University 2	2.53*	.049
Self-transcendence	University 3	University 2	3.63*	.010
Personal expressiveness	University 1	University 2	4.09**	.008

Note: $*p < 0.05, **p < 0.01, ***p < 0.001$

The result of Post Hoc Test showed that positivity and personal expressiveness ratings of student teachers from University 1 were significantly higher than those of University 2 at 0.05 and 0.01 level. It could be assumed that the strivings of student teaches from University 1 involve a concern with enhancing positivity and having fun or laughing, or avoiding or minimizing stress or negativity more than the strivings of student teachers from University 2. The result found that importance rating of student teachers from University 1 was significantly higher than both University 2 and University 3. It could be assumed that the student teachers from University 1 had higher ratings in importance of each of strivings than the ratings of others. The personal

growth and self-transcendence ratings of student teachers from University 3 were significantly higher than those of University 2 at 0.05 level. The result showed that the strivings of student teachers from University 3 involve a concern for improving aspects of themselves or cultivating their inner potential more than the strivings of student teachers from University 2. The progress rating of student teachers from University 3 was significantly higher than both University 1 and University 2 at 0.01 and 0.001 level. The result showed that the student teachers from University 3 were more satisfied with the amount of progress they had been making towards each of their strivings than the student teachers from both University 1 and University 2.

Table 4.9 showed the mean comparison for positive emotion, ego-resilience and personal strivings of student teachers by level of education.

Table 4.9 Descriptive Statistics and ANOVA Result of Student Teachers' Positive Emotion, Ego-resilience and Personal Strivings by Level of Education

Variables	Level of Education	N	Mean	SD	F	p
Positive emotions	First	150	31.05	6.978	4.234**	.002
	Second	150	29.09	6.313		
	Third	150	30.36	6.017		
	Fourth	150	31.39	5.423		
	Fifth	150	31.67	5.815		
Ego-resilience	First	150	38.51	5.597	1.175	.320
	Second	150	38.67	5.683		
	Third	150	39.09	5.142		
	Fourth	150	39.73	5.360		
	Fifth	150	39.24	5.605		
Personal Strivings	First	150	213.36	33.43	1.417	.227
	Second	150	211.64	33.1		
	Third	150	208.7	31.07		
	Fourth	150	217.7	28.63		
	Fifth	150	213.6	30.2		

Note: **$p < 0.01$

ANOVA result found that there was significant difference in positive emotions of student teachers by level of education.

To obtain more detailed information of which level of education had significant differences in positive emotions, Post Hoc Test was conducted by Tukey's multiple comparison procedure (see Table 4.10)

Table 4.10 The Result of Tukey HSD Multiple Comparison for Student Teachers' Positive Emotion by Level of Education

Variable	(I) Level of Education	(J) Level of Education	Mean Difference (I-J)	p
Positive Emotions	First	Second	4.34*	.047
	Fourth		5.11*	.011
	Fifth		5.73**	.003

Note: * $P < 0.05$, ** $p < 0.01$

The result of Post Hoc Test showed that there were significantly differences between first year and second year student teachers, fourth year and second year student teachers and fifth year and second year student teachers in positive emotion. It could reasonably concluded that the student teachers from first year, fourth year and fifth year displayed more positive emotions over the past four weeks than the student teachers from second year.

To find out whether there were differences in student teachers' self-rating of personal strivings by level of education, descriptive statistics and one way ANOVA were conducted. The results were mentioned in the following table 4.11.

Table 4.11 Descriptive Statistics and ANOVA Result of Student Teachers' Self-ratings of Personal Strivings by Level of Education

Self-ratings of personal strivings	Level of Education	N	Mean	SD	*F*	*p*
Importance	First	150	39.88	7.37	.387	.818
	Second	150	40.32	7.92		
	Third	150	39.55	6.78		
	Fourth	150	40.12	5.81		
	Fifth	150	39.99	6.03		
Progress	First	150	33.93	6.51	2.972*	.019
	Second	150	32.10	6.07		
	Third	150	31.81	5.10		
	Fourth	150	32.76	5.52		
	Fifth	150	32.80	5.63		
Positivity	First	150	38.11	6.09	1.207	.306
	Second	150	37.56	6.25		
	Third	150	37.15	6.04		
	Fourth	150	38.49	4.98		
	Fifth	150	37.61	5.83		
Personal growth	First	150	33.95	6.42	1.386	.237
	Second	150	33.61	5.68		
	Third	150	33.49	5.88		
	Fourth	150	34.91	5.86		
	Fifth	150	34.39	5.98		
Self-transcendence	First	150	33.65	7.88	1.388	.236
	Second	150	33.66	7.08		
	Third	150	32.99	6.95		
	Fourth	150	34.85	6.24		
	Fifth	150	33.73	6.66		
Personal expressiveness	First	150	33.83	7.58	2.028	.089
	Second	150	34.39	8.55		
	Third	150	33.79	7.45		
	Fourth	150	35.97	6.81		
	Fifth	150	34.89	7.80		

Note: *p<0.05

According to table 4.11, ANOVA result found that there was only significant difference in progress rating of student teachers by level of education. To obtain more detailed information of which level of education had significant differences in self-ratings of personal strivings, Post Hoc Test was conducted by Tukey's multiple comparison procedure (see Table 4.12)

Table 4.12 Results of Tukey HSD Multiple Comparison for Student Teachers' Positive Emotions by Level of Education

Self-ratings of Personal Strivings	(I) Level of Education	(J) Level of Education	Mean Difference (I-J)	*p*
Progress	First	Second	1.833*	.049
		Third	2.12*	.041

Note:* P< 0.05

The results of Post Hoc Test showed that there were significant differences between first year and second year student teachers and first year and third year student teachers in progress rating at 0.05 level. It could be interpreted that firstyear student teachers were more satisfied with their progress towards each of their strivings than second year and third year student teachers.

The following table 4.13 presented the correlations among positive emotions, ego-resilience and each personal strivings ratings.

Table 4.13 The Relationship of Positive Emotions, Ego-resilience and Ratings of Personal Strivings

Variables	PE	ER	IM	PR	PO	PG	ST	PEX	PS
PE	-	.298**	.159**	.228**	.191**	.244**	.218**	.206**	.260**
ER		-	.200**	.298**	.278**	.359**	.305**	.282**	.321**
IM			-	.356**	.583**	.369**	.393**	.370**	.647**
PR				-	.559**	.698**	.521**	.452**	.732**
PO					-	.665**	.665**	.606**	.847**
PG						-	.757**	.657**	.859**
ST							-	.772**	.868**
PEX								-	.824**
PS									-

**Correlation is significant at the 0.01 level (2-tailed)

Note: PE=Positive Emotion, ER=Ego-resilience, IM=Importance, PR=Progress, PO=Positivity, PG=Personal Growth, ST=Self-transcendence, PEX=Personal Expressiveness, PS= Personal Strivings

Table 4.13 showed that the inter-correlation among positive emotion, ego-resilience and ratings of personal strivings. It could be seen that both positive emotion and ego-resilience were positively correlated with all personal strivings ratings. So, it could be said that the student teachers who experience more positive emotions had higher ratings of personal strivings. In this way, the student teachers who are higher in ego-resilience had higher ratings of personal strivings. Positive emotions were also positively correlated with ego-resilience. It could be said that the student teachers who experience more positive emotions had higher ego-resilience. Moreover, all the variables were correlated with each other. Therefore, to investigate the predictive power of positive emotion and ego-resilience to personal strivings of student teachers, multiple regression analysis was conducted (see Table 4.14).

Table 4.14 Multiple Regression Analysis of Positive Emotions, Ego-resilience and Personal Strivings

Variables	B	β	t	p	R	R²	Adj R²	F
Constant	39.278		14.34***	.000	.393	.154	.152	68.08***
Positive emotions	.128	.168	4.77***	.000				
Ego-resilience	.329	.308	8.75***	.000				

***Correlation is significant at the 0.001 level (2-tailed), constant= Personal Strivings

The result showed both positive emotion and ego-resilience were significant predictors of personal strivings in positive direction (β=.168, and β=.308, respectively, p<0.001). So, it could be said that the higher of student teaches' positive emotion and ego-resilience, the higher of student teachers' personal strivings. The adjusted R^2 value is .154. This indicated that approximately 15% of the variance in personal strivings could be explained from positive emotion and ego-resilience. The model equation to predict personal strivings from student teachers' positive emotion and ego-resilience was as follows;

R=39.278+.128positive emotion+ .329ego-resilience

Conclusion

In justifying the result, both positive emotions and ego-resilience had positive impact on personal strivings. University students not only face the developmental challenges and stressors but also experiences unique stressors that may contribute to increased risk for negative outcomes. People who adjust effectively to stress, changes, and demand of the environment could possess less negative emotions in the face of difficulties and are satisfied with their over life. Resilience assists healthy, well-adjusted individuals to cope better with everyday hassles, preparing them for future challenges and possible adversity. Ego-resilient individuals would experience lower levels of perceived stress and would use more effective coping strategies to handle such stress. Ego-resilience works as a stress resistance mechanism. It reinforces the individual's ability to recover from negative emotional experiences and flexibly adjusts to stressful events and lead to individual's well-being and life satisfaction. Increased resilience could be useful in helping students confidently face challenges; successfully move forward, and beneficially managing their future professional life. Students' resilience could be promoted through giving continuous encouragement, enhancement of their self-esteem and self-confidence as well as promoting their independence. Moreover, academic/social activities, counseling and academic advisor support should be encouraged and promoted.

Moreover, educational settings are of specific importance for shaping human self-regulation and development. Both students' and teachers' positive emotions can be assumed to be central to attaining these educational goals. Positive emotions such as hope and pride were regarded as component of the motive to achieve success. Students' attention, motivation, use of learning strategies and self-regulation of learning are influenced by positive emotions. Based on the findings of the study, positive emotions transform people for the better and set them on path towards flourishing and healthy longevity. Positive emotions move people forward and lift them to the higher ground of optimal well-being. Positive emotions are also essential for human behavior and adaptation. They help to envision goals and challenges, open the mind to thoughts

and problem-solving, protect health by fostering resiliency. Resilient individuals are not only characterized by high positive emotionality, but also proactively cultivate positive affect by strategically eliciting positive emotions. The repeated experience of positive emotionality fosters and builds ego-resiliency. Thus positive emotions and ego-resilience mutually reinforce each other in contributing to personal strivings. Therefore, people, including student teachers should cultivate and increase positive emotions in their own lives as much as they can. Educators should also be aware of the importance of developing and enhancing the students' levels of ego-resilience to produce graduate professional teachers who are not only academically competent but also able to adapt to workplace adversities.

Limitations of the Study

This study had some limitations. First, the result showed that positive emotions were related to ego-resilience. It seems possible like as the suggestion that positive emotion builds the resources and character strengths (i.e., ego-resilience necessary for living well (Fredrickson, 1998). However, it is better to conduct a longitudinal study to determine whether experience of positive emotions led to higher levels of ego-resilience over time, or whether ego-resilient individuals simply experience more positive emotions.

Second, this study used an open-ended method for eliciting the strivings that the participants were trying to accomplish. The rating of personal expressiveness aided in capturing participants' perception of their strivings to some degree, however, this measure was not as comprehensive as a more qualitative technique would be.

Moreover, a total of 750 student teachers from three Universities of Education were selected as the sample for this study and the Colleges of Education are still left to be included in this study. The samples for this study were also not generalizable to other populations. If the broader selection for sample could be made, the results might be more representative.

Suggestion for Future Research

To confirm and validate the findings of this study, it is suggested that longitudinal studies may be undertaken. The present study has some necessities because of its recruited scope and selected sample. Therefore, more research should be done on teachers from Basic Education and Higher Education. Additional studies also need to investigate whether there are different parenting style, cultural background and personality effect on positive emotions, ego-resilience and personal strivings. Moreover, Qualitative research should be studied to investigate deeply about positive emotions, ego-resilience and personal strivings.

References

Austin, J. T., & Vancouver, J.B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin, 120,* 338–375.

Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: Conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology*, *70*, 349-361.

Block, J. H., & Block, J. (1980). The role of ego-control and ego-resiliency in the organization of behavior. In Collins, W. A. (Ed.), *Development of cognition, affect, and social relations*. Hillsdale, NJ: Erlbaum.

Cohn, M. A. (2008).*Positive emotions: Short-term mechanisms, long-term outcomes, and mediating process*. Michigan: University of Michigan press.

Cohn, M. A., Fredrickson, B. L., Brown, S. L., & Conway, A. M. (2009). Happiness Unpacked: Positive Emotions Increase Life Satisfaction by Building Resilience. *Emotion, 9*(3), 361-368.

Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology, 51*, 1058–1068.

Emmons, R. A. (1991). Personal strivings, daily life events, and psychological and physical well-being. *Journal of Personality and Social Psychology, 59,* 453–472.

Emmons, R. A., & Kaiser, H. S. (1996). In Marti, L. L., & Tesser, A. (Eds.), *Striving and feeling : Interactions among goals, affect and self-regulation* . Psychology press.

Emmons, R. A. (1999). *The psychology of ultimate concerns: Motivation and spirituality in personality*. New York, NY: Guilford Press.

Folkman, S. (2008). The case for positive emotions in the stress process. *Anxiety, Stress, & Coping*, *21,* 3-14.

Fredrickson, B. L. (1998). What good are positive emotions? Review of General Psychology: Special Issue. *New Directions in Research on Emotion, 2,* 300–319.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist: Special Issue, 56,* 218–226.

Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science, 13,* 172-175.

Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society of London Series B: Biological Sciences, 359,* 1367-1377.

Gasper, K., & Clore, G. (2002). Attending to the big picture: Mood and global versus local processing of visual information. *Psychological Science*, *13*, 34-40.

Hinkle, L. E. (1974). The effect of exposure to cultural change, social change and changes in interpersonal relationships on health. In Dohrenwend, B. S. & Dohrenwend, B. P. (Eds.), *Stressfull life events*. New York: Wiley.

Ingrid, B. (2009). Life goals and well-being: Are extrinsic aspirations always detrimental to well-being? *Psychological Topics, 18*(2), 317-334.

Letzring, T. D., Block, J., & Funder, D. C. (2005). Ego-control and ego-resiliency: generalization of self-report scales based on personality descriptions from acquaintants, clinicians, and the self. *Journal of Research in Personality,39*, 395-422. doi:10.1016/j.jrp.2004.06.003.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52,* 141-166.

Schanowitz, J. Y., & Nicassio, P. M. (2006). Predictors of positive psychosocial functioning of older adults in residential care facilities. *Journal of Behavioral Medicine*, *29*, 191-201.

Seaton, C. L. (2013). *The role of positive emotions and ego-resilience in personal strivings*. Canada: University of Northern British Columbia.

Seligman, M., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55,* 5–14.

Tugade, M. M., & Fredrickson, B. L. (2007). Regulation of positive emotions: Emotion regulation strategies that promote resilience. *Journal of Happiness St*udies, *8*(3), 311– 333.

Vulpe, A., & Dafinoik, I. (2012). Positive emotions, coping strategies and ego-resiliency: A mediation model. *Procedia-Social and Behavioral Sciences*, *33*(2), 308-312.

Wagnild, G., & Young, H. M. (1990). Resilience among older woman. *Journal of Nursing Scholarship*, *22,* 252-255.

Waterman, A. S. (1993). Two conceptions of happiness: Contrast of personal expressiveness (eudaimonia) and hedonic Enjoyment*. Journal of Personality and Social Psychology, 64,* 678-691.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54,* 1063-1070.

INFLUENCE OF PARENTING STYLES ON ADOLESCENT AUTONOMY AMONG SECONDARY SCHOOL STUDENTS

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Abstract

The main purpose of this study was to investigate the influence of parenting styles on adolescent autonomy among secondary school students. Quantitative approach was used in this study. A total of 640 grade 10 students (320 males and 320 females) from Yangon region and Tanintharyi region participated in this study. The instruments used in this research were Questionnaires for Respondents Measuring Parenting Styles and Questionnaire Measuring Adolescent Autonomy. Both questionnaires were developed by Esther (2014). In the study of parenting styles, the majority of the students were treated by authoritative parenting style and none of the student was treated by uninvolved parenting style. According to the Chi-square results, there was no association between parenting styles by gender and by family size but there was significant association between parenting styles by region ($p<0.05$). In adolescents' autonomy, t-test result indicated that there was significant difference by gender in autonomy with respect to emotional autonomy and value autonomy at 0.001 level. And there were also significant differences in students' autonomy by region and in value autonomy of students by specialized combination. In this study, students' autonomy was categorized into three levels: low, moderate and high. Most of the students' autonomy was in moderate level. As an ANOVA result, students treated by authoritative parenting style were higher in autonomy than those of students from authoritarian and permissive parenting styles. Pearson correlation revealed that authoritative and permissive parenting styles were significantly positive correlated with autonomy. But authoritarian parenting style was significantly negative correlated with autonomy. According to regression analysis, the authoritative parenting style was found to be the strongest predictor for autonomy. The authoritative parenting style offers adolescents with the opportunity to develop self-reliant individuals with a healthy sense of autonomy within parental limits. Therefore, parenting styles influence adolescents' autonomy either positively or negatively.

Keywords: parenting styles, autonomy

Introduction

Importance of the Study

When asked, parents often say that their wishes for their children are that they grow into happy, healthy adolescents and adults who can find optimal niches within their communities. Not all aspects of parental aspirations for their children are about autonomy development, but almost all include a solid foundation in adolescents' capacity for autonomous thought, self-managed behavior, and independence of mind that is balanced against the needs and desire of others at many levels of society. This makes the study of autonomy development during adolescence which is a field that includes many lines of research and much progress.

The push toward autonomy is one of the critical psychosocial developments of adolescence. During adolescence, there is a movement away from the dependency typical of childhood toward the autonomy typical of adulthood. Researchers now see the growth of autonomy during adolescence as gradual, progressive, and although important, relatively unromantic.

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The development and future of a country mainly depend on the youths as human resources because they are the one who are to create a modern developed nation. They need to be well developed their full potentials. It must be the hand of the parents, teachers and educators. Parents are the most important. Therefore, it is important to examine the influence of parenting styles on adolescent autonomy. Consequently, the finding of this research may provide more understanding of autonomy development during adolescence for parents, teachers and educators.

Purpose of the Study

The main purpose of the study is to investigate the influence of parenting styles on adolescents' autonomy among secondary school students.

Specific Objectives

- To find out perceived parenting styles of students by gender, region and family size.
- To assess adolescents' autonomy of students by gender, region and specialized combination.
- To identify the level of adolescents' autonomy among high school students.
- To study the relationship between parenting styles and adolescents' autonomy.
- To examine the impact of parenting styles on adolescents' autonomy.

Definitions of the Key Terms

Parenting Styles – Parenting styles can be described as all strategies (behavior, attitudes, and values) parents used to interact with their children and influence their physical, emotional, social and intellectual development (Baumrind, 1991).

Autonomy – Autonomy refers to a person's ability to think, feel and make decisions on one's own, rather than following along with what other believe (Steinberg, 1999).

Method

Sample of the Study

The total number of Grade 10 students 640 (male 320, female 320) were chosen as a sample from Yangon region and Tanintharyi region.

Research Method

In this research, quantitative research design and descriptive survey method were used to assess the study.

Instruments

In this study students' parenting styles were examined by Questionnaires for Respondents Measuring Parenting Styles and students' autonomy were examined by Questionnaire Measuring Adolescent Autonomy. Both questionnaires are developed by Esther (2014). Questionnaires for Respondents Measuring Parenting styles was comprised of 32 items related to four subscales, namely, authoritative, authoritarian, permissive and uninvolved. Questionnaire measuring Adolescent Autonomy was comprised of 24 items related to three subscales, namely, emotional, behavioral and value. Each subscales of both instruments were coded by using a five-point likert scale, with 1= strongly disagree to 5= strongly agree.

Procedure

After surveying the related literature of the topics, instruments for the study was adapted. The instruments required for the study were translated into Myanmar version. These instruments were reviewed by the seven experts to ensure the face validity and content validity. Pilot study was conducted during November, 2018, within the sample of 60 students from No. (6) B.E.H.S, Ahlone. The internal consistency of parenting style was 0.614 (Cronbach's Alpha) and adolescent autonomy was 0.605 (Cronbach's Alpha). By the use of these instruments, test administration was conducted on the first week of December, 2018 in Yangon region and on the second week of December in Tanintharyi region.

Data Analysis and Findings

Describing Perceived Parenting Styles Among Grade 10 Students

Firstly, participants in the study were divided into four groups depending on the scores obtained at each of the parenting style. The parenting style with highest score is considered as the parenting style of that parent. The result was presented in Table 1.

The results showed that the dominant parenting style as adopted by parents is authoritative parenting style. Therefore, it could be interpreted that majority of participants whose parents were logical requests for reasonable behavior of children and listen patiently to their child's point of view and encourage participation in family decision-making.

Table 1   Numbers and Percentages of Participants with Their Respective Parenting Styles

Parenting Styles	Number	Percentages
Authoritative	595	93%
Authoritarian	42	6.5%
Permissive	3	0.5%
Uninvolved	0	0%
Total	640	100%

Comparison of Perceived Parenting Styles Among Grade 10 Students by Gender

A Chi-square test was conducted to explore whether there is an association between perceived parenting styles by students' gender. The result was presented in Table 2.

Table 2   Result of Chi-Squares Test for Association between Perceived Parenting Styles and Gender

Parenting Styles	Gender		Total	χ^2	p
	Male	Female			
Authoritative	295	300	595		
	46.1%	46.9%	93%		
Authoritarian	23	19	42	.756	.685
	3.5%	3.0%	6.5%		
Permissive	2	1	3		
	0.3%	0.2%	0.5%		

Based on the result, there was no significant association between perceived parenting styles and gender (χ^2 = .756, df = 2, N = 640). It means that, with regard to the gender, parents did not offer different parenting styles for girls and boys.

Comparison of Perceived Parenting Styles Among Grade 10 Students by Region

To determine the association between perceived parenting styles by regions, the Chi-square analysis was conducted and the results were presented in Table 3.

Table 3　Result of Chi-Squares Test for Association Between Perceived Parenting Styles and Region

Parenting Styles	Region		Total	χ^2	*p*
	Yangon	Tanintharyi			
Authoritative	289	306	595		
	45.2%	47.8%	93%		
Authoritarian	29	13	42	6.914*	**.032**
	4.5%	2.0%	6.5%		
Permissive	2	1	3		
	0.3%	0.2%	0.5%		

*p< 0.05.

By studying Table 3, the results revealed that there was a significant association between perceived parenting styles and region of grade 10 students (χ^2= 6.914, *df*= 2, N= 640, *p*<0.05). Cramer's V which indicates the strength of association between two variables is .104 and thus the effect size is considered to be small to medium according to Cohen (1988).

Comparison of Perceived Parenting Styles Among Grade 10 Students by Family Size

Table 4　Result of Chi-Squares Test for Association Between Perceived Parenting Styles and Family Size

Parenting Styles	Family Size			Total	χ^2	*p*
	Small	Medium	Big			
Authoritative	394	193	8	595		
	61.6%	30.2%	1.2%	93%		
Authoritarian	28	13	1	42	1.942	.746
	4.3%	2.0%	0.2%	6.5%		
Permissive	1	2	0	3		
	0.2%	0.3%	0%	0.5%		

Based on the Chi-square result, there was no significant association between perceived parenting styles and students' family size (χ^2= 1.942, df= 4, N= 640). It means that, with regard to the family size, parents did not offer different parenting styles for their children.

The Study of Adolescents' Autonomy

Table 5　Descriptive Statistics of Grade 10 Students' Autonomy

Subscales of Autonomy	N	Mean	SD	Mini	Maxi
Emotional	640	24.63	3.140	12	36
Behavioral	640	28.27	3.563	16	39
Value	640	27.71	3.316	12	38
Total	640	80.61	6.589	57	150

Note: N= Number, SD= Standard Deviation

According to the descriptive statistics, the mean score of students' behavioral autonomy was higher than the value autonomy and emotional autonomy of the students. It can be assumed that students have the ability to make decisions independently and to follow through on these decisions with actions.

Comparison of Grade 10 Students' Autonomy by Gender

Table 6   Mean Comparison of Grade 10 Students' Autonomy by Gender

Autonomy	Gender	N	Mean	SD	*t*	*p*
Emotional	Male	320	25.06	3.266	3.515***	**.000**
	Female	320	24.02	2.995		
Behavioral	Male	320	28.44	3.455	1.210	.227
	Female	320	28.10	3.655		
Value	Male	320	27.00	3.331	-5.549***	**.000**
	Female	320	28.42	3.148		
Total	Male	320	80.51	6.777	-0.414	.679
	Female	320	80.72	6.405		

***$p < 0.001$.

From the result, there were significant differences by gender in autonomy with respect to emotional autonomy and value autonomy at 0.001 level. In emotional autonomy, the mean score of male students were slightly higher than the female students. In value autonomy, the mean score of female students were slightly higher than the male students.

Comparison of Grade 10 Students' Autonomy by Region

Table 7   Mean Comparison of Grade10 Students' Autonomy by Region

Autonomy	Region	N	Mean	SD	*t*	*p*
Emotional	Yangon	320	24.24	3.273	-3.156**	**.002**
	Tanintharyi	320	25.02	2.995		
Behavioral	Yangon	320	28.06	3.729	-1.544	.123
	Tanintharyi	320	28.49	3.381		
Value	Yangon	320	27.67	3.421	-0.441	.660
	Tanintharyi	320	27.77	3.212		
Total	Yangon	320	79.95	6.807	-2.561*	**.011**
	Tanintharyi	320	81.28	6.306		

**$p < 0.01$, *$p < 0.05$.

According to the results, the students in Yangon region were a little lower in autonomy than those in Tanintharyi region. Students in Tanintharyi region are more control over the expression of their feeling, socialization and less emotionally dependent on their parents.

Comparison of Grade 10 Students' Autonomy by Specialized Combination

Descriptive analysis showed that science students' autonomy was greater than the science & art students. Independent samples *t*-test was conducted. The results were analyzed and presented in Table 8.

According to the result in Table 8, the mean score of value autonomy for students from science subject was significantly different from that of students from science & art at 0.001 level.

It can be assumed that science students tended to have the ability to think abstract ideas and to make judgments using higher level of thinking.

Table 8 Mean Comparison of Grade 10 Students' Autonomy by Specialized Combination

Autonomy	Specialization	N	Mean	SD	*t*	*p*
Emotional	Science	320	24.73	3.300	0.793	0.428
	Science & Art	320	24.53	2.974		
Behavioral	Science	320	28.19	3.665	-0.565	-0.572
	Science & Art	320	28.35	3.463		
Value	Science	320	28.15	3.425	3.401**	**0.001**
	Science & Art	320	27.27	3.147		
Total	Science	320	81.08	6.838	1.773	0.077
	Science & Art	320	80.15	6.308		

***$p< 0.001$.

Describing Three Groups of Autonomy Level Among Grade 10 Students

Participants were divided into three groups depending on their scores in the study. According to the questionnaire (Esther, 2014), a total autonomy score that is below 62 and 62 was rated as low in autonomy. Between 63 and 82 was rated as moderate in autonomy, between 83 and 120 was rated as high in autonomy. The results were analyzed and presented in Table 9.

Table 9 Describing Three Groups of Autonomy level Among Grade 10 Students

Variable	High Group	Moderate Group	Low Group	Total
Autonomy	234	402	4	640
	36.6%	62.8%	0.6%	100%

In the present study, the majority of the students 62.8% were in the moderate group, 36.6% were in high group and 0.6% of the students lie in low group. Most of the students' autonomy was at moderate level.

Comparison for Autonomy of Grade 10 Students on Their Perceived Parenting Styles

Table 10 Descriptive Statistics for Autonomy of Grade 10 Students on Their Perceived Parenting Styles

Parenting Style	N	Mean	SD	Mini	Maxi
Authoritative	595	80.97	6.424	57	105
Authoritarian	42	76.19	6.999	60	90
Permissive	3	71.33	5.774	68	78

According to ANOVA result, it was found that there were significant differences in autonomy of students on their perceived parenting styles at 0.001 level.

Table 11 ANOVA Result for Autonomy of Grade 10 Students on Their Perceived Parenting Styles

Variable		Sum of Squares	df	Mean Square	F	p
Autonomy	Between Group	1156.961	2	578.48	13.859***	**.000**
	Within Group	26588.713	637	41.741		
	Total	27745.673	639			

***p<0.001

According to the result, students getting authoritative parenting style were found higher autonomy than students of both authoritative and permissive parenting styles.

Table 12 Results of Tukey HSD Multiple Comparison for Autonomy of Grade 10 Students on Their Perceived Parenting Styles

Variable	(I) Parenting Style	(J) Parenting Style	Mean Difference (I-J)	p
Autonomy	Authoritative	Authoritarian	4.783***	**.000**
		Permissive	9.640*	**.027**

*p<0.05 , ***p<0.001 .

Table 13 Descriptive Statistics for Subscales ofAutonomy Among Grade 10 Students on Their Perceived Parenting Styles

Autonomy	Parenting Styles	N	Mean	SD	Mini	Maxi
Emotional	Authoritative	595	24.78	3.066	14	36
	Authoritarian	42	22.90	3.413	12	29
	Permissive	3	19.33	3.055	16	22
Behavioral	Authoritative	595	28.36	3.547	16	39
	Authoritarian	42	27.14	3.613	19	36
	Permissive	3	26.00	4.000	22	30
Value	Authoritative	595	27.83	3.210	16	38
	Authoritarian	42	26.14	4.211	12	34
	Permissive	3	26.00	5.292	22	32

According to the result, the mean score of authoritative parenting style were highest on students' autonomy as regard emotional, behavioral and value autonomy. The mean score of permissive parenting style was found to be lowest in all three subscales of autonomy. It could be said that there were differences in subscales of autonomy among students on their perceived parenting styles.

Table 14 ANOVA Results for Subscales ofAutonomy Among Grade 10 Students on Their Perceived Parenting Styles

Variable		Sum of Squares	df	Mean Square	F	p
Emotional	Between	222.234	2	111.117	11.644***	**.000**
	Within	6079.002	637	9.543		
	Total	6301.236	639			
Behavioral	Between	74.147	2	37.073	2.938	.054
	Within	8039.002	637	12.620		
	Total	8113.148	639			

Variable		Sum of Squares	df	Mean Square	F	p
Value	Between	120.525	2	60.263	5.559**	.004
	Within	6904.998	637	10.840		
	Total	7025.523	639			

p<0.01,*p<0.001.

According to the result, there was significant difference between parenting styles and emotional autonomy at 0.001 level. And also there was significant difference between parenting styles and value autonomy at 0.01 level.

Table 15 Results of Tukey HSD Multiple Comparison for Subscales of Autonomy Among Grade 10 Students on Their Perceived Parenting Styles

Dependent Variable	(I) Parenting Style	(J) Parenting Style	Mean Difference (I-J)	p
Emotional	Authoritative	Authoritarian	1.873***	.000
		Permissive	5.445**	.007
Value	Authoritative	Authoritarian	1.687**	.004

p<0.01 ,*p< 0.001

According to the result, autonomy of students with authoritative parenting style in respect of emotional autonomy was higher than that of students with authoritarian and permissive parenting styles. Similarly, autonomy of students with authoritative parenting in respect to value autonomy was higher than that of students with authoritarian parenting style.

Relationship Between Perceived Parenting Styles and Autonomy Among Grade 10 Students

Table 16 Inter-correlation Among Parenting Styles and Autonomy of Grade 10 Students

Variables	AT	AN	PE	AU
AT	1	-.355***	.109**	.347**
AN		1	-.005	-.199**
PE			1	.137**
AU				1

**p<0.01

Where, AT= Authoritative Parenting Style, AN= Authoritarian Parenting Style, PE= Permissive Parenting Style, AU= Autonomy

According to Table, authoritative parenting style and permissive parenting style were significant and positively correlated with autonomy. Authoritarian parenting style was significant and negatively correlated with autonomy. Therefore, adolescents experiencing different parenting styles clearly differ in autonomy they show.

Regression Analysis for the Prediction of Autonomy Among Grade 10 Students from Parenting Styles

In order to investigate the predictive power of each subscales of parenting styles on autonomy, the simultaneous multiple regression analysis was conducted.

Table 17   Regression Analysis for the Prediction of Autonomy Among Grade 10 Students from Parenting Styles

Variable	B	β	t	R	R^2	Adj. R^2	F
Autonomy	60.935		18.523***	.371	.138	.134	33.871***
Authoritative	.572	.304	7.665***				
Authoritarian	-.130	-.090	-2.295*				
Permissive	.177	.104	2.794**				

Note: *$p<.05$, **$p<.01$, ***$p<.001$

The result of multiple regression analysis pointed out that the subscales of patenting style made a significant prediction contribution to autonomy of adolescents $F(1,638) =33.871$, $p<.001$. Among the subscales of parenting styles, authoritative parenting style was found to be the strongest predictor of autonomy ($\beta= .304$). The model equation to predict the autonomy from parenting styles was follow.

Autonomy = 60.935+.572AT-.130AN+.177PE

Where, AT=Authoritative, AN= Authoritarian, PE= Permissive

Discussion

4.1 Special Feature for the study

The result indicates that the dominant parenting style as adopted by most parents is authoritative parenting style. This finding showed that most of the grade 10 students' autonomy has the moderate level. According to the correlation result, parenting styles was significantly related with adolescents' autonomy. So, adolescents experiencing different parenting styles clearly differ in autonomy they show. Among the subscales of parenting of styles, authoritative parenting style was found to be the strongest predictor of autonomy.

4.2 Limitations and Recommendations for Future Research

First, longitudinal design is more desirable. Second, research area is restricted to two regions, Yangon and Tanintharyi regions. The third limitation of the present study was that only the use of students in assessing the perceptions of parenting style. Fourth, there are many parenting styles today. The questionnaire used in this study is measured the four parenting styles.

A longitudinal design is necessary to clarify the students' autonomy by ages. Future research should be carried out in higher institution of learning where most of the adolescents congregate. Future studies should use the assessments of parenting style by the panels of experts and laypersons including students, parents, teachers and administrators.

Conclusion

The primary purpose of this study was to find out the influence of parenting styles on adolescent autonomy among grade 10 students. As explain previously, authoritative parenting style was found the dominant parenting style. Therefore, it could be interpreted that majority of participants whose parents were logical requests for reasonable behavior of children and at the same they express warmth and affection, listen patiently to their child's point of view as well as encourage participation in family decision-making. Authoritative parenting style was found to be

the strongest predictor of autonomy. It is consistent with the Kopko (2007) finding reports that authoritative parenting style provides adolescent with the opportunity to develop into a self-reliant individual with a healthy sense of autonomy within parental limits. Therefore, parenting styles influence adolescents' autonomy either positively or negatively.

Acknowledgements

References

Baumrind, D. (1991). The influence of renting Style on Adolescent Competence and substance use. *Journal of early adolescence* 11, 56-95.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*, 2nd Edition, Hillsdale, N. J.: Lawrence Erlbaum.

Esther. M. N. (2014*). Influence of Parenting Styles on Adolescent Autonomy and Self-esteem Among Kenyan Secondary School Students in Wareng District, Uasin Gishu Country*. Moi University.

Kopko, K. (2007). *Parenting Styles and adolescents*. Cornell University Cooperative extension. Retrieved October 12, 2018 from http: // www. human. cornell. edu/ pam/ outreach/ parenting/ research/ upload/ Parenting -20styles -20 and 20 Adolescents. pdf.

Steinberg, L. (1999). *Adolescence* (5th Ed.). Boston: McGraw-Hill.

STUDENT TEACHERS' PERCEPTIONS ON THE LEARNING ENVIRONMENT AND THEIR APPROACHES TO LEARNING

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Abstract

The primary purpose of this study was to investigate the perceptions of student teachers learning environments in University 1, University 2, and University 3 and the approaches they mostly used to learn. Moreover, this study had also examined differences in perceptions and employment of learning approaches by gender, education level, and university and also the relationship between these two variables. A total of 720 student teachers from University 1, University 2, and University 3 excluding first year students and students who joined from COE participated in this study. Dundee Ready Education Environment Measure (DREEM) developed by Roff et.al. in 1997 and Revised Approaches to Studying Inventory (RASI) by Richardson (2005) were used as instruments. DREEM was used with six subscales and composed of 55 items. RASI involves three subscales with 52 items. In this study, there was no significant difference on student teachers' perceptions on learning environment by gender but there were significant differences by education level and by university. In identifying student groups with respect to their dominant learning approaches, five groups of students were found out. Significant differences were found by educational level and by university but not by gender. The correlation result showed that perceptions of student teachers on their learning environment were positively correlated with deep approach and strategic approach, and negatively correlated with surface approach. The results of regression analysis revealed that the perceptions on learning environment were significant predictors of those three learning approaches. According to the results, it could be assumed that student teachers who have good perceptions on their learning environment have the higher possibility to employ deep and strategic approaches, whilst student teachers who have low perceptions on learning environment are more likely to use surface approach.

Keywords: perception, learning environment, learning approaches

Introduction

Importance of the Study

Since education is the foundation of a country and teachers have an important role to educate young citizens, teachers should be proficient in performing their tasks. Pre-service teachers need to be trained well and their professional attitudes, and aptitudes need to be developed with the help of teacher trainers. In training young adults to become qualified, effective and skillful teachers, the training processes and environments are extremely important.

Learning can only be occurred successfully when the learning environment meets the learners' needs and motivates them to learn actively. The universities/colleges have to modify their learning environments to meet the needs of their students. Many studies have shown that the educational environment affects students' achievement, happiness, motivation and success. The main components of a learning environment are curriculum, teaching, assessment, student-faculty interaction and institutional climate (rules and procedures) (Biggs, 1999, p. 25). The quality of the learning environment is indicative of the effectiveness of an education program. Although almost every teacher, whether in higher education or basic education, may try to give the most qualified and convenient learning environment to their students, it is necessary to examine if the learning environment is actually compatible with the students'

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expectations. Therefore, the first section of this research is investigation into student teachers' perceptions of learning environments in Universities of Education.

The second section is focused on learning approaches student teachers are employing during their learning. Every university and institution aim to educate their students to be life- long learners and to be experts in their respective fields. To attain these goals, deep-level learning and understanding should be promoted as well as versatile expertise in students (Biggs, 1999; Dochy, Segers, and Buehl, 1999). Students are expected to fully understand their subject matters and to develop critical and creative thinking during their university studies. One way to determine whether students succeed in this development is to see students' approaches to learning during their studies. Approaches to learning are the ways of learning, such as the deep approach which is characterized by attempts to understand the meaning of the learning material, and the surface approach which is characterized by attempts to memorize the text (Marton and Sä ljö, 1976). Another approach to learning is strategic approach which is characterized by attempts to obtain the highest grades (Ramsden, 1979).

Different students may use different approaches although the course is same and these approaches might depend on their perceptions of the course (Richardson, 2009, p. 13). The ways students learn are likely to depend on the context, content and perceived demands of the learning tasks (Richardson, 2000. p. 32). It is also said that those approaches which students are employing to study are influenced by the characteristics of the learning environment. This research is to investigate the students' perceptions of the learning environments in three universities of education and which kind of study approaches they use mostly and whether these two variables are associated.

Purposes of the Study

The purpose of the study is to investigate the perceptions of student teachers on the quality of learning environments in University 1, University 2, and University 3 and the approaches they mostly used to learn. The specific objectives of this study are:

- to explore the differences in student teachers' perceptions of the learning environment based on gender, educational level, and university
- to examine the differences in student teachers' approaches to learning by gender, educational level, and university
- to investigate the relationship between student teachers' perceptions on the learning environment and their approaches to learning
- to inquire the impact of student teachers' perceptions on learning environment on their approaches to learning

Definitions of Key Terms

Perception: Perception is the action of seeing and perceiving through the sensory organs. It can be in the form of image, imagination, thinking, opinion, idea or impression (Mok Soon Sang, 2003).

Learning environment: Learning environment refers to the diverse physical locations, contexts, and cultures in which students learn (The Glossary of Education Reform, 2013).

Approaches to learning: Student approaches to learning is a theory that students will take a different approach to how they study, depending upon the perceived objectives of the course they are studying. (Ference Marton and Roger Säljö, 1976)

Sample of the Study Method

A total of 720 student teachers from University 1,University 2,and University 3 participated in this study. 240 student teachers were selected as participants from each university_ 60 students (30 males and 30 females) from each education level excluding first year students and students who join from education college.

Research Instruments

The Dundee Ready Education Environment Measure (DREEM) developed by Roff et al. in 1997 and Revised Approaches to Studying Inventory (RASI) developed by the Centre for Research on Learning and Instruction in the University of Edinburgh in 1997 were used to explore their perceptions on the quality of learning environment and to evaluate students' approaches to learning.

DREEM originally included five subscales: perception on learning (PoL), perception on teachers (PoT), academic self-perception (ASP), perception on atmosphere (PoA), and social self-perception (SSP). But according to the suggestions of professors, another subscale, perception on staff (PoS), was included. PoL includes 12 items, PoT, 11 items, PoS, 5 items, ASP, 8 items, PoA involves 12 items and SSP consists of 7 items. Each of these items was scored on a four-point scale. Reverse coding is considered for items 8, 12,15,16,21,23,44,50. The reliability coefficient of the whole scale of DREEM was 0.912. RASI has 52 items which focus on three approaches_ deep approach, surface approach and strategic approach. There are 20 items which reflect deep approach, and for strategic and surface approaches, 16 items per each. All the items are scored on four-point Likert scale. The Cronbach's alpha of RASI was 0.847.

Data Analysis and Findings

Student Teachers' Perceptions on the Learning Environment

To explore the perceptions of student teachers on learning environment, descriptive analysis was conducted.

Table 1 Descriptive Analysis for Student Teachers' Perceptions on the Learning Environment

Perceptions on Learning Environment	N	Minimum	Maximum	Mean	SD
	720	57	159	110.26	14.812

According to Table 1, these results showed that student teachers' perceptions on the learning environment were moderate level.

Comparison of Student Teachers' Perceptions on Learning Environment by Gender

To investigate whether there was any difference in student teachers' perceptions on learning environment based on gender; independent sample *t*-test was conducted.

Table 2 Descriptive Analysis for Student Teachers' Perceptions on Learning Environment by Gender

Perception on learning environment	Gender	N	Mean	SD	*df*	*t*	*p*
	Male	360	111.25	14.904	718	1.792	.074
	Female	360	109.28	14.674			

Table 2 showed that there was no significant difference in perceptions by gender. It could be interpreted that the male and female student teachers had similar general perception on the environment.

Comparison of Student Teachers' Perceptions on Learning Environment by Education Level

Students' perceptions could be also different according to their length of time they had been in a particular environment. To inquire the difference in perceptions on learning environment existed among education level, one-way analysis of variances (ANOVA) was used.

Table 3   Mean Comparison for Student Teachers' Perceptions on Learning Environment by Education Level

	Education Level	**N**	**Mean**	**SD**	***F***	***p***
Perception on Learning Environment	Second Year	180	116.06	12.852	17.221***	.000
	Third Year	180	110.41	14.377		
	Fourth Year	180	109.27	13.497		
	Fifth Year	180	105.32	16.368		

Note: *** p< 0.001.

According to Table 3, it could be seen that there was a significant difference in perception on learning environment by education level. The result revealed that the general perception of second year student teachers on learning environment was the highest and that of fifth year student teachers was the lowest. To confirm the results, Post-Hoc Test by Tukey HSD method was carried out. The result was as follows.

Table 4   Results of Tukey HSD for Student Teachers' Perceptions on Learning Environment by Education Level

	(I) Year	**(J) Year**	**Mean Difference (I-J)**	***p***
Perceptions on Learning Environment	Second Year	Third Year	5.650**	.001
		Fourth Year	6.789***	.000
		Fifth Year	10.733***	.000
	Third Year	Fifth Year	5.083**	.004
	Fourth Year	Fifth Year	3.944*	.046

Note: * p< 0.05, ** p< 0.01, *** p< 0.001.

Comparison of Student Teachers' Perceptions on Learning Environment by University

Table 5   Mean Comparison for Student Teachers' Perceptions on Learning Environment by University

There could be different in perceptions of student teachers based on their university. To examine the fact, one-way analysis of variances (ANOVA) was used.

	University	**N**	**Mean**	**SD**	***F***	***p***
Perceptions on learning environment	Uni 1	240	115.54	14.269	26.106***	.000
	Uni 2	240	108.81	14.465		
	Uni 3	240	106.44	14.226		

Note: *** p< 0.001.

Since a significant difference was found out, Tukey HSD was conducted to get more detailed results.

Table 6 Results of Tukey HSD for Student Teachers' Perceptions on Learning Environment by University

Perceptions on learning environment	(I) Uni	(J) Uni	Mean Difference (I-J)	*p*
	Uni 1	Uni 2	6.733***	.000
		Uni 3	9.104***	.000

Note: *** p< 0.001.

Student Teachers' Approaches to Learning

In this study, the researcher identified the dominant learning approach of each student based on their highest score among approaches to learning. Since there were three types of learning approaches, basically there had to be three groups of students with respect to each approach. However, there could be some combinations of two approaches_ deep and strategic approach, and surface and strategic approach, whilst the combination of deep and surface is nearly impossible (Entwistle, McCune, and Tait, 2013). Table 7 showed that the majority of the selected sample employed strategic approach (68.89%) mostly with an intention to achieve high scores and best results and 14.17% of student teachers used surface approach, an approach which was associated with lack of purpose and unrelated memorizing.

Table 7 Numbers and Percentages of Participants for Dominant Learning Approaches

Groups by Dominant Approaches	Number	Percentage
Deep Approach	89	12.36%
Strategic Approach	496	68.89%
Surface Approach	102	14.17%
Deep-Strategic Approach	19	2.64%
Surface-Strategic Approach	14	1.94%
Total	720	100%

Comparison of Dominant Learning Approach Among Student Teachers by Gender

Table 8 Numbers and Percentages of Participants for Dominant Learning Approach Among Student Teachers by Gender

Group	Gender		Total	χ^2	*p*
	Male	Female			
Deep Approach	47(6.53%)	42(5.83%)	89(12.36%)		
Strategic Approach	243(33.75%)	253(35.14%)	496(68.89%)		
Surface Approach	51(7.08%)	51(7.08%)	102(14.17%)	1.242	.871
Deep-Strategic Approach	11(1.53%)	8(1.11%)	19(2.64%)		
Surface-Strategic Approach	8(1.11%)	6(0.83%)	14(1.94%)		

The numbers and percentages of participants for dominant learning approach among student teachers by gender were described and whether the dominant learning approach was significantly associated with gender was ensured by conducting Chi-square test in Table 8.

There was no significant association between the dominant learning approach and gender (χ^2=1.242, df=4, N=720).

Comparison of Dominant Learning Approach Among Student Teachers by Education Level

To investigate whether the dominant learning approach among student teachers was different by education level, analyses were again conducted by comparing their scores.

Table 9 Numbers and Percentages of Participants for Dominant Learning Approach Among Student Teachers by Education Level

Group	Education Level				Total	χ^2	*p*
	2nd Year	3rd Year	4th Year	5th Year			
Deep Approach	15 (2.08%)	27 (3.75%)	10 (1.39%)	37 (5.14%)	89 (12.36%)		
Strategic Approach	143 (19.86%)	112 (15.56%)	139 (19.31%)	102 (14.17%)	496 (68.89%)		
Surface Approach	17 (2.36%)	32 (4.44%)	22 (3.06%)	31 (4.31%)	102 (14.17%)		
Deep-Strategic Approach	5 (0.69%)	4 (0.56%)	5 (0.69%)	5 (0.69%)	19 (2.64%)	40.861***	.000
Surface-Strategic Approach	0	5 (0.69%)	4 (0.56%)	5 (0.69%)	14 (1.95%)		

Note: *** p< 0.001.

To investigate the significant association between dominant learning approach and education level, Chi-square test was also computed. It was seen in Table 9 that in deep approach, the numbers and percentages of fifth year student teachers were the highest and those of fourth year student teachers were the lowest. It could be interpreted that fifth-year student teachers preferred to use teachers' advices and suggestions in their self-studying without being too dependent on teachers. In strategic approach, it was found that second year and fourth year student teachers were more enthusiastic in organized studying and trying to achieve higher scores. In surface approach, third year students were the highest and second year student teachers, the lowest. In the rests of the groups, there was no much difference. Besides, by Chi-square test, there was a significant association between learning approach and education level (χ^2=40.861, df=12, N=720, *p*<0.001). Cramer's V which indicated the strength of association between two variables was .138 and thus the effect size could be considered to be small to medium according to Cohen (1988).

Comparison of Dominant Learning Approach Among Student Teachers by University

The numbers and percentages of participants for dominant learning approach by university were presented in the Table 10. Besides, to determine the association between learning approach and university, Chi-square analysis was also conducted. According to Chi-square test results, there was significant association between dominant learning approach and university (χ^2= 35.451, df= 8, N= 720). Cramer's V was .157 and the effect size was considered to be small to medium according to Cohen (1988).

Table 10   Numbers and Percentages of Participants for Dominant Learning Approach Among Student Teachers by University

Group	University			Total	χ²	*p*
	Uni 1	Uni 2	Uni 3			
Deep Approach	25 (3.47%)	40 (5.56%)	24 (3.33%)	89 (12.36%)		
Strategic Approach	185 (25.69%)	135 (18.75%)	176 (24.44%)	496 (68.89%)		
Surface Approach	18 (2.5%)	50 (6.94%)	34 (4.72%)	102 (14.17%)		
Deep-Strategic Approach	9 (1.25%)	8 (1.11%)	2 (0.28%)	19 (2.64%)	35.451***	.000
Surface- Strategic Approach	3 (0.42%)	7 (0.97%)	4 (0.56%)	14 (1.94%)		

Note: *** $p < 0.001$.

Relationship Between Student Teachers' Perceptions on Learning Environment and Their Approaches to Learning

The result showed the student teachers' perceptions on learning environment were positively correlated with the deep approach ($r=0.464$, $p<0.01$) and the strategic approach ($r=.588$, $p<0.01$) but negatively correlated with the surface approach ($r= -0.207$, $p<0.01$).

Table 11 Correlations for Student Teachers' Perceptions for Learning Environment and Their Approaches to Learning

Variables	Perceptions on Learning Environment	Deep Approach	Strategic Approach	Surface Approach
Perceptions on Learning Environment	1	.464***	.588***	-.207***
Deep Approach		1	.665***	.140***
Strategic Approach			1	.086*
Surface Approach				1

Note: * $p < 0.05$, *** $p < 0.001$.

Predicting Learning Approaches from Perceptions on Learning Environment

Table 12   Regression Analysis for Employment of Deep Approach by Student Teachers' Perceptions on Learning Environment

Variables	Unstandardized Coefficient (B)	Standardized Coefficient (β)	R	R²	Adjusted R²	*t*	*p*
Constant	19.974		.455	.207	.206	17.199***	.000
P	.143	.455				13.704***	.000

Note: *** $p < 0.001$.

The produced regression equation for the relationship between perception on learning environment and employment of deep approach was:

Employment of DA = 19.974+.143P

   Note: DA = Deep Approach

     P = Perception on Learning Environment

The result revealed that students' employment of deep approach could be predicted by their perception on learning environment with the variance level of 20%. The adjusted R value is .207. It could be assumed that if students have higher level of perception on learning environment, they are likely to employ deep approach.

Table 13 Regression Analysis for Employment of Strategic Approach by Student Teachers' Perceptions on Learning Environment

Variables	Unstandardized Coefficient (B)	Standardized Coefficient (β)	R	R²	Adjusted R²	t	p
Constant	10.943		.568	.323	.322	9.805***	.000
P	.186	.568				18.505***	.000

Note: *** p< 0.001.

According to Table 13, the produced regression equation for the relationship between perception on learning environment and employment of strategic approach was:

Employment of STA = 10.943+.186

Note: STA = Strategic Approach

          P   = Perception on Learning Environment

The result showed that student teachers' perception on learning environment has impact on their employment of strategic approach. It was able to account for 32% of variance. The adjusted R square value was .323.

Table 14 Regression Analysis for Employment of Surface Approach by Student Teachers' Perceptions on Learning Environment

Variables	Unstandardized Coefficient(B)	Standardized Coefficient (β)	R	R²	Adjusted R²	t	p
Constant	33.591		.205	.042	.041	22.892***	.000
P	-.074	-.205				-5.625***	.000

Note: *** p< 0.001.

According to the table 16, the produced regression equation for predicting the impact of perceptions on student teachers' employment of surface approach was:

Employment of SUA = 33.591-.074P

Note: SUA = Surface Approach

      P = Perception on Learning Environment

The result showed that student teachers' perception on their learning environment was significant predictor of student teachers' employment of surface approach and it was negatively significant. It could be interpreted that student teachers who usually had low perception on their learning environment were more likely to use surface approach in which the emphasis was on the memorization of the context without grasping the essence and obtaining scores with least efforts.

Discussion, Suggestions, and Recommendation

The result showed that student teachers' perceptions on the learning environment was in moderate level but not very satisfactory. It could be concluded that the students perceived the

learning environment in an acceptable situation; however, ways to improve the quality of learning environment should be found out. It could be summarized that the quality of learning environments was necessary to be optimized.

In the study of comparison of perceptions on learning environment among student teachers by gender, the result showed that there was no significant difference in perceptions by gender. It could generally be concluded that there was no discrimination or bias in the environment. All student teachers, regardless of gender, were treated equally and obtained equal opportunities. Since the lack of bias was a positive fact, the teachers need to maintain this situation.

In comparing the student teachers' perceptions on learning environment with respect to their education level, it was discovered that perceptions of second year students were significantly higher than the others. The third year and fourth year student teachers had no significantly different perception. Amongst all of them, perceptions of fifth year students were found to be lowest. It could be considered that since they had been well adjusted with the environment and used to the situation; they became less interested in this environment and became independent. It could be seen that students' perceptions on their learning environment decreased year by year of higher education level. Teacher trainers should provide a more interactive and enjoyable classroom environment, accompanied with an opportunity to express their own thoughts and concepts and make them more indulged in learning.

To explore whether there were differences among universities, one-way analysis of variances (ANOVA) was used and the results revealed that there was a significant difference in perceptions on learning environment by university. The mean score of University 1 was the highest and that of University 3 was the lowest. Since the environment of a university was different from one another, teacher trainers were suggested to help student teachers' attitudes toward their school environments and motivation to learn by creating more enjoyable learning environments.

In the study of learning approaches which student teachers employ, it was revealed that the majority of student teachers of the selected sample employed strategic approach (68.89%) mostly with an intention to achieve high scores and best results. In comparing the dominant learning approaches of student teachers by gender, there was no significant association between the dominant learning approach and gender. In investigating the student teachers' dominant learning approach based on their education level, it was found out that in deep approach, the numbers and percentages of fifth year student teachers were the highest, in strategic approach, second year and fourth year student teachers and in surface approach numbers and percentages of third year students were the highest. In the rest of the groups, there was no much difference among student groups by their educational level. Again, in examining Chi-square test, there was a significant association between learning approach and education level.

After that, in comparison of dominant learning approach of student teachers with respect to university, there were indeed differences in numbers of student teachers employing each approach and according to Chi-square test results, there was significant association between dominant learning approach and university (χ^2= 35.451, df= 8, N= 720). Teachers should create conditions to encourage students' use of deep approach and strategic approach. Assessments should also emphasize on expressing their understanding and own concepts rather than their memorization.

Moreover, in comparing the perceptions on learning environments based on groups of dominant learning approach, there was a significant difference. The perception of strategic approach dominating group was the highest, followed by deep-strategic group whilst surface approach group had the lowest mean score of perception on learning environment. students who employed the surface approach most could be assumed that they were not motivated by the environment to learn deeply and enthusiastically, and with their low perceptions and opinions, they study only to pass the exam without paying attention the essence of the materials they were being taught.

In identifying the relationship between the student teachers' perceptions on learning environment and learning approaches, there were significant correlations among each factor and variable and it also indicated that student teachers whose perceptions on learning environment were good generally employed deep and strategic approaches. It could also be interpreted that students who used surface approach were found to perceive their learning environment in a pessimistic way due to the negative correlation. To investigate the predictive power of perception on learning environment to each learning approach, multiple regression analysis was conducted.

The result revealed that student teachers' perception on their learning environment was a significant predictor of student teachers' employment of each approach; positively in deep and strategic approaches and negatively in surface approach. It could be interpreted that student teachers who usually had low perception on their learning environment were more likely to use surface approach in which the emphasis was on the memorization of the context without grasping the essence and obtaining scores with least efforts. Emphasis on the reasons of students having low perceptions on learning environment should be given and authorities should try to find ways to make all learners participated in school activities.

Conclusion

The purpose of the study was to investigate the perceptions of student teachers on the learning environment and which approaches they use in learning and whether these two variables are correlated. According to the findings, it has been found out that students' perceptions on a learning environment can greatly affect the way students learn. How a student approaches to his studies has a reasonable effect on the learning outcomes which is an indicator of the effectiveness of an education program. Therefore, it is extremely important for teachers and policy makers, or authorities to design a learning environment which would meet students' expectations and needs, which would provide various teaching styles, strengthen rapport between teachers and students, promote positive feedback, and create a more relaxed, secure and non-threatening learning environment which encourages students to enjoy in learning and adopt the more desirable deep approach and strategic approach to learning and dispense with the undesirable superficial surface approach.

Acknowledgements

References

Biggs, J. (1999). *Teaching for quality learning at university: What the student does?* Buckingham: Society for Research into Higher Education: Open University Press.

Dochy, F., Segers, M., & Buehl, M. M. (1999). The relation between assessment practices and outcomes of studies: The case of research on prior learning. *Review of Educational Research, 69*(2), 145-186.

Entwistle, N., McCune, V., & Tait, H. (2013). Approaches and study skills inventory for students (ASSIST) (incorporating the revised approaches to studying inventroy- RASI): Report of the development and use of the inventories.

Marton, F., & Saljo, R. (1976). Symposium: Learning processes and strategies II: Outcome as a function of the learner's conception of the task. *British Journal of Educational Psychology, 46*, 115-127.

Mook Soon Sang (2003). An Education Course for K.P.L.I (Theme 2): Student Department, Teaching-Learning Process & Evaluation. Subang Jaya Selangor, Malaysia: Kumpulan dudiman Sdn. Bhd.

Ramsden, P. (1979). Student learning and perceptions of the academic environment. *Higher Education, 8*, 411-427.

Richardson, J. E. (2000). *Researching student learning: Approaches to studying in campus-based and distance education.* Buckingham: SRHE and Open University Press.

Richardson, J. E. (2009). Face-to-face versus online tutoring support in humanities courses in distance education.

Arts and Humanities in Higher Education, 8, 69-85.

Roff, S., McAleer, S., Harden, R. M., Al-Qahtani, M., Ahmed, A. U., & Deza, H. (1997). Development and validation of the Dundee ready education environment measure (DREEM). *Medical Teacher, 19*(4), 295-299.

The Glossary of Education Reform (2013). Retrieved August 7, 2018 from https://www.edglossary.org/learning-environment

FACTORS AFFECTING SENSE OF BELONGING AND ITS RELATION TO EDUCATIONAL OUTPUTS OF STUDENT TEACHERS

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Abstract

The main purpose of the present study was to investigate the factors affecting sense of belonging and its relation to educational outputs of student teachers. Questionnaire survey method was applied and quantitative approach was executed in this study. A total of 720 student teachers (360 males and 360 females) from Yangon University of Education, Sagaing University of Education and University for the Development of National Races participated in this study. The required sample was selected by using random sampling technique. As the research instruments, the sense of belonging questionnaire (SOB) (Dabney Chatwin Ingram, 2012), Factors Affecting Sense of Belonging Questionnaire (FASOB) (Dabney Chatwin Ingram, 2012) and Educational Outputs Questionnaire (EO) (Dabney Chatwin Ingram, 2012) were applied to examine factors affecting sense of belonging and its relation to educational outputs student teachers. In the analysis of data, descriptive statistics, independent sample t-test, one way ANOVA, Pearson's correlation technique and stepwise multiple regression analysis were used in this study. According to the results of regression analyses, it can be concluded that university commitment to diversity, mentor facilitated belonging, supportive housing and curriculum relevance factors were the significant predictors of sense of belonging as well as class participation, frequent meet with professors and satisfaction with the institution factors were the significant predictors of sense of belonging. To sum up, the findings of the study will be useful in assisting administrators, educators, counselors, and researchers to develop strategies to enhance student teachers' sense of belonging.

Keywords: social belonging, academic belonging, perceived institutional support, sense of belonging.

Introduction

Sense of belonging, a feeling of connectedness and belief that one is important and matters to others in an organization, ranks third on most people's hierarchy of needs, after psychological and safety needs (Maslow, 1954). In higher education, sense of belonging has been tied to key educational outcomes such as academic self-concept, self-efficacy, intrinsic motivation, academic success and persistence (Freeman, Hausmann, Schofield, & Woods, 2007; Strayhorn, 2012). The notion of university belonging refers to the sense of membership and relatedness individual students feel with the other students and with the teachers at their university. Students' sense of university belonging is associated with several academic and non-academic outcomes, such as students' motivation to learn, level of academic achievement, and general future orientation.

It is also known that for some students there are many obstacles to completion, including financial constraints, academic difficulties, personal/family issues, and social-psychological challenges although it is well documented that completing university and obtaining a bachelor's degree result in higher earnings and greater access to social capital (Carey, 2005a; Karabel, 2005; Walpole, 2007). (Baumeister & Leary, 1995) defined sense of belonging as among the most basic and essential of human needs and a product of an innate human drive. A sense of belonging plays a role in academic and social outcomes (Hausmann, Schofield, & Woods, 2007; Ostrove & Long, 2007; Walton & Cohen, 2007). Belonging to a campus is associated with

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intrinsic motivation, academic achievement, and high expectations for completion and graduation (Anderman, 2002; Goodenow & Grady, 1993).

Purpose of the Study

The main purpose of the study was to investigate factors affecting sense of belonging and its relation to educational outputs of student teachers.

Specific Objectives

To study the extent of student teachers' sense of belonging with respect to gender, university, education level and age level.

To find out predicted factors are associated with sense of belonging of student teachers.

To highlight student teachers' educational outputs of interests may facilitate their sense of belonging.

Scope

The study was geographically restricted to Yangon Region and Sagaing Region.

Definition of the Key Terms

- **Social belonging**: Feeling socially comfortable and connected with peers as a member of the university community (e.g., can relate to others, can be him/herself on campus, and feels supported and respected by peers on campus). (Dabney Chatwin Ingram, 2012)

- **Academic belonging**: Feeling respected and supported to do well academically. More specifically: (a) believing that professors are caring, supportive, and respectful, and (b) feeling comfortable sharing comments and questions in classes.(Dabney Chatwin Ingram, 2012)

- **Perceived Institutional Support:** Feeling that institutional supports and student services (e.g., tutoring, counseling, and health) are accessible on campus.(Dabney Chatwin Ingram, 2012)

- **Sense of belonging:** Students' subjective feelings of connectedness or cohesion to the institution. (Maestas, Vaquera, and Zehr, 2007)

Review of Related Literature

1. Sense of Belonging

For a person to experience a sense of belonging, they need energy for involvement, need to have an interest and desire (motivation) for meaningful involvement and have the potential to develop a sense of belonging by having shared or complementary characteristics with their environment (Hagerty et al., 1992; Hagerty & Patusky, 1995). Once these antecedents are achieved, the person feels valued, needed and significant within their environment (Newman et al., 2007). These are the attributes of sense of belonging, or more formally, valued involvement and fit (Hagerty et al., 1992). Valued involvement refers to the experience of feeling accepted, valued and needed within their given environment, while fit refers to an individual's perception that they connect with or complement others within their environment (Hagerty et al., 1992; Hagerty & Patusky, 1995; Kestenberg & Kestenberg, 1988; McLaren, Gomez, et al., 2007; Newman et al., 2007). The consequences of sense of belonging include: physical, psychological,

spiritual, or social involvement and growth; attribution of meaningfulness to that involvement; and foundation for behavioral and emotional responses (Hagerty et al., 1992).

By experiencing a higher level of sense of belonging, people have better social and psychological functioning and fewer mental health issues (Anant, 1966; McLaren & Challis, 2009; Mellor et al., 2008; Steger & Kashdan, 2009). The benefit of experiencing high levels of sense of belonging is that individuals often feel motivated to perform (Goodenow, 1993a, 1993b). For example, when student teachers feel they belong in the university community this promotes positive educational outputs such as academic success and effort in studies. Motivated student teachers put more effort into university, which leads to more positive campus performance (Sanchez et al., 2005). Those who do not feel accepted, important or cared for are less motivated to attend university and achieve academically (Sanchez et al., 2005).

2. Sense of Belonging in the University Context

Applying the study of belonging to the university context is complicated because university campuses have multiple contexts; for instance, social contexts with friends, academic contexts in classrooms and with professors, and institutional contexts such as student support services and curricular offerings .Hurtado, Milem, Clayton Pedersen, and Allen (1998) note that "university campuses are complex social systems defined by the relationships between the people, bureaucratic procedures, structural arrangements, institutional goals and values, traditions, and larger socio-historical environments". The university environment has many sub-contexts and is also shaped by larger socio-historical forces, suggesting that a multi-faceted approach to the study of belonging in university would be appropriate.

The factors affecting sense of belonging of student teachers are

1. **Extracurricular Activities**
2. **University Commitment to Diversity**
3. **Relatedness to Peers**
4. **Mentor Facilitated Belonging**
5. **Unsupportive Professor Lowered Belonging**
6. **Live on Campus**
7. **Supportive Housing**
8. **Orientation Facilitated Social Adjustment and**
9. **Curriculum Relevance.**

The educational outputs of measures are

1. **Expectation to Graduate**
2. **Expected Retention**
3. **Hour Spent Studying**
4. **Class Participation**
5. **Frequent Meet with Professors and**
6. **Satisfaction with the Institution.**

Method

Participants

A total of 720 second year to fifth year student teachers participated in this study. The selected sample of second year to fifth year student teachers for this study is described in the following table.

Table 1 Numbers of Participated Student Teachers and Selected Universities

Grade Level	YUOE			SUOE			UDNR		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
2.1	31	30	61	30	30	60	30	30	60
3.1	30	30	60	30	30	60	30	30	60
4.1	30	30	60	30	30	60	30	30	60
5.1	29	30	59	30	30	60	30	30	60
Total	120	120	240	120	120	240	120	120	240

Instruments

In this study the questionnaire consists of four sections. The first section elicited the demographic characteristics of the participants. The purpose of second section was to gather data about sense of belonging of student teachers. The questionnaire for student teachers' sense of belonging has a total of 14 items and is composed of 3 subscales.

The purpose of third section was to gather data about factors affecting sense of belonging of student teachers. The questionnaire for factors affecting sense of belonging of student teachers has a total of 42 items.

The purpose of fourth section was to gather data about educational outputs of student teachers. The questionnaire for student teachers' educational outputs has a total of 15 items.

Pilot testing was done with a sample of 80 second year to fifth year student teachers from Yangon University of Education in third week of December, 2018 to test whether the wording of items, statements and instructions were appropriate, relevant and clear for them. And then, the wordings and phrases of some items were modified to adapt with students' understanding levels. After conducting the pilot study, the internal consistency (Cronbach's Alpha) of sense of belonging was 0.431, factors affecting sense of belonging was 0.638, and educational outputs was 0.586. The questionnaire was administered to the selected 720 second year to fifth year student teachers from Yangon University of Education (YUOE), Sagaing University of Education (SUOE) and University for the Development of the National Races of the Union (UDNR) during the first week of January, 2019.

Results

1. Student Teachers' Sense of Belonging from all Selected Universities

To investigate all the students' sense of belonging, descriptive statistics was carried out and the results showed thatthe mean scores (%) for student teachers' social belonging and academic belonging were highest in all belonging types. The mean score (%) for student teachers' perceived institutional support was lowest in all belonging types. It could be interpreted that student teachers are socially comfortable with their peers, teachers and other staff members at the university.

2. Comparison for Sense of Belonging of Student Teachers by Gender

The result of the independent sample *t* test indicated that there were no significant differences in social belonging, academic belonging and perceived institutional support of student teachers by gender. It might be due to the fact that student teachers in the university had equal opportunity to learn and participate in all activities.

3. Comparison for Sense of Belonging of Student Teachers by University

In addition, it was necessary to observe whether student teachers are significant differences in sense of belonging of student teachers with respect to university, descriptive statistics was computed. Then, ANOVA was computed to investigate whether there were any significant differences in sense of belonging of student teachers by university or not.

Table 2 Comparison for Sense of Belonging of Student Teachers by University

Variable	University	N	Mean	SD	*F*	*p*
Social Belonging	**University 1**	240	15.04	1.81	7.403**	.001
	University 2	240	14.81	1.69		
	University 3	240	15.40	1.54		
Academic Belonging	**University** 1	240	8.97	1.19	16.059***	.000
	University 2	240	8.74	1.31		
	University 3	240	9.35	1.11		
Perceived Institutional Support	**University** 1	240	16.23	2.49	43.980***	.000
	University 2	240	16.43	2.62		
	University 3	240	18.07	1.91		

Note: **$p<0.01$, ***$p<0.001$

Again, post-hoc comparison was computed using Tukey HSD test to find out the differences which university were highest in social belonging, academic belonging and perceived institutional support.

Table 3 Results of Tukey HSD Multiple Comparisons for Sense of Belonging of Student Teachers by University

Variable	(I)University	(J)University	Mean Difference (I-J)	*P*
Social Belonging	University 3	University 2	2.937**	.001
Academic Belonging	University 3	University 1	3.229**	.001
		University 2	5.138***	.000
Perceived Institutional Support	University 3	University 1	7.673***	.000
		University 2	6.822***	.000

***The mean difference is significant at 0.001 level.

**The mean difference is significant at 0.01 level.

4. Comparison for Sense of Belonging of Student Teachers by Education Level

The ANOVA results showed that there were no statistically significant differences in social belonging, academic belonging and perceived institutional support of student teachers by education level. It could be interpreted that student teachers of all education levels have equal sense of belonging to the university.

5. Comparison for Sense of Belonging of Student Teachers by Age Level

The ANOVA results showed that there were no statistically significant differences in social belonging, academic belonging and perceived institutional support of student teachers by age level. It could be concluded that student teachers in all age-groups had equal opportunities to learn and participate in all activities.

6. Factors Affecting Sense of Belonging of Student Teachers from all Selected Universities

To investigate the factors affecting sense of belonging of student teachers, descriptive statistics was carried out and the results showed that the mean scores (%) for university commitment to diversity was highest in all factors.The mean scores (%) for unsupportive professor lowered belonging was lowest in all factors.

7. Comparison for Factors Affecting Sense of Belonging of Student Teachers by Gender

In order to test factors affecting sense of belonging of student teachers with respect to gender, descriptive statistics was conducted.And then, the independent sample *t*test was used to find out whether these differences in factors affecting sense of belonging of student teacherswere significant or not. The result indicated that there were no significant differences in factors affecting sense of belonging of student teachers by gender. It could be interpreted that all student teachers experienced same classroom and campus climates.

8. Comparison for Factors Affecting Sense of Belonging of Student Teachers by University

To find out the differences in factors affecting sense of belonging of student teachers by university, descriptive analysis was computed. Then, ANOVA was computed to investigate whether there were significant differences in factors affecting sense of belonging of student teachers by university or not.

Table 4 Mean Comparison for Factors Affecting Sense of Belonging of Student Teachers by University

Factors	University	N	Mean	SD	*F*	*p*
Extracurricular Activities	**University** 1	240	37.98	6.21	36.968***	.000
	University 2	240	36.68	6.57		
	University 3	240	41.36	5.66		
University Commitment to Diversity	**University** 1	240	24.21	2.35	19.113***	.000
	University 2	240	23.98	2.46		
	University 3	240	25.26	2.45		
Mentor Facilitated Belonging	**University** 1	240	12.00	7.59	17.886***	.000
	University 2	240	11.23	7.56		
	University 3	240	15.06	7.12		
Lives on Campus	**University** 1	240	1.99	1.34	64.670***	.000
	University 2	240	2.10	1.70		
	University 3	240	3.27	.97		
Supportive Housing	**University** 1	240	7.91	1.34	20.861***	.000
	University 2	240	8.03	1.20		
	University 3	240	8.55	.92		

Factors	University	N	Mean	SD	*F*	*p*
Orientation Facilitated Social Adjustment	**University** 1	240	6.63	2.22	10.940***	.000
	University 2	240	7.03	2.06		
	University 3	240	7.48	1.58		
Curriculum Relevance	**University** 1	240	3.73	.72	22.169***	.000
	University 2	240	3.52	.77		
	University 3	240	3.94	.60		

Note: ***p<0.001

10. Comparison for Factors Affecting Sense of Belonging of Student Teachers by Education Level

To find out the differences in factors affecting sense of belonging of student teachers by education level, descriptive analysis was made. Then, ANOVA was computed to investigate whether there were significant differences in factors affecting sense of belonging of student teachers by educational level or not.

Table 5 Mean Comparison for Factors Affecting Sense of Belonging of Student Teachers by Education Level

Variable	Education Level	N	Mean	SD	*F*	*p*
Extracurricular Activities	Second	181	38.33	5.95	5.236**	.001
	Third	180	37.31	6.78		
	Fourth	179	39.78	6.36		
	Fifth	180	39.28	6.49		
Mentor Facilitated Belonging	Second	181	14.19	7.08	3.769*	.011
	Third	180	12.70	7.54		
	Fourth	179	11.54	7.70		
	Fifth	180	12.60	7.88		
Supportive Housing	Second	181	8.04	1.29	5.617**	.001
	Third	180	7.94	1.19		
	Fourth	179	8.27	1.14		
	Fifth	180	8.40	1.12		
Orientation Facilitated Social Adjustment	Second	181	7.38	2.01	3.603*	.013
	Third	180	7.01	1.91		
	Fourth	179	6.71	2.00		
	Fifth	180	7.16	2.03		

Note: *p<0.05, **p<0.01

Again, post-hoc comparison was computed using Tukey HSD test to find out the differences which education level was higher in above significant factors than those of others.

Table 6 Results of Tukey HSD Multiple Comparison for Factors Affecting Sense of Belonging of Student Teachers by Education level

Variable	(I)Year	(J)Year	Mean Difference (I-J)	*p*
Extracurricular Activities	Fourth year	Third year	4.262**	.004
	Fifth year	Third year	3.393*	.038
Mentor Facilitated Belonging	Second year	Fourth year	10.209*	.011

Variable	(I)Year	(J)Year	Mean Difference (I-J)	*p*
Supportive Housing	Fifth year	Second year	3.254*	.043
		Third year	4.212**	.004
Orientation Facilitated Social Adjustment	Second year	Fourth year	6.701*	.017

**The mean difference is significant at 0.01 level.

*The mean difference is significant at 0.05 level.

10. Comparison for Factors Affecting Sense of Belonging of Student Teachers by Age Level

To find out the differences in factors affecting sense of belonging of student teachers by age level, descriptive analysis was made. Then, ANOVA was computed to investigate whether there were significant differences in factors affecting sense of belonging of student teachers by age level or not.

Table 7 Mean Comparison for Factors Affecting Sense of Belonging of Student Teachers by Age Level

Variable	Age Level	N	Mean	SD	*F*	*p*
Extracurricular Activities	(17-18)	205	38.01	5.95	3.604*	.028
	(19-20)	306	38.56	6.72		
	(21-23)	259	39.80	6.38		
Lives on Campus	(17-18)	205	2.50	1.30	3.508*	.030
	(19-20)	306	2.32	1.55		
	(21-23)	259	2.69	1.54		

Note: $*p < 0.05$

Again, post-hoc comparison was computed using Tukey HSD test to find out the differences which age-group was higher in extracurricular activities and lives on campus factors than those of others.

Table 8   Results of Tukey HSD Multiple Comparison for Factors Affecting Sense of Belonging of Student Teachers by Age level

Variable	(I)Age	(J)Age	Mean Difference (I-J)	*p*
Extracurricular activities	(21-23)	(17-18)	3.095*	**.031**
Lives on campus	(21-23)	(19-20)	6.088*	**.036**

*The mean difference is significant at 0.05 level.

11. Comparison for Educational Outputs of Student Teachers from all Selected Universities

To investigate all the educational outputs of student teachers, descriptive statistics was carried out and the results showed that the mean scores (%) of expectation to graduate factor was highest in all educational outputs.The mean scores (%) of expected retention factor was lowest in all educational outputs

12. Comparison for Educational Outputs of Student Teachers by Gender

To find out the differences in educational outputs of student teachers by gender, descriptive analysis was madeAnd then, the independent sample *t*test was used to find out whether there were any significant differences in educational outputs by gender were or not.

Table 9 Mean Comparison for Educational Outputs of Student Teachers by Gender

Educational Outputs	Gender	N	Mean	SD	*t*	*p*
Expectation to Graduate	Male	360	2.83	.02	-2.711**	.007
	Female	360	2.90	.02		
Frequent meet with Professors	Male	360	16.31	.25	2.637**	.009
	Female	360	15.44	.21		

Note: **p<0.01

      The result of the independent sample t-test indicated that there were significant differences in expectation to graduate and frequent meet with professors factors by gender. However, there were no significant differences in expected retention, hour spent studying, class participation satisfaction with the institution factors by gender. Female student teachers always placed the high expectations on their work than males. However, male student teachers were easily familiar with the people around them. So, it could be concluded that female student teachers were high in expectation to graduate and male student teachers were high in frequent meet with professors.

13. Comparison for Educational Outputs of Student Teachers by University

      To find out the differences in educational outputs of student teachers by university, descriptive analysis was made.Then, ANOVA was computed to investigate whether there were significant differences in educational outputs of student teachers by university or not.

Table 10   Mean Comparison for Educational Outputs of Student Teachers by University

Variable	University	N	Mean	SD	*F*	*p*
Hour Spent Studying	**University** 1	240	2.92	1.15	11.731***	.000
	University 2	240	2.93	1.11		
	University 3	240	3.36	1.17		
Class Participation	**University** 1	240	7.13	7.59	9.508***	.000
	University 2	240	6.83	1.97		
	University 3	240	7.59	1.74		
Frequent Meet with Professors	**University** 1	240	15.65	4.03	46.918***	.000
	University 2	240	14.16	3.97		
	University 3	240	17.81	4.45		
Satisfaction with the Institution	**University** 1	240	9.48	2.01	25.035***	.000
	University 2	240	9.48	1.86		
	University 3	240	10.48	1.43		

Note: ***p<0.001

14. Comparison for Educational Outputs of Student Teachers by Education Level

      To find out the differences in educational outputs of student teachers by education level, descriptive analysis was made.Then, ANOVA was computed to investigate whether there were significant differences in educational outputs of student teachers by education level or not.

Table 11 Mean Comparison for Educational Outputs of Student Teachers by Education Level

Variable	Education Level	N	Mean	SD	*F*	*p*
Satisfaction with the Institution	Second	181	10.15	1.68	4.747*	.003
	Third	180	9.45	1.88		
	Fourth	179	9.91	1.89		
	Fifth	180	9.74	1.88		

Again, post-hoc comparison was computed using Tukey HSD test to find out the differences which education level was higher in satisfaction with the institution factor than that of others.

Table 12 Results of Tukey HSD Multiple Comparison for Educational Outputs of Student Teachers by Education Level

Variable	(I)Education Level	(J) Education Level	Mean Difference (I-J)	*P*
Satisfaction with the institution	Second year	Third year	5.872**	**.004**

**The mean difference is significant at 0.01 level.

15. Comparison for Educational Outputs of Student Teachers by Age Level

To find out the differences in educational outputs of student teachers by age level, descriptive analysis was made. Then, ANOVA was computed to investigate whether there were significant differences in educational outputs of student teachers by age level or not.

Table 13 Mean Comparison for Educational Outputs of Student Teachers by Age Level

Variable	Age Level	N	Mean	SD	*F*	*p*
Satisfaction with the Institution	(17-18)	205	10.16	1.67	5.277**	.005
	(19-20)	306	9.64	1.88		
	(21-23)	259	9.77	1.96		

Again, post-hoc comparison was computed using Tukey HSD test to find out the differences which age level was higher in satisfaction with the institution factor than that of others.

Table 14 Results of Tukey HSD Multiple Comparison for Educational Outputs of Student Teachers by Age Level

Variable	(I)Age Level	(J)Age Level	Mean Difference (I-J)	*P*
Satisfaction with the institution	(17-18)	(19-20)	4.320**	**.006**

**The mean difference is significant at 0.01 level.

Conclusion and Recommendations

This study produced some findings that merit further research. Several issues limit the interpretation and generalizability of these findings. Firstly, Results were drawn solely from self-reported data collected at one time. Survey results were limited to a small sample of student teachers from only University of Education. Moreover, exploratory findings from only University

of Education may not be adequateto know student teachers' experiences and perspectives in other university contexts.

Further research should investigate bachelor, master and diploma levels as education level and samples from different universities: University of Art and Science, University of Distance Education, and other Institutes should be selected. Longitudinal research should be done and following up the qualitative interviews with the student teachers would be useful to inform strategies for promoting student teachers' sense of belonging.

References

Anderman, E. M. (2002). School effects on psychological outcomes during adolescence. Journal of Educational Psychology, 94(4), 795-809.

Baumeister, R. F. and Leary, M. R. (1995). *The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation*, Psychological Bulletin, 117 (3): 497-529.

Carey, K. (2005a). *One Step from the Finish Line: Higher College Graduation Rates are within our reach*. A Report by the Education Trust: Washington, DC.

Dabney Chatwin Ingram (2012). *All Rights Reserved*. Re-distributed by Stanford University under license with the author, retrieved from http://purl.stanford.edu/rd771tq2209

Freeman, T. M., Anderson, L. H. and Jensen, J.M. (2007). *Sense of Belonging in College Freshmen at the Classroom and Campus Levels*, The Journal of Experimental Education, 75 (3): 203-220.

Goodenow, C., & Grady, K. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. Journal of Experimental Education, 62(1), 60-71.

Hagerty, B. M., Lynch-Sauer, J., Patusky, K. L., Bouwsema, M., & Collier, P. (1992). Sense of belonging: A vital mental health concept. Archives of Psychiatric Nursing, 6(3), 172-177.

Hagerty, B.M.K. & Patusky, K.L. (1995). Developing a measure of sense of belonging. Nursing Research. 44, 9-13.

Hausmann, L. R. M., Schofield, J. W., and Woods, R. L. (2007). *Sense of Belonging As a Predictor of Intentions to Persist Among African American and White First-Year College Students*, Research in Higher Education, 48 (7): 803-839.

Maslow, A. H. (1954). *Motivation and Personality*. Harper: New York.

McLaren, S., & Challis, C. (2009). Resilience among men farmers: The protective roles of social support and sense of belonging in the depression-suicidal ideation relation. Death Studies, 33,262-276. doi:10. 1080/ 07481180802671985

Newman, B. M., Lohman, B. J., & Newman, P. R. (2007). Peer group membership and a sense of belonging: Their relationship to adolescent behavior problems. Adolescence, 42(166), 241-263.

Ostrove, J. M. and Long, S. M. (2007). Social Class and Belonging: Implications for College Adjustment, The Review of Higher Education, 30 (4): 363-389.

Strayhorn, T. L. (2012). College students' sense of belonging: A key to educational success for all students. New York, NY: Routledge.

MOTIVATIONS OF STUDENT TEACHERS FOR CHOOSING TEACHING AS A CAREER

Ye Lynn[1] and Naing Naing Maw[2]

Abstract

The primary purpose of this study was to examine the motivations of student teachers for choosing teaching as a career. Then, this study tried to explore the differences in the overall motivations for choosing teaching as a career, the motivation factors for choosing teaching career, the perception factors about the teaching profession and the career choice satisfaction of student teachers with respect to gender and university. A total of 600 first-year student teachers (300 males and 300 females) from Yangon University of Education (YUOE), Sagaing University of Education (SUOE) and University for the Development of the National Races of the Union (UDNR) participated in this study. As the research instrument, the FIT-Choice Scale (Factors Influencing Teaching Choice Scale) developed by Helen M. G. Watt and Paul W. Richardson (2007) was used. The results showed that there was significant difference in the overall motivations of student teachers by gender. But, no significant difference was found by university. In motivation factors, there were significant differences by gender and university. Moreover, there were also significant differences in the perception factors about the teaching profession by gender and university. However, no gender difference was found in the career choice satisfaction of student teachers. By university, there was significant difference. Finally, the results showed that all motivation factors, except job security, job transferability and social influences factors, and all perception factors, except salary factor, were significantly associated with the career choice satisfaction. According to the results of simultaneous multiple regression analysis, motivation factors of intrinsic career value, fallback career, prior teaching and learning experiences and perception factors of expertise, social status and social dissuasion were significant predictors of the career choice satisfaction of student teachers.

Keyword: Motivations, Student Teachers, Career

Introduction

As teaching plays a vital role in preparing future generations of any society, it is essential to employ qualified and dedicated teachers in the profession. Within last decade, a number of studies have been reported the reasons why people choose the teaching profession. Much of the urge for the research on this topic has come from a concern that in many countries not enough people are deciding this profession and retention from this job, yielding a shortage of quality teachers (Bilim, 2014). And it is a clear global policy issue to attract, recruit and retain sufficient number of motivated and committed teachers (Heinz, 2015).

Personal and professional characteristics of good teachers have been vastly stated in research on teacher education (Larsen-Freeman & Long, 1991; Bailey, 1985; Miller 1987; Prodromou, 1991; Scrivener, 1994, as cited in Topkaya & Uztosun, 2012). However, what knowledge, beliefs, motivations, and background experience they bring to their roles as teachers are also worth studying since such studies help teacher educators better understand who their students are and they also offer new insights into teacher education process and curriculum development (Brookhart & Freeman, 1992).

Therefore, it is needed to conduct the study to get deep understanding of student teachers' motivations for choosing teaching as a career. The reasons for their choice of teaching career,

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their perceptions about the teaching profession and their career choice satisfaction are needed to explore.

Purpose of the Study

1. To examine the overall motivations of student teachers for choosing teaching as a career by gender and university
2. To determine the motivation factors of student teachers for choosing teaching career by gender and university
3. To investigate the perception factors about the teaching profession of student teachers by gender and university
4. To find out the career choice satisfaction of student teachers by gender and university
5. To explore the impact of motivation factors on the career choice satisfaction of student teachers
6. To explore the impact of perception factors on the career choice satisfaction of student teachers

Scope and Procedure

The study on the motivations of student teachers for choosing teaching as a career was conducted by using questionnaire survey method. Motivations of student teachers for choosing teaching as a career were examined by using FIT-Choice Scale (Factors Influencing Teaching Choice Scale) (Watt & Richardson, 2007).

For the study, 600 first-year student teachers (300 males and 300 females) from Yangon University of Education (YUOE), Sagaing University of Education (SUOE) and University for the Development of the National Races of the Union (UDNR) were selected.

Definitions of Key Terms

Motivation

Motivation is the stage that triggers the whole decision process (Harmon-Jones, & Harmon-Jones, 2010).

Student Teacher

A student teacher, pupil-teacher (historical) or prac teacher (practice teacher) is a collage, university or graduate student who is teaching under the supervision of a certified teacher in order to qualify for a degree in education. The term is also often used interchangeably with "Pre-Service Teacher" (Wikipedia).

Career

A career is an occupation undertaken for a significant period of a person's life and with opportunities for progress (Oxford living dictionaries online, 2018).

Review of Related Literature

Motivation to Become a Teacher

It can be argued that individuals' abilities, interests, values, options, advice and opinions of family and friends can all play a role, in some degree, in orienting young people toward certain profession. So, it is reasonable to state that teaching career choice might be affected by these factors.

According to the OECD report of 2005, there are many researches in Australia, Belgium, Canada, France, the Netherlands, Slovakia, and the U.K. telling that working with children and adults, desire for intellectual development, and making social contribution are the most cited reasons for entering the teaching profession. Contrary to this, in many different contexts, with regard to sociocultural varieties such as Brunei, Zimbabwe, Cameroon, and Jamaica, scholars found that salary, job security, and career status entitled with extrinsic motives are more important (Abangma, 1981; Bastick, 1999; Chivore, 1988; Yong, 1995). Evaluating these studies generally, Saban (2003) has found that primary pre-service teachers were motivated to teach by such altruistic motives as thinking of others and such extrinsic motives as having a job with regular income.

In brief, when the national and international teacher education literature is evaluated overall, it seems difficult to make a common generalization about which motivation types of pre-service teachers are more drawn than others to choose teaching as a career. However, it is possible to make a generalization as regards to socioeconomic development of a country. That is, according to Bastick (2000), pre-service teachers in developed societies choose teaching as a career with altruistic and intrinsic motives, but in developing or undeveloped societies, they choose teaching as a career with extrinsic or mercenary-based extrinsic motives.

Factors Influencing Pre-service Teachers' Motivation to Teach

Early teacher motivation research had common interests in initial teachers' motivation for career choice. Richards (1960) indicated that satisfaction and good preparation for family life were top reasons for entering teaching, and Fox (1961) listed four frequently nominated reasons: a desire to work with children or adolescents, a desire to impart knowledge, the opportunity to continue one's own education and service to society. These initiative findings have been repeatedly confirmed by subsequent studies conducted in different social educational contexts (e.g. Alexander, Chant, & Cox, 1994; Kyriacou & Coulthard, 2000; Richardson & Watt, 2006; Sinclair, 2008; Sinclair et al., 2006).

Report released by OECD (2005) verified that a desire to work with children and adolescents, the potential for intellectual fulfilment and a means to make social contribution frequently headed the list of reasons for entering teaching. However, Watt and Richardson (2008) also indicated that motivation for career choice could be framed by mixed factors within different sociocultural contexts, and different findings have been found as far as developing countries were concerned.

Method

Sample of the Study

By using random sampling technique, 600 first-year student teachers (300 males and 300 females) from Yangon University of Education (YUOE), Sagaing University of Education (SUOE) and University for the Development of the National Races of the Union (UDNR) were selected as the sample. Detailed lists of the participants are presented in table 1.

Table 1 Participants of the Study

No.	University	Male	Female	Total
1	YUOE	100	100	200
2	SUOE	100	100	200
3	UDNR	100	100	200
	Total	300	300	600

Instrumentation

The instrument used for this study was the FIT-Choice Scale (Factors Influencing Teaching Choice Scale) developed by Helen M. G. Watt and Paul W. Richardson in 2007. Firstly, the Scale was modified into Myanmar version and then expert review was made for face validity and content validity by 10 experienced teachers from the Department of Educational Psychology in the first week of November, 2018.

Next, in the second week of December, 2018, a pilot testing was conducted with 50 first-year student teachers from Yangon University of Education (YUOE) to determine whether the scale had clarity in Myanmar language and was appropriate and relevant to the student teachers or not.

Data Collection Procedure

For the actual data collection, the FIT-Choice Scale (Factors Influencing Teaching Choice Scale) was administered to the first-year student teachers from Yangon University of Education (YUOE), Sagaing University of Education (SUOE) and University for the Development of the National Races of the Union (UDNR) in the third week of December, 2018.

Data Analysis and Findings

Overall Motivations of Student Teachers for Choosing Teaching as a Career

The overall motivations of student teachers was examined according to the descriptive procedure. This finding showed that university student teachers were quite motivated to choose teaching career.

Table 2 Descriptive Statistics for the Overall Motivations of Student Teachers for Choosing Teaching as a Career

Factor	N	Mean	SD	Minimum	Maximum
Overall Motivations	600	152.92	13.246	89	195

Comparison of the Overall Motivations of Student Teachers by Gender

The means and standard deviations of the overall motivations of male and female student teachers were reported in table 3.

To make more detailed investigation on the gender difference of the overall motivations of student teachers, independent sample t-test was conducted. The result of t-test showed that the mean score of female student teachers was significantly higher than the mean score of male student teachers.

Table 3   Comparison of the Overall Motivations of Student Teachers by Gender

Factor	Gender	N	Mean	SD	*t*	*p*
Overall Motivations	Male	300	151.84	13.649	-1.999	**0.046**
	Female	300	154.00	12.762		

Comparison of the Overall Motivations of Student Teachers by University

The means and standard deviations of the overall motivations of student teachers from University 1, University 2 and University 3 were reported in table 4.

Next, to obtain more detailed information on the differences of the overall motivations of student teachers by university, one way analysis of variance was conducted. ANOVA results

showed that there was no significant university difference in the overall motivations of student teachers (see Table 4).

Table 4 Comparison of the Overall Motivations of Student Teachers by University

Factor	University	N	Mean	SD	F	*p*
Overall Motivations	**University 1**	200	153.81	12.386	0.903	0.406
	University 2	200	152.93	14.638		
	University 3	200	152.03	12.604		

Motivation Factors of Student Teachers for Choosing Teaching Career

Descriptive analyses revealed the differences in means and standard deviations of the motivation factors of student teachers for choosing teaching career (see Table 5).

Table 5 Descriptive Statistics for the Motivation Factors of Student Teachers for Choosing Teaching Career

Motivation Factors	N	Mean	SD	Mini	Max
Ability	600	8.21	1.614	3	12
Intrinsic Career Value	600	9.58	2.080	3	12
Fallback Career	600	5.18	1.882	3	12
Job Security	600	8.11	1.581	3	12
Time for Family	600	8.61	2.053	4	16
Job Transferability	600	7.38	1.469	3	12
Shape Future of Children/Adolescents	600	9.78	1.415	3	12
Enhance Social Equity	600	10.14	1.537	3	12
Make Social Contribution	600	10.34	1.406	3	12
Work with Children/Adolescents	600	8.29	1.822	3	12
Prior Teaching and Learning Experiences	600	9.15	1.625	3	12
Social Influences	600	6.64	1.886	3	12

Comparison of the Motivation Factors of Student Teachers for Choosing Teaching Career by Gender

The differences in means and standard deviations of the motivation factors of male and female student teachers were reported in table 6.

To obtain more detailed information for gender differences, independent sample t-test was conducted. The results of t-test stated that female student teachers reported significant higher levels of intrinsic career value, job security, make social contribution and positive prior teaching and learning experiences in their choice of teaching career than male student teachers.

Table 6 Comparison of the Motivation Factors of Student Teachers for Choosing Teaching Career by Gender

Motivation Factors	Gender	N	Mean	SD	*t*	*p*
Ability	Male	300	8.19	1.654	-0.379	0.705
	Female	300	8.24	1.576		
Intrinsic Career Value	Male	300	9.37	2.022	**-2.384***	**0.017**
	Female	300	9.78	2.122		
Fallback Career	Male	300	5.18	1.814	-0.065	0.948
	Female	300	5.19	1.951		
Job Security	Male	300	7.88	1.620	**-3.625***	**0.000**
	Female	300	8.34	1.510		

Motivation Factors	Gender	N	Mean	SD	t	p
Time for Family	Male	300	8.54	2.087	-0.815	0.415
	Female	300	8.68	2.019		
Job Transferability	Male	300	7.31	1.501	-1.223	0.222
	Female	300	7.45	1.436		
Shape Future of Children/Adolescents	Male	300	9.71	1.448	-1.096	0.273
	Female	300	9.84	1.381		
Enhance Social Equity	Male	300	10.11	1.518	-0.478	0.633
	Female	300	10.17	1.558		
Make Social Contribution	Male	300	10.22	1.428	**-2.038***	**0.042**
	Female	300	10.45	1.376		
Work with Children/Adolescents	Male	300	8.35	1.752	0.762	0.447
	Female	300	8.24	1.890		
Prior Teaching and Learning Experiences	Male	300	9.00	1.708	**-2.268***	**0.024**
	Female	300	9.30	1.527		
Social Influences	Male	300	6.50	1.976	-1.822	0.069
	Female	300	6.78	1.784		

Note: * Mean difference is significant at the 0.05 level.
        *** Mean difference is significant at the 0.001 level.

Comparison of the Motivation Factors of Student Teachers for Choosing Teaching Career by University

The differences in means and standard deviations of motivation factors of student teachers from University 1, University 2 and University 3 were reported in table 7. And, ANOVA results showed that significant differences were found in all motivation factors except ability, shape future of children/adolescents and work with children/adolescents among universities.

Table 7 Comparison of the Motivation Factors of Student Teachers for Choosing Teaching Career by University

Motivation Factors	University	N	Mean	SD	F	p
Ability	University 1	200	8.20	1.622	2.810	0.061
	University 2	200	8.04	1.708		
	University 3	200	8.42	1.447		
Intrinsic Career Value	University 1	200	9.85	1.834	**35.262***	**0.000**
	University 2	200	8.65	2.443		
	University 3	200	10.23	1.523		
Fallback Career	University 1	200	4.81	1.671	**17.459***	**0.000**
	University 2	200	5.81	2.263		
	University 3	200	4.95	1.471		
Job Security	University 1	200	8.12	1.477	**12.640***	**0.000**
	University 2	200	8.50	1.582		
	University 3	200	7.72	1.593		

Motivation Factors	University	N	Mean	SD	F	p
Time for Family	University 1	200	8.47	2.054	**5.254****	**0.005**
	University 2	200	8.99	2.176		
	University 3	200	8.38	1.874		
Job Transferability	University 1	200	7.41	1.484	**4.073***	**0.018**
	University 2	200	7.58	1.495		
	University 3	200	7.16	1.405		
Shape Future of Children/Adolescents	University 1	200	9.81	1.336	2.393	0.092
	University 2	200	9.61	1.603		
	University 3	200	9.92	1.275		
Enhance Social Equity	University 1	200	10.25	1.441	**5.607****	**0.004**
	University 2	200	9.85	1.614		
	University 3	200	10.32	1.516		
Make Social Contribution	University 1	200	10.63	1.246	**13.851*****	**0.000**
	University 2	200	9.93	1.574		
	University 3	200	10.46	1.287		
Work with Children/Adolescents	University 1	200	8.16	1.785	0.928	0.396
	University 2	200	8.40	1.957		
	University 3	200	8.33	1.716		

Table 7 Comparison of the Motivation Factors of Student Teachers for Choosing Teaching Career by University (Continued)

Motivation Factors	University	N	Mean	SD	F	p
Prior Teaching and Learning Experiences	University 1	200	9.42	1.608	**7.643****	**0.001**
	University 2	200	8.81	1.781		
	University 3	200	9.23	1.412		
Social Influences	University 1	200	6.59	1.993	**4.732****	**0.009**
	University 2	200	6.95	1.807		
	University 3	200	6.38	1.817		

Note: * Mean difference is significant at the 0.05 level.
** Mean difference is significant at the 0.01 level.
*** Mean difference is significant at the 0.001 level.

Table 8 Results of Tukey HSD Multiple Comparison for the Motivation Factors of Student Teachers for Choosing Teaching Career by University

Motivation Factors	(I) University	(J) University	Mean Difference (I-J)	p
Ability	University 3	University 2	**0.380***	**0.049**
Intrinsic Career Value	University 1	University 2	**1.205*****	**0.000**
	University 3		**1.585*****	**0.000**
Fallback Career	University 2	University 1	**1.000*****	**0.000**
		University 3	**0.860******	**0.000**
Job Security	University 1	University 3	**0.400***	**0.027**
	University 2	University 1	**0.380***	**0.039**
		University 3	**0.780*****	**0.000**
Time for Family	University 2	University 1	**0.525***	**0.028**
		University 3	**0.610****	**0.008**
Job Transferability	University 2	University 3	**0.415***	**0.013**

Motivation Factors	(I) University	(J) University	Mean Difference (I-J)	p
Enhance Social Equity	University 1	University 2	0.400*	0.024
	University 3		0.475**	0.005
Make Social Contribution	University 1	University 2	0.695***	0.000
	University 3		0.525***	0.000
Prior Teaching and Learning Experiences	University 1	University 2	0.615***	0.000
	University 3		0.420*	0.025
Social Influences	University 2	University 3	0.570**	0.007

Note: * Mean difference is significant at the 0.05 level.
      ** Mean difference is significant at the 0.01 level.
      *** Mean difference is significant at the 0.001 level.

To find the significant differences in the motivation factors of student teachers by university in detail, Tukey HSD test was conducted and it was clear that there was no significant difference in motivation factors of shape future of children/adolescents and work with children/adolescents among the universities.

Perception Factors About the Teaching Profession of Student Teachers

Descriptive analyses revealed the differences in means and standard deviations of perception factors about the teaching profession of student teachers (see Table 9).

Table 9 Descriptive Statistics for the Perception Factors About the Teaching   Profession of Student Teachers

Perception Factors	N	Mean	SD	Minimum	Maximum
Expertise	600	10.46	1.361	5	12
Difficulty	600	9.89	1.312	6	12
Social Status	600	19.71	2.415	6	24
Salary	600	4.33	1.291	2	8
Social Dissuasion	600	7.12	2.242	3	12

Comparison of the Perception Factors About the Teaching Profession of Student Teachers by Gender

The differences in means and standard deviations of perception factors about the teaching profession of student teachers by gender were reported in table 10.

Table 10 Comparison of the Perception Factors About the Teaching Profession of Student Teachers by Gender

Perception Factors	Gender	N	Mean	SD	t	p
Expertise	Male	300	10.40	1.433	-1.140	0.255
	Female	300	10.52	1.284		
Difficulty	Male	300	9.86	1.305	-0.591	0.555
	Female	300	9.93	1.319		
Social Status	Male	300	19.58	2.518	-1.370	0.171
	Female	300	19.85	2.304		
Salary	Male	300	4.21	1.239	-2.285*	0.023
	Female	300	4.45	1.332		
Social Dissuasion	Male	300	7.44	2.179	3.530***	0.000
	Female	300	6.80	2.261		

Note: * Mean difference is significant at the 0.05 level.
      *** Mean difference is significant at the 0.001 level.

The results of t-test showed that there were significant gender differences in perception factors of salary and social dissuasion (see Table 10). To be exact, male student teachers reported significant lower level of perception that teachers are well paid and reported significant higher level of social dissuasion than female student teachers.

Comparison of the Perception Factors About the Teaching Profession of Student Teachers by University

The differences in means and standard deviations of perception factors about the teaching profession of student teachers from University 1, University 2 and University 3 were reported in table 11.

To obtain more information for university differences, one way analysis of variance was conducted. ANOVA results showed that there were significant university differences in perception factors of difficulty, salary and social dissuasion of student teachers (see Table 11).

Table 11   Comparison of the Perception Factors About the Teaching Profession of Student Teachers by University

Perception Factors	University	N	Mean	SD	F	*p*
Expertise	University 1	200	10.36	1.314	1.632	0.196
	University 2	200	10.60	1.393		
	University 3	200	10.43	1.369		
Difficulty	University 1	200	10.23	1.291	**11.658*****	**0.000**
	University 2	200	9.84	1.286		
	University 3	200	9.62	1.290		
Social Status	University 1	200	19.82	2.321	2.791	0.062
	University 2	200	19.93	2.442		
	University 3	200	19.39	2.457		
Salary	University 1	200	4.12	1.245	**5.782****	**0.003**
	University 2	200	4.55	1.395		
	University 3	200	4.32	1.193		
Social Dissuasion	University 1	200	7.62	2.279	**7.739*****	**0.000**
	University 2	200	6.93	2.311		
	University 3	200	6.81	2.051		

Note: ** Mean difference is significant at the 0.01 level.
        *** Mean difference is significant at the 0.001 level.

To find the significant differences in perception factors about the teaching profession of student teachers by university in detail, Tukey HSD test was conducted and it was clear that student teachers from University 1 reported a significant higher level in perception factors of difficulty and social dissuasion than student teachers from University 2 and University 3. Then, student teachers from University 2 held significant higher level in perception factors of salary that teachers are well paid than student teachers from University 1. But, there was no perception factors in which the perception level of student teachers from University 3 was higher than those of student teachers from University 1 and University 2.

Table 12 Results of Tukey HSD Multiple Comparison for the Perception Factors About the Teaching Profession of Student Teachers by University

Perception Factors	(I) University	(J) University	Mean Difference (I-J)	p
Difficulty	University 1	University 2	.390**	0.007
		University 3	.615***	0.000
Salary	University 2	University 1	.435**	0.002
Social Dissuasion	University 1	University 2	.685**	0.006
		University 3	.810**	0.001

Note: ** Mean difference is significant at the 0.01 level.

   *** Mean difference is significant at the 0.001 level.

Career Choice Satisfaction of Student Teachers

Descriptive analyses revealed the mean and standard deviation of the career choice satisfaction of student teachers (see Table 13). It was clearly seen that the career choice satisfaction level of student teachers was relatively high.

Table 13 Descriptive Statistics for the Career Choice Satisfaction of Student Teachers

Factor	N	Mean	SD	Minimum	Maximum
Career Choice Satisfaction	600	9.94	1.756	3	12

Comparison of the Career Choice Satisfaction of Student Teachers by Gender

The difference in mean and standard deviation of the career choice satisfaction of student teachers by gender was reported in table 14.

To obtain more detailed information for gender difference, independent sample t-test was conducted. The results of t-test showed that there was no significant gender difference in the career choice satisfaction of student teachers (see Table 14).

Table 14 Comparison of the Career Choice Satisfaction of Student Teachers by Gender

Factor	Gender	N	Mean	SD	t	p
Career Choice Satisfaction	Male	300	9.88	1.778	-0.884	0.377
	Female	300	10.01	1.733		

Comparison of the Career Choice Satisfaction of Student Teachers by University

The differences in means and standard deviations of the career choice satisfaction of student teachers by university were reported in table 15.

To obtain more information for university differences, one way analysis of variance was conducted. ANOVA results showed that there were significant differences in the career choice satisfaction of student teachers from the three universities (see Table 15).

Table 15 Comparison of the Career Choice Satisfaction of Student Teachers by University

Factor	University	N	Mean	SD	F	p
Career Choice Satisfaction	University 1	200	10.23	1.659	11.225***	0.000
	University 2	200	9.48	2.108		
	University 3	200	10.13	1.322		

Note: *** Mean difference is significant at the 0.001 level.

To find the significant differences in career choice satisfaction of student teachers by university in detail, Tukey HSD test was conducted. The result showed that the career choice satisfaction levels of student teachers from University 1 and University 3 were higher than those of student teachers from University 2.

Table 16 Results of Tukey HSD Multiple Comparison for the Career Choice Satisfaction of Student Teachers by University

Factor	(I) University	(J) University	Mean Difference (I-J)	*p*
Career Choice Satisfaction	University 1	University 2	.755***	0.000
	University 3		.650**	0.001

Note: ** Mean difference is significant at the 0.01 level.
        *** Mean difference is significant at the 0.001 level.

Relationship Between Motivation Factors for Choosing Teaching Career and Career Choice Satisfaction of Student Teachers

The career choice satisfaction of student teachers was significantly and positively correlated with their perceived teaching ability, intrinsic career value of teaching, the desire to shape future of children and adolescents, the desire to enhance social equity, the desire to make social contribution, the desire to work with children and adolescents, having positive prior teaching and learning experiences and then negatively correlated with choosing teaching as a fallback career and time for family. But career choice satisfaction of student teachers was not significantly correlated with job security, job transferability and social influences in their choice of teaching career. Therefore, in order to explore the impact of motivation factors for choosing teaching career to career choice satisfaction of student teachers, multiple regression analysis was conducted.

Table 17 Multiple Regression Analysis Between Motivation Factors for Choosing Teaching Career and Career Choice Satisfaction of Student Teachers

	Unstandardized Coefficient (B)	Standardized Coefficient (β)	R	R²	Adjusted R²	t
Constant	3.512		.693	.481	.473	**6.276***
A	.031	.028				.745
ICV	.324	.384				**9.343***
FC	-.126	-.135				**-3.600***
TFF	-.015	-.017				-.496
SFCA	.008	.006				.147
ESE	.092	.081				1.889
MSC	.109	.088				1.929
WCA	-.009	-.009				-.269
PTLE	.195	.180				**4.599***

Note: *** Correlation is significant at the 0.001 level.

Constant = Career Choice Satisfaction, A = Ability, ICV = Intrinsic Career Value,

FC = Fallback Career, TFF = Time for Family,

SFCA = Shape Future of Children/Adolescents, ESE = Enhance Social Equity,

MSC = Make Social Contribution, WCA = Work with Children/Adolescents,
PTLE = Prior Teaching and Learning Experiences

The results showed that motivation factors of intrinsic career value, fallback career and prior teaching and learning experiences were significant predictors of the career choice satisfaction of student teachers. Although intrinsic career value and prior teaching and learning experiences were significant predictors in positive direction, the factor fallback career was in negative direction. The produced multiple regression equation for the relationship between motivation factors of intrinsic career value, fallback career and prior teaching and learning experiences and the career choice satisfaction of student teachers was:

$$CCS = 3.512 + 0.324 \ ICV - 0.126 \ FC + 0.195 \ PTLE$$

Note: CCS = Career Choice Satisfaction
ICV = Intrinsic Career Value
FC = Fallback Career
PTLE = Prior Teaching and Learning Experiences

Relationship Between Perception Factors About the Teaching Profession and Career Choice Satisfaction of Student Teachers

The career choice satisfaction of student teachers was positively correlated with their perception factors of teaching as an expertise career, difficulty, social status and social dissuasion. But there was no significant correlation between career choice satisfaction of student teachers and their perception factor of salary. Therefore, in order to explore the impact of the perception factors to the career choice satisfaction of student teachers, multiple regression analysis was conducted.

Table 18 Multiple Regression Analysis Between Perception Factors About the Teaching Profession and Career Choice Satisfaction of Student Teachers

	Unstandardized Coefficient (B)	Standardized Coefficient (β)	R	R^2	Adjusted R^2	*t*
Constant	4.033		.324	.105	.099	**5.555*****
E	.154	.119				**2.704****
D	.064	.047				1.079
SS	.157	.216				**4.930*****
SD	.082	.104				**2.664****

Note: ** Correlation is significant at the 0.01 level.
       *** Correlation is significant at the 0.001 level.

Constant = Career Choice Satisfaction, E = Expertise, D = Difficulty, SS = Social Status, SD = Social Dissuasion

The results showed that perception factors of expertise, social status and social dissuasion were significant predictors of the career choice satisfaction of student teachers. The produced multiple regression equation for the relationship between the perception factors of expertise, social status and social dissuasion and the career choice satisfaction of student teachers was:

$$CCS = 4.033 + 0.154 \ E + 0.157 \ SS + 0.082 \ SD$$

Note: CCS = Career Choice Satisfaction
E = Expertise
SS = Social Status
SD = Social Dissuasion

Conclusion

Conclusion, Discussion and Recommendations

Firstly, this study examined the overall motivations of student teachers on gender and university basis. By gender, the result revealed that female student teachers were more motivated to choose teaching career than male student teachers. This finding was supported by the mean score of intrinsic career value of female student teachers in which the mean score of female student teachers was greater than males. But, the result showed that the participated student teachers from the three universities were similarly motivated to choose teaching career.

Secondly, this study determined the motivation factors of student teachers for choosing teaching career by gender and university. By gender, the results showed that the reasons of intrinsically loving teaching, job security and the desire to make social contribution of female student teachers were more influential in their career choice than those of male student teachers. In addition to this, female student teachers had more positive prior teaching and learning experiences than male student teachers. Therefore, educators and counsellors from universities of education need to motivate male student teachers to love, value and be proud of the teaching profession.

By university, the results revealed that there were significant differences in motivation factors of ability, intrinsic career value, fallback career, job security, time for family, job transferability, enhance social equity, make social contribution, prior teaching and learning experiences and social influences among the three universities. Therefore, this study highlights that geographical location significantly impacts the motivations of student teachers to choose teaching career. So, educators from these universities need to motivate their student teachers to respect, love and value their profession.

Thirdly, this study further investigated the perception factors about the teaching profession of student teachers by gender and university. By gender, there were significant differences in the perception factors of salary and social dissuasion. This results showed that the perception level of male student teachers that teachers are well paid was lower than the perception level of female student teachers. Moreover, male student teachers experienced a rather high level of social dissuasion from teaching as a career than female student teachers. Therefore, to recruit and retain more male teachers in the teaching profession permanently, authorities had to considerate the salary scales of male teachers. And experts must educate the people of the country to know that teaching profession needs a paramount amount of male teachers for the ideal of the children. By university, the results revealed that there were significant differences in perception factors of difficulty, salary and social dissuasion among the three universities.

Fourthly, this study found out the career choice satisfaction of student teachers on gender and universities basis. By gender, there was no significant difference between the career choice satisfaction of male and female student teachers. But by university, the result showed that student teachers from University 1 and University 3 were more satisfied with their choice of teaching as a career than student teachers from University 2.

Finally, the results of correlation analysis showed that all motivation factors, except job security, job transferability and social influences, and all perception factors, except salary factor, were correlated with the career choice satisfaction of student teachers. Finally, multiple regression analyses revealed that motivation factors of intrinsic career value, fallback career and

prior teaching and learning experiences and perception factors of expertise, social status and social dissuasion were the best predictors of the career choice satisfaction of student teachers.

Limitations and Future Research

First, the research institutions were limited to Yangon University of Education (YUOE), Sagaing University of Education (SUOE) and University for the Development of the National Races of the Union (UDNR) and participants were only 600 first-year student teachers from these universities. Therefore, student teachers from other teacher education institutions and a larger sample size should also be included in this study for the generalizability of the findings. Second, only quantitative research design and self-report questionnaire survey method were used in this study. Therefore, qualitative research such as interview questions is also necessary. Third, in addition to gender and university, other demographic factors should also be taken into consideration. Finally, motivations of student teachers for choosing teaching career should also be studied in relation to other variables.

A longitudinal study is required to understand deeply how the motivations of student teachers change throughout their training years. Then, the limited study institutions pointed out the necessity to conduct a national wide study to find out the differences in motivations of student teachers from universities and student teachers from education colleges. Moreover, more researches are required which investigate motivations of student teachers in relation to different characteristics such as parents' education levels, parents' occupations, parents' income, different specialism and rank of their preference of teaching as a profession.

Acknowledgements

References

Abangma, M. A. (1981). *A study of primary teachers' attitudes towards realisation of school curriculum in English speaking Cameroon*. Unpublished doctoral dissertation, University of London, London.

Alexander, D., D. Chant, & B. Cox, (1994). What motivates people to become teachers. *Australian Journal of Teacher Education*, *19*(2), 40-49.

Bastick, T. (1999). A motivation model describing the career choice of teacher trainees in Jamaica. *Biannual conference of the international study association in teachers and teaching*. Dublin, Ireland.

Bastick, T. (2000). Why teacher trainees choose the teaching profession: Comparing trainees in metropolitan and developing countries. *International Review of Education*, *6*(3), 343-349.

Bilim, I. (2014). Pre-service elementary teachers' motivations to become a teacher and its relationship with teaching self-efficacy. *Procedia-Social and Behavioral Sciences*, *152*(2014), 653-661.

Brookhart, S. M., & D. J. Freeman, (1992). Characteristics of entering teacher candidates. *Review of Educational Research*, *62*(1), 37-60.

Chivore, B. S. R. (1988). A review of factors that determine the attractiveness of teaching profession in Zimbabwe. *International Review of Education*, *34*(1), 59-77.

Fox, R. B. (1961). Factors influencing the career choice of prospective teachers. *Journal of Teacher Education, 12*(4), 427-432. Retrieved October 22, 2018, from http://dx.doi.org/10.1177/002248716101200410

Harmon-Jones, E., & C. Harmon-Jones, (2010). On the relationship of trait PANAS positive activation and trait anger: Evidence of a suppressor relationship. *Journal of Research in Personality, 44*(1), 120-123.

Heinz, M. (2015) 'Why choose teaching? An international review of empirical studies exploring student teachers career motivations and levels of commitment to teaching'. Educational Research and Evaluation: *An International Journal on Theory and Practice*, 21(3), 258-297.

Kyriacou, C., & M. Coulthard, (2000). Undergraduates' views of teaching as a career choice. *Journal of Education for Teaching*, 26(2), 117-126.

Organisation for Economic Co-operation and Development. (2005). *Attracting, developing and retaining effective teachers-final report: Teachers matter*. Retrieved November 18, 2018, from http://www.oecd. org/edu/school/attractingdevelopingandretainingeffecti veteachersfinalreportteachersmatter.htm.

Oxford living dictionaries online. (2018). Retrieved October 10, 2018, from https://en.oxfordd ictinoaries. com/ definition/career

Richardson, P.W., & H. M. G. Watt, (2006). Who chooses teaching and why? Profiling characteristics and motivations across three Australian universities. *Asia-Pacific Journal of Teacher Education, 34*(1), 27-56.

Richards, R. (1960). Prospective students' attitudes toward teaching. *Journal of Teacher Education*, 11(3), 375-380. Retrieved October 14, 2018, from http://dx.doi.org/10.1177/002248716001100314

Saban, A. (2003). A Turkish profile of prospective elementary school teachers and their views of teaching. *Teaching and Teacher Education*, 19(8), 829-846.

Sinclair, C. (2008). Initial and changing student teacher motivation and commitment to teaching. *Asia-Pacific Journal of Teacher Education*, 36(2), 79-104.

Sinclair, C., M. Dowson, & D. Mcinerney, (2006). Motivations to teach: Psychometric perspectives across the first semester of teacher education. *Teachers College Record*, 108(6), 1132–1154.

Student teachers. (2018). Retrieved November 13, 2018, from Wikipedia: https://en.m. wikipedia.org/ wiki/ Student_teacher

Topkaya, E. Z., & M. S. Uztosun, (2012). Choosing teaching as a career: Motivations of pre-service English teachers in Turkey. *Journal of Language Teaching and Research*, 3(1), 126-134.

Watt, H. M. G., & P. W. Richardson, (2007). Motivational factors influencing teaching as a career choice: Development and validation of the FIT-Choice scale. *Journal of Experimental Education*, 75(3), 167-202.

Watt, H. M. G., & P. W. Richardson, (2008). Motivation for teaching. *Learning and Instruction*, 18(5), 405-407. Retrieved November 25, 2018, from http://dx.doi.org/10.1016/j.learninstruc.2008.06.009

Yong, B. C. (1995). Teacher trainees' motives for entering into a teacher career in Brunei Darussalam. *Teaching and Teacher Education*, 11(3), 275-280.

DEVELOPING EMOTIONAL INTELLIGENCE SCALE FOR STUDENT TEACHERS

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Abstract

The main purpose of this study was to develop the new Emotional Intelligence Scale (EIS) for student teachers by applying one-parameter logistic model of item response theory (IRT). A total of 1200 student teachers from Yangon University of Education and Sagaing University of Education were selected by equal-sized stratified random sampling technique. The emotional intelligence scale was used as a research instrument. Descriptive research design and quantitative survey method were used in this study. According to confirmatory factor analysis, 59 items: 16 items in Empathy Social Awareness, 17 items in Self-Regulation, 18 items in Self-Awareness/Optimism and 8 items in Managing Emotions were left in the Emotional Intelligence Scale. Moreover, it was found that this scale would be most suitable for the examinees whose ability ranges from -3.5 to +1.5 and it would provide the maximum information at ability (θ) is -1.4. Finally, the new Emotional Intelligence Scale (EIS) for student teachers was developed with 33 items under four dimensions such as Empathy Social Awareness, Self-Regulation, Self-Awareness/ Optimism and Managing Emotions.

Keywords: Emotional Intelligence, Item Response Theory

Introduction

Importance of the Study

Teachers play a pivotal role in developing education system that generates all round development and good citizens. In 1998, Kennedy has pointed out that outcomes of education are affected by the quality of the teaching work force. So, teachers are considered to be the major transmitter of accumulated knowledge and experience of human race, from generation to generation. Not only in-service teachers but also prospective teachers have to possess good qualities and qualifications as much as possible.

To be qualified teachers, they need to be not only academically sound in each respective subject but also known thoroughly classroom management, teaching methodology, and educational psychology such as human behavior, emotion, feeling, etc. It is important that the quality of teachers, the attitudes towards their teaching, their feelings and emotions towards others as well as their jobs require being good and positive. As they would deal with students, parents, colleagues and others, it is important to control their feelings and emotions to be successful in their jobs. They are also role models of their students. They need to control their emotions, feelings and behaviors as well as of their pupils.

Teaching is an emotional practice that involves emotional relationships, emotional understanding and emotional labor. Therefore, it requires teachers to become more efficient role models in terms of emotional intelligence. Emotional intelligence may be more important than conventional IQ. The belief that success of people at work is mainly due to professional knowledge and skills related to IQ has become less prominent since the concept of emotional intelligence became popular and increasingly prevalent as the best predictor of people's success.

Therefore, it is important to investigate the emotional intelligence of student teachers. However, there has been no study investigating the emotional intelligence of student teachers in Myanmar. Moreover, there has been no Emotional Intelligence Scale free from any biased items

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to assess the emotional intelligence of student teachers. On account of these reasons mentioned above, it needs to develop the new Emotional Intelligence Scale (EIS) that free from any biased items for student teachers.

Purpose of the Study

The primary purpose of this study was to develop new Emotional Intelligence Scale (EIS) which will accurately represent the emotional intelligence of student teachers in Myanmar regardless of gender and region groups.

Definitions of Key Terms

The following definitions of the key terms were used in this study.

*Emotional intelligence*refers to the capacity of recognizing one's own feelings and those of others, for motivating ourselves and for managing emotions well in us and in our relationships (Goleman, 1998).

Item response theory (IRT) is a general statistical theory about examinee item and test performance and how test performance relates to the abilities that are measured by the item in the test (Hambleton& Jones, 1993).

Review of Related Literature

Emerging Emotional Intelligence

Over the past century, psychologists studying intelligence remained focused on its cognitive aspect. Intelligence quotients (IQs) were developed and used during the initial part of the 20th century as measures of intelligence. French psychologist Alfred Binet pioneered the modern intelligence testing movement in developing a measure of mental age in children, a chronological age that typically corresponds to a given level of performance (Myers, 1998). More modern studies linked a person's IQ with their potential for success in general as well as with elements such as leadership success (Lord, DeVader & Alliger, 1986). However, the validityof the general academic measure of IQ was soon challenged on the grounds that it did not consider situational factors such as environment or cultural setting when predicting achievement (Riggio, Murphy & Pirozzolo, 2002). Theorists began to hypothesize that perhaps cognitive intelligence as measured by IQ tests did not encompass intelligence in its entirety, but that perhaps several types of intelligences could coincide within one person.

Since the last two decades a new dimension of intelligence, termed as emotional intelligence, has received much attention as being more responsible for success than IQ (Goleman, 1995). Goleman (1998) has asserted that the old yardstick of judgment, that is training and expertise, has been substituted by the new yardstick that judges how well the people handle themselves and how well they handle others. The new rules of the world of work focus on personal qualities such as empathy, initiative, adaptability and persuasiveness, taking intellectual ability and technical expertise for granted. Moreover, recent research has revealed that the cognitive ability is not the only predictor of performance rather affective development is an equally important predictor of success (Nasir & Masrur, 2010).

Specifically, a broadened notion of intelligence considers abilities in domains beyond cognition such as competencies and skills in social and emotional domains. In this connection, emotional intelligence or EQ (emotional quotient) has gained popularity among the lay public, highlighting the importance of an individual's development in managing self-relevant and others' emotions.

Popular Models of Emotional Intelligence

Early theorists such as Thorndike and Gardner paved the way for the current experts in the field of emotional intelligence. Each theoretical paradigm conceptualizes emotional intelligence from one of two perspectives: ability or mixed model.

Ability models define emotional intelligence as a set of mental abilities and makes claims about the importance of emotional information and the potential uses of reasoning well with that information. *Mixed models* of emotional intelligence combine mental ability with personality characteristics such as optimism and well-being.

In 1990, Peter Salovey and John Mayer first coined the term "emotional intelligence" and continued to conduct research on the significance of the construct. Mayer and Salovey's conception of emotional intelligence is based within a model of intelligence, that is, it strives to define emotional intelligence within the confines of the standard criteria for a new intelligence (Mayer, Salovey, Caruso &Sitarenios, 2003). It proposes that emotional intelligence is comprised of two areas: experiential and strategic. Each area is further divided into two branches that range from basic psychological processes to more complex processes integrating emotion and cognition. Experiential emotional intelligence can be divided into emotional perception and emotional assimilation and strategic emotional intelligence can be differentiated into emotional understanding and emotional management.

Bar-On developed one of the first measures of emotional intelligence that used the term "Emotion Quotient". Bar-On's model of emotional intelligence relates to the *potential* for performance and success, rather than performance or success itself, and is considered process-oriented rather than outcome-oriented (Bar-On, 2002). In his model, Bar-On outlines five components of emotional intelligence: intrapersonal, interpersonal, adaptability, stress management, and general mood.

Goleman discovered the work of Salovey and Mayer in the 1990's. Inspired by their findings, he began to conduct his own research in the area and eventually wrote *Emotional Intelligence* (1995), the landmark book which familiarized both the public and private sectors with the idea of emotional intelligence. Goleman's model outlines four main emotional intelligence constructs such as self-awareness, self-management, social awareness and relationship management.

Item Response Theory (IRT)

Item Response Theory (IRT) is a system of models that defines one way of establishing the correspondence between latent variables and their manifestations. Item Response Theory (IRT) is a collection of models that provide information about the properties of items and the scales they comprise through the analysis of individual item responses. The goal of item response theory is to provide both invariant item statistics and ability estimates. This feature will be obtained when there is a reasonable fit between the chosen model and the data set (Hambleton & Swaminathan, 1990). Item Response Theory (IRT) is used for the design of test, test assembly, test scaling and calibration, construction of test item banks, investigation of test item bias and other common procedures in the test development process. The central feature of IRT is the mathematical model on relating of how examinees at different ability levels on the trait should respond to an item.

There are three popular models of item response theory (IRT). They are

1. One-parameter logistic model (1-PLM) or Rasch Model
2. Two-parameter logistic model (2-PLM) and
3. Three-parameter logistic model (3-PLM).

In the Rasch or one-parameter model (1-PLM), the probability of a student answering a question correctly is defined as a function of the student's ability and the difficulty of the items employed in a test, without taking into consideration either the item discrimination parameter or a guessing factor associated with each item.Inthe two-parameter logistic model (2-PLM), a student's probability of answering a question correctly is a function of the student's ability and item difficulty after taking into consideration the item discrimination, but not the chance or guessing factor associated with each item. Item discrimination describes how well an item can differentiate between examinees having abilities below the item location and those having abilities above the item location.

In the three-parameter logistic model (3-PLM), the probability of a correct response is a function on the two parameters described for the one- and two-parameter logistic models, as well as a chance of scoring or guessing factor associated with each item. This parameter provides a (possibly) nonzero lower asymptote for the item characteristic curve and represents the probability of examinees with low ability answering the item correctly (Hambleton et al., 1991).

Moreover, the item and test information functions of IRT have applications in test construction, item selection, assessment of precision of measurement, comparison of tests, determination of scoring weights, and comparison of scoring methods (Hambleton & Swaminathan, 1990).The item information function depends on the slope of the item response function and the conditional variance at each ability level, θ. The greater the slope and the smaller the variance, the greater the information, and, hence, the smaller the standard error measurement.

One of the useful features of item information functions is that the contribution of each item to the test information function can be determined independently of the other items in the test.One of the most features of the test information function is that the contribution of each item to the test information function is additive. Thus, the effect of each item and its impact on the total test can be readily determined. Such a feature is highly desirable in test development work.

Method

Sample of the Study

In order to obtain the required data, the sample of student teachers to be tested was selected from Yangon University of Education (YUOE) and Sagaing University of Education (SUOE). The participants were 600 from YUOE and 600 from SUOE. A total of 1200 student teachers from first year, second year, third year, fourth year and fifth year participated in this study. Out of 1200 student teachers, 600 (50%) were males and 600 (50%) were females. The student teachers participated in this study were selected by using equal-sized stratified sampling method.

Instrumentation

In this study, the emotional intelligence questionnaire from leadership toolkit, the emotional intelligence questionnaire modified by Suzanne Farmer et al. (2013), the emotional intelligence rating scale developed by Sumita Rao (n.d.) and the emotional intelligence scale

developed by Aye Aye Aung (2015) were adapted and applied to measure the emotional intelligence ability of student teachers. The Emotional Intelligence Scale consists of 110 items: self-awareness/optimism (36 items), self-regulation (43 items), empathy social awareness (12 items) and managing emotions (19 items) with Four-point Likert Scale ranging from 1 (strongly disagree) to 4 (strongly agree).

Procedure

Before conducting data collection, preliminary test administration was done. As research instrument, the Emotional Intelligence Scale was used in this study. The whole scale of Emotional Intelligence Scale (EIS) indicated satisfactory internal consistency with Cronbach's alpha of **0.92**. For each subscale of EIS such as Self-Awareness/Optimism, Self-Regulation, Empathy Social Awareness, and Managing Emotions, the internal consistency values are **0.84, 0.84, 0.80** and **0.72** respectively. So, it was evident that Emotional Intelligence Scale (EIS) has high reliability to measure the student teachers' emotional intelligence. The field test study was carried out with 110 items of Emotional Intelligence Scale to 1200 student teachers from first year, second year, third year, fourth year and fifth year of YUOE and SUOE.

Data Analysis and Findings

The Confirmatory Factor Analysis for Emotional Intelligence Scale

In order to establish the four factors structure of the Emotional Intelligence Scale such as Empathy Social Awareness, Self-Regulation, Self-Awareness/Optimism and Managing Emotions, confirmatory factor analysis was used. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.94. It was above the recommended value of 0.7 that is indicating that there were enough items for each factor. And Bartlett's Test of Sphericity was significant ($p < .000$); this means that the variables are correlated highly enough to provide a reasonable basis for factor analysis. The four factors also have eigenvalues (a measure of explained variance) greater than 1.0, which is a common criterion for a factor to be useful. Finally, factor analysis was conducted with 59 items: empathy social awareness (16 items), self-regulation (17 items), self-awareness/ optimism (18 items) and managing emotions (8 items).

Checking the Assumption of Unidimensionality

After collecting the required data, a set of test items is checked whether there is a reasonable fit between the chosen model and the data set to develop the Emotional Intelligence Scale by applying the one-parameter logistic IRT model. A common assumption of IRT models is to hold unidimensionality. In order to investigate this assumption, a principal factor analysis was conducted with SPSS software package. Figure 1 clearly shows the dominance of the first factor. The largest eigenvalue of the 59 items is over three times larger than the second largest eigenvalue, and the second largest eigenvalue is not much more than the smaller ones. Therefore, it can be concluded that this test hold the assumption of unidimensionality. Thus, it can be said that the test data satisfy the assumption of unidimensionality. When the assumption of unidimensionality is true, local independence is obtained: in this sense, the two concepts are equivalent (Lord, 1980).
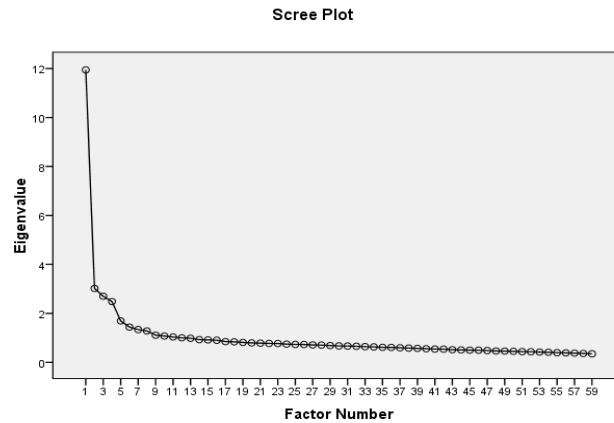
Scree Plot

Figure 1 A Scree Plot of Eigenvalues for 59 Items of Emotional Intelligence Scale

Item Parameter Estimation for Developing New Emotional Intelligence Scale

After exploring the DIF items based on gender and region groups, new Emotional Intelligence Scale (EIS) was developed by using one-parameter logistic IRT model. The items with the difficulty '*b*' values within -3 to +3 were expected to be selected (Aye Aye Myint, 2000 cited in Aye Aye Aung, 2015). In order to develop new scale, out of the 59 items, the items which were not in the range of difficulty value -3.00 and +3.00 and gender and region DIF items were removed from the Emotional Intelligence Scale. Finally, there were only 33 items left in the new Emotional Intelligence Scale (EIS) for the student teachers.It was found that the item difficulty parameter (*b*) values were from -2.85 to +2.93 and the mean of these estimates is -0.66. There are 10 items of positive *b* values and 23 items of negative *b* values. It was found that 69.70% of the items were negative b values, so it was concluded that the scale is relatively easy for the group. However, the Emotional Intelligence Scale can measure to some extent for both average and high EI levels.

Item Information Function and Test Information Function

Item information functions can play an important role in test development and item evaluation in that they display the contribution items make to ability estimation at points along the ability continuum (Hambleton et al., 1991). The test information function was calculated to know accurately the maximum amount of information obtained from the scale. The amount of information provided by a set of test items at an ability level is inversely related to the error associated with ability estimates at the ability level (Hambleton & Swaminathan, 1990). The steeper the slope, the smaller the item variance, thus, the greater the information will be provided. The IICs and TIC of the new Emotional Intelligence Scale (EIS) with 33 items are illustrated in figure 2 and 3.
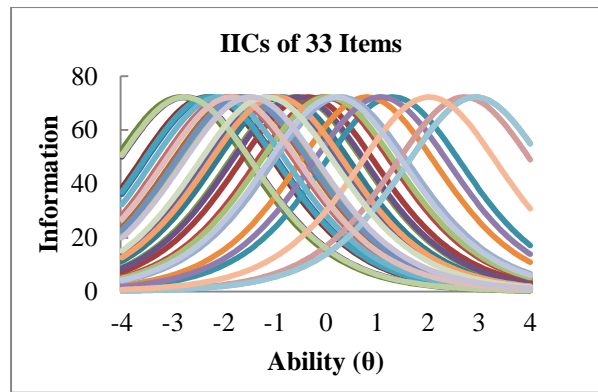
Figure 2 Item Information Curves for the New Emotional Intelligence Scale (EIS) with 33 Items
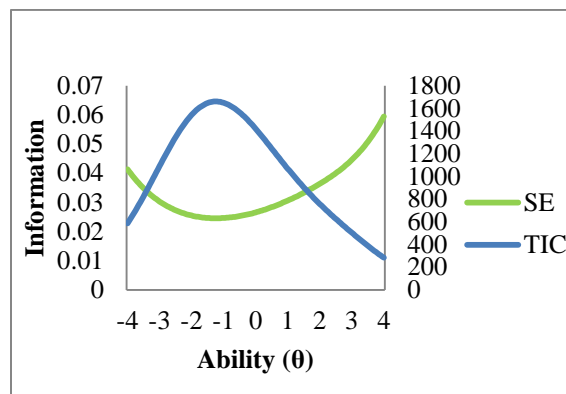
Figure 3   Test Information Curve for the New Emotional Intelligence Scale (EIS) with 33 Items

The TIC shows that the smaller standard error across the ability scale lies between the ability range of -3.5 to +1.5 and the both ends of the scale have larger standard errors. So, it was found that the Emotional Intelligence Scale will be most suitable for student teachers whose ability (θ) range is from -3.5 to +1.5, but it cannot provide enough information for the student teachers whose ability levels are higher than +1.5 (above θ = +1.5) and lower than -3.5 (below θ = -3.5). In this scale, the maximum amount of information was I (θ) = 1654.59 at θ = -1.4. Thus, it was observed that this test would provide the highest information for the student teachers who lie on ability level (θ) at -1.4.

Ability Parameter Estimation

In addition, the participants' raw scores and their ability scores were also investigated. The range of ability estimates was from -4.00 (the lowest ability score) to +4.00 (the highest ability score) and the mean of the ability was +0.03.

Conclusion and Suggestion

The main purpose of this study was to develop the new Emotional Intelligence Scale (EIS) for student teachers by applying one-parameter logistic model of item response theory (IRT). In order to develop the new EIS, the confirmatory factor analysis, checking the assumption of unidimensionality and item and ability parameters estimations were carried out.

According to the result of confirmatory factor analysis, 59 items were left in the Emotional Intelligence Scale. There were 16 items in Empathy Social Awareness, 17 items in Self-Regulation, 18 items in Self-Awareness/ Optimism and 8 items in Managing Emotions. Then, the result of the assumption of unidimesionality also showed that there was a reasonable fit between the chosen model and the data set.

Moreover, item and ability parameters estimation for new Emotional Intelligence Scale (EIS) was carried out with 1-PL model. Then, items with the difficulty parameter value between -3.00 to +3.00 were chosen for the new Emotional Intelligence Scale (EIS). Finally, there were 33 items: six items in Empathy Social Awareness, sixteen items in Self-Regulation, four items in Self-Awareness/Optimism and seven items in Managing Emotions in new Emotional Intelligence Scale (EIS) for student teachers. These items were free from bias against gender and region and their difficulty range was from -3.00 to +3.00.

Besides, it was found that the new Emotional Intelligence Scale (EIS) will be most suitable for student teachers whose ability (θ) range is from -3.5 to +1.5, but it cannot provide enough information for the student teachers whose ability levels are higher than +1.5 (above $\theta = +1.5$) and lower than -3.5 (below $\theta = -3.5$). In this scale, the maximum amount of information was I (θ) = 1654.59 at $\theta = -1.4$. Thus, it was observed that this test would provide the highest information for the student teachers whose ability level lie at (θ) = -1.4. This new Emotional Intelligence Scale (EIS) can be useful in measuring the emotional intelligence of student teachers in Myanmar.

Acknowledgements

References

Aye AyeAung. (2015). *An assessment of emotional intelligence impact on teachers' job performance*. Unpublished doctoral dissertation, Yangon University of Education, Myanmar.

Bar-On, R. (2002). *Bar-On emotional quotient inventory (EQ-i): Technical manual.* Toronto, Canada: Multi-Health Systems.

Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ.* New York: Bantam Books.

Goleman, D. (1998). *Working with emotional intelligence.*New York: Bantam Dell.

Hambleton, R. K., & Jones, R. W. (1993).Comparison of classical test theory and item response theory and their applications to test development.*ITEMS. Instructional Topics in Educational Measurement, 38-47*.

Hambleton, R. K., & Swaminathan, H. (1990).*Item response theory: Principles and applications*. Norwell: Kluwer Academic Publishers.

Hambleton, R. K., Swaminathan, H., & Roger, H. J. (1991).*Fundamentals of item response theory*. London: Sage Publications, Inc.

Lord, F. M. (1980). *Applications of item response theory to practical testing problems*. New Jersey: Lawrence Erlbaum Associates, Inc.

Lord, R. G.., DeVader, C. L., &Alliger, G. M. (1986). A meta-analysis of the relationship between personality traits and leadership perceptions: An application of validity and generalisation procedures. *Journal of Applied Psychology, 71*, 402-410.

Mayer, J. D., Salovey, P., & Caruso, D., & Sitarenios, G. (2003).Measuring emotional intelligence with the MSCEIT V2.0.*Emotion, 3,* 97-105.

Myers, D. G. (1998).*Psychology. 5th ed*. NY: Worth Publishers.

Nasir, M., & Masrur, R. (2010).An exploration of emotional intelligence of the students of IIUI in relation to gender, age and academic achievement.*Bulletin of Education and Research, 32(1), 37-51*.

Riggio, R. E., Murphy, S.E., & Pirozzolo, F. J. (Eds.).(2002). *Multiple intelligences and leadership*. Mahwah, N. J.: Lawrence Earlbaum Associates.

CONSTRUCTING A COMPUTER-BASED ENGLISH TEST FOR MIDDLE SCHOOL STUDENTS

Wint Wah Tun[1] and Nu Nu Khaing [2]

Abstract

The main purpose of this study was to construct a Computer-based English test for Middle School Students. To achieve the purpose of the study, three alternate forms of Grade 9 English achievement tests were first constructed according to the table of specifications. Each test contained 50 multiple-choice items. The sample were randomly selected from Yangon Region by using Quantitative survey research design. The sample size of totally 1514 students from eleven high schools participated in this study. According to the results, it can be assumed that the tests were neither too easy nor too difficult for students and they also discriminated well among examinees with different abilities. In order to compare the students' results, norm-tables were constructed by transforming raw scores to scaled scores. The norm tables can help the teachers to interpret the achievement levels of the students, even the students administered different forms of tests. For computer-based test, Quiz Faber computer software was used. To create an online computer-based test, Google Forms application was applied and QR code was used to send the test in online.
Keywords: computer-based tests (CBT), item response theory (IRT), scaling

Introduction

Importance of the Study

Assessment plays a critical role in the field of education, allowing teachers as well as administrators to make important decisions regarding the proficiency, placement, and achievement of students. The most common assessment tools in the education system all over the world is the "test". They are a useful and essential part of teaching and learning. They play an important role in today's schools and other aspects of life. At all levels of education (i.e., kindergarten through graduate), most professional certificating procedures and many employment opportunities place a high reliance on test performance. So tests need to be qualify and to be ensure fairness for all test takers. Moreover, they need to give valid, reliable and useful information concerning student achievement.

In educational assessment, paper-and-pencil tests (PPT) and computer-based tests (CBT) are being used with considerable success for measuring degrees of student achievement. With the increase availability of computers, many assessments are being administered as computer-based tests (CBTs). Computerized exams frequently are perceived as being "state of art" or automatically better than traditional, standardized test, paper-and-pencil exams (Bridgeman, 2009). CBTs provide several advantages over paper-and-pencil tests including ease and flexibility of administering and grading tests, as well as, allowing for the development of technology-based environment. These benefits have made CBT increasingly popular.

Moreover, the types of questions asked via traditional paper-based assessments or exams can also be asked via a computer-assisted assessment or exam. CBTs can be administered and scored more accurately, quickly and securely than paper-and-pencil tests. CBTs can either be an online test or already saved (downloaded) in the computer. With online test, the students can take the test according to their convenience from any location by using Internet. And the results can

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be given quickly and accurately after the examination in both types of computer-based tests. This can give beneficial features to the students and teachers.

Computer-based testing can provide many advantages which can improve educational assessment. They can increase the depth of student knowledge and skill that can be assessed, improve the range of accuracy for test results, increase the efficiency of the assessment process and improve the fairness of testing. Therefore, computer-based tests are used successfully in university admissions, placement, certification and licensure testing.

In testing situation where alternate forms are used, it is not meaningful to compare the examinee's test results by only raw scores. A number of correct raw score of 20 on one test form does not necessarily indicate the same level of achievement as a number-correct raw score of 20 on another test form. Moreover, raw scores cannot actually represent the level of different students even on the same test. As a consequence, information contained in a raw score is limited. Almost all large assessments report scale scores to provide information that cannot be reflected in a raw score. So, in order to compare, explain and make proper decisions, the test users construct norm tables by transforming raw scores to scaled scores. Norm tables can help teachers to interpret the achievement levels of students and the students can know their relative standing in the group.

Recently, much research has been focused in developing and expanding the class of item response theory models to solve a wide variety of measurement problems. According to Hambleton, Swaminathan and Rogers (1991), applications of IRT include test development, item banking, differential item functioning, adaptive testing, test equating, and test scaling. A major appeal of IRT is that it provides an integrated psychometric framework for developing and scoring tests. Moreover, item response models are particularly suitable for computer-adaptive test which is one kind of computer-based test because it is possible to obtain ability estimates that are independent of the particular set of test items administered. Even though each examinee receives a different set of item, differing in difficulty, item response theory provides a framework for comparing the ability estimates of different examinees. Much of this research has focused on dealing the circumstances under which the theoretical advantages of IRT are fulfilled in practice.

In Myanmar, computer-based tests have been applied in educational assessment. IELTS (International English Language Testing System) and TOEFL (Testing of English as a Foreign Language) are examples of computer-based tests used in Myanmar. But there is very limited amount of computer-based tests used in academic subjects. Therefore, this study tried to develop the three forms of Grade 9 English test by applying Item Response Theory model and to construct a Computer-based English Test for Middle School Students.

Purposes of the Study

The purposes of the study are:

1. To construct three alternate forms of Grade 9 English achievement test by applying an IRT model;
2. To develop norm tables for three alternative tests and
3. To construct a Computer-based Test for Grade 9 English.

Method

Sample of the Study

Participants in this study were approximately 1514 Grade 9 students from Yangon region. They were divided into three groups (Group 1- 514 students, Group 2– 516 students, Group 3 – 514 students). Eleven Basic Education High Schools were selected and this study was geographically restricted to Yangon region.

Test Construction Procedures

In this study, three alternate forms of Grade 9 English Achievement test for Computer-Based Test were prepared based on the same table of specifications. Initially, item pools of Grade 9 English were constructed to investigate the qualities of items. Next, the total 200 multiple choice items were constructed with the same content and learning outcomes.

After constructing the item pools, experts' review was conducted for face validity and content validity by twelve experts from Department of Educational Psychology from Yangon University of Education. For pilot testing, the total 200 items were divided into 100 items for Form A and 100 items for Form B. Then, pilot testing was administered to the sample of 50 students from selected school in Yangon Region within two days.

According to the pilot result, some incorrect or ambiguous items were corrected and some were eliminated. Finally, the three test forms that contain 50 multiple choice items were constructed for field testing. The three test forms were constructed with the same content and same table of specifications.

Data Collection and Scoring Procedures

After constructing Form A, Form B and Form C with the same contents and same table of specifications, they were administered to 1514 Grade 9 students during the last week of November and the first week of December, 2018. A spiraling process was used to randomly assign the forms. And then, the responses of students were dichotomously scored. The correct answer for each item was given one point and the incorrect answer was scored zero point.

Software for Constructing the Computer-based Tests

In this study, QuizFaber computer software developed by Luca Galli was chosen for constructing a computer-based English test for Grade 9 student. QuizFaber is a Freeware software for windows that enables to create multimedia quizzes as HTML documents. The quiz is ready to be published on Internet, in a local network or on a local PC. It is possible to create and manage many types of questions: questions with multiple choice, questions with multiple answer, true or false questions, questions with open answer, gap filling exercises and matching words. It can be fully customize for the choice of background images, colors, sounds and font types. The quiz result can be saved on a web server, send through email, stored on the Google cloud (Google Drive) or into internet server.

Moreover, Google Forms application was chosen to construct an online computer-based test. Google Forms is a web-based application used to create forms for data collection purposes and for test administration. Students and teachers can apply Google Forms to make surveys, quizzes, tests or even registration sheets. It can be used to ask both open-ended and close-ended questions (Text, Paragraph Text, Multiple Choice, Checkboxes, etc.). The form is web-based and can be shared with respondents by sending a link, emailing a message, or embedding it into a

web page or blog post. In this study, QR code was applied to share a computer-based test in online although there are many ways to share the test form. The online test form developed in Google Forms was embedded in QR code by creating in QR Code Generator Application. When students take the test, they are given QR code of the question paper. And they can use mobile devices or computers to scan this QR code. Students can answer the question on their screen and send the results to the server.

Data Analysis and Findings

Checking the Assumption of Unidimensionality

In this study, analysis of the eigenvalues of the inter-item correlation matrix was applied to check the unidimensionality assumptions. According to the scree plots, the largest eigenvalues of Form A, Form B and Form C were about six times larger than second eigenvalues of these forms. Therefore, the result showed that the three forms held the assumption of unidimenisionality. The scree plots of Form A, Form B and Form C are shown in Figure 1, Figure 2 and Figure 3.
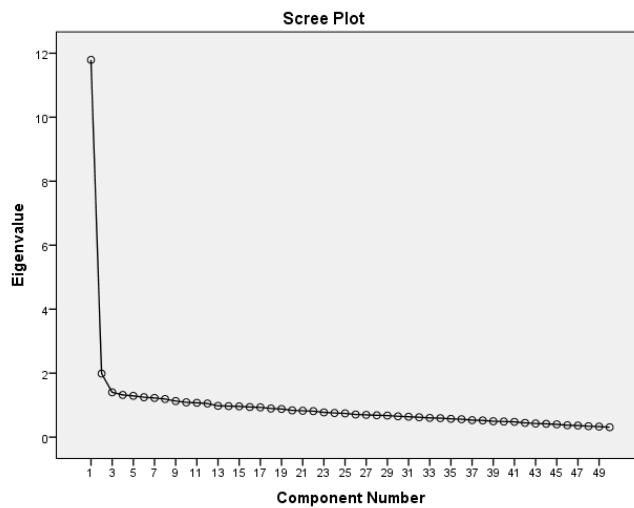
Figure 1 Scree Plot of Form A
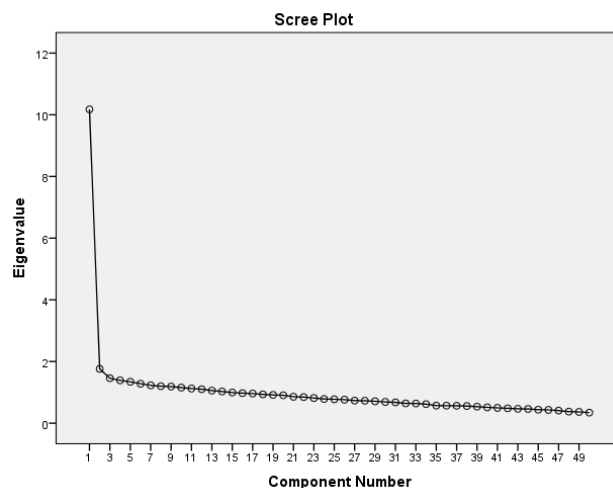
Figure 2 Scree Plot of Form B
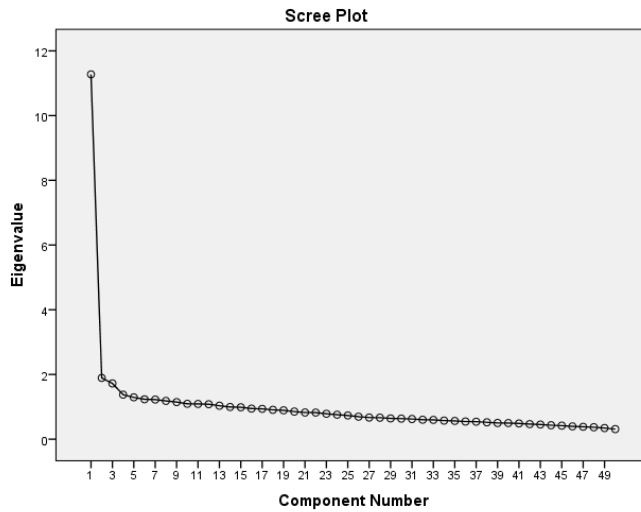
Figure 3 Scree Plot of Form C

Item Analysis by Item Response Theory

Table 1   Item Parameters (IRT) for the Three Tests

Test	Parameters					
	Discrimination (*a*)			Difficulty (*b*)		
	Mean	SD	Range	Mean	SD	Range
Form A	0.88	0.43	0.14 ~ 1.83	-0.28	0.72	-1.34 ~ +2.38
Form B	0.73	0.29	0.12 ~ 1.39	-0.30	0.86	-1.35 ~ +2.81
Form C	0.81	0.35	0.12 ~ 1.78	-0.45	0.70	-1.74 ~ +1.73

According to the Table 1, it was found that the three test forms discriminated well among the examinees with different abilities and they were neither too easy nor too difficult.
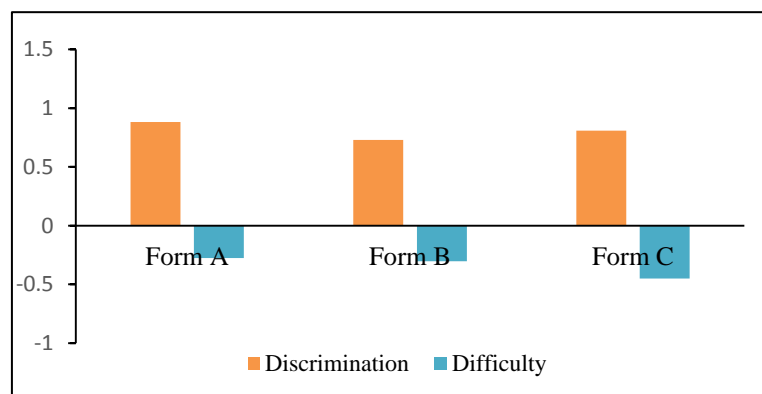
Figure 4 Comparison of Difficulty and Discrimination of the Three Tests

Comparisons of TCCs and TICs of the Three Test Forms

Test characteristics curve (TCCs) and test information curves (TICs) of three test forms were plotted and they were shown in the following figures.
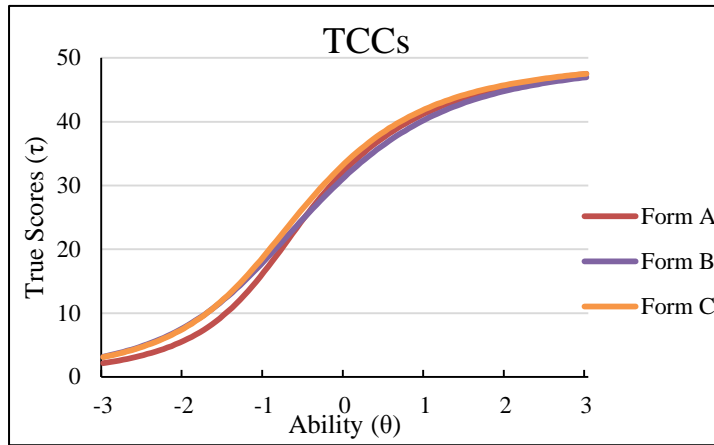
Figure 5 Comparison of Test Characteristics Curves of Three Test Forms

According to figure 5, the three test forms had appropriate difficulty and appropriate discrimination. Since the curves were parallel, the three test forms can be used alternatively.
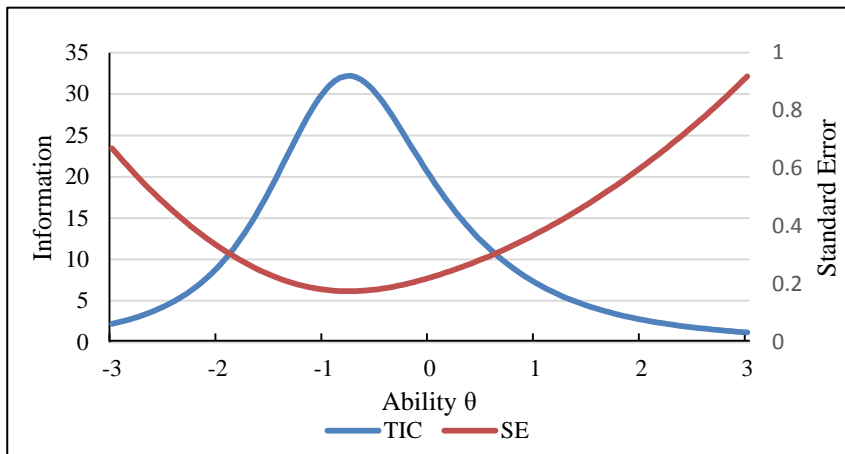

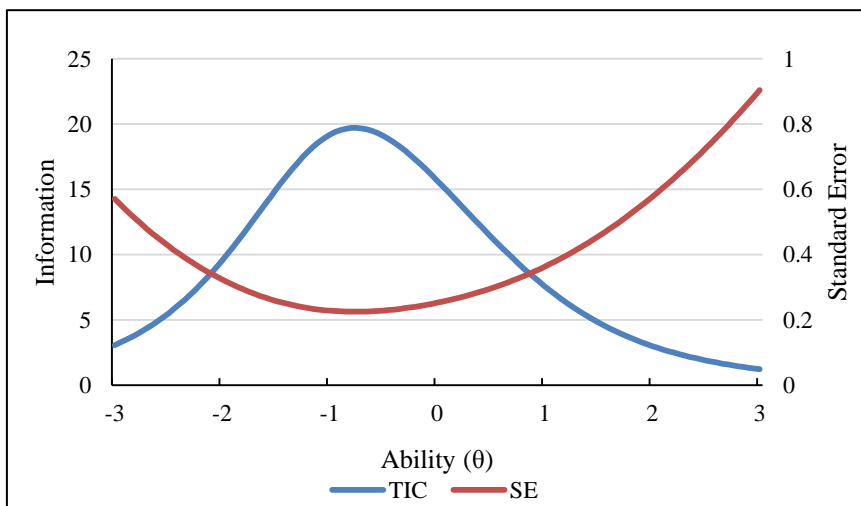**Figure 6**   Test Information Curve of Form A

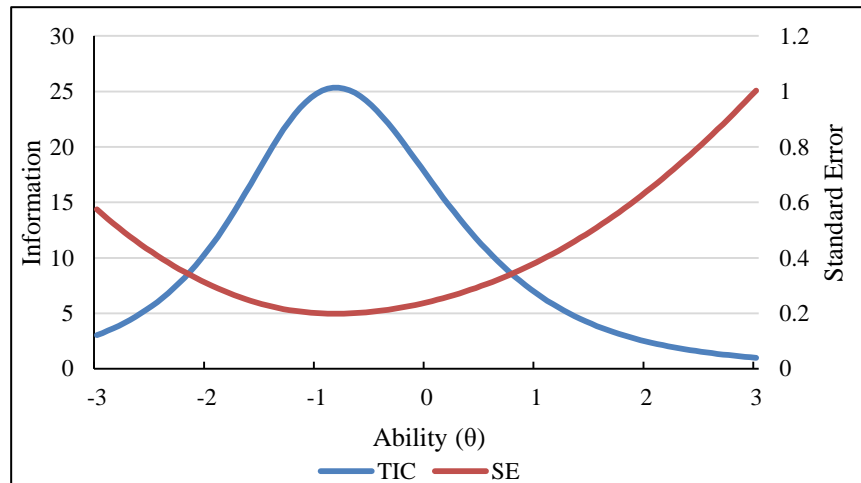**Figure 7** Test Information Curve of Form B

Figure 8 Test Information Curve of Form C

Figure 6 showed that Form A had smaller standard error across the ability scale from -1.9 to +0.7 and larger standard error at the low and high ends of the scale. The estimation of the student's ability was more precise across from -1.9 to +0.7 and less precise at the low and high ends of the scale. The test was best suited for the students having English ability of -0.75 because the test information was highest at that point having the value of 32.06. And then, it was observed that the empirical reliability of Form A was 0.96.

Figure 7 showed that Form B had smaller standard error across the ability scale from -2.1 to +0.9 and larger standard error at the low and high ends of the scale. The estimation of the student's ability was more precise across from -2.1 to +0.9 and less precise at the low and high ends of the scale. The test was best suited for the students having English ability of -0.7 because the test information was highest at that point having the value of 19.67. And then, it was observed that the empirical reliability of Form B was 0.94.

Figure 8 showed that Form C had smaller standard error across the ability scale from -2.1 to +0.8 and larger standard error at the low and high ends of the scale. The estimation of the student's ability was more precise across from -2.1 to +0.8 and less precise at the low and high ends of the scale. The test was best suited for the students having English ability of -0.75 because the test information was highest at that point having the value of 25.26. And then, it was observed that the empirical reliability of Form C was 0.95.

Constructing Norm Tables

In this study, norm tables were developed by transforming raw scores to scaled scores because raw scores only are not meaningful to compare the students' achievement level within a group. The scaled scores such as Percentile Rank, Stanines and z-scores and IRT true scores (τ) were used in this study.

Transformation of Raw Scores to Percentile Ranks

Table 2 Norm Table for the Three Test Forms by Percentile Ranks

Raw Scores	Percentile Rank of Form A	Percentile Rank of Form B	Percentile Rank of Form C
50	>99	>99	>99
49	99	99	99
48	97	98	97
47	96	96	95
46	94	94	93
45	91	93	90
44	90	92	87
43	87	90	83
42	84	87	80
41	81	85	78
40	78	81	76

The above table shows only a part of the transformation of raw scores to percentile ranks.

Transformation of Raw Scores to z-scores

Table 3   Norm Table for the Three Test Forms by z-scores

Raw Scores	z-scores ($\mu=0$, SD=1)		
	Form A	Form B	Form C
50	+1.88	+2.03	+1.79
49	+1.79	+1.93	+1.69
48	+1.70	+1.83	+1.60
47	+1.61	+1.73	+1.51
46	+1.52	+1.63	+1.41
45	+1.43	+1.54	+1.32
44	+1.34	+1.44	+1.22
43	+1.24	+1.34	+1.13
42	+1.15	+1.24	+1.03
41	+1.06	+1.14	+0.94
40	+0.97	+1.05	+0.84

The above table shows only a part of the transformation of raw scores to z-scores.

Transformation of Raw Scores to Stanines

Table 4 Norm Table for the Three Test Forms by Stanines

Stanine ($\mu=5$, SD=2)	Raw Scores		
	Form A	Form B	Form C
9	47 – 50	47 – 50	47 - 50
8	44 – 46	43 – 46	45 – 46
7	40 – 43	38 – 42	41 – 44
6	33 – 39	33 – 37	35 – 40
5	25 – 32	25 – 32	28 – 34
4	19 – 24	21 – 24	21 – 27
3	15 – 18	17 – 20	17 – 20
2	13 – 14	13 – 16	14 – 16
1	1 – 12	1 – 12	1 – 13

Transformation of IRT Ability Score (θ) to True Scores (τ)

Table 5 Norm Table for the Three Test Forms by True Scores (τ)

Raw score	Ability θ scaled score	True scores (τ)		
		Form A	Form B	Form C
49 – 50	+4.0	50	50	50
47 – 48	+3.0	47	47	48
45 – 46	+2.5	47	46	47
43 – 44	+2.0	45	45	46
40 – 42	+1.5	44	43	44
38 – 39	+1.0	41	40	42
35 – 37	+0.5	38	37	39
31 – 34	0	32	31	33
24 – 30	-0.5	25	25	27
18 – 23	-1.0	16	18	19
12 – 17	-1.5	10	12	12
9 – 11	-2.0	6	8	8
4 – 8	-2.5	3	5	5
1 – 3	-3.0	2	3	3

Construction of a Computer-Based Test with QuizFaber

In this study, computer-based test was constructed for Grade 9 English Achievement Test by using the QuizFaber Computer Software (programmed by Luca Galli). In the constructed CBT, 100 items of Grade 9 English Achievement Test for the three test forms have been included. Examples of designing questions are shown in the following figures.
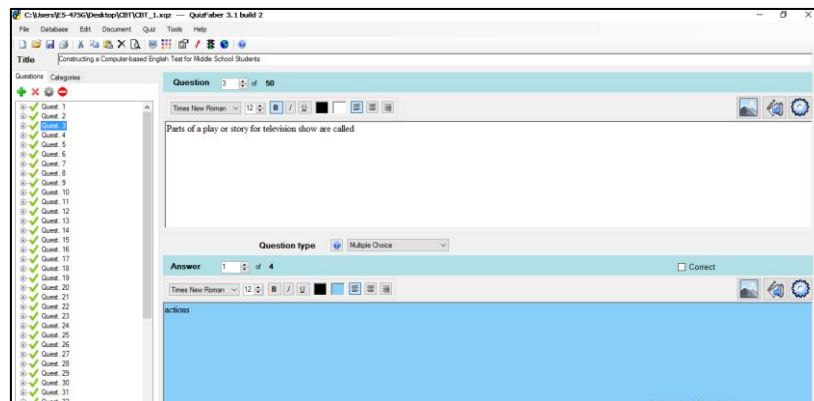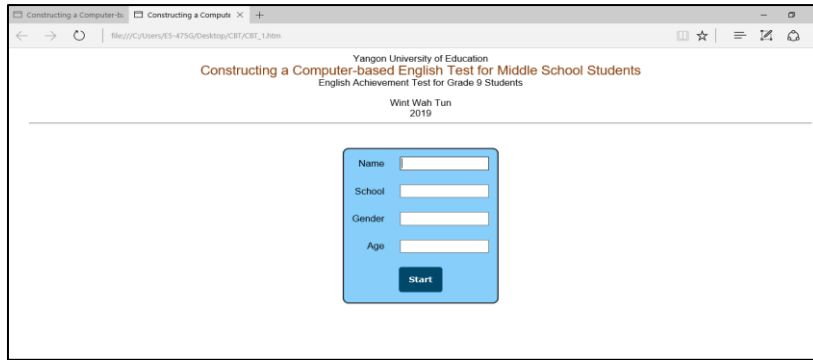

Figure 9 Question Insertion Page
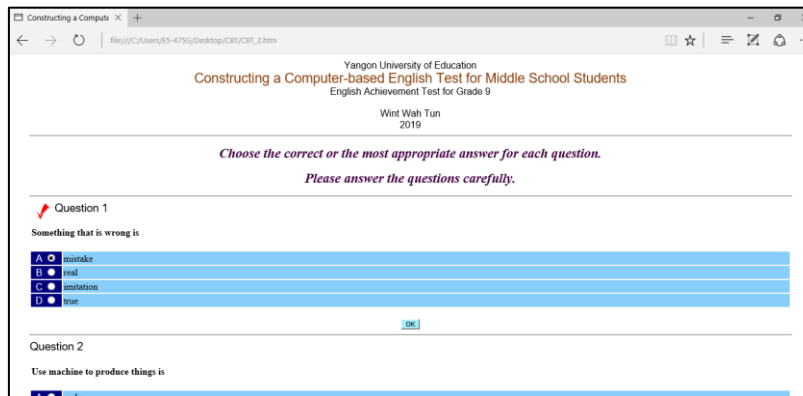
Figure 10 Student Registration Page

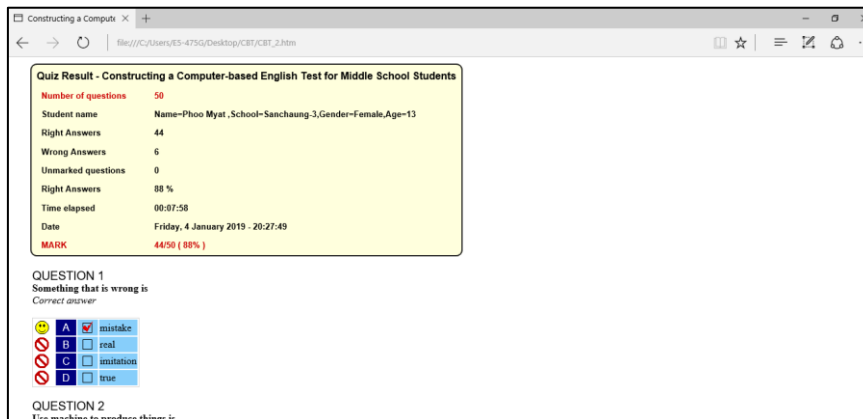
Figure 11 CBT Administration Page

Figure 12 Final Result Page of CBT

Construction of an Online Computer-Based Test with Google Forms

In this study, Google Forms application was chosen to construct an online computer-based test (English Achievement Test for Middle School Students). QR code was used to share the test in online. This online CBT included 50 items of Grade 9 English Achievement Test. Examples of designing questions are shown in the following figures.
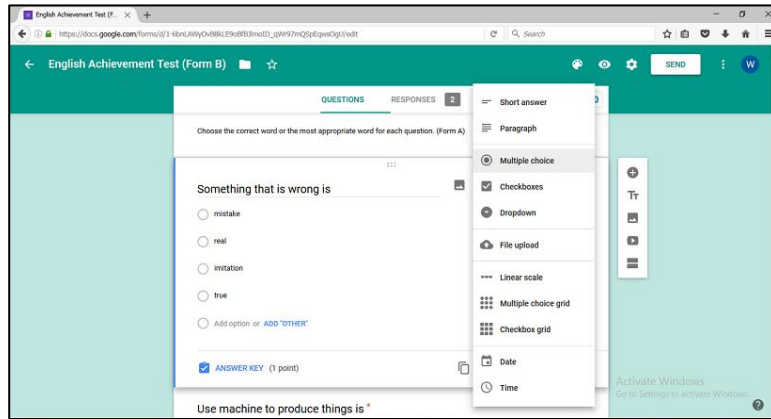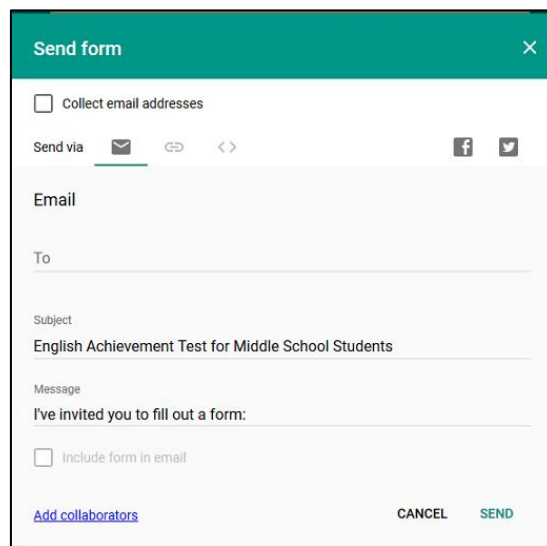
Figure 13 Question Insertion and Type of Question
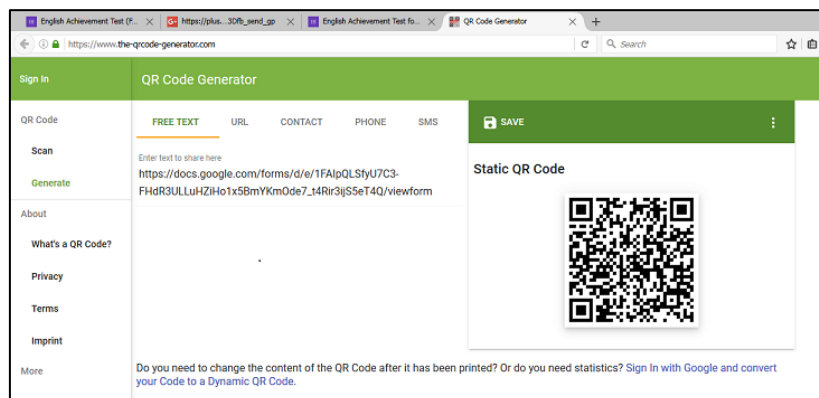

Figure 14 Distribution Page of the Test Form

Figure 15 QR Code Generator Page

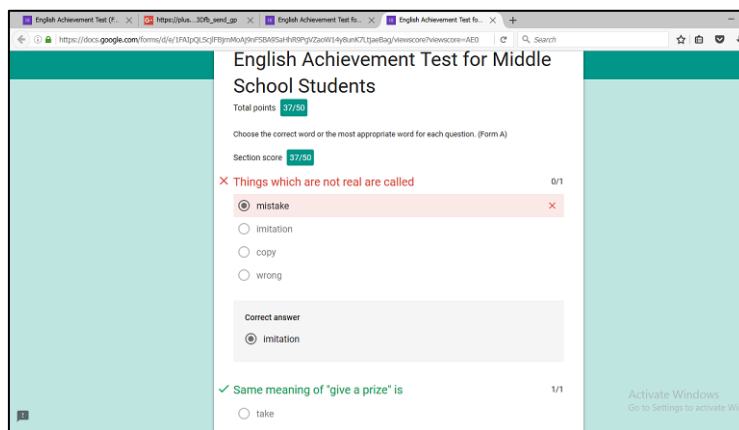**Figure 16** QR Code for English Achievement Test

Figure 17 Student's result Page

Discussion, Further Research and Conclusion

Discussion

The main purpose of this study was to construct a Computer-Based English Test for Middle School Students. According to the results of data analysis, the main assumption of unidimensionality was firstly checked by scree plots of three forms. It was found that the three forms had reasonable unidimensionality. And for the assumption of model-data fitness, it was found that 2 PL model was fitted for the data than other models by using Lord's Chi-square method. Then, parameters of the three test forms were separately calibrated. The estimation of ability and item parameters of the three test forms were conducted by BILOG-MG 3 Software.

In the results of IRT item analysis, the mean values of a were 0.88 in Form A, 0.73 in Form B and 0.81 in Form C. The mean of b-values for the tests were -0.28, -0.30 and -0.45 respectively. It can be interpreted that the items of the three tests were neither too easy nor too difficult and provided appropriate discriminations.

According to the comparison of TCCs, it was found that the curves were parallel and they can be used alternatively. And, it can be said that the three test forms had appropriate difficulty and appropriate discrimination. According to the TICs, Form A was appropriate for ability (-1.9 to +0.7) of students in English. Form B was appropriate for ability (-2.1 to +0.9) and Form C was appropriate for ability (-2.1 to +0.8) of students in English. And the empirical reliability was 0.96 in Form A, 0.94 in Form B and 0.95 in Form C.

To compare the students' results, the norm tables were developed by transforming raw scores to scaled scores. The scaled scores were percentile ranks, z-scores and stanine. Moreover, the ability scores (θ) in IRT were transformed to true scores (τ) to facilitate score interpretation.

In constructing the computer-based test with QuizFaber, the items analyzed by IRT model were used and the total items were 100 multiple choice items. To create an online computer-based test, Google Forms application was used and QR code was used to send the test in online. The online computer-based test contains 50 multiple choice items.

Limitations of the Study

Some limitations were found in this study. The first limitation was sample size. Although the total sample was 1514 students, only about 500 students could be administered for each form. The sample size per test was less than 1000. So, three-parameter logistic model cannot be applied in this study. Two-parameter logistic model was used and this model can estimate the difficulty and discrimination parameters. Moreover, the tests contained multiple-choice items, so the students with low ability could choose the answer by guessing.

The second limitation was population. The population in this study was limited to Yangon Region. It is not representative of the population of Grade 9 students in Myanmar. It would be better to use other population from different regions.

Third, multiple-choice items can be constructed for computer-based test in this study. Other question format like open-ended responses are not applied in this study because they are more difficult in developing an answer key than multiple-choice questions.

Suggestions and Recommendations for Further Research

In this study, three alternate forms of Grade 9 English Achievement tests were used to construct a computer-based test. Therefore, achievement tests of other subject matters like Mathematics, Science and Myanmar should be used in the future researches to know about the tests on the other content areas. In this study, two-parameter logistic model was used and the students with low abilities can choose the correct answer by guessing. So, future studies should use three-parameter logistic model with larger samples to get more accurate results if the test contains multiple choice items.

For computer-based tests, this study involved the construction of simplest type of CBT. Constructing computer-adaptive tests is very complex, time-consuming and it needs to develop more test items. But it can give the students' test performance more accurately than the simple computer-based test. Future studies should develop other types of CBT like computer-adaptive test, multistage test and computerized classification test. It is hoped that more educational testing should use more qualified computer-based tests to increase the validity of testing and to meet the current educational trend.

Conclusion

Computer-based tests are more popular in today's world. Dozens of admissions, placement, certification, and licensure testing programs are administered on computer with the number growing each year. Computer-based tests provide ease and flexibility in administering and grading tests and allowing for the development of technology-based environment. Moreover, they not only enable the examination of objectivity, fairness, but also provide the quick results to students and teachers. Therefore, this study focus on constructing a computer-based test English

test for middle school students. It is believed that this study will provide useful information for the educators in constructing and using a computer-based test in the testing area of Myanmar.

References

Crocker, L.M., & Algina, J. (1986). *Introduction to Classical and Modern Test Theory*. New York: CBS College Publishing

Demars, C. (2010). *Item Response Theory: Understanding Statistics Measurement*. Oxford University, Inc.

Google Forms Application. (2012). Retrieved January 14, 2019 from http://en.m.wikipedia.org>wiki>GoogleForms

Hambleton, R.K., & Swaminathan, H., & Rogers, H.J. (1991). *Fundamentals of Item Response Theory*. Newbury Park, CA:Sage.

Kolen, M.J., & Brennan, R.L. (2004). *Test equating, scaling, and linking: Methods and practices (2nd ed.)*. New York: Springer-Verlag.

Lin, C.-J. (2008). Comparisons between Classical Test Theory and Item Response Theory in Automated Assembly of Parallel Test Forms. *Journal of Technology, Learning and Assesement, 6* (8). Retrieved August, 4, 2018 from http:// www.jtla.org

Lord, F.M. (1980). *Applications of IRT to practical testing problems*. Hillsdale, NJ: Lawrence Erlbaum.

Maximo. R. (1997). Norming and Norm-referenced Test Scores. *Paper presented at the Annual Meeting of the Southwest Educational Research Association*, Ausitn, TX, January, 1997.

Naw Zin Win (2017). *Constructing a Computer-based Test for Grade 9 Mathematics*. Unpublished Master Thesis. Myanmar: Yangon University of Education.

Nu Nu Khaing (2015). An empirical IRT approach to item banking and computer-based testing. *Journal of Myanmar Academy of Arts and Science*, Vol.XIII,440-447.

Olumorin, O.C. (2013). Computer-based tests; a system of assessing academic performance in University of Lorin, Nigeria. *American Academic & Scholarly Research Journal, 5*(2).

Parshall, C.G., Spray, J.A., Kalohn, J.C., & Davey, T.C. (2001). *Practical Considerations in computer-based testing*. New York, NY: Springer.

Parshall, C.G., Harmes, J.C., Davey, T., & Pashley, P.J. (2010). Innovative item types for computerized testing. In W. J. van der Linden & C. A. W Glas (Eds), *Elements of adaptive testing* (215 – 230). New York, NY: Springer.

Patil, F., Bhandari, U., & Kasar, M. (2015). QR Code Approach for Examination Process. *International Journal on Recent and Innovation Trends in Computing and Communication, 3*(2), 633-636.

QuizFaber computer software. (2016). Retrieved October 23, 2018, from http:// www.quizfaber.com

Simin S.,& Heidari. A. (2013).Computer-based assessment: pros and cons. *Elixir Edu. Tech. 55* (2013)12732-12734.

Wiersma, W., & Jurs. S.G. (1990). *Educational Measurement and Testing (2nd ed.)*. United States of America: Allyn and Bacon.

Zimoski, M., Muraki, E., Mislevy, R.J., & Bock, R.D. (2003). BILOG-MG 3: *Item analysis and test scoring with binary logistic models*. Chicago, IL: Scientific Software. [Computer Software]

PRIMARY TEACHERS' ATTITUDES TOWARDS NEW CURRICULUM

Myat Thura[1], Nu Nu Khaing[2]

Abstract

Curriculum reforming is still processing in Myanmar. In this process, teachers are the key players because they play as implementer role in curriculum reforming. The government needs to know how the teachers perceive, how they learn, how they teach and how they accept which the new curriculum gives because changing from old curriculum to new curriculum require acceptance and cooperation of the teachers, who are the instruments for its implementing and for its realization. The attitude is the important aspect which determines the perception, involvement, acceptance and the realization of the objectives and goals. The main purpose of this study is to analyze the primary teachers' attitudes towards new curriculum by seven educational aspects. They are academic success in new curriculum, interaction with others in new curriculum, time taken for teaching in new curriculum, characteristics of new curriculum, confidence in teaching new curriculum, teachers' perception on student learning in new curriculum and assessment in new curriculum. The type of research for this study was survey research. The sample size consisted of 221 Primary Teachers from Basic Education Primary Schools, Post-Primary Schools and Middle Schools in January, 2019. Primary teachers' attitudes were examined by using questionnaire survey research. The result of the study showed that most teachers have positive attitudes with respect to the new curriculum.

Keywords: primary teacher, attitudes, new curriculum

Introduction

A curriculum is important in an educational system. It helps one plan the education process or procedure for a given period of time. As the saying goes, if you fail to plan then you plan to fail. Curriculum consists of continuous chain of activities needed to translate educational goals into concrete activities, materials and observable change in behavior. In order to make education meaningful for the country, it depends on how the curriculum is developed.

Taner and Tarner (1980) defined curriculum as "planned and guided learning experiences and intended outcomes formulated through systematic reconstruction of knowledge and experience under the auspices of the school for the learner's continuous and willful growth in social competence". This definition implies that curriculum enables students to gain knowledge and understanding as well as develop skills, attitudes, values while interacting with each other and with teachers. Curriculum involves that entire take place in the lives of learners and the impact that these experiences have on the society. Curriculum includes the sum total of school experiences, what is to be learned, the expected change in behaviour, the processes involved and the nature of techniques, approaches (methods) and other relevant equipment and facilities.

The process of curriculum developing is different from country to country. It has two types. One is centralization and the other is decentralization. For example, in some country like Ghana, France and Zimbabwe, the curriculum is centrally managed but countries like Australia, Canada, United Kingdom and United States of America; they practice decentralization (Adentwi, 2005). In Myanmar, the curriculum is centrally managed by the government. Both of centralization and decentralization have their strengths and weakness. The curriculum which is centrally prescribed have the problem of finding the right curricula for all schools because of less interaction between the curriculum planner of the system and the classroom (Stenhouse, 1975) while that of the decentralized curriculum, teachers are active in the curriculum

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development process (Maphosal & Mutopa, 2012). In a centrally planned system, the teachers are just ordered to carry out the curricula that they did not take part in designing (Eunitah et al., 2013) making the curriculum liable to a high rate of rejection by the implementers.

A curriculum is more for teachers that it is for pupils. If it cannot change, move, perturb and inform teachers, it will have no effect on those whom they teach. It must first and foremost be a curriculum for teachers. If it has any effect on pupils, it will have it by virtue of having an effect on teachers. The structure and development of the new curriculum involves many features, including how it is organized, the goals to be achieved in education, processes of teaching, learning and assessment, and finally how it the curriculum will cater for the future learners. Education and Training Queensland curriculum standard requirements state "All schools are required to develop and maintain up-to-date curriculum plans in consultation with the school community. This planning ensures that assessment, teaching and reporting match the intended curriculum." (Department of Education and Training, 2008)

Curriculum is organized through scope and sequencing. Scope refers to the level and the arrangement of the curriculum elements that occur across subjects, while, sequence refers to the breaking the content and learning experiences into manageable steps to facilitate learning over a period of time. Scope and Sequence provides information for teachers about the literacy genres, numeracy opportunities and demands, and possibilities for using ICT in the learning program for each of the Key Learning Areas in each year. By using the scope and sequence organization it allows teachers to focus primarily on the intended curriculum, providing support for teachers on what to teach, how to teach it and how to assess it. Therefore, allowing teachers to make the most of learning in their class.

However, teachers are the key players in the education sector and it is critical that they play a central role in the curriculum reforming. Nowadays, Myanmar, in our country, curriculum reforming is still in processing. In this continuing process, teachers' attitude on the new curriculum becomes important because they play as implementers in this process. Any change in the curriculum and its practice is successful with the wholehearted cooperation and support of the teachers, who are supposed to implementing the changes at the grass root realities. The teachers are the instruments through which the curriculum is to be transacted and fulfilled. Hence, the attitude and perception of teachers with respect to curriculum and its implementation is very significant.

For the above reasons, the specific objectives of this research were:

  (1) To investigate the attitude of primary teachers by seven educational aspects
  (2) To analyze the primary teachers' attitude towards new curriculum

Method and Findings

The main purpose of this study was to investigate primary teachers' attitudes towards New Curriculum. In order to accomplish this goal, quantitative approach was adopted to collect data. To be specific, the type of research for this study was survey research. Primary teachers' attitudes were examined by using questionnaire survey method.

Sample of the Study

The participants in this study were selected three types of school from three districts located in Ayeyarwaddy and Yangon Regions. Three different districts were selected depending on a variety of demographic characteristics. The sample size consisted of 221 Primary Teachers

from Basic Education Primary Schools, Post-Primary Schools and Middle Schools in January, 2019.

Thus, a total of 221 primary teachers from three different types of schools participated in this study. The chosen number of teachers and selected schools are described in the Table 1.

Table 1 Number of Teachers of the Study by Types of Schools

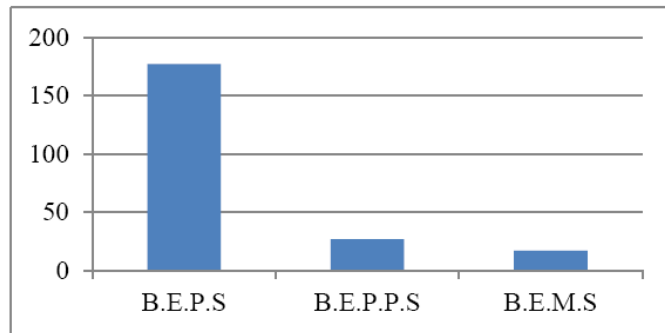| Types of School	Number of Participants
B.E.P.S	177
B.E.P.P.S	27
B.E.M.S	17
Total	221

Figure 1

In selected teachers, male and female are also separate count. According to the gender, male is less than female because in Myanmar less number of male teachers only interest in teaching. This is one of the issues that the ministry of education should be considered. The chosen number of male and female teachers is described in the Table 2.

Table 2 Number of Teachers by Genders

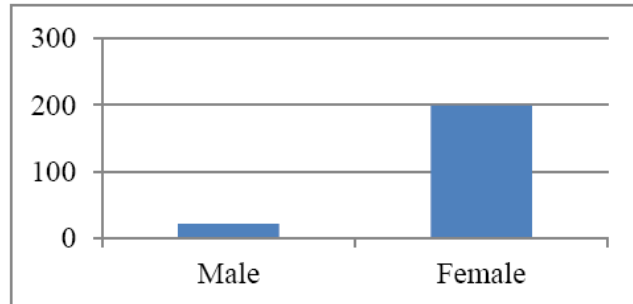| Gender	Number of Participants
Male	22
Female	199
Total	221

Figure 2

Age between the selected samples, the youngest age is 21 and the oldest is 60. The participants were selected by random. The age differences between the samples are listed in the Table 3.

Table 3 Number of Teachers by Age

Age	Number of Participants
21-25	8
26-30	33
31-35	26
36-40	21
41-45	16
46-50	18
51-55	48
56-60	51
Total	221
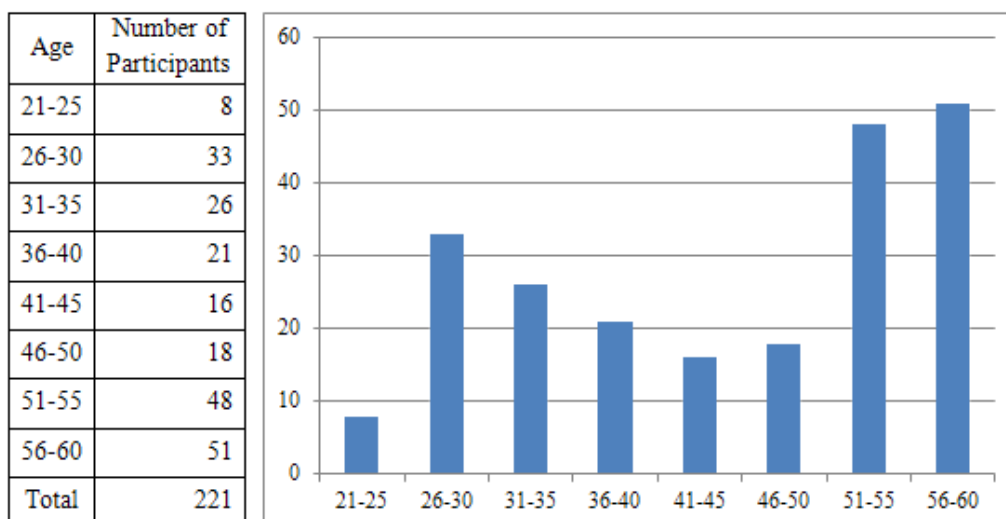
Figure 3

Another field of the data collected in this research is their educational level. In this field, most of the teachers are academic professionals and few of them are educational professionals. This means that our educational field needs more educational professionals. This is also one of the issues that the ministry needs to consider. Their educational level and the major of their study are described in the Table 4 and Table 5.

Table 4 Educational Level of Teachers of the Study

Education Level	Number of Participants
2nd yr	1
3rd yr	1
4th yr	1
B.A	114
B.Com	3
B.Sc	88
D.T.Ed	2
Dip(Agri)	1
L.L.B	3
M.A	1
G - 11	6
Total	221

Figure 4

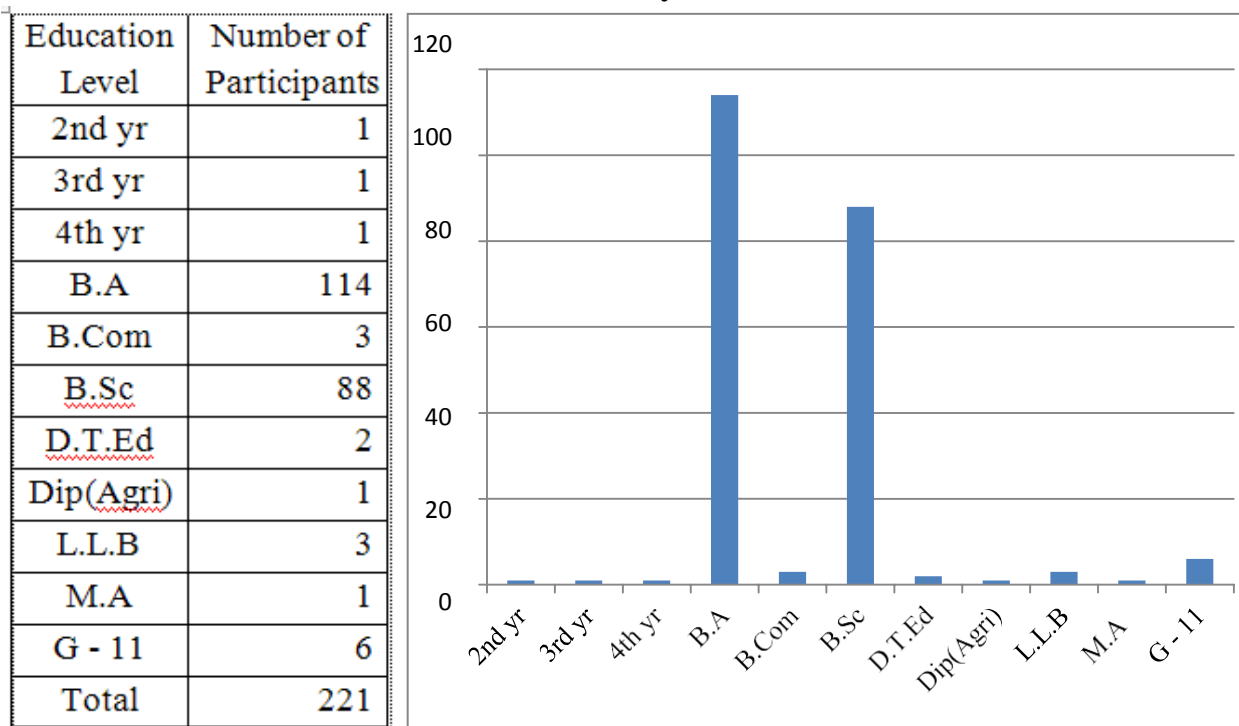And their major of the study is listed in the Table 5.

Table 5 Major Subject of Teachers of the Study

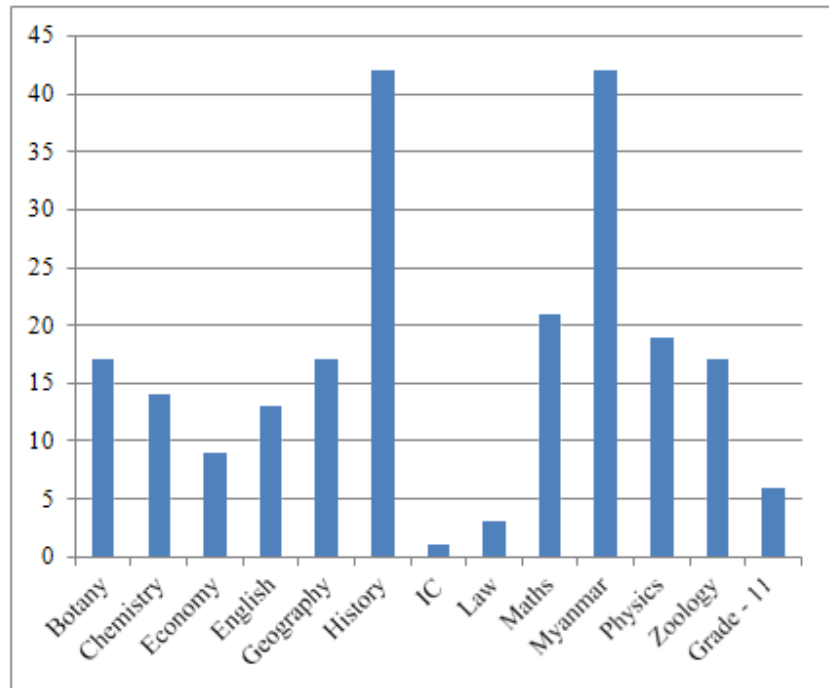| Major	Number of Participants
Botany	17
Chemistry	14
Economy	9
English	13
Geography	17
History	42
IC	1
Law	3
Maths	21
Myanmar	42
Physics	19
Zoology	17
Grade - 11	6
Total	221

Figure 5

The most important aspect in examining their attitudes on new curriculum is the year of experience. The more they work in education as professional, the better attitudes they have. In this section, the experience will be separated into three types-total years of experience in teaching, experience in teaching with old curriculum and experience in teaching with new curriculum. There are only three grades change during the research is working. So, there will be at most three years of experience in teaching with new curriculum. According to this data, the related tables and graphs are described in the following.

Table 6 Experience of Teachers of the Study

Experience	Number of Participants
1-5	34
6-10	28
11-15	25
16-20	16
21-25	22
26-30	37
31-35	52
36-40	7
Total	221

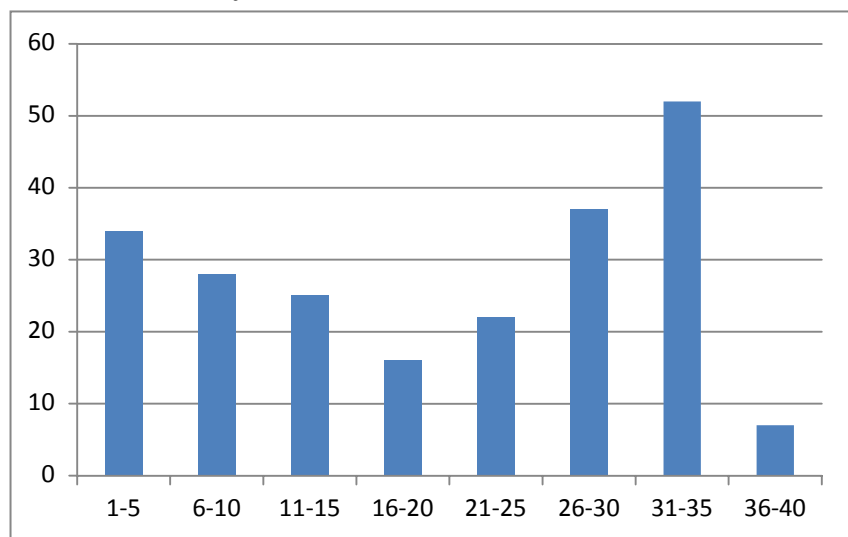**Figure 6**

Table 7 Experience of Teachers in Old Curriculum of the Study

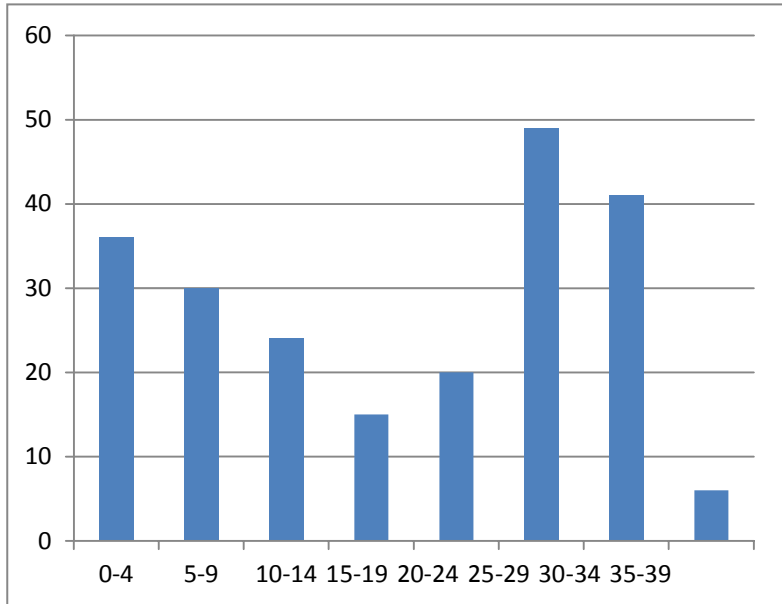| Experience in Old Curriculum	Number of Participants
0-4	36
5-9	30
10-14	24
15-19	15
20-24	20
25-29	49
30-34	41
35-39	6
Total	221

Figure 7

Table 8 Experience of Teachers in New Curriculum of the Study

Experience in New Curriculum	Number of Participants
0	40
1	39
2	42
3	100
Total	221
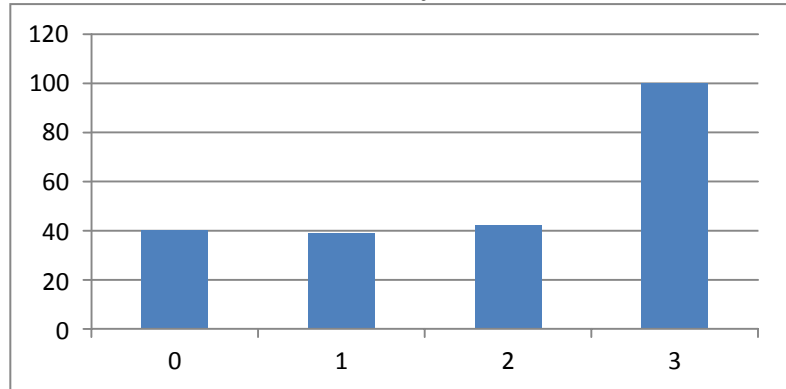
Figure 8

Research Instrument

This study was mainly based on the responses of the teachers to survey questionnaire. The participants were asked to mark the numbers on the questionnaire. They indicated the extent to which they agreed or disagreed with the statements using a five point likert-type scale ranging from 1 = strongly disagree, 2 = disagree, 3 = don't want to decide, 4 = agree and 5 = strongly agree when answering 40 attitude items under seven educational aspects.

Procedure for Collecting Data

All the measures used in this study were adapted to Myanmar version. After preparing the measuring scales, expert review was conducted for face validity and content validity by ten experts from Yangon University of Education who have special knowledge and close relationship in the field of educational psychology and educational test and measurement. Next, revision in item length, the wording of items, and content were made during preliminary administrations of the self-reported survey questionnaire. Then, the wording and phrases of some

items were modified since they were inappropriate with teachers' understanding level. The modified self-reported questionnaire consisted of 40 items and seven educational aspects.

According to the scoring sheet, the results of the survey questionnaires were calculated. After that, Excel and Statistical Package for the Social Science (SPSS) software version 25 program will be executed for the analysis of the obtained data, interpretation of findings and conclusion will be reported finally.

Data Analysis

After developing the required instruments for primary teachers' attitudes and applying these for data collection mention in above, primary teachers' attitudes on new curriculum were explored. By using the statistical analyses, findings and results are discussed in the following sections.

According to the questionnaire, seven aspects of sub-titles are separated and data are collected as seven parts. The following table and diagram are the primary teachers' attitudes on new curriculum respect with seven sub-titles (see Table 9).

Table 9 Primary Teachers' Attitudes towards New Curriculum

	Academic Success in New Curriculum		Interaction with Others in New Curriculum		Time Taken for Teaching in New Curriculum		Characteristics of New Curriculum		Confidence in Teaching		Teachers' Perception on Student Learning in New Curriculum		Assessment in New Curriculum	
Totally Disagree	0	0.00 %	0	0.00 %	45	20.36 %	2	0.90 %	0	0.00 %	3	1.36 %	3	1.36 %
Disagree	1	0.45 %	3	1.36 %	122	55.20 %	2	0.90 %	3	1.36 %	0	0.00 %	7	3.17 %
Don't want to decide	4	1.81 %	5	2.26 %	49	22.17 %	2	0.90 %	3	1.36 %	2	0.90 %	34	15.38 %
Agree	133	60.18 %	168	76.02 %	3	1.36 %	101	45.70 %	153	69.23 %	139	62.90 %	126	57.01 %
Totally Agree	83	37.56 %	45	20.36 %	2	0.90 %	114	51.58 %	62	28.05 %	77	34.84 %	51	23.08 %
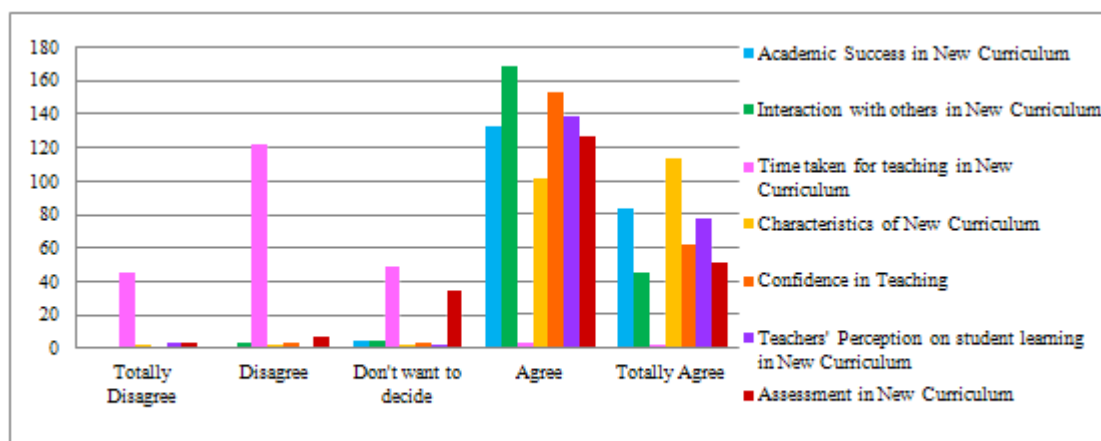
Figure 9

According to the result, new curriculum has a valid agreement in academic success, interaction with others, characteristic, confidence in teaching, teachers' perception on student learning and assessment sub-title but doesn't has a valid agreement in time taken in new

curriculum. In general, we can say that most of the teachers have good attitude on new curriculum.

To be more valid, describe the result with the sub-titles.

Table 10 Academic Success in New Curriculum

	Frequency	Percentage
Totally Disagree	0	0.00 %
Disagree	1	0.45 %
Don't want to decide	4	1.81 %
Agree	133	60.18 %
Totally Agree	83	37.56 %
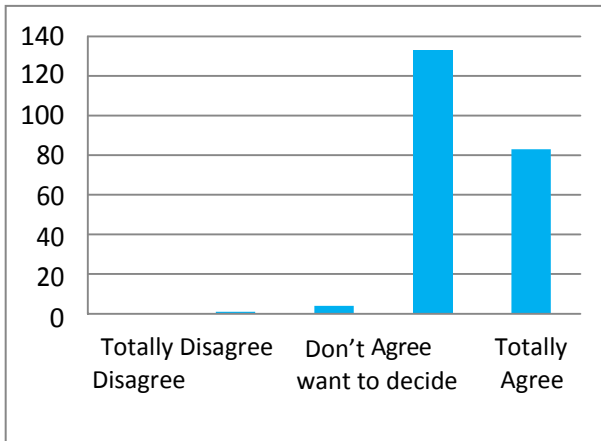
Figure 10

Table 11   Interaction with others in New Curriculum

	Frequency	Percentage
Totally Disagree	0	0.00 %
Disagree	3	1.36 %
Don't want to decide	5	2.26 %
Agree	168	76.02 %
Totally Agree	45	20.36 %
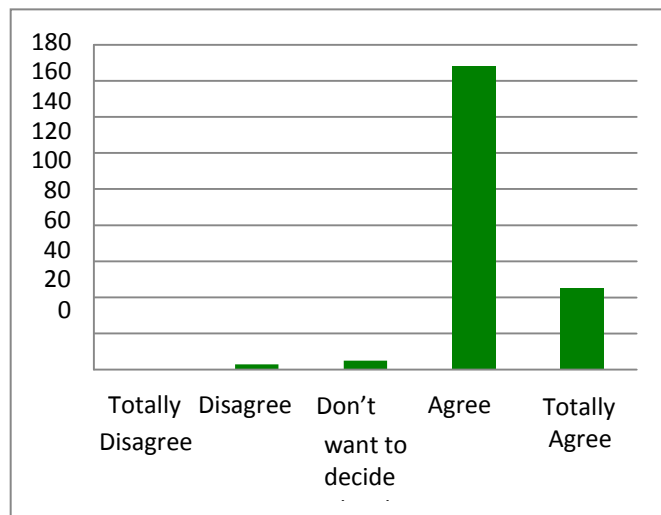
Figure 11

Table 12 Time taken for teaching in New Curriculum

	Frequency	Percentage
Totally Disagree	45	20.36 %
Disagree	122	55.20 %
Don't want to decide	49	22.17 %
Agree	3	1.36 %
Totally Agree	2	0.90 %
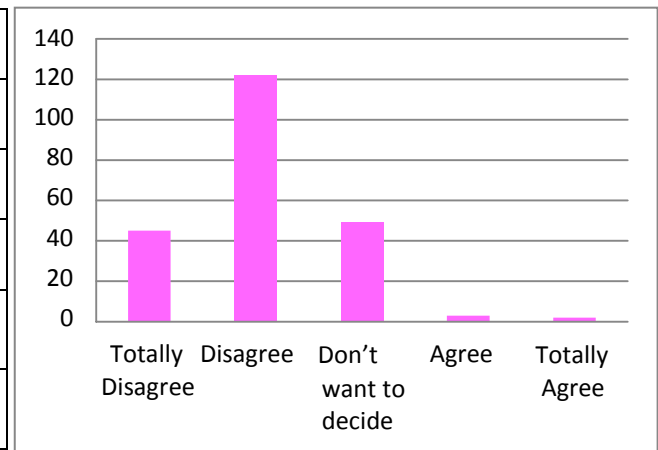
Figure 12

Table 13 Characteristics of New Curriculum

	Frequency	Percentage
Totally Disagree	2	0.90 %
Disagree	2	0.90 %
Don't want to decide	2	0.90 %
Agree	101	45.70 %
Totally Agree	114	51.58 %
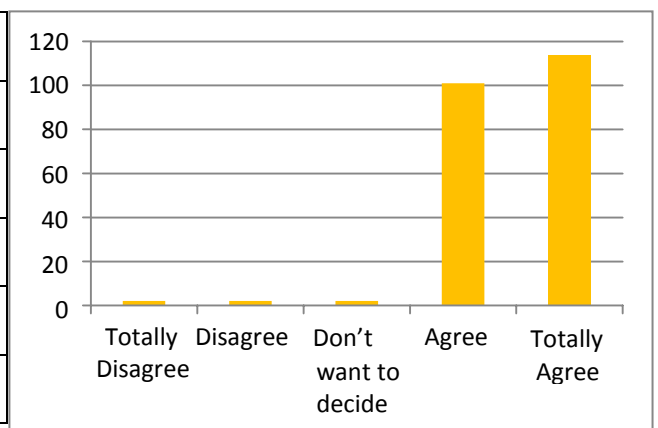
Figure 13

Table 14   Confidence in Teaching New Curriculum

	Frequency	Percentage
Totally Disagree	0	0.00 %
Disagree	3	1.36 %
Don't want to decide	3	1.36 %
Agree	153	69.23 %
Totally Agree	62	28.05 %
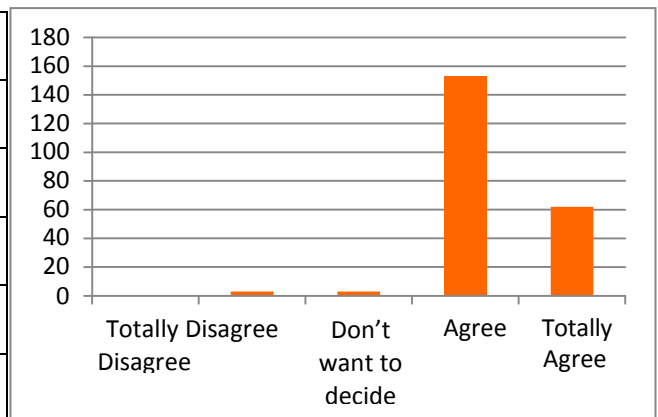
Figure 14

Table 15   Teachers' Perception on student learning in New Curriculum

	Frequency	Percentage
Totally Disagree	3	1.36 %
Disagree	0	0.00 %
Don't want to decide	2	0.90 %
Agree	139	62.90 %
Totally Agree	77	34.84 %
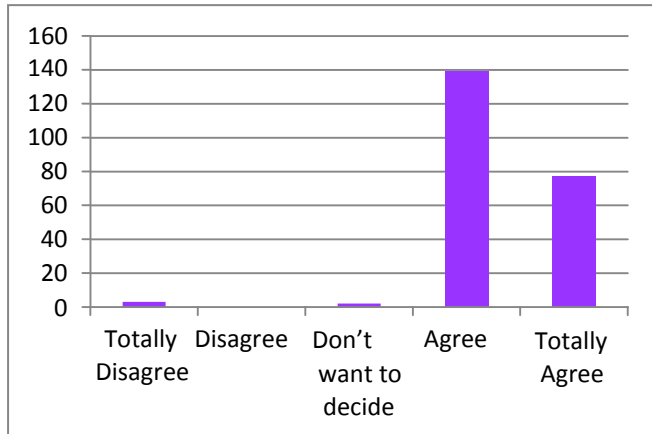
Figure 15

Table 16 Assessments in New Curriculum

	Frequency	Percentage
Totally Disagree	3	1.36 %
Disagree	7	3.17 %
Don't want to decide	34	15.38 %
Agree	126	57.01 %
Totally Agree	51	23.08 %
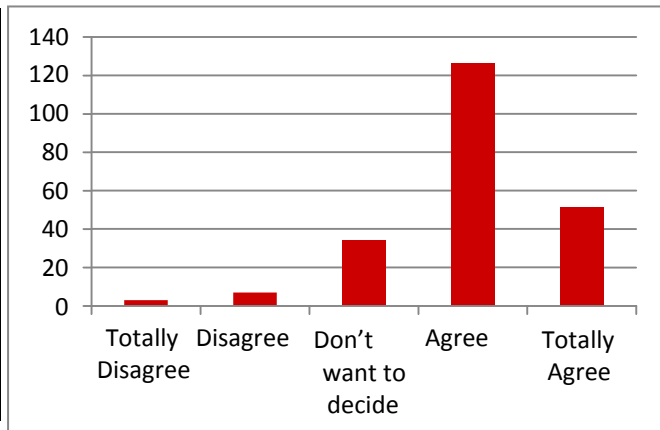
Figure 16

After describing the data with sub-title, to be more specific, their attitudes were discussed with the questions one by one.

(1)   New Curriculum can support teachers to understand the school curricular goals.

Table 17 Attitudes on Question 1

Average Score	4
Totally Disagree	1
Disagree	2
Don't want to decide	22
Agree	157
Totally Agree	39
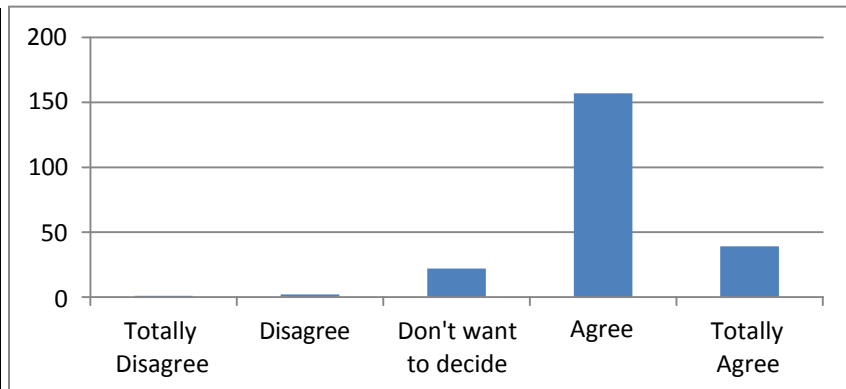
Figure 17

According to the research data, question 1 has a valid agreement. Then, the result is valid and it means that new curriculum can support teachers to understand the school curricular goals.

(2) New Curriculum can support teachers' degree of success in implementing the school's new curriculum.

Table 18 Attitudes on Question 2

Average Score	4
Totally Disagree	2
Disagree	4
Don't want to decide	36
Agree	142
Totally Agree	37
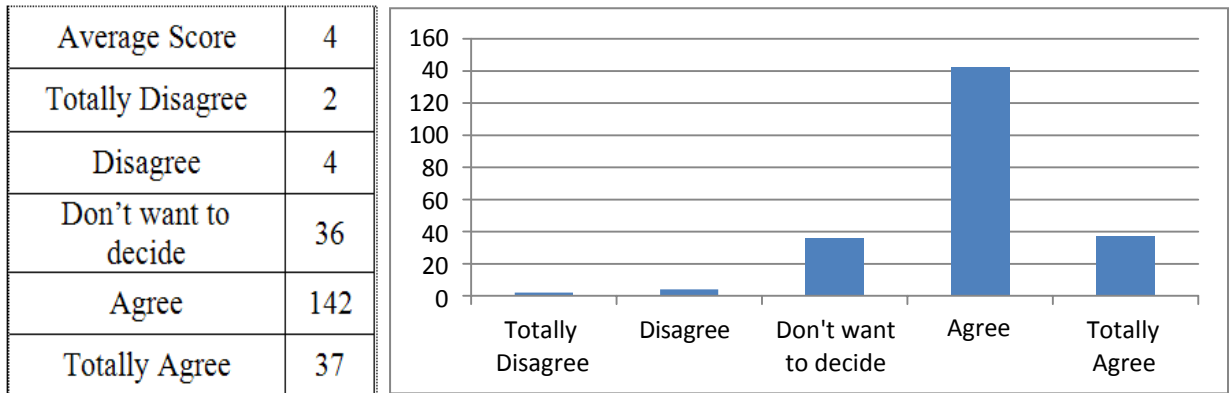
Figure 18

According to the research data, question 2 has a valid agreement. Then, the result is valid and it means that new curriculum can support teachers' degree of success in implementing the school's new curriculum.

(3) New Curriculum can provide teacher's expectations for student in their academic achievement.

Table 19   Attitudes on Question 3

Average Score	4
Totally Disagree	2
Disagree	20
Don't want to decide	52
Agree	96
Totally Agree	51

Figure 19

According to the research data, question 3 has a valid agreement. Then, the result is valid and it means that new curriculum can provide teacher's expectations for student in their academic achievement.

(4) New Curriculum can help teachers by working together to improve student achievement.

Average Score	4
Totally Disagree	3
Disagree	8
Don't want to decide	6
Agree	144
Totally Agree	60

Table 20 Attitudes on Question 4

Figure 20

   According to the research data, question 4 has a valid agreement. Then, the result is valid and it means that new curriculum can help teachers by working together to improve student achievement.

(5) New Curriculum can't support teachers' ability to inspire students.

Table 21 Attitudes on Question 5

|	
Average Score	4
Totally Disagree	6
Disagree	16
Don't want to decide	40
Agree	111
Totally Agree	48

Figure 21

   According to the research data, question 5 has a valid agreement. Then, the result is valid and it means that new curriculum can't support teachers' ability to inspire students.

(6)   New Curriculum can encourage parental involvement in school activities.
Table 22   Attitudes on Question 6

|	
Average Score	4
Totally Disagree	8
Disagree	16
Don't want to decide	21
Agree	133
Totally Agree	43

Figure 22

According to the research data, question 6 has a valid agreement. Then, the result is valid and it means that new curriculum can encourage parental involvement in school activities.

(7)   New Curriculum can reduce the parental pressure on students to maintain high academic achievement.

Table 23   Attitudes on Question 7

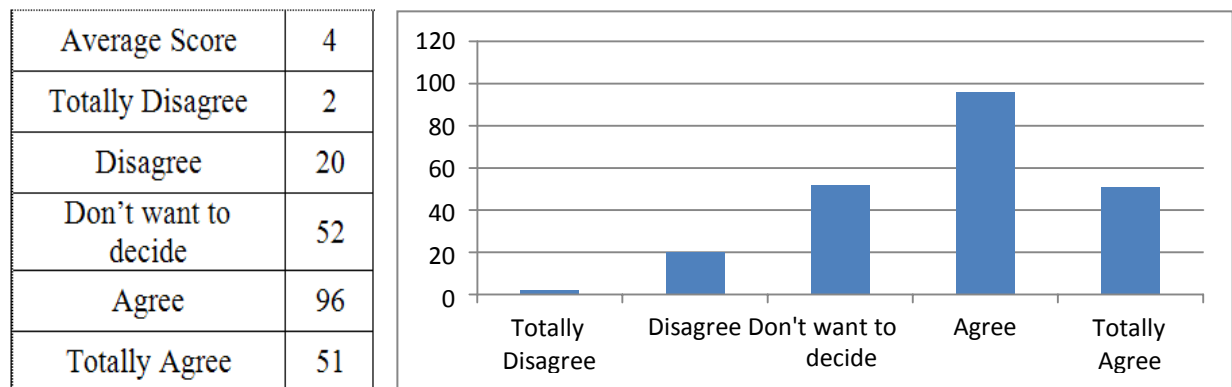|	
Average Score	4
Totally Disagree	2
Disagree	9
Don't want to decide	25
Agree	139
Totally Agree	46

Figure 23

According to the research data, question 7 has a valid agreement. Then, the result is valid and it means that new curriculum can reduce the parental pressure on students to maintain high academic achievement.

(8) New Curriculum can support students to do well in school.

Table 24   Attitudes on Question 8

Average Score	4
Totally Disagree	2
Disagree	3
Don't want to decide	10
Agree	146
Totally Agree	60

Figure 24

According to the research data, question 8 has a valid agreement. Then, the result is valid and it means that new curriculum can support students to do well in school.

(9) New Curriculum can't support student's ability enough to reach school's academic goals.

Table 25   Attitudes on Question 9

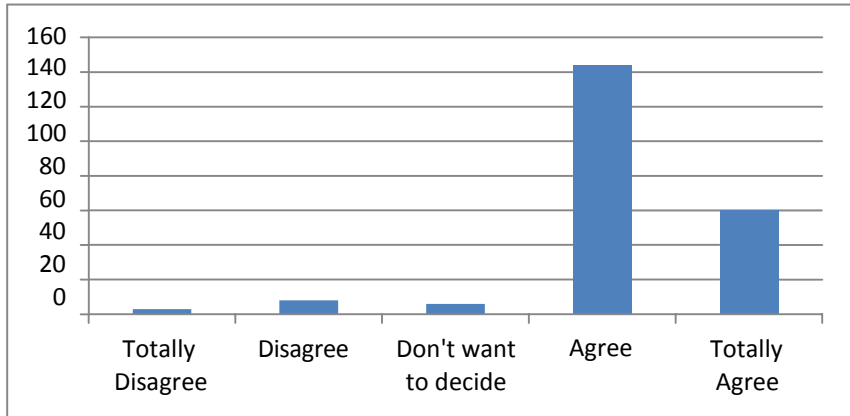| Average Score	4
Totally Disagree	2
Disagree	23
Don't want to decide	34
Agree	106
Totally Agree	56

Figure 25

According to the research data, question 9 has a valid agreement. Then, the result is valid and it means that new curriculum can't support student's ability enough to reach school's academic goals.

(10) New Curriculum can increase the amount of instructional support provided to teachers by headmasters.

According to the research data, question 12 has a valid agreement. Then, the result is valid and it means that new curriculum can provide sharing what I have learned about my teaching experiences.

Table 26 Attitudes on Question 10

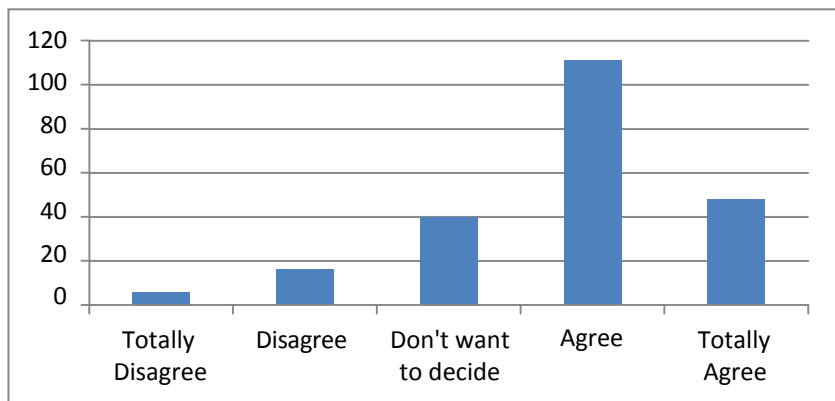| Average Score	4
Totally Disagree	3
Disagree	9
Don't want to decide	38
Agree	135
Totally Agree	36
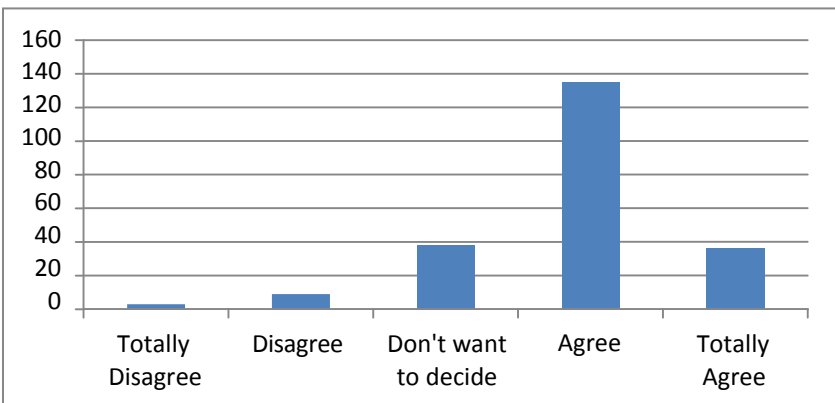
Figure 26

According to the research data, question 10 has a valid agreement. Then, the result is valid and it means that new curriculum can increase the amount of instructional support provided to teachers by headmasters.

(11) **New Curriculum can give collaboration in planning and preparing instructional materials.**

Table 27   Attitudes on Question 11

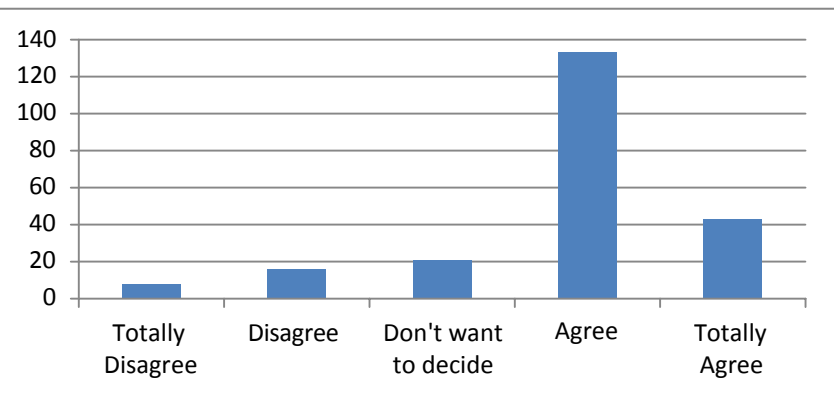|	
Average Score	4
Totally Disagree	2
Disagree	2
Don't want to decide	12
Agree	145
Totally Agree	60
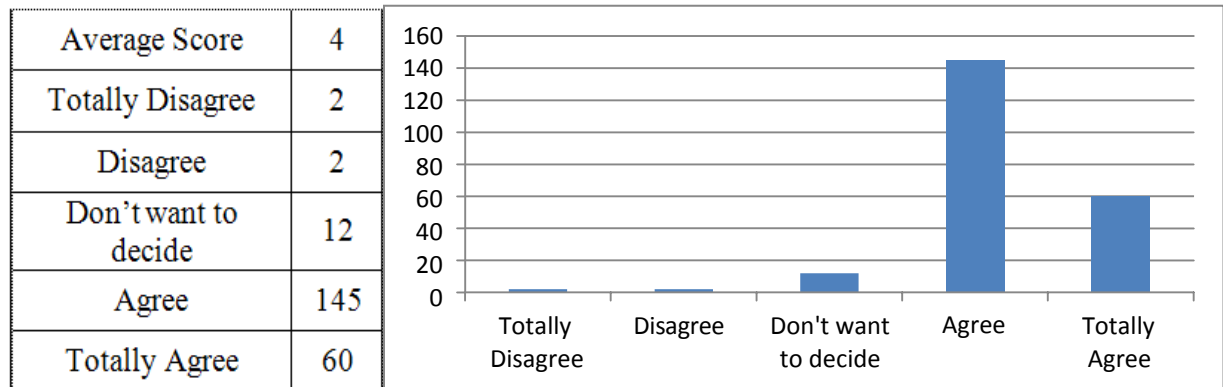
Figure 27

According to the research data, question 11 has a valid agreement. Then, the result is valid and it means that new curriculum can give collaboration in planning and preparing instructional materials.

(12) New Curriculum can provide sharing what I have learned about my teaching experiences.

Table 28   Attitudes on Question 12

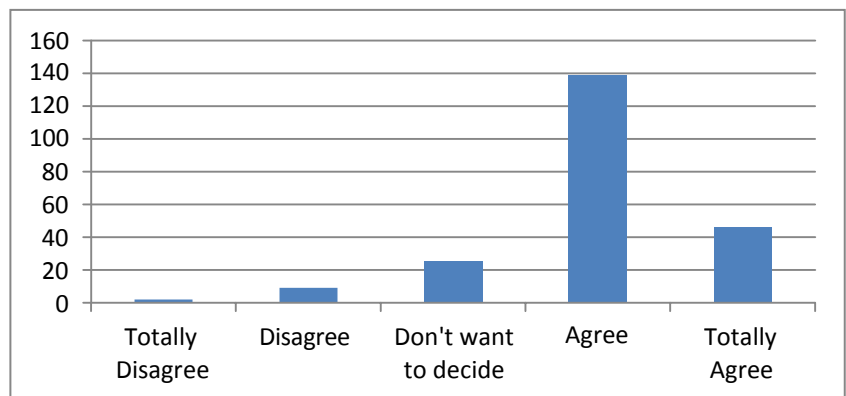|	
Average Score	4
Totally Disagree	2
Disagree	5
Don't want to decide	3
Agree	153
Totally Agree	58

Figure 28

According to the research data, question 12 has a valid agreement. Then, the result is valid and it means that new curriculum can provide sharing what I have learned about my teaching experiences.

(13) New Curriculum make teachers work together to try out new ideas.

Table 29   Attitudes on Question 13

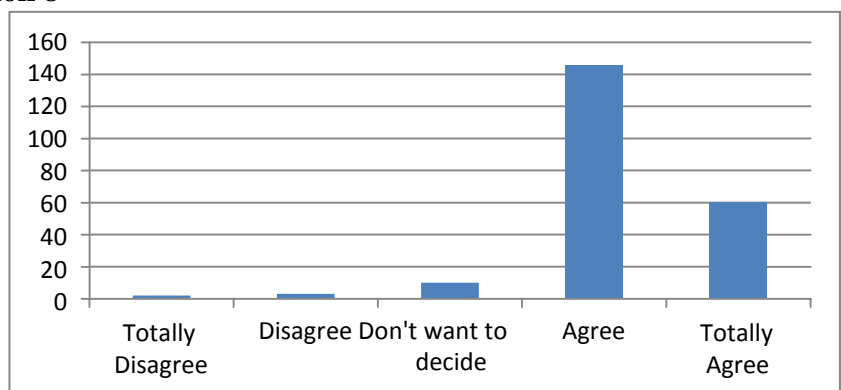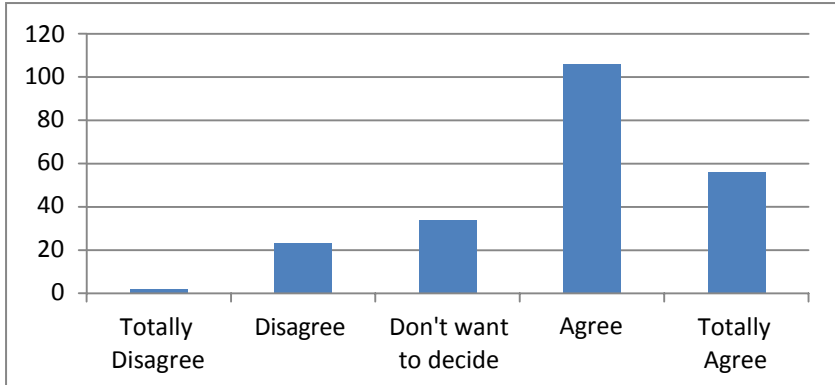|	
Average Score	4
Totally Disagree	2
Disagree	6
Don't want to decide	3
Agree	158
Totally Agree	52

Figure 29

According to the research data, question 13 has a valid agreement. Then, the result is valid and it means that new curriculum make teachers work together to try out new ideas.

(14)   I feel too much pressure from parents and students because of the curriculum changing.

Table 30 Attitudes on Question 14

Average Score	3
Totally Disagree	32
Disagree	72
Don't want to decide	47
Agree	49
Totally Agree	21

Figure 30

According to the research data, question 15 has a valid disagreement. Then, the result is valid and it means that teachers do not have too many teaching hours according to new curriculum.

(15)   I have too many teaching hours according to new curriculum.

Table 31 Attitudes on Question 15

Average Score	2
Totally Disagree	54
Disagree	108
Don't want to decide	20
Agree	30
Totally Agree	9

Figure 31

According to the research data, question 15 has a valid disagreement. Then, the result is valid and it means that teachers do not have too many teaching hours according to new curriculum.

(16)   According to New Curriculum, I need more time to prepare for the class.

Table 32 Attitudes on Question 16

Average Score	2
Totally Disagree	83
Disagree	122
Don't want to decide	9
Agree	6
Totally Agree	1

Figure 32

According to the research data, question 16 has a valid disagreement. Then, the result is valid and it means that teachers do not need more time to prepare for the class.

(17)   According to New Curriculum, I need more time to assist individual students.

Table 33   Attitudes on Question 17

Average Score	2
Totally Disagree	84
Disagree	126
Don't want to decide	8
Agree	0
Totally Agree	3

Figure 33

According to the research data, question 17 has a valid disagreement. Then, the result is valid and it means that teachers do not need more time to assist individual students.

(18)   New Curriculum relates the lessons to students' daily lives.

Table 34 Attitudes on Question 18

| Average Score	4
Totally Disagree	3
Disagree	3
Don't want to decide	5
Agree	131
Totally Agree	79

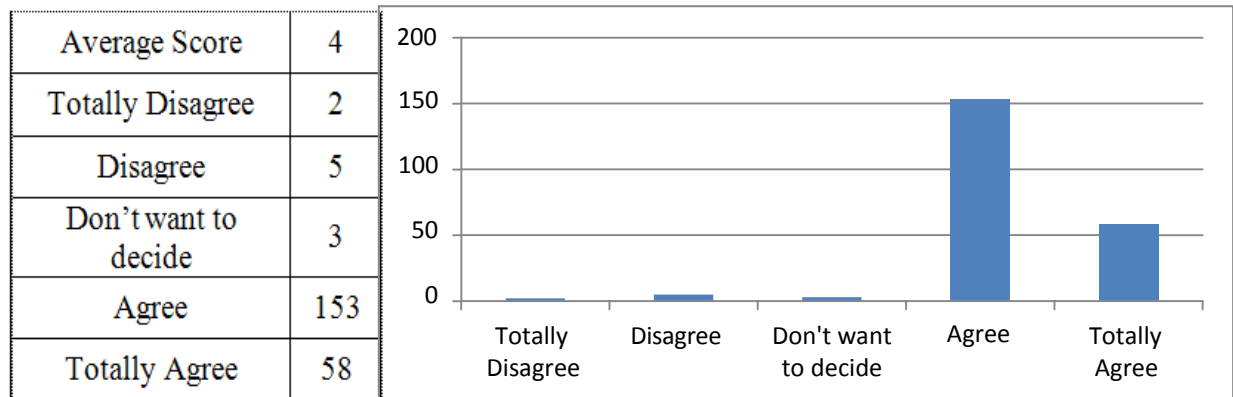**Figure 34**

According to the research data, question 18 has a valid agreement. Then, the result is valid and it means that new curriculum relates the lessons to students' daily lives.

(19)   New Curriculum can bring interesting materials to class.

Table 35 Attitudes on Question 19

Average Score	4
Totally Disagree	4
Disagree	1
Don't want to decide	4
Agree	134
Totally Agree	78
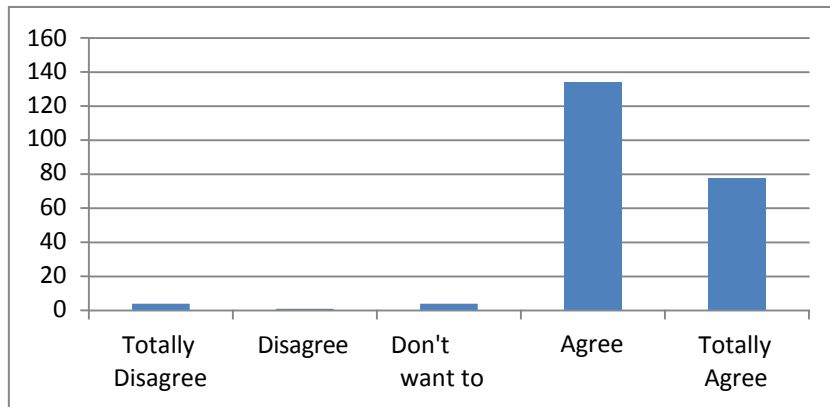
Figure 35

According to the research data, question 19 has a valid agreement. Then, the result is valid and it means that new curriculum can bring interesting materials to class.

(20) New Curriculum can motivate students to complete challenging exercises that require them to go beyond the instruction.

Table 36 Attitudes on Question 20

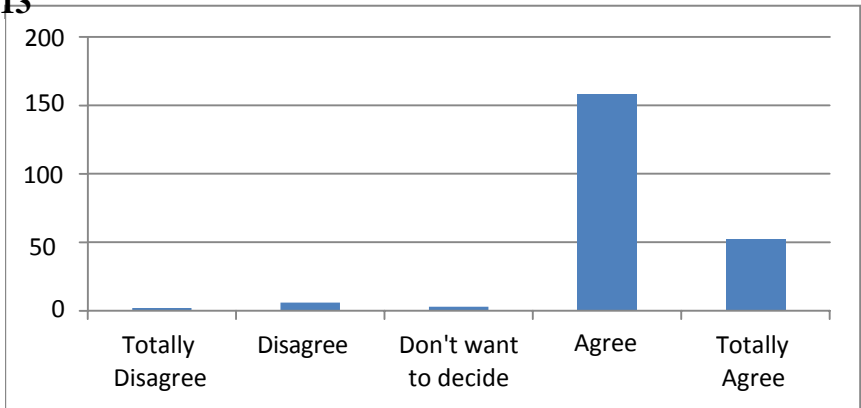|	
Average Score	4
Totally Disagree	3
Disagree	3
Don't want to decide	12
Agree	142
Totally Agree	61
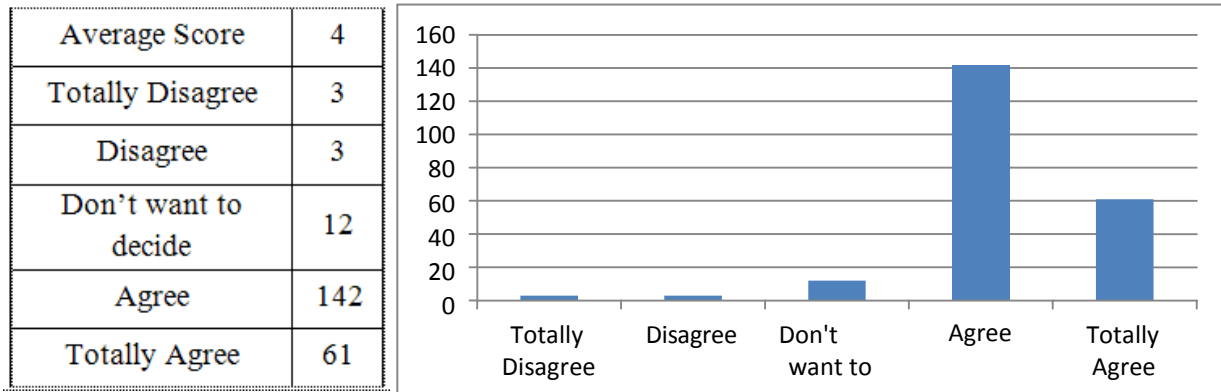
Figure 36

According to the research data, question 20 has a valid agreement. Then, the result is valid and it means that new curriculum can motivate students to complete challenging exercises that require them to go beyond the instruction.

(21)   New Curriculum can encourage classroom discussion among students.

Table 37 Attitudes on Question 21

Average Score	4
Totally Disagree	4
Disagree	2
Don't want to decide	1
Agree	122
Totally Agree	92
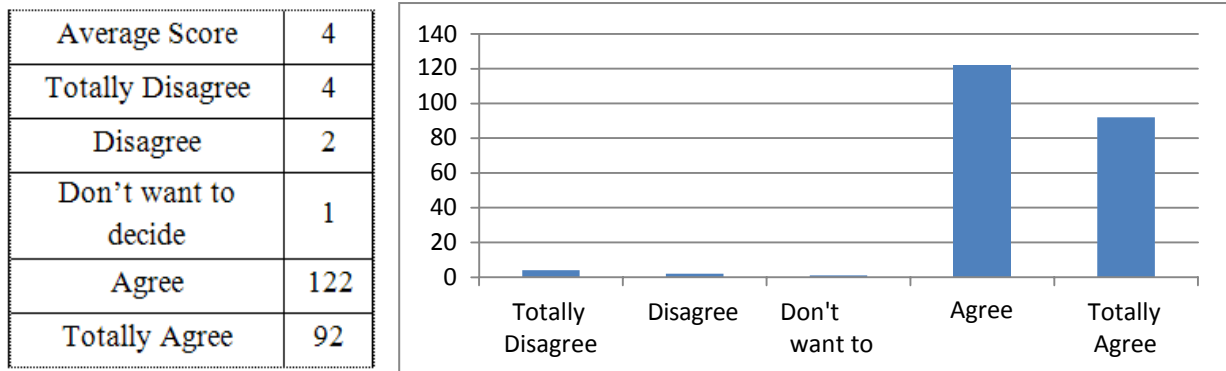
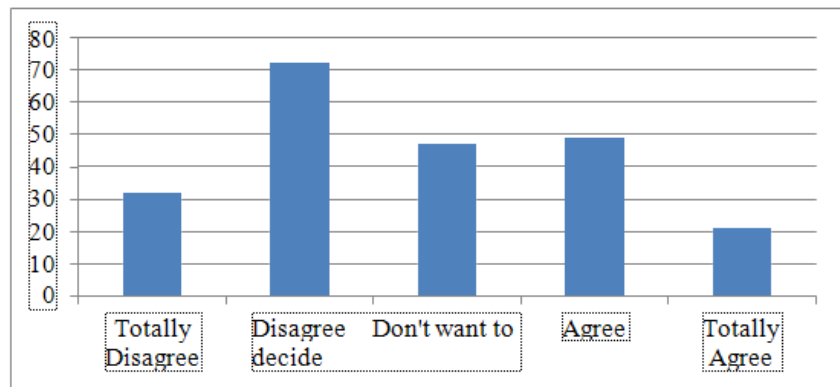**Figure 37**

According to the research data, question 21 has a valid agreement. Then, the result is valid and it means that new curriculum can encourage classroom discussion among students.

(22)   New Curriculum can link new content to students' prior knowledge.

Table 38 Attitudes on Question 22

Average Score	4
Totally Disagree	3
Disagree	1
Don't want to decide	3
Agree	149
Totally Agree	65

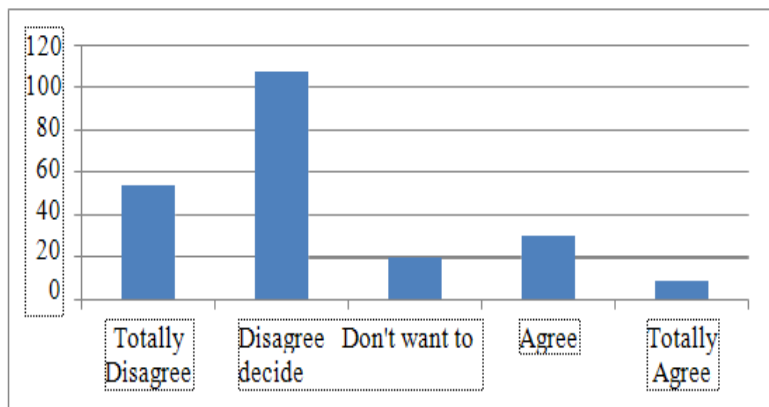**Figure 38**

According to the research data, question 22 has a valid agreement. Then, the result is valid and it means that new curriculum can link new content to students' prior knowledge.

(23)   New Curriculum can enhance students to decide their own problem-solving procedures.

Table 39 Attitudes on Question 23

Average Score	4
Totally Disagree	4
Disagree	1
Don't want to decide	10
Agree	148
Totally Agree	58

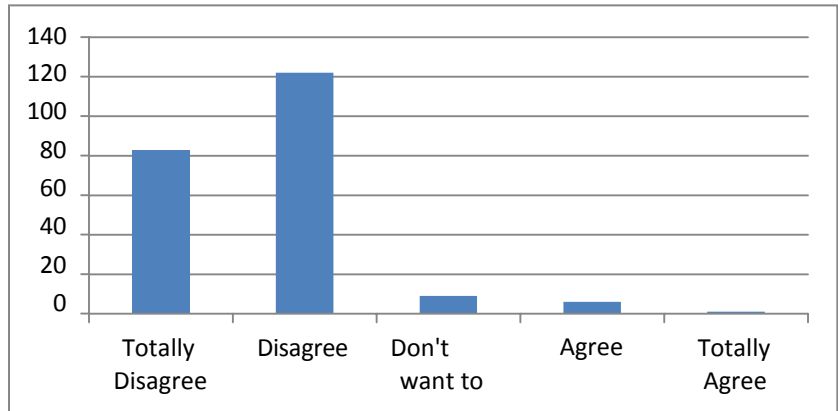**Figure 39**

According to the research data, question 23 has a valid agreement. Then, the result is valid and it means that new curriculum can enhance students to decide their own problem-solving procedures.

(24)   New Curriculum can encourage students to express their own ideas in classroom.

Table 40   Attitudes on Question 24

Average Score	4
Totally Disagree	3
Disagree	2
Don't want to decide	2
Agree	144
Totally Agree	70

Figure 40

According to the research data, question 24 has a valid agreement. Then, the result is valid and it means that new curriculum can encourage students to express their own ideas in classroom.

(25)   New Curriculum can show a variety of problem-solving strategies to students.

Table 41   Attitudes on Question 25

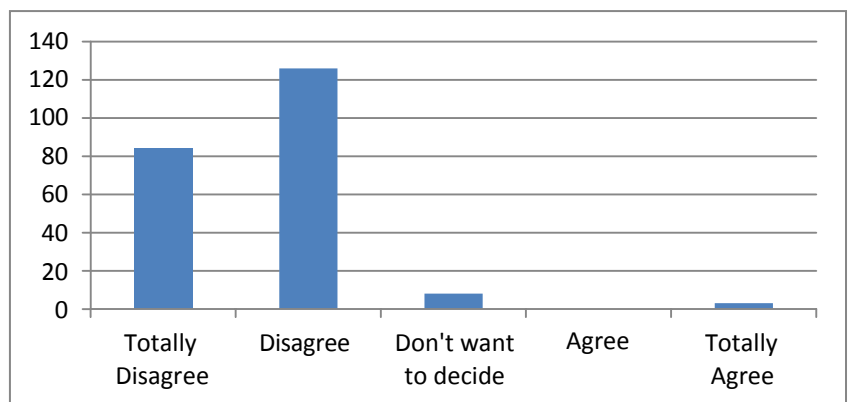|	
Average Score	4
Totally Disagree	3
Disagree	4
Don't want to decide	6
Agree	155
Totally Agree	53

Figure 41

According to the research data, question 25 has a valid agreement. Then, the result is valid and it means that new curriculum can show a variety of problem-solving strategies to students.

(26)   New Curriculum can provide challenging tasks for the highest achieving students.

Table 42   Attitudes on Question 26

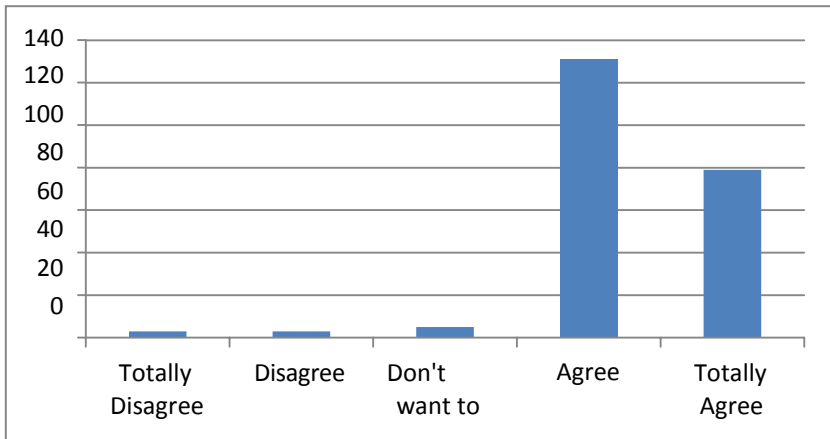|	
Average Score	4
Totally Disagree	5
Disagree	29
Don't want to decide	28
Agree	130
Totally Agree	29

Figure 42

According to the research data, question 26 has a valid agreement. Then, the result is valid and it means that new curriculum can provide challenging tasks for the highest achieving students.

(27)

(28)   New Curriculum enables adapting my teaching to engage students' interest.

Table 43   Attitudes on Question 27

|	
Average Score	4
Totally Disagree	2
Disagree	2
Don't want to decide	10
Agree	171
Totally Agree	36

Figure 43

According to the research data, question 27 has a valid agreement. Then, the result is valid and it means that new curriculum can enables adapting teachers' teaching to engage students' interest.

(29)   New Curriculum helps students appreciate the value of learning in all subjects.

Table 44   Attitudes on Question 28

|	
Average Score	4
Totally Disagree	4
Disagree	3
Don't want to decide	14
Agree	161
Totally Agree	39

Figure 44

According to the research data, question 28 has a valid agreement. Then, the result is valid and it means that new curriculum helps students appreciate the value of learning in all subjects.

(30)   New Curriculum can develop students' higher-order thinking skills.

Table 45   Attitudes on Question 29

|	
Average Score	4
Totally Disagree	3
Disagree	2
Don't want to decide	9
Agree	147
Totally Agree	60

Figure 45

According to the research data, question 29 has a valid agreement. Then, the result is valid and it means that new curriculum can develop students' higher-order thinking skills.

(31)   New Curriculum can't explain enough with the new subject content.

Table 46   Attitudes on Question 30

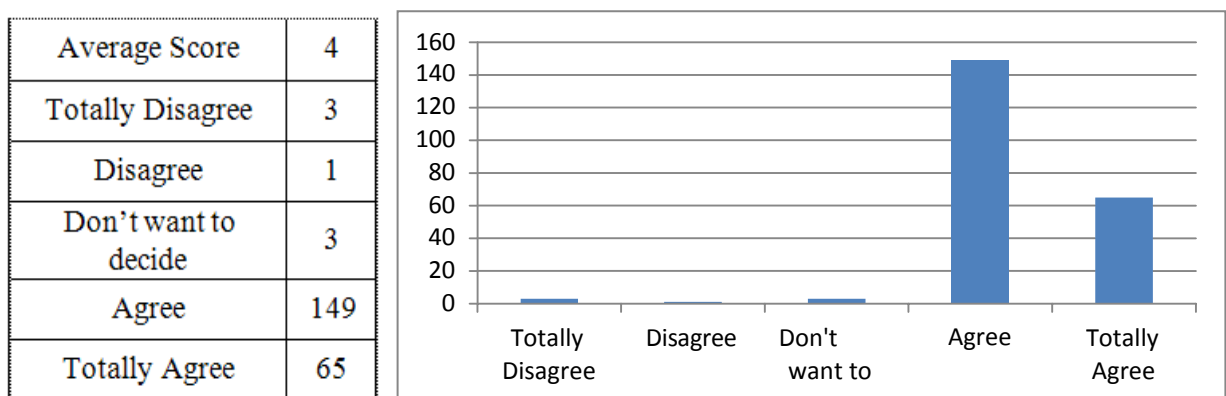|	
Average Score	4
Totally Disagree	9
Disagree	28
Don't want to decide	47
Agree	84
Totally Agree	53

Figure 46

According to the research data, question 30 has a valid agreement. Then, the result is valid and it means that new curriculum can't explain enough with the new subject content.

(32)   New Curriculum can lead a way of how to solve the problems.

Table 47   Attitudes on Question 31

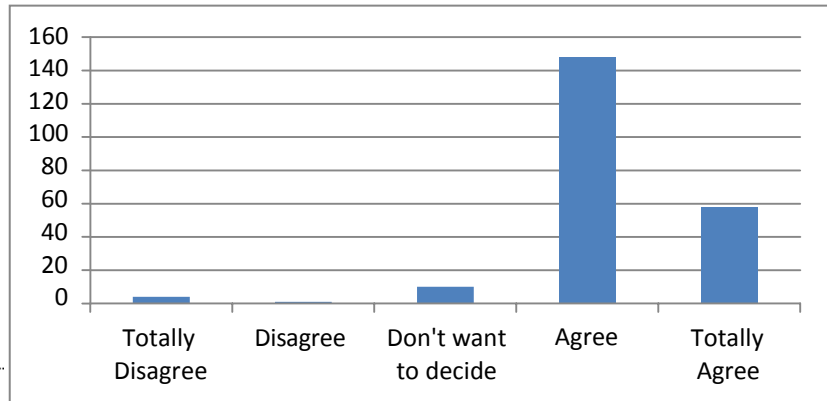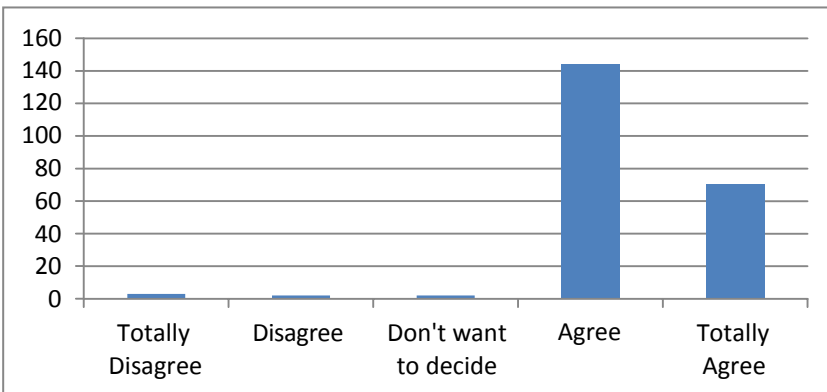| Average Score	4
Totally Disagree	4
Disagree	10
Don't want to decide	31
Agree	149
Totally Agree	27

Figure 47

According to the research data, question 31 has a valid agreement. Then, the result is valid and it means that new curriculum can lead a way of how to solve the problems.

(32) In teaching, New Curriculum can help in memorizing the rules, procedures and facts.

Table 48   Attitudes on Question 32

Average Score	3
Totally Disagree	10
Disagree	53
Don't want to decide	38
Agree	70
Totally Agree	50
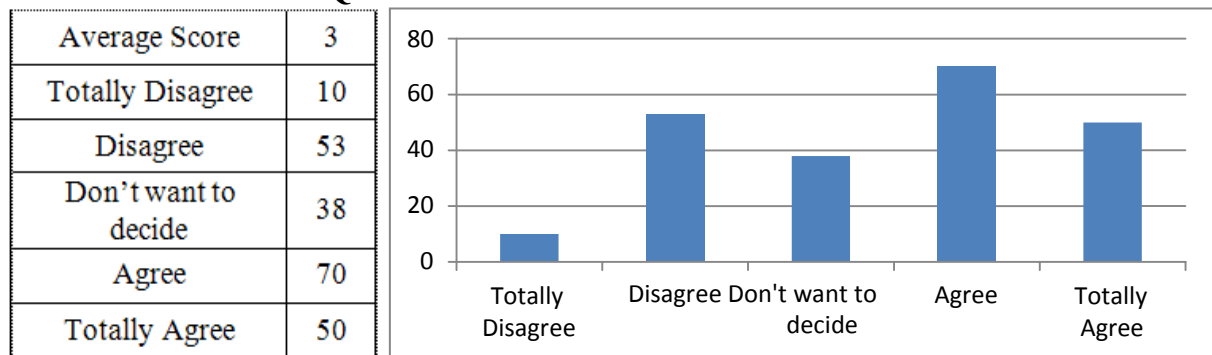
Figure 48

According to the research data, question 32 has neither agreement nor disagreement. Then, the result is not valid.

(33) I have difficulty in keeping up with all of the changes to the new curriculum.

Table 49   Attitudes on Question 33

Average Score	3
Totally Disagree	13
Disagree	61
Don't want to decide	48
Agree	65
Totally Agree	34
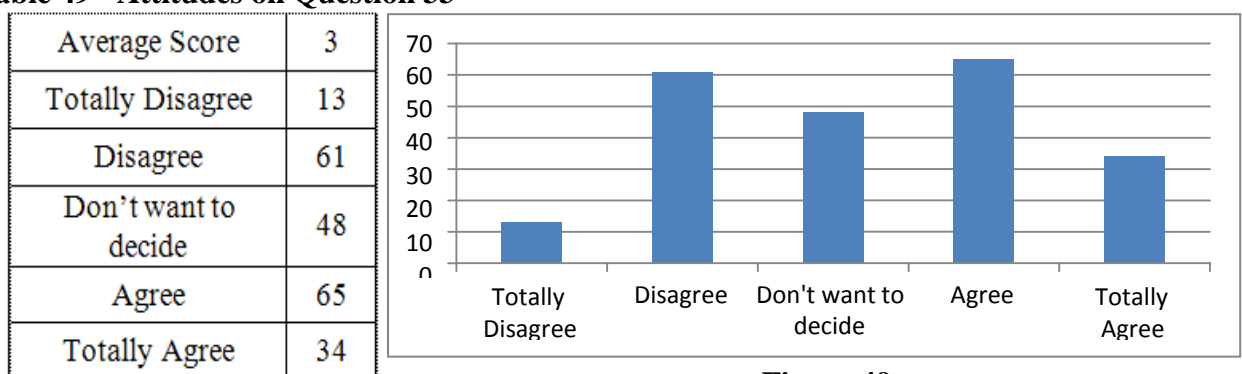
Figure 49

According to the research data, question 33 has neither agreement nor disagreement. Then, the result is not valid.

(34) New Curriculum can help in sharing students' learning problems easily.

Table 50   Attitudes on Question 34

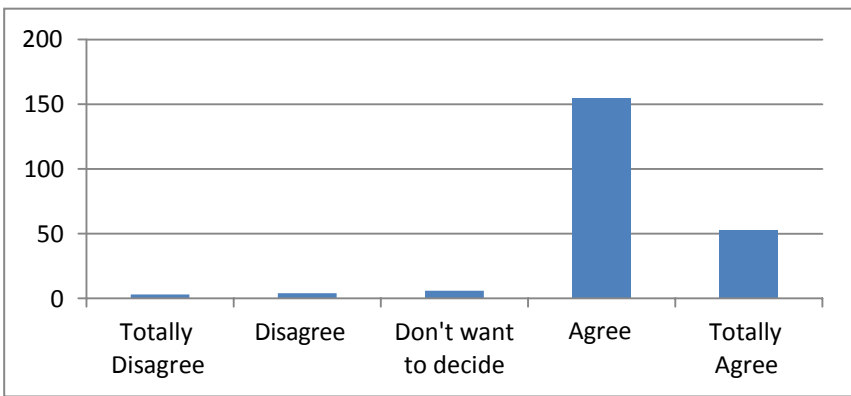|	
Average Score	4
Totally Disagree	4
Disagree	6
Don't want to decide	14
Agree	168
Totally Agree	29

Figure 50

According to the research data, question 34 has a valid agreement. Then, the result is valid and it means that new curriculum can help in sharing students' learning problems easily.

(35) According to New Curriculum Teaching Style, students do not feel bored with the classroom.

Table 51 Attitudes on Question 35

Average Score	4
Totally Disagree	3
Disagree	0
Don't want to decide	4
Agree	146
Totally Agree	68

Figure 51

According to the research data, question 35 has a valid agreement. Then, the result is valid and it means that students do not feel bored with the classroom because of the new curriculum teaching style.

(36)   New Curriculum can provide opportunities for students in questioning and criticizing.

Table 52 Attitudes on Question 36

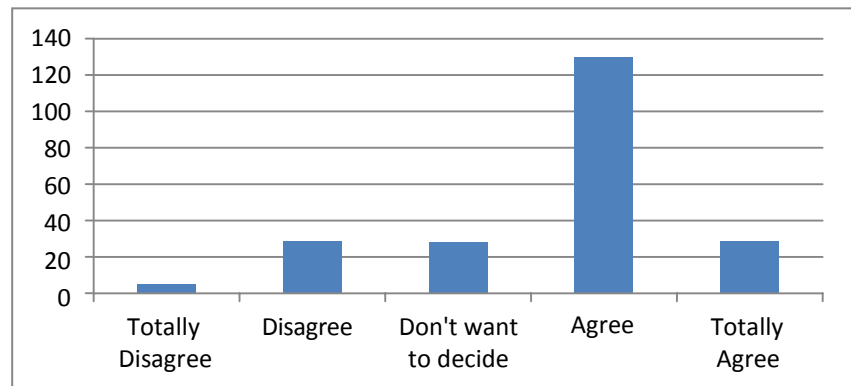| Average Score	4
Totally Disagree	3
Disagree	0
Don't want to decide	4
Agree	146
Totally Agree	68

Figure 52

According to the research data, question 36 has a valid agreement. Then, the result is valid and it means that new curriculum can provide opportunities for students in questioning and criticizing.

(37) New Curriculum can help in correcting students' mistakes without offending them.

Table 53   Attitudes on Question 37

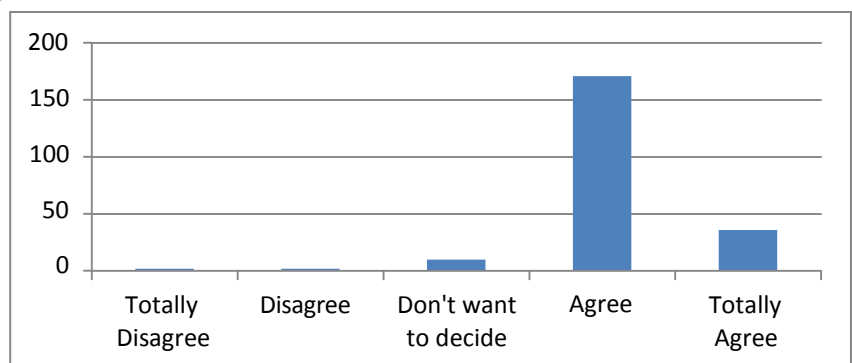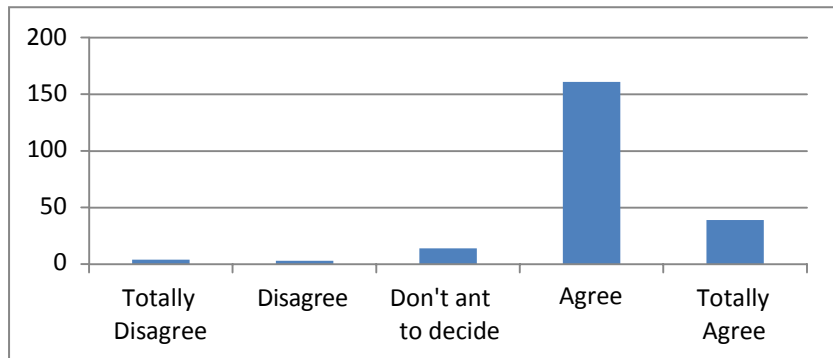| Average Score	4
Totally Disagree	3
Disagree	2
Don't want to decide	8
Agree	156
Totally Agree	52
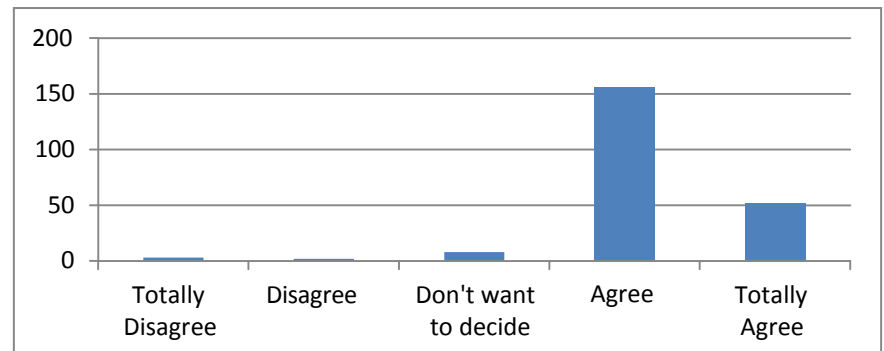
Figure 53

According to the research data, question 37 has a valid agreement. Then, the result is valid and it means that new curriculum can help in correcting students' mistakes without offending them.

(38)   Classroom Assessment in New Curriculum can measure student's real success.

Table 54   Attitudes on Question 38

Average Score	4
Totally Disagree	4
Disagree	6
Don't want to decide	29
Agree	127
Totally Agree	55
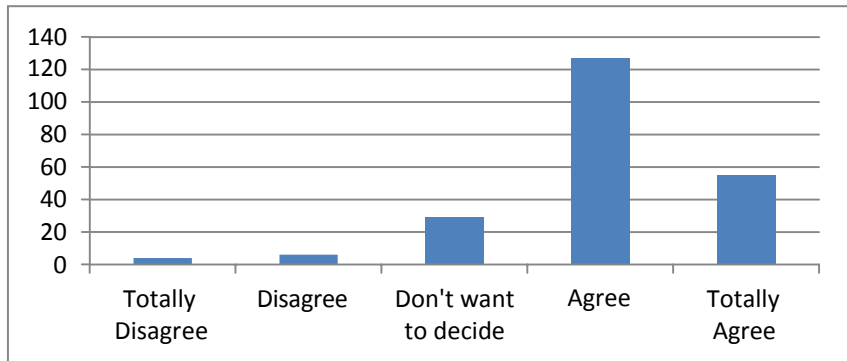
Figure 54

According to the research data, question 38 has a valid agreement. Then, the result is valid and it means that classroom assessment in new curriculum can measure student's real success.

(39) Since there are no exams in New Curriculum, it improves students learning in classroom.

Table 55   Attitudes on Question 39

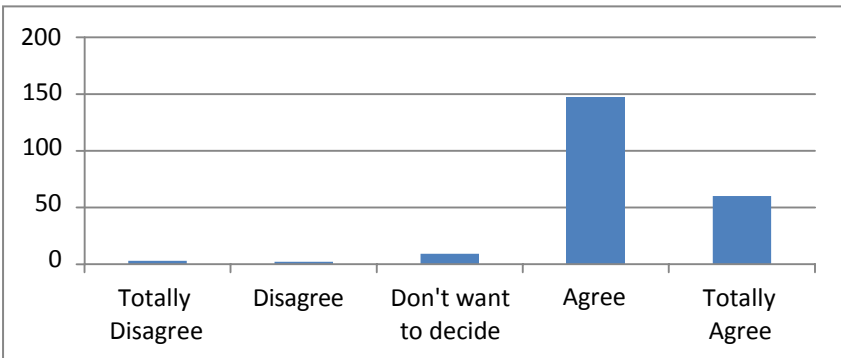|	
Average Score	4
Totally Disagree	7
Disagree	14
Don't want to decide	58
Agree	110
Totally Agree	32
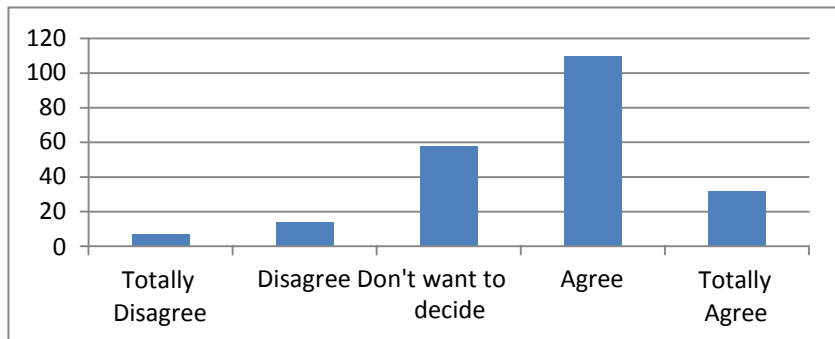
Figure 55

According to the research data, question 39 has a valid agreement. Then, the result is valid and it means that new curriculum improves students learning in classroom since there is no exam.

(40) No exam system can provide a better teaching-learning process in New Curriculum.

Table 56   Attitudes on Question 40

Average Score	4
Totally Disagree	8
Disagree	18
Don't want to decide	62
Agree	101
Totally Agree	32

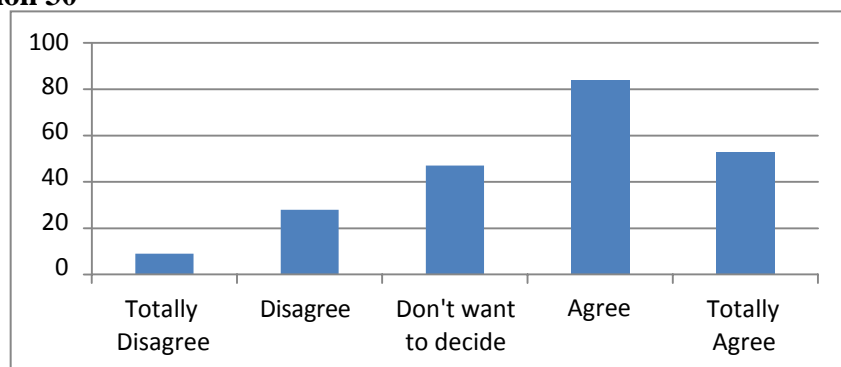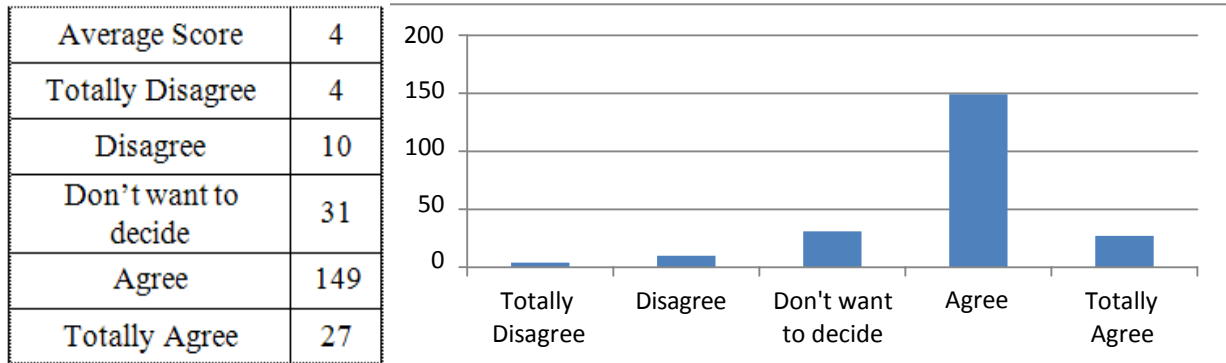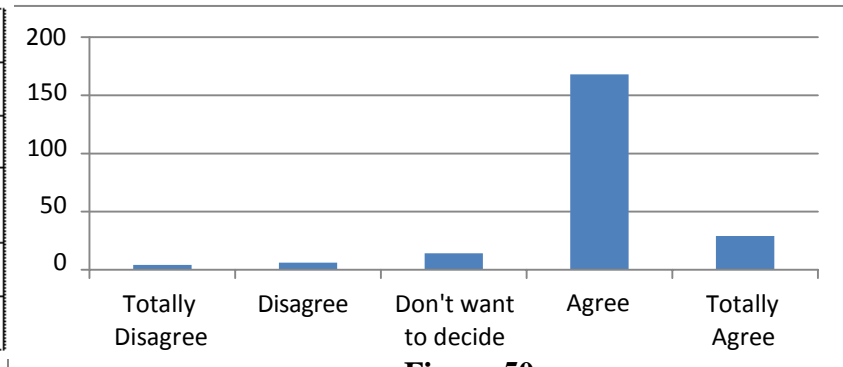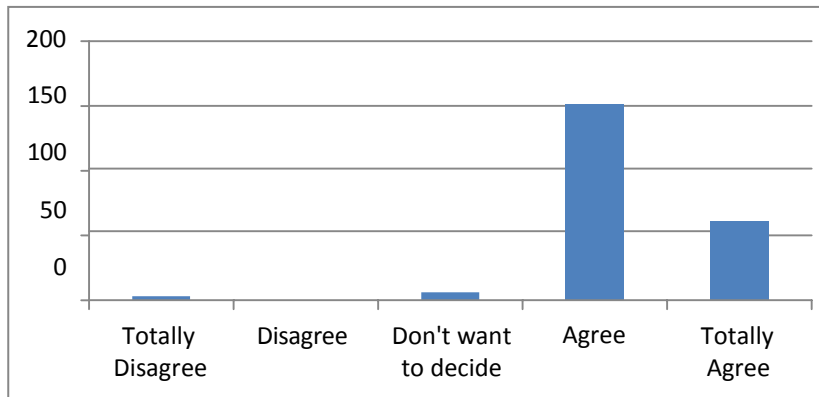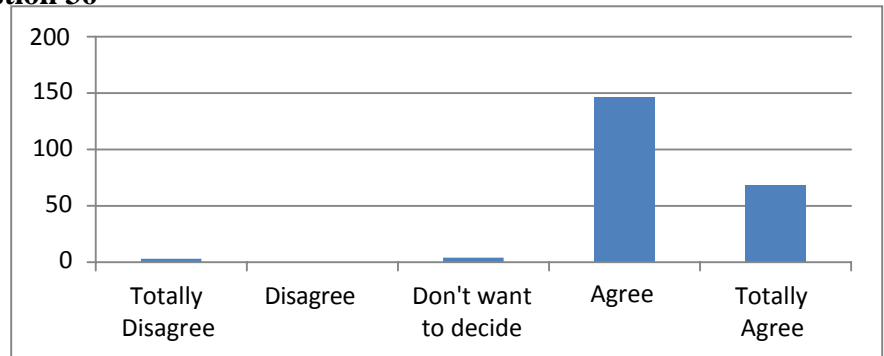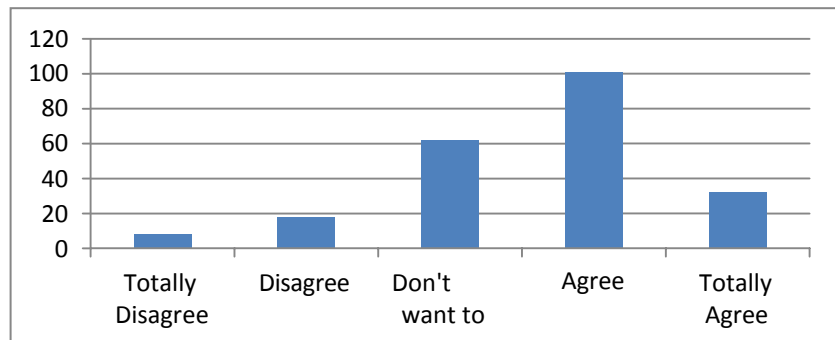**Figure 56**

According to the research data, question 40 has a valid agreement. Then, the result is valid and it means that no exam system can provide a better teaching-learning process in new curriculum.

According to the results that are mentioned above, most of the questionnaires get valid agreement and only few participants can't be decided. But in conclusion, we can say that most of the teachers have good attitude on new curriculum.

Discussion of the Study

In education, there is frequently a mismatch between the intended, the implemented and the attained curriculum (Cuban, 1993). The intended curriculum is the one prescribed by policy makers, the implemented curriculum is the one that is actually carried out by teachers in their classrooms, and the attained curriculum is the one learnt by students (Howson & Wilson, 1986). Part of the mismatch is due to the fact that teachers and students work on more limited goals than those proposed by curriculum developers, teacher educators, writers of syllabuses, and textbook authors (Handal, 2001). Mathematics teachers, for example, are concerned only with students acquiring facts and performing skills prescribed by the syllabus rather than being concerned about broader educational goals.

Other factors affecting curriculum alignment have been extensively discussed by Anderson and Piazza (1996), Clarke (1997), Memon (1997), and Mumme and Weissglass (1991). In the context of a school based curriculum development project, Clarke (1997) identified 12 factors that appeared to influence the change process: (a) the reform movement in general (b) the principal and school community (c) internal support personnel (d) the spirit of collegiality, collaboration, and experimentation (e) the grade level team of teachers

(f) innovative curriculum materials (g) the in service program (h) external support personnel (i) the researcher acting as a participant observant and critical friend (j) outcomes valued by the teacher (k) day to day conditions under which teachers work and (l) teacher knowledge.

Memon (1997) suggested a more comprehensive list of factors affecting curriculum change that are grouped as curricular, instructional, and organizational factors. It is clear that curriculum change is a complex process and while there are many resources and support factors that appear to influence change, it is apparent that any successful reform will need to take into account teachers' beliefs about the intended, the implemented, and the attained curriculum.

The study reveals that the teachers have a positive attitude towards the new curriculum in Myanmar. A majority of the teachers are of the opinion that the teachers of the new curriculum facilitates learners' participation, learners' enjoyment and ensure their multi- dimensional development, evaluation process is learner friendly and the term end questions are in tune with the philosophy of the new curriculum.

Limitations and Recommendations for Future Study

This study was the use of questionnaires rather than direct observation or interviews and the use of small sample size is the limitation for this study. To get the higher validation and more specific attitudes in the future study, researchers need to use both survey questionnaire and direct observation or interviewing method. Also, the use of large sample size that can represent the whole country will lead to more accurate attitudes on the new curriculum.

Conclusion

By investigating the attitudes of teachers with seven aspect of sub-title, it reveals that most of the teachers have positive attitudes. This can be giving massive training to the teachers before implementing the new curriculum. The authorities has to give more mass orientation program to the teachers with respect to the new curriculum, its philosophical, psychological and educational background and there by create an atmosphere to accept positive changes in the field.

The study reveals that one of the critical areas which requires further refinement and reforms are the evaluation related aspects of the curriculum. Many teachers informally opined that the new curriculum does not directly influencing the teaching learning process. Another factors noticed by the investigator while interacting with the teachers is that majority of them are not aware of the philosophy behind the new curriculum and the trend of curriculum reforms occurring in Myanmar.

References

Adentwi, K. I. (2005). Curriculum development: An introduction. *Kumasi A/R: Wila Press Ltd*.

Anderson, D. S., & Piazza, J. A. (1996). Changing beliefs: Teaching and learning mathematics in constructivist preservice classrooms. *Action in Teacher Education*, *18*(2), 51-62.

Clarke, D. M. (1997). The changing role of the mathematics teacher. *Journal for Research in mathematics education*, 278-308.

Cuban, L. (1993). The lure of curricular reform and its pitiful history. *Phi Delta Kappan*, *75*, 182-182.

Eunitah, V., Chindedza, W., Makaye, J., & Mapetere, K. (2013). Centrally designed curricula in developing educational contexts: Challenges and possibilities. *Standard Journal of Education and Essay*, *1*(3), 40-44.

Handal, B., & Herrington, A. (2003). Mathematics teachers' beliefs and curriculum reform. *Mathematics education research journal*, *15*(1), 59-69.

Howson, A. G., Howson, G., & Wilson, B. (Eds.). (1986). *School Mathematics in the 1990s* (Vol. 2). CUP Archive.

Maphosa, C., & Mutopa, S. (2012). Teachers' awareness of their role in planning and implementing school-based curriculum innovation. *The Anthropologist*, *14*(2), 99-106.

Memon, M. (1997). Curriculum change in Pakistan: An alternative model of change. *Curriculum and Teaching*, *12*(1), 56-65.

Mumme, J. U. D. I. T. H., & Weissglass, J. U. L. I. A. N. (1991). Improving mathematics education through schoolbased change. *Issues in Mathematics Education Offprint*, 3-23.

Stenhouse, L., Sacristà, G., & Guerra Miralles, A.(1975). An introduction to curriculum research and development. spa.

Tanner, D., & Tanner, L. N. (1980). *Curriculum development: Theory into practice*. New York: Macmillan.

FACTORS INFLUENCING ACADEMIC ENGAGEMENT OF UNIVERSITY STUDENTS: A META-ANALYSIS STUDY

Khin Mar Myint[1], Nu Nu Khaing[2]

Abstract

Education is the life-wire of every nation. But there is a general outcry that the standards of education are falling and morals flagging in many parts of the world. As a solution for ineffectiveness of education, many educators described that the intended outcomes can be made through academic engagement. In order to know whether the academic engagement actually works in the enhancement of education sector, the present study analyzed the relative strengths of the associations between academic engagement and internal and external factors by meta-analysis approach. First of all, the researcher searched the literature via different search engines_ Google, Google Scholar, PsycINFO, and Academia using the keywords_factors influencing/ affecting academic engagement, determiners of academic engagement, and predictors of academic engagement. After screening 153 studies, 23 studies with combined sample size ranging from 91 to 2368 participants, which met all the required criteria were identified. For reporting meta-analyses, PRISMA statements were followed. According to meta-analysis results, academic self-efficacy, academic satisfaction, academic performance, motivation, and valuing were found to be the related internal factors which influence academic engagement. And gender, lecturers' teaching styles and grade were also found as related external factors. In addition, it was found that motivation was the strongest internal factor influencing academic engagement. As engagement plays an important role in the academic setting of university students, they all need to possess a relatively high level of academic engagement. The findings of the present study will provide the various influencing factors of academic engagement aiming to be a good support for enhancing an essential factor of education sector.

Keywords: Academic Engagement, Meta-analysis, PIASMA, Internal Factors, External Factors

Introduction

Numerous factors have been pointed out for the ineffectiveness of education. It is not sapient to say that these conditions may be entirely due to structural and or administrative ineptitude. Among many factors that influence education, educators have been considered engagement as a means for producing effective education. The term engagement is more than involvement or participation- it requires feelings and sense making as well as activity (Harper & Quaye, 2009). In order to ascertain both sense and activity, we need to make sure that our students are being engaged in their academic settings.

Engagement increases the odds that any student will attain his or her educational and personal objectives. It makes students acquire the skills and competencies demanded by the challenges of the twenty-first century, and enjoy the intellectual and monetary advantages associated with the completion of the baccalaureate degree (Kuh, 2009). Being an important indicator for cultivating intellectualized graduates, engagement should be mentioned in academic settings.

Educators described that the intended outcomes can be made through academic engagement. Kahu (2013) stated that knowledge, skill and competences learned or achieved through academic engagement can be considered as proximal academic outcomes rather than academic engagement in studying. Further distal academic outcomes include individual students' retention in universities, employment success and lifelong learning (Kahu, 2013).

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Academic engagement is often linked with good learning outcomes (Fredricks et al., 2004). For example, high levels of academic engagement were associated with academic outcomes, such as university persistence (Hughes & Pace, 2003) and grade point average (GPA) (Carini et al., 2002). As we aim to result good educational outcomes, students need to possess a certain level of engagement to their academic settings.

So, academic engagement is an important issue in the enhancement of education sector in many countries. All of its characteristics and dimensions create a satisfactory atmosphere for teaching learning process. This study aims to concentrate on this issue as a way to solve the problem of failure in education.

Related Literature Review

Concept of Academic Engagement

The role of engagement in understanding students' educational trajectories and outcomes emerged as a topic of interest and importance in recent decades. Much of the theoretical and empirical work that currently exists stems from Alexander Astin (1984).

According to Astin (1984), "student involvement refers to the quantity and quality of the physical and psychological energy that students invest in the college experiences. His student involvement theory focuses solely on the motivation and behavior of the students at a university. As students become more engaged, academically and socially, students feel a greater attachment to the institution and become satisfied with their experiences.   Academic engagement can also be understood as "a measure of student involvement with university studies" (Horstmanshoff & Zimitat, 2007), which encourages students to develop "a deeper understanding of their university work" (Horstmanshoff & Zimitat, 2007).

Another perspective indicates that engagement occurs when "students take advantage of the range of learning opportunities their institutions provide outside the classroom" (Reason, Terenzini & Domingo, 2006). Furthermore, Kuh, Cruce, Shoup, and Kinzie (2008) define academic engagement as "the time and energy students invest in educationally purposeful activities". The benefits of students' engagement, as well as factors that impact engagement, are now highlighted to provide an overview of the engagement literature.

The level, type, and frequency of engagement has been shown to impact several educational outcomes, including retention and persistence (Pascarella & Terenzini, 2005; Horstmanshof & Zimitat, 2007), as well as "growth in academic competence" (Reason, Terenzini & Domingto, 2006, p. 171). Horstmanshof & Zimitat (2007) found that students oriented towards future goals, such as careers after college, resulted in "an increase in the level of students' engagement with their studies, and potentially, an increased likelihood that they would continue with their studies long-term". In this sense, engagement is a critical component to students' persistence in college.

Factors that Affect Student Engagement

According to previous studies, factors that impact students' academic engagement, and by extension, their learning and persistence in college, include contact with people different than themselves (Pascarella & Terenzini, 2005; Reason, Terenzini & Domingo, 2006); being oriented towards the future (Horstmanshof & Zimitat, 2007); faculty (Umbach & Wawrzynski, 2005); and race/ethnicity (Johnson, Crosnoe & Elder, 2001). Pike & Kuh (2005) also found that academic

engagement was influenced by being female, having graduate or professional-school aspirations, and residing on the college campus.

Meta-analysis Approach

Nowadays, there has already been a great number of research which examined factors influencing academic engagement. However, the resulted factors for each study may be different in accordance with the intention of the researcher. Individual studies addressing academic engagement in research are available, but a synthesis of results in this area has to date needs to be undertaken. For these reasons, it is necessary to find the various related factors of academic engagement through meta-analysis approach.

Meta-analysis, a quantitative approach, is a statistical analysis that combines the results of independent observations into an average effect size and draws an overall conclusion regarding the direction and magnitude of real-world effects. To accomplish its purpose, a meta-analysis requires a thorough search of the relevant studies, and the results of each individual study have to be translated into the same metric (Cooper, 1998; Lipsey & Wilson, 2001).

In general, the statistical analysis usually applied in meta-analysis has three main objectives: (a) to estimate the overall effect size of the population to which the studies pertain; (b) to assess if the heterogeneity found among the effect estimates can be explained by chance alone or if, on the contrary, the individual studies exhibited true heterogeneity, that is, variability produced by real differences among the population effect sizes; and, (c) if heterogeneity cannot be explained by sampling error alone, to search for study characteristics that could operate as moderator variables of the effect estimates.

The outcome of a meta-analysis is a weighted mean effect size which reflects the population effect size more accurately than any of the individual estimates.

Advantages of Meta-analysis are

- Results can be generalized to a larger population,
- The precision and accuracy of estimates can be improved as more data is used,
- Inconsistency of results across studies can be quantified and analyzed,
- Hypothesis testing can be applied to summary estimates
- Moderators can be included to explain variation between studies,
- The presence of publication bias can be investigated.

Meta-analytic Measures

Effect Size: An effect size is a value which describes the result of a treatment revealed in a comparison between groups or degree of association between two related variables. Depending on such study characteristics as the design type and how the variables implied were measured, the meta-analyst has to select one of the different effect-size indices and apply it to all of the studies of the meta-analysis (Grissom & Kim, 2005). So, when the dependent variable is continuous and the purpose of each study is to compare the performance between two groups, the standardized mean difference is the most usual effect size index (Cooper, 1998; Hedges & Olkin, 1985). If the dependent variable is dichotomous or has been dichotomized, then effect-size

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indices such as an odds ratio (or its log transformation), a risk ratio (or its log transformation), or a risk difference can be applied (Egger, Smith, & Altman, 2001; Haddock, Rindskopf, & Shadish, 1998; Sa´nchez-Meca, Marı´n-Martı´nez, & Chaco´n-Moscoso, 2003). If all of the variables are continuous, then an effect-size index from the *r* family can be applied, such as the Pearson correlation coefficient or its Fisher's Z transformation (Hunter & Schmidt, 2004; Rosenthal, 1991; Rosenthal, Rosnow, & Rubin, 2000). The two main families of effect are differences between groups (also known the *d* family) and measures of association (also known as the *r* family). It can be computed for each study and then the work with the effect sizes to assess the consistency of the effect across studies and to compute a summary effect. Effect size is the prevailing unit in a meta-analysis.

Forest Plot: A forest plot, also known as a blobbogram, is a graphical display of estimated results from a number of scientific studies addressing the same question, along with the overall results. Each horizontal line on a forest plot represents an individual study with the result plotted as a box and the 95% confidence interval of the result displayed as the line. The implication of each study falling on one side of the vertical line or the other depends on the statistic being used. If the individual study crosses the vertical line, it means the null value lies within the 95% confidence interval. This implies the study result is in fact the null value and therefore the study did not observe a statistically significant difference between the treatment and control groups. The bullet at the bottom of the forest plot shows the result when all the individual studies are combined together and averaged. The horizontal points of the bullet are the limits of the 95% confidence intervals and are subject to the same interpretation as any of the other individual studies on the plot. The I^2 statistic gives an idea of the heterogeneity of the studies, i.e. how consistent they are. If the I^2 value is >50% it might mean the studies are inconsistent due to a reason other than chance. This might make the conclusions from the forest plot questionable.
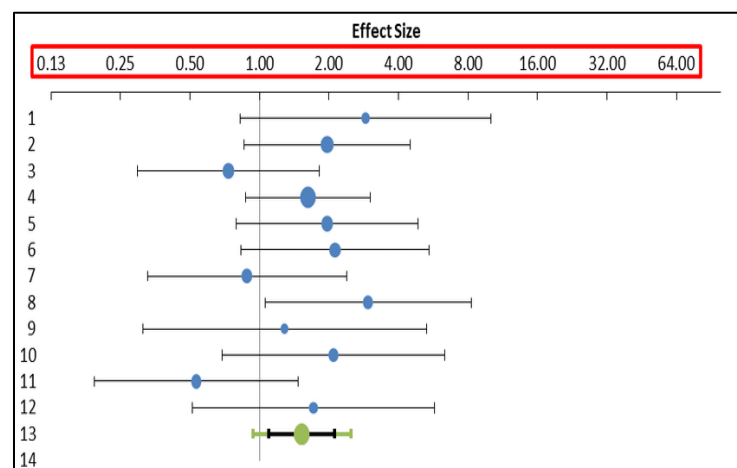
Figure 1 Example of a forest plot in meta-analysis

Confidence Interval: A confidence interval can be defined as a point estimate of a parameter (or an effective size) plus or minus a margin of error. The margin of errors describes the precision of the estimate and depends on the sampling error in the estimate as well as the natural variability in the population (Sullivan, 2007). Sampling error describes the discrepancy between the values in the population and the values observed in the sample. Confidence intervals can be an effective mean of reporting results. They combine information on location and precision and can often be directly used to infer significance levels. They can also be used in hypothesis

testing. If the confidence interval of the combined effect size (a confidence level of 95% and *p*-value is smaller than .05) does not include zero, the meta-analytic effect is statistically significant. In meta-analysis, presentation of effect statistics and their CIs is mandatory. Familiarization with effect statistics and their CIs encourages not only meta-analytic thinking but also 'effective' thinking. The combination of effect sizes and CIs can reveal what *p* values cannot show (i.e., uncertainty of effect, direction of effect, and magnitude of effect). The approach of using effect sizes and their CIs allows effective statistical inference from data, offering a better understanding and characterization of the results.

Objectives of the Study

The main aim of the study was to examine the internal and external factors influencing academic engagement of university students. The specific objectives were

(1) To study the most useful instruments for academic engagement,
(2) To inquire which of the internal and external factors are the most strongly correlated with academic engagement of university students by meta-analysis approach.

Methodology

Steps in Meta-analysis

The steps in a meta-analytic process are: (1) collecting the studies, (2) coding the studies, (3) calculating a mean effect size, (4) computing the statistical significance of the mean (5) examining the variability in the distribution of effect size estimates, and (6) interpreting the results.

(1) Collecting the Articles

Firstly, several databases were searched using multiple search engines, including Google, Google Scholar, PsycInfo and Academia. Primarily, the following combinations of keywords were entered into the search engines: factors affecting academic engagement, factors influencing academic engagement, predictors of academic engagement; determinants of academic engagement; and related factors of academic engagement. Once academic engagement-focused references were obtained, each publication's reference list was also examined for other publications.

(2) Selecting the Studies

A total of (1557) studies were initially found. Masters and doctoral dissertations were also included in this review. After removing (1122) duplicated records, the titles and abstracts of the (435) articles remained to be screened. And then (281) studies were found not to be concerned with the present study. Thus, (154) sources were identified for reviewing according to different criteria.

Inclusion criteria for the present study were (a) Studies that were written out in English language only (b); Studies for both male and female university students; (c) Studies that use an acceptable definition of academic engagement; (d) Studies that examine at least one factor of academic engagement of university students; (e) Studies that include usable data (correlation, t-score, d-score or F score) to measure the effect size of academic engagement.

Some studies were excluded because (a) they were reviews of already published research (n=4); (b) they were not published in English (n=14), (c) power point presentation (n=4); (d) no university students (n=82), (e) being not acceptable definition of academic engagement(n=7), (f) did not include at least one affecting factor of academic engagement(n=3); (g) they did not present the statistical data for calculating effect size (n=14), (h) including only one kind of gender (n=3). Therefore, total of 23 studies met the criteria for inclusion in conducting the present meta-analysis.

(3) Coding of Study Variables

Studies were identified and coded by the researcher. Appendix-A shows summary of studies included in this meta-analysis. Then the findings were summarized in the next section.

(4) Measurement of the Distribution of Effect Size

The studies were interpreted by the effect size and the findings were summarized in the next section.

Findings

Characteristics of Participants

Appendix-A summarizes the characteristics of participants in the review. Overall, 23 studies yielded many effect sizes with sample size for each study, ranging from 91 to 2368. Most studies were published in journals and some are unpublished dissertations. All the studies were utilized cross-sectional designs. Moreover, the participants from these studies were of mixed socioeconomic status.

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┌─────────────────────────────┐
│ Database Google, Google     │
│ Scholar, PsycInfo,          │
│ Academia(n=1557)            │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐        ┌──────────────────────────────┐
│ Records after removing      │   ──►  │ Records Excluded for not     │
│ duplicate records(n=435)    │        │ concerning with the study    │
└─────────────────────────────┘        │ (n=281)                      │
              │                         └──────────────────────────────┘
              ▼
┌─────────────────────────────┐
│ Population studies          │
│ identified and assessed for │
│ eligibility (n=154)         │
└─────────────────────────────┘
              │
              │              ┌──────────────────────────────────────────────┐
              │              │ Excluded                                     │
              │              │  • reviews of already published research(n=4)│
              │      ──►     │  • not published in English(n=14)            │
              │              │  • power point presentation (n=4)            │
              │              │  • no university students (n=82)             │
              │              │  • not acceptable definition of Academic     │
              │              │    Engagement (n=7)                          │
              │              │  • did not include factor of academic        │
              │              │    Engagement (n=3)                          │
              │              │  • did not present the statistical data for  │
              │              │    calculating effect size (n=14)            │
              │              │  • including only one kind of gender (n=3)   │
              ▼              └──────────────────────────────────────────────┘
┌─────────────────────────────┐
│ Population studies included │
│ in meta-analysis (n=23)     │
└─────────────────────────────┘
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Figure 1 The PRISMA Flow Diagram for Selecting the Required Studies

Most Useful Instruments for Academic Engagement

Various instruments of academic engagement were found in different studies. In the present studies, 6 inventories were found the most to be used for measuring academic engagement of university students. Among the 23 studies used in this meta-analysis, the National Survey on student engagement (NSSE) was found to be the most frequently used (n=7). The National Survey of Student Engagement (NSSE) is an ongoing research campaign in the USA

used to assess the extent to which colleges and universities are participating in educational practices that are strongly associated with high levels of learning and personal development.

The benchmarks include: level of academic challenge, active and collaborative learning, student interactions with faculty members, enriching educational experiences, and supportive campus environment. A composite score for each benchmark is calculated that averages each student's answers to the questions related to that benchmark.

The main content of the questionnaire is related to the behavior of students which has high correlation with good learning outcomes and learning practice such as feedback on exams, assignments, and the use of educational resources. Each item is answered through four statements ranging from 1 -never to 4 -always.

Student Engagement Scale (SES) is a five-point Likert scale make up of 6 factors with 41 items.

UWES-S (Schaufeli, Salavona, et al., 2002) is a 14-item scale that is made up of three subscales, namely; vigour (5 items), dedication (5 items) and absorption (4 items).

Student Course Engagement Questionnaire (SCEQ) is a five point Likert type scale made up of 4 dimensions: Skills engagement, participation/interaction engagement, emotional engagement, performance engagement.

Student Academic Engagement (Schaufeli et al., 2002) has 17 items for assessing the three dimensions of the construct: vigour (6 items), dedication (5 items), and absorption (6 items). The items were scored on a 4-point Likert scale from 1 (totally disagree) to 4 (totally agree). Higher scores on the three dimensions reflect stronger levels of engagement.

Factors Influencing Academic Engagement

According to the meta-analysis result, some related internal factors and external factors were shown in Table 1 and Table 2 respectively. Among factors, optimism, loyalty intention, sense of belonging, locus of control, sense of place, self-efficacy, academic satisfaction, academic performance, motivation and valuing are most significant internal factors and gender, lecturer's teaching style, grade and leave intention are found as related external factors.

Table 1 Meta-analytic result on internal factors influencing academic engagement
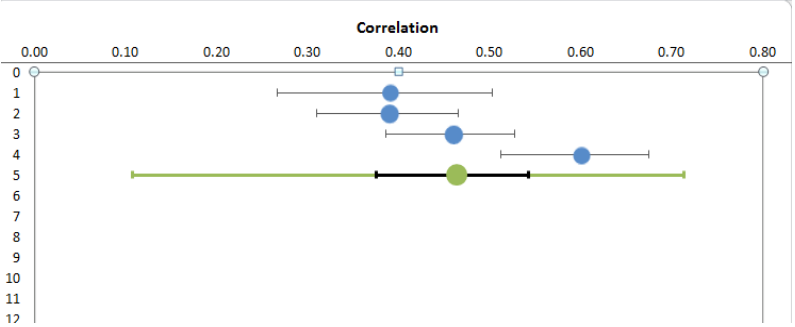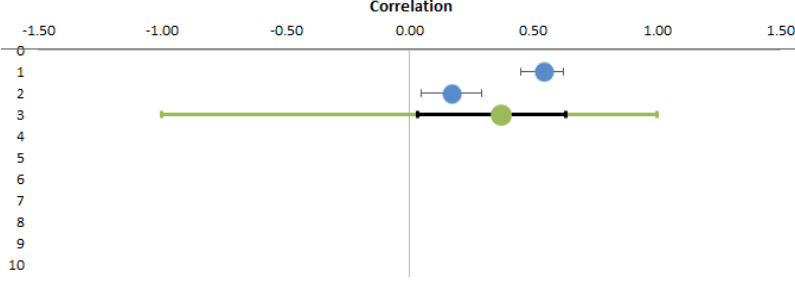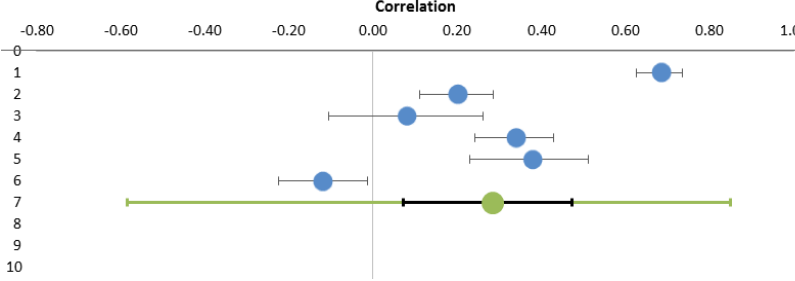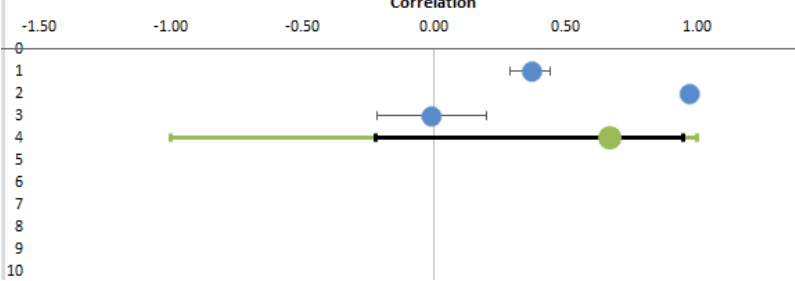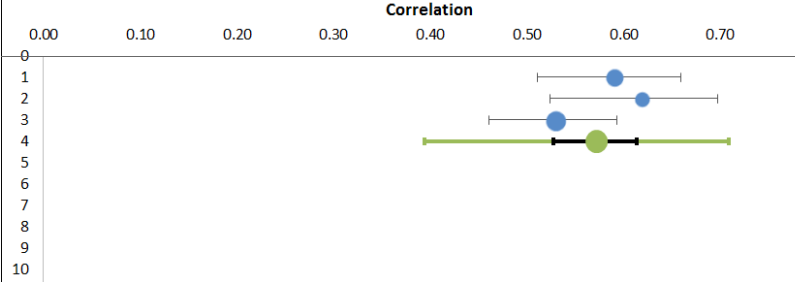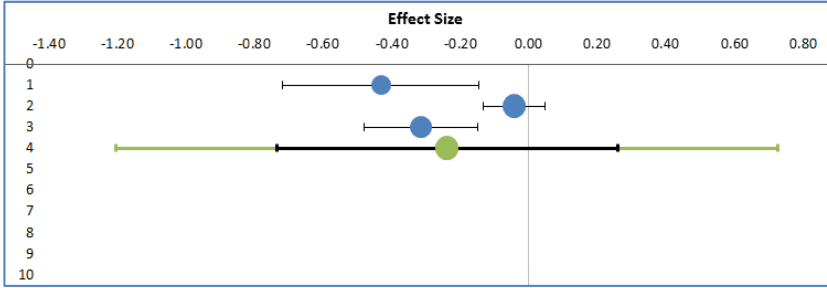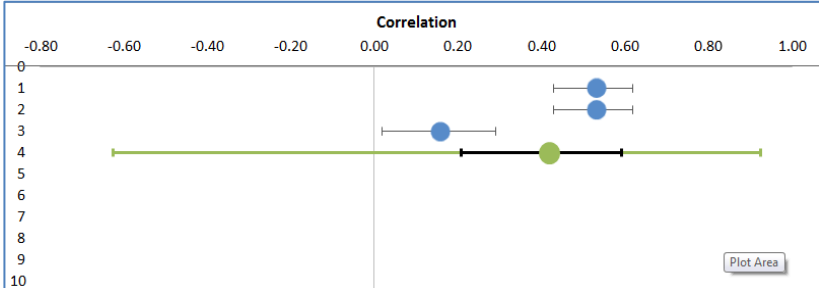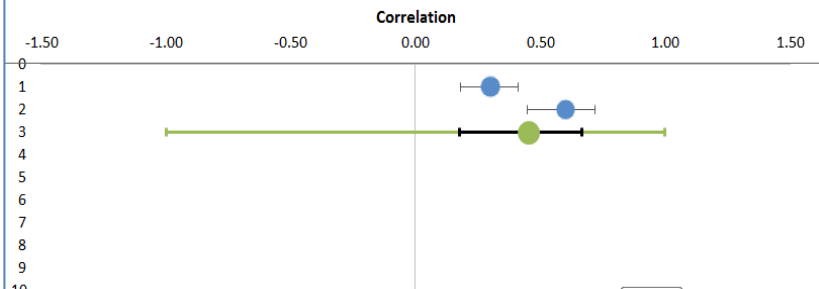
Factors	Effect Sizes and Forest Plots
Self-Efficacy and Academic Engagement	**r=0.46 , 95%CI= [0.38, 0.54], *p*=0.000**
Academic Satisfaction and Academic Engagement	**r=0.37, 95%CI= [0.03,0.63], *p*=0.036**
Academic Performance and Academic Engagement	**r=0.29, 95%CI= [0.07,0.47], *p*=0.014**
Motivation and Academic Engagement	**r=0.67, 95%CI= [-0.22,0.95], *p*=0.098**
Valuing and Academic Engagement	**r=0.57, 95%CI= [0.53,0.61], *p*=0.000**

Table 2 Meta-analytic Result on External Factors Influencing Academic Engagement

Factors	Effect Sizes and Forest Plots
gender and Academic Engagement	 **Hedge's g=-0.24, 95%CI= [-0.74,0.26], *p*=0.02**
lecturer's teaching style and Academic Engagement	 **r=0.42, 95%CI= [0.21,0.59], *p*=0.001**
grade and Academic Engagement	 **r=0.46, 95%CI= [0.18,0.67], *p*=0.005**

Analysis on Internal and External Factors of Academic Engagement

All the data were analyzed by using Meta-Essentials (Excel workbook) software. And the variables were classified as internal or external factors.

Estimation of Internal Factors

In Appendix B, the average weighted effect size statistics for 17 related internal factors of academic engagement were presented.

Among the internal factors, optimism(r=0.75), loyalty intention(r=0.73), sense of belonging(r=0.77), motivation(r=0.67) were the strongest internal factors, with very large effect sizes according to Cohen (1988). Although the effect size analysis showed that motivation was a strong significant factor for academic engagement, it had heterogeneous effect. And then, valuing (r=0.57), emotional competence (r=0.52), and meta-cognition (r=0.53) were also found as the

significant internal factors for academic engagement with large effect sizes. Among them, valuing had a homogeneous effect.

Moreover, self-efficacy and academic satisfaction were also internal factors with medium to large range of effect ($r=0.46$ and $r=0.37$ respectively). Academic performance ($r=0.29$) was also an internal factor with medium effect size.

Estimation of External Factors

The weighted average correlations and homogeneity analysis for the eight external factors were shown in Appendix-C.

Among the external factors, grade ($r= 0.46$) and lecturers' teaching styles ($r= 0.42$) were the strongest external factors of academic engagement with Cohen's medium to large range of effect size. Gender and leave intention were also found as significant external factors of academic engagement with medium effect sizes.

The last four factors_ academic obstacles, academic facilitators, perceived autonomy support and type of college were also significant external factors of academic engagement, but with small effect sizes. Among them, gender and lecturers' teaching styles had heterogeneous effects.

Discussion

This meta-analytic study found that 1) optimism, 2) loyalty intention, 3) sense of belonging, 4) motivation, 5) valuing, 6) meta-cognition, 7) self-efficacy, 8) locus of control and 9) sense of place were the most significant internal factors which influenced the academic engagement of university students. For improving academic engagement of university students, the administrators, educators and staffs should emphasize the importance of these internal factors and find ways and activities to cultivate these mechanisms.

Moreover, 1) grade, 2) lecturer's teaching styles 3) gender and 4) leave intention were found as the greatest external factors of academic engagement. Although gender and grade cannot be controlled, we can improve the academic engagement of university students through appropriate teaching styles and systematic leave intention.

Thus, nurturing and cultivating of internal mechanisms of students, using positive programs and creating a reflexive teaching learning environment may be a support for the improvement of university students' academic engagement.

Conclusion

This study presented and quantified the relationship between internal and external factors and academic engagement. The results from 23 studies with combined sample size ranging from 91 to 2368 subjects, with 11318 in total participants. According to the meta-analytic results, various related factors of academic engagement were found. And, some most useful instruments and types of participants could also be defined. But the present study did not include moderator analyses. Providing the basic information on the development of academic engagement in higher education, the current study will be a good support in organizing education system and for producing effective education.

References

Appleton, J., Christenson, S. & Furlong, M. (2008). Student engagement with school: Critical, conceptual, and methodological issues of the construct. *Psychology in the Schools, 45, 369-386.*

Alexander, K. Entwisle, D. & Horsey, C. (1997). From first grade forward: Early foundations of high school dropout. *Sociology of Education, 70, 87-107.*

Baron, P., & Corbin, L. (2012). Student engagement: Rhetoric and reality. *Higher Education Research & Development, 31(6), 759-772. http://dx.doi.org/10.1080/07294360.2012.655711*

Cumming, G. (2012). Understanding The New statistics: Effect Sizes, Confidence Intervals, and Meta-Analysis.

Church, M. A., Elliot, A. J., & Gable, S. L. (2001). Perceptions of classroom environment, achievement goals, and achievement outcomes. *Journal of Educational Psychology, 93, 43-54.*

Coats H. Development of the Australian survey of student engage-ment (AUSSE).*High Educ.2010;60:1–17.*

Covington, M. (1999). Caring about learning: The nature and nurturing of subject matter appreciation. *Educational Psychologist, 34, 127-136.*

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist, 41, 1040-48.*

Ellis, Paul D., (2010). *The Essential Guide to Effect Sizes: Statistical Power, Meta-Analysis, and the Interpretation of Research Results.* Cambridge University Press.

Fredericks, J., Blumenfeld, P. & Paris, A. (2004). "School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74, 59-109.*

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74, 59 -109.*

Fredricks, J.A. & McColskey, S.L. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments. In: In S.L. Christenson, A.L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement (pp. 763-782).* New York, NY: Springer

Freudenberger, H. (1974). Staff burn-out. *Journal of Social Issues, 30,159-165.*

Glass, G. V. (1976). Primary, secondary, and meta-analysis of research. *Educational researcher. 5, 3-8.*

Haydena, M & Martin, R. (2013). Recovery of the education system in Myanmar. *Journal of International and Comparative Education,2013, Volume 2, Issue 2*

Hughes, C.(2002). Beyond the Poststructuralist-modern Impasse: The Woman

  Returner as 'exile' and 'nomad' . *Gender and Education. 14 (4), pp .411–424 .*

Hu, S .and Kuh, G .D .(2001) Being (Dis)Engaged in Educationally Purposeful Activities: The Influences of Student and Institutional Characteristics . *Paper presented at the American Educational Research Association Annual Conference. Seattle, WA, 10–14*

Hu, S .and Kuh, G .D .(2002) Being (Dis)Engaged in Educationally Purposeful Activities: The Influences of Student and Institutional Characteristics . *Research in Higher Education . 43 (5), pp .555–575 .*

Hu, S .and Kuh, G .D .(2003) Diversity Experiences and College Student Learning and Development . *Journal of College Student Development . 44 (3), pp .320–334 .*

Hu, S ., Kuh, G .D .and Li, S .(2008) The Effects of Engagement in Inquiry-Oriented Activities on Student Learning and Personal Development . *Innovative Higher Education . 33 (2), pp .71–81 .*

Kuh, G .D ., Vesper, N ., Connolly, M .R .and Pace, C .R .(1997) College Student Experiences Questionnaire: Revised Norms for the Third Edition. Bloomington, IN: Center for Postsecondary Research and Planning, School of Education, Indiana University .

Kuh, G .D .and Whitt, E .J .(1988) The Invisible Tapestry: Culture in American Colleges and Universities. *ASHE-ERIC Higher Education Report Vol 17 No 1.Washington DC:* The George Washington University, Graduate School of Education and Human Development.

Kuh, G. D., Whitt, E .J .and Strange, C .C .(1989) The Contributions of Institutional Agents to High Quality Out-of-Class experiences for College Students. Paper presented at the annual meeting of the American Educational Research Association . San Francisco, CA, 27–31 Mar

Kuh , G. D. What we are learning about student engagement from NSSE. *Change. 2003;35:24–32*

Mackenzie, K. (2013). Policy insights for higher education: Recommendations for HE reform in Myanmar. *www.britishcouncil.org*.

Maslach, C., Schaufeli, W. & Leiter, M. (2001). Job burnout. *Annual review of psychology, 52, 397-422.*

McCollum., D.L., & Kajs, K.T. (2007) Applying Goal Orientation Theory in an Exploration of Student Motivations in the Domain of Educational Leadership. *Educational Research Quarterly Vol. 31, No. 1, Sep 2007*

Murdock, T. & Anderman, E. (2006). Motivational perspectives on students cheating: toward an integrated model of academic dishonesty. *Education Psychologist 41, 129-*

Nazarieh, M. 92015). A brief history of achievement goals orientations theory and its development. *Best: journal of humanities, arts, medicine and science Vol. 1, Issue 2.*

Phan, H. P. (2008). Achievement goals, the classroom environment, and reflective thinking: A conceptual framework. Retrieved from *http://www.art-16-269.pdf*

Po Po Thaung Win(2015) An Overview of Higher Education Reform In Myanmar. International Conference on Burma/Myanmar Studies Burma/Myanmar in Transition: Connectivity, Changes and Challenges University Academic Service Centre (UNISERV), Chiang Mai University, Thailand, 24-25 July 2015.

Ratsameemonthon, L. (2015). Achievement Goal Questionnaire-Revised. *Electronic journal of research in educational psychology.13 (2), 369-386.*

Shaufeli, W., Martinez, I., Marque's-Pinto, A., Salanova, M. & Bakker, A. (2002). Burnout and engagement in university students: a cross-national study. *Journal of Cross-cultural psychology, 33:464-481.*

Suurmond R, van Rhee, h, Hak T. (2017). Introducton, comparison and validation of Meta-Essentials: A free and simple tool for meta-analysis. *Research synthesis Methods. Vol.8, Iss.4, 537-553.*

Trowler V, Trowler P. Student engagement evidence summary. York, UK: *Higher Education Academy; 2010.*

Was, C. (2006). Academic achievement goal orientation: Taking another look. *Electronic journal of research in educational psychology, 4 (30), 529-550.*

Zhang, Y., Gan, Y. & Cham, H. (2007). Perfectionism, academic burnout and engagement among chinese college students: A structural equation modelling Analysis. *Personality and Individual Difference, 43, 1529-1540.*

Zhang, Y., Gan, Y. & Cham, H.(2007). Perfectionism, academic burnout and engagement among chinese college students: A structural equation modeling analysis. *Personality and individual differences, 43, 1529-1540.*

APPENDIX A- Summary of Studies Included in Meta-Analysis

No	Researcher (Date)	Country status	N	Level of Study	Engagement Measure
1	Maria & Cazan(2014)	2	202	1	2
2	Olpak, Korucu (2016)	2	194	1	3
3	Shaari, Yusoff, Ghazali, Osman & Dzahir (2016)	2	226	1	1
4	Sarwar & Ashrafi (2014)	2	369	2	1
5	Friedman (2014)	2	351	1	2
6	LeMay IV (2017)	2	460	3	4
7	Selim (2014)	2	304	1	3
8	Okoli (2013)	3	358	1	1
9	Shaari, Yusoff, Ghazali, Osman (2014)	2	226	1	1
10	Mehdinezhad (2011)	2	1921	1	5
11	Mehdinezhad (2010)	3	336	1	1
12	Durán, Extremera, Rey, Fernández-Berrocal & Montalbán (2006)	3	373	1	3
13	Lee & Anantharaman (2017)	2	270	2	3
14	Snijder (2017)	3	140	1	2
15	Junco (2011)		2368	1	1
16	Ashkzari, Piryaei & Kamelifar (2017)	2	480	1	4
17	Nelson (2016)	3	116	1	5
18	Wang & BrckaLorenz(2017)	3	844	2	1
19	Babatunde & Olanrewaju (2012)	2	500	2	3
20	Han, Volkova & Corley (2016)	2	91	2	5
21	Papa (2015)	3	244	1	4
22	Astuti, Sumarwan &Qayim (2016)	2	345	1	1
23	Jomon & John (2017)	2	600	1	5

Note: Country status: 1= Under Developing Country; 2= Developing Country; 3= Developed Country

Level of Study: 1= Undergraduate students; 2= Postgraduate Students; 3= Sophomore Students

Academic Engagement measure: 1=National survey of student engagement (NSSE); 2= the Utrecht work engagement scale for student (UWES-S); 3= Academic engagement scale (AES); 4= Student course engagement Questionnaire (SCEQ); 5= Student engagement scale (SES).

Appendix-B. Internal factors Influencing Academic Engagement

No	Variable	*k*	*r*	95% CI	Q_w
1	self-efficacy	4	0.46	[0.38, 0.54]	13.95
2	academic satisfaction	2	0.37	[0.03,0.63]	23.58
3	academic performance	6	0.29	[0.07,0.47]	176.22
4	motivation	3	0.67	[-0.22,0.95]	790.96
5	loyalty intention	1	0.73	-	-
6	locus of control	1	0.434	-	-
7	sense of belonging	1	0.772	-	-
8	sense of place	1	0.43	-	-
9	self-regulation	1	0.38	-	-
10	perceived stress	1	0.18	-	-
11	emotional competence	2	0.516	-	-
12	optimism	1	0.75	-	-
13	valuing	3	0.57	[0.53,0.61]	2.87
14	meta-cognition	1	0.53	-	-
15	action control	1	0.29	-	-
16	future time perception	1	0.16	-	-
17	test anxiety	1	0.208	-	-

Appendix-C. External factors Influencing Academic Engagement

No	Variable	*k*	*r*	95%CI	Q_w
1	Gender	3	-0.24	[-0.74, 0.26]	12.60
2	Lecturer's teaching style	3	0.42	[0.21,0.59]	25.54
3	academic obstacles	1	-0.14	-	-
4	grade	2	0.46	[0.18,0.67]	9.41
5	academic facilitators	1	0.20	-	-
6	leave intention	1	-0.30	-	-
7	type of college	1		-	-
8	perceived autonomy support	1	0.18	-	-

DEVELOPING ENGLISH TEACHING KNOWLEDGE TEST FOR STUDENT TEACHERS

Min Paing Moe[1], Nu Nu Khaing[2]

Abstract

Despite an increasing research interest in different areas of subjects, the scientific understanding regarding teachers' knowledge for teaching English is very limited. This study therefore aimed at developing a standardized test to assess English teaching knowledge of student teachers during their initial teacher education. The sample was composed of 120 ELT specialised students from final year, first semester in Yangon University of Education. In this study, the content area was assigned based on The TKT (Teaching Knowledge Test) Course by University of Cambridge and Cambridge ESOL Examination. Both pilot testing and field testing were conducted in February, 2019. The first draft of the test was developed with 60 multiple-choice items which were analysed by item analysis technique. The data were processed by Test Analysis Program software (TAP version 14.7.4) and then analysed. Results showed that the items of 15% were very good, 20% were reasonably good, 22% were need improvement and 43% were very poor. Final form of the test was constructed with 45 items in which 55.56% of item were good, 20% of them were fair and 24.44% of them were modified. The test which has medium difficulty level, high discrimination power and high reliability was finally developed.

Keywords: Item Analysis, Difficulty Level, Discrimination Power, Reliability, Student Teachers, English Teaching Knowledge Test

Introduction

Importance of the Study

English is the Comprehensive and World Wide Language to connect itself to others for carrying out their harmonious relationships and is used as the medium of teaching across the globe. Helping people learn English means helping them to have many new opportunities and doors open to them. In education it is used to communicate knowledge, and it is used as the instrument to find information. In English Language Teaching (ELT), when English is used to connect Classroom Teaching, one has to be skillful in listening, speaking, reading and writing in order to excel in communication skills. Teaching English as a Foreign Language (TEFL) is distinct from the teaching of other subjects for various reasons (Borg, 2006; Burns, Freeman, & Edwards, 2015) and, therefore, requires both a specific teacher knowledge base and specific learning opportunities during teacher education.

According to the analysis of teacher knowledge by Shulman (1986, 1987), teacher knowledge can be identified into content knowledge (CK), pedagogical content knowledge (PCK), and general pedagogical knowledge (GPK), and such knowledge contributes to the effective teaching of students and their learning outcomes. CK is the knowledge of the specific subject and related to the content teachers are required to teach. CK is shaped by academic disciplines underlying the subject. GPK is the knowledge which is not subject-matter related. According to Shulman (1987), GPK involves "those broad principles and strategies of classroom management and organization that appear to transcend subject matter" as well as knowledge about learners and learning, assessment, and educational contexts and purposes. PCK includes subject-specific knowledge for the purpose of teaching. According to Bukova-Guzel (2010),

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PCK comprises teacher knowledge of curriculum, knowledge of learners, and the knowledge of teaching strategies and multiple representations.

Debates on the definition of what pre-service teachers during and at the end of their training have to know and be able to do highlight the need for clarifying what we mean by teachers' professional knowledge (Darling-Hammond & Bransford, 2007; Gitomer & Zisk, 2015). Initial teacher education programmes aim at preparing students to become well-qualified teachers. Among other goals that might be pursued, such programs intend to support pre-service teachers' acquisition of professional knowledge for teaching. Thus, subject-related and pedagogical learning opportunities are provided by teacher education institutions (Cochran-Smith & Zeichner, 2005; Grossman, 1990). Tests assessing teacher knowledge for TEFL directly have been developed for purposes of teacher licensure and certification (e.g., Cambridge Teaching Language Assessment, 2015; Educational Testing Service [ETS], 2014). As they were not available for basic research on teacher knowledge, the researcher started to develop a specific test to measure the three major teacher knowledge categories of CK, PCK, and GPK.

Based on the above reasons, teaching knowledge test for student teachers is very crucial, specifically in Teaching English. Teaching Knowledge Test (TKT) is a test of the skills that need to be successful in teaching English to speakers of other languages. It is suitable for teachers of all age groups and abilities (British Council). Currently in Myanmar, at the various stages of teacher preparation, certification, and evaluation, there is insufficient information on what teachers should know about teaching English. Moreover, teaching knowledge tests in English Language Teaching field for student teachers are necessary but very limited. Therefore, the researcher decided to construct an English Teaching Knowledge Test (ETKT) for student teachers in Universities of Education. ETKT is developed based on TKT Course by University of Cambridge, Sample TKT Tests and Teaching English Courses in Universities of Education.

Purposes of the Study

The main purpose of this study is to develop English Teaching Knowledge Test for student teachers in Universities of Education. The specific purposes of this study are as follows:

1. To study the process of constructing a test, specifically English Teaching Knowledge Test for student teachers.
2. To point out the importance of Teaching Knowledge Test, specifically content knowledge (CK), pedagogical content knowledge (PCK) and general pedagogical knowledge (GPK) of pre-service teachers for TEFL in Myanmar during initial teacher education.

Methodology

Sample of the Study

The sample size consisted of 120 final year ELT specialised students out of 150 in total selected from Yangon University of Education during first semester of 2019. Five ELT specialised students from final year, first semester in Yangon University of Education were invited for pilot testing and examinees' review. For field testing, 120 participants were selected from final year, first semester ELT major students in Yangon University of Education. The selected subjects for the tests are shown in details as the Table 1.

Table 1 Selected Participants in the Study

Test	School	Major	Class	Male	Female	Total
Pilot Test	Yangon University of Education	English Language Teaching	Final Year, First Semester	3	2	5
Field Test	Yangon University of Education	English Language Teaching	Final Year, First Semester	32	88	120

Procedure

The following steps were taken by the researcher during construction and standardization of English Teaching Knowledge Test:

(1) Planning the test

(2) Preparation of the test

(3) Administration of the test

(4) Item analysis

(5) Standardization of the test

Planning the Test

Identifying the Content Area

In developing English Teaching Knowledge Test for student teachers, the sample papers, TKT modules, TKT handbook and guidelines by University of Cambridge, and Teaching English Courses in Universities of Education were studied thoroughly. The content area of English Teaching Knowledge Test was then assigned based on The TKT (Teaching Knowledge Test) Course by University of Cambridge and Cambridge ESOL Examination. The weightage to content is shown in the Table 2.

Table 2 Distribution of Weightage to Content

No.	Content	Weightage	Percent
1.	Language and Background to Language Learning and Teaching	20	33.33%
2.	Lesson Planning and Use of Resources for Language Teaching	20	33.33%
3.	Managing the Teaching and Learning Process	20	33.33%
	Total	60	100%

Size and Type of Test

The size of the test refers to a number of items in the test. It is difficult to prepare good items at first attempt. More items, therefore, are prepared than the desired items in the final draft. As reliability of the test depends on the size of test, the first version of this test is included 60 items in multiple choice type.

Preparation of Table of Specifications (TOS)

Table of specifications is the last level of the planning of the test which acts as a guide for writing items for preliminary draft. The researcher wrote down his decision in the form of a table of specifications. TOS consists of 60 multiple choice questions which are shown in the Table 3.

Table 3 Table of Specifications for English Teaching Knowledge Test (First Draft)

No.	Name of the group	No.	Content	Item numbers		No. of items	Total	weight
				Lower Level (Remem-ber, Underst-and)	Higher Level (Apply, analyse, evaluate, create)			
1.	**Part I:** Language and background to language learning and teaching	1.	Grammatical terms	1	-	1	20	33.33 %
		2.	Lexical terms	2	-	1		
		3.	The uses of adverbs	3, 4	-	2		
		4.	Functions	5	-	1		
		5.	The phonemic symbols	6, 7	-	2		
		6.	Speaking skill	8	-	1		
		7.	Reading skill	-	9	1		
		8.	Learning styles	10	-	1		
		9.	Learner needs	11	-	1		
		10.	Learning strategies	-	12, 13	2		
		11.	Techniques for presenting new language	14	15	2		
		12.	Task types	16, 17	-	2		
		13.	Teaching approaches	18	19	2		
		14.	Assessment task	-	20	1		
2.	**Part II:** Lesson planning and use of resources for language teaching	1.	Main teaching focuses	21, 22	-	2	20	33.33 %
		2.	Main stage aims	-	23, 24	2		
		3.	Lesson plan headings	25	-	1		
		4.	Main focuses of assessment	-	26, 27	2		
		5.	The dictionary tasks	29	28	2		
		6.	Reference resources	30	-	1		

No.	Name of the group	No.	Content	Item numbers		No. of items	Total	weight
				Lower Level (Remem-ber, Underst-and)	Higher Level (Apply, analyse, evaluate, create)			
2.	**Part II:** Lesson planning and use of resources for language teaching	7.	Ways of using supplementary material	-	31, 32, 33	3		
		8.	Teaching aids	34, 35	-	2		
		9.	Activity aims	-	36, 37	2		
		10.	Problems with course books and solutions	-	38, 39, 40	3		
3.	**Part III:** Managing the teaching and learning process	1.	The teaching activities	41, 42, 43	-	3	20	33.33 %
		2.	Teacher's language and trainer's comment	-	44, 45	2		
		3.	Interaction patterns	46, 47	-	2		
		4.	Giving instructions	-	48, 49, 50	3		
		5.	Classroom situations and possible teacher actions	-	51, 52	2		
		6.	Correction techniques	53	-	1		
		7.	Classroom management problems and possible planning solutions	-	54, 55	2		
		8.	Teacher's role as a language resource and trainer's comments	-	56	1		
		9.	Ways of grouping learners	-	57, 58	2		
		10.	The kinds of feedback and feedback focus	59, 60		2		
Total				**29**	**31**	**60**	**60**	**100%**

Preparation of the Test

The task of preparation of English Teaching Knowledge Test is full of hard work and intelligence. It includes three steps:

(1) Item Writing

(2) Checking by experts

(3) Item Editing

Item Writing

At the initial stage, preliminary draft was prepared corresponding to three main content areas of English Teaching Knowledge Test TOS. This draft consists 60 items covering the major objectives of the test: lower order thinking skill (remember, understand) and higher order thinking skill (apply, analyse, evaluate and create). Items having similar contents were grouped at one place. Items were multiple types (i.e., every item is fed with three options in which one option was the most appropriate answer).

Checking by Experts

All items were evaluated and validated by 10 experts, 8 experts from Department of Educational Psychology, Yangon University of Education, 1 expert from Department of Methodology, Yangon University of Education, and 1 expert from Department of English, Yangon University of Education respectively.

Item Editing

According to the suggestions by experts, item numbers 9, 19, 25, 28, 34, 44 and 58 were modified and item number 11 was substituted with a new item. Revision in wording was made according to supervision and editorial review of these experts. Moreover, some experts suspected the readability level of the items. Therefore, the researcher decided to conduct examinees' review.

Administration of the Test

Pilot Testing

Piloting the test items was conducted to 5 ELT major students from final year, first semester in Yangon University of Education in February, 2019. This attempt was made to check the difficulty level and any language problem occurring in the construction of the test. All the students were given separate answer sheet on which they were supposed to write down the right answer (A or B or C) after giving the required instruction about the test. The tentative time allocation was one hour and fifteen minutes and time taken by every student was noted down. After the testing session, the examinees were invited for debriefing in which they were interviewed, and asked for comments on each item and suggestions for possible improvements. According to their comments and suggestions, item number 34 was modified and finalized the test for field testing.

Field Testing

Sixty multiple choice items were selected for field testing after pilot test had been conducted. Full-fledged field test was administered to 120 ELT specilised students from final year, first semester in Yangon University of Education in February, 2019. The time was allowed for one hour for 60 items.

Data Analysis and Findings

Data Analysis

The data obtained from all 120 student teachers were processed by TAP (Version 14.7.4) and then analysed. Scores were listed in descending order and the data were analysed in the following ways. Descriptive statistics were used by the researcher such as mean, median, z-score, stanine, skewness, kurtosis, percentage. Item analysis was mainly established by difficulty value and discriminating powers. Test reliability was then assessed by Kuder-Richardson's KR-20 formula.

Findings

Findings of English Teaching Knowledge Test are presented in different ways such as standard score, bar graph, stem-and-leaf display, tables, histogram and pie charts.

Standard Scores of the Test

Table 4 provides a summary of various standard scores. By nature of the type of scores, 50% of scores are below the mean, and 50% are above the mean. According to Table 4, the z-scores are greater than -3 and less than +3 and the values, therefore, are not extreme and the scores are not outliners. The histogram of Standard Scores of English Teaching Knowledge Test (First Draft) is shown in Figure 4.

Table 4   Standard Scores of English Teaching Knowledge Test (First Draft)

Raw Score	Frequency	z-score	Stanine	PR
46	2	2.34	9	99.2
44	2	1.98	9	97.5
43	3	1.81	9	95.4
42	3	1.63	8	92.9
41	3	1.46	8	90.4
40	2	1.28	8	88.3
39	1	1.11	7	87.1
38	7	0.93	7	83.8
37	10	0.76	7	76.7
36	5	0.58	6	70.4
35	4	0.41	6	66.7
34	9	0.23	6	61.3
33	8	0.05	5	54.2
32	12	-0.12	5	45.8
31	5	-0.3	4	38.8
30	9	-0.47	4	32.9
29	4	-0.65	4	27.5
28	6	-0.82	4	23.3
27	10	-1	3	16.7
26	5	-1.17	3	10.4
25	3	-1.35	2	7.1
24	2	-1.53	2	5
23	2	-1.7	1	3.3
21	1	-2.05	1	2.1
20	1	-2.23	1	1.3
17	1	-2.75	1	0.4
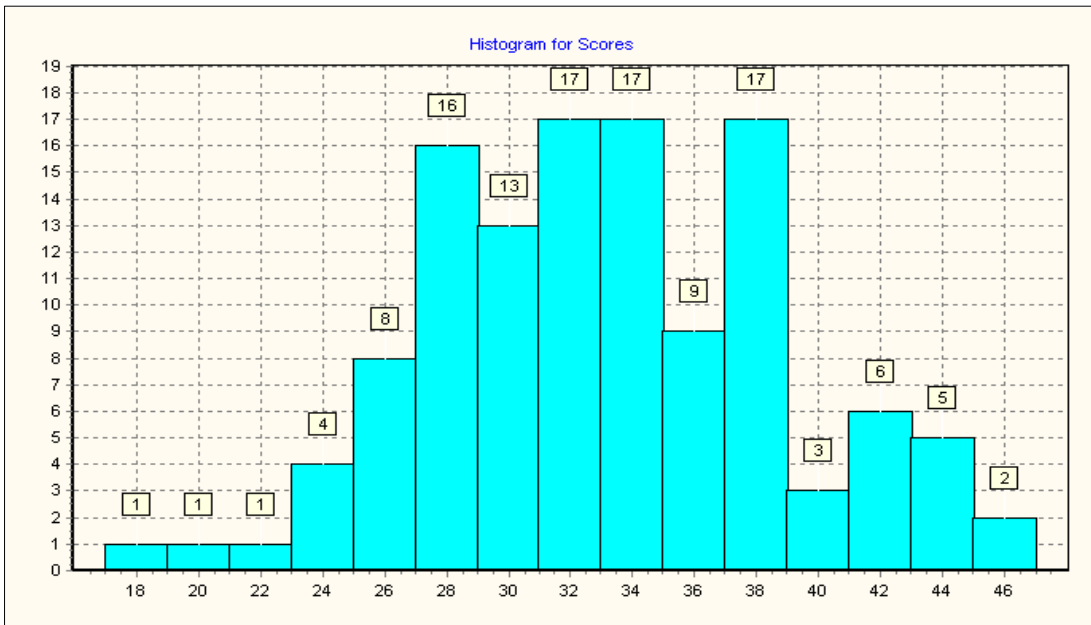
Figure 1 The Histogram of Standard Scores of English Teaching Knowledge Test (First Draft)

Bar Graph of Score Distribution of the Test

The researcher has prepared the bar graph distribution of the score of English Teaching Knowledge Test of the total sample of 120 and the descriptive statistics were computed with the help of TAP software (version 14.7.4) and this is presented in Figure 2. According to test result, the highest score is 46, the score that most students answered correctly is 32, and the lowest score is 17. There is no one who got the score of 60 in the test.

```
Score   Count      Graph (each @ represents 1 case)
-------  -----      -------------------------------
17.00    1          @
18.00    0
19.00    0
20.00    1          @
21.00    1          @
22.00    0
23.00    2          @@
24.00    2          @@
25.00    3          @@@
26.00    5          @@@@@
27.00    10         @@@@@@@@@@
28.00    6          @@@@@@
29.00    4          @@@@
30.00    9          @@@@@@@@@
31.00    5          @@@@@
32.00    12         @@@@@@@@@@@@
33.00    8          @@@@@@@@
34.00    9          @@@@@@@@@
35.00    4          @@@@
36.00    5          @@@@@
37.00    10         @@@@@@@@@@
38.00    7          @@@@@@@
39.00    1          @
40.00    2          @@
41.00    3          @@@
42.00    3          @@@
43.00    3          @@@
44.00    2          @@
45.00    0
46.00    2          @@
```

Figure 2 Bar Graph of Score Distribution for the Test (First Draft)

Steam-and-Leaf Display of Score Distribution for the Test

A stem-and-leaf plot puts data into groups (called stems) so that the values within each group (the leaves) branch out to the right on each row. Figure 3 provides the score distribution of the steam-and-leaf plot for the test. In the graph, while the lowest score is 17 and the number of student who got this is only one, the number of students who got the highest score 46 out of 60 are 2. Therefore, having not many students who got lowest and highest score is one of the characteristics of a good test. To support this statement, the number of students who got score of 25 to 39 centred in the graph and it can be said that the test is suitable for all levels of students.

```
  Stem   Leaves (width=10)

  ----     ----------------

   1 .   7

   2 .   013344

   2 .   5556666677777777778888889999

   3 .   000000000111112222222222222333333333444444444

   3 .   5555666667777777777788888889

   4 .   0011122233344

   4 .   66
```
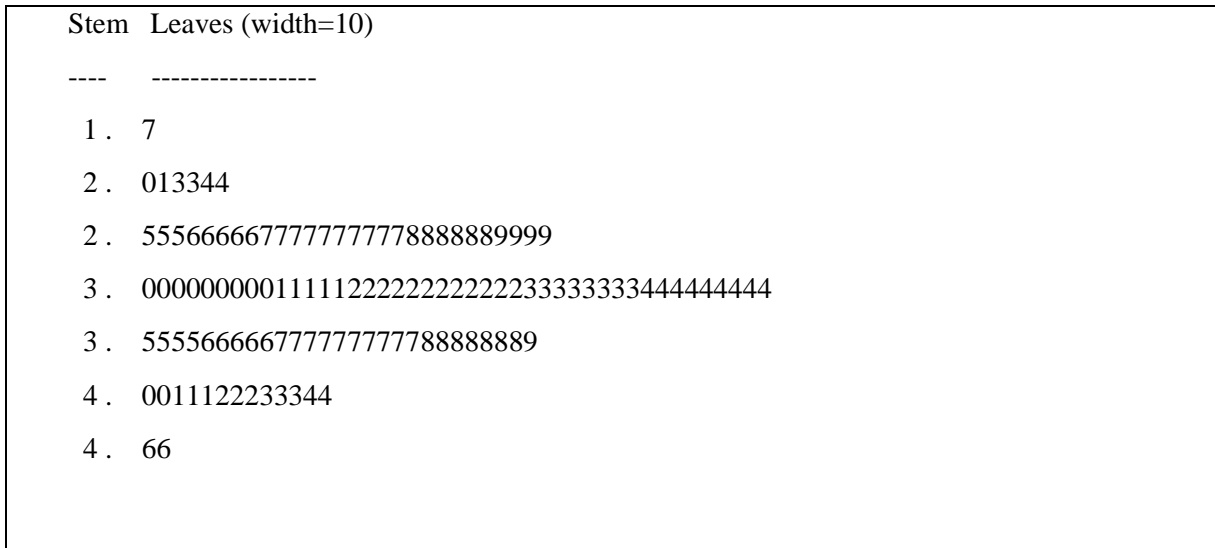
Figure 3 Steam-and-Leaf Display of Score Distribution for the Test (First Draft)

Examinee Score Summary of the Test

It is observed from Table 5 that mean score is 32.692 and median score is 32 and the data are, therefore, symmetric as the mean and median score are similar. Moreover, M. G. Bulmer., [*Principles of Statistics* (Dover, 1979)] stated that if the skewness is between -0.5 and +0.5, it is approximately symmetric. The skewness for the present test is 0.081 and it can be said that it is approximately symmetric. For the normal probability curve the value of kurtosis is 0.263. The obtained value of kurtosis is − 0.214. Therefore, it is concluded that the obtained distribution is slightly leptokurtic.

Table 5 Examinee Score Summary of the Test (First Draft)

Number of Examinees	120
Total Possible Score	60
Minimum Score	17
Maximum Score	46
Median Score	32
Mean Score	32.692
Standard Deviation	5.699
Variance	32.480
Skewness	0.081
Kurtosis	-0.214

Difficulty Value

Item difficulty is the percentage of students that correctly answered the item, also referred to as the P value. The range is from 0% to 100%, the higher the value, the easier the item. P values above 0.90 are very easy items and might be a concept not worth testing. P-values below 0.20 indicate difficult items and should be reviewed for possible confusing language or the contents needs re-instruction. Optimum difficulty level is 0.50 for maximum discrimination between high and low achievers. Generally, items of moderate difficulty are to be preferred to those which are much easier or much harder. The difficult indices were analysed using the Henning (1987) guidelines as shown in the Table 6.

Table 6 Henning's Guidelines of Difficulty Value

High Difficult	Medium	Low (Easy)
≤ 0.33	$0.34 \sim 0.66$	≥ 0.67

Based on the Henning's Guidelines in the above table, the 60 test items categorized in Table 7.

Table 7 Distribution of Difficulty Value of Items of the Test (First Draft)

Level of Difficulty	Items	Total
High (≤ 0.33)	13, 41, 54, 57	4
Medium ($0.34 \sim 0.66$)	1, 3, 4, 5, 7, 9, 10, 11, 12, 14, 15, 17, 18, 19, 20, 22, 23, 25, 26, 28, 29, 31, 32, 33, 34, 35, 37, 38, 42, 43, 44, 45, 47, 48, 49, 50, 51, 52, 55, 56, 58, 59, 60	43
Low (Easy) (≥ 0.67)	2, 6, 8, 16, 21, 24, 27, 30, 36, 39, 40, 46, 53	13
Total		60

In order to see more clearly, the distribution of difficulty value of first draft of the test is presented by pie chart in Figure 4.
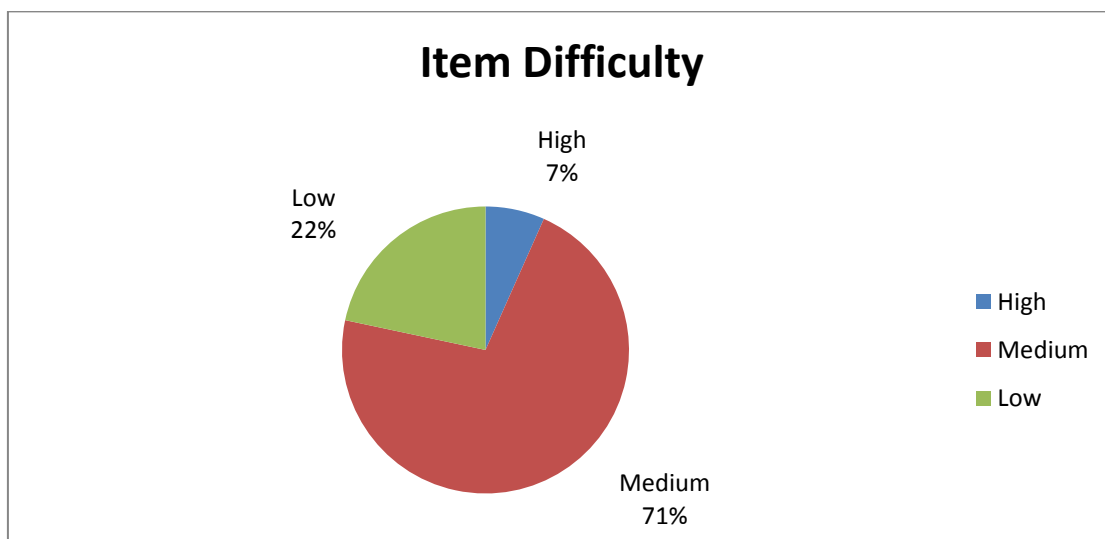
Figure 4   Pie Chart of the Distribution of Difficulty Value of the Test (First Draft)

Discrimination Power

Discrimination Power of an item may be defined as the extent to which success and failure on that item indicates the possession of the trait or achievement being measured (Marshall

and Hales, 1972). Ebel's (1979) criteria and guidelines for categorizing discriminating indices (see Table 8) is a widely quoted set of guidelines and, therefore, were used in this analysis.

Table 8 Ebel's Guidelines (1979) of Discriminating Powers

Discriminating Powers	Description
0.40 and above	The item is functioning quite satisfactorily
Between 0.30 ~ 0.39	Little or no revision is required
Between 0.20 ~ 0.29	The item is marginal and needs revision
≤ 0.19	The item should be eliminated or completely revised

Based on the Ebel's guidelines in the above Table, the 60 items categorized as in Table 9.

Table 9 Distribution of Discriminating Powers of Items of the Test (First Draft)

Discriminating Powers	Items	Total	Remarks
0.40 and above	3, 8, 15, 24, 26, 47, 50, 52, 59	9	Very good items
Between 0.30 ~ 0.39	1, 12, 19, 21, 29, 35, 39, 40, 42, 45, 49, 58,	12	Reasonably good items
Between 0.20 ~ 0.29	16, 23, 27, 28, 31, 33, 37, 43, 46, 51, 53, 57, 60	13	Need improvement
≤ 0.19	2, 4, 5, 6, 7, 9, 10, 11, 13, 14, 17, 18, 20, 22, 25, 30, 32, 34, 36, 38, 41, 44, 48, 54, 55, 56	26	Very poor items
Total		60	

The distribution of discriminating powers of first draft of the test is presented by pie chart to see more clearly in Figure 5.
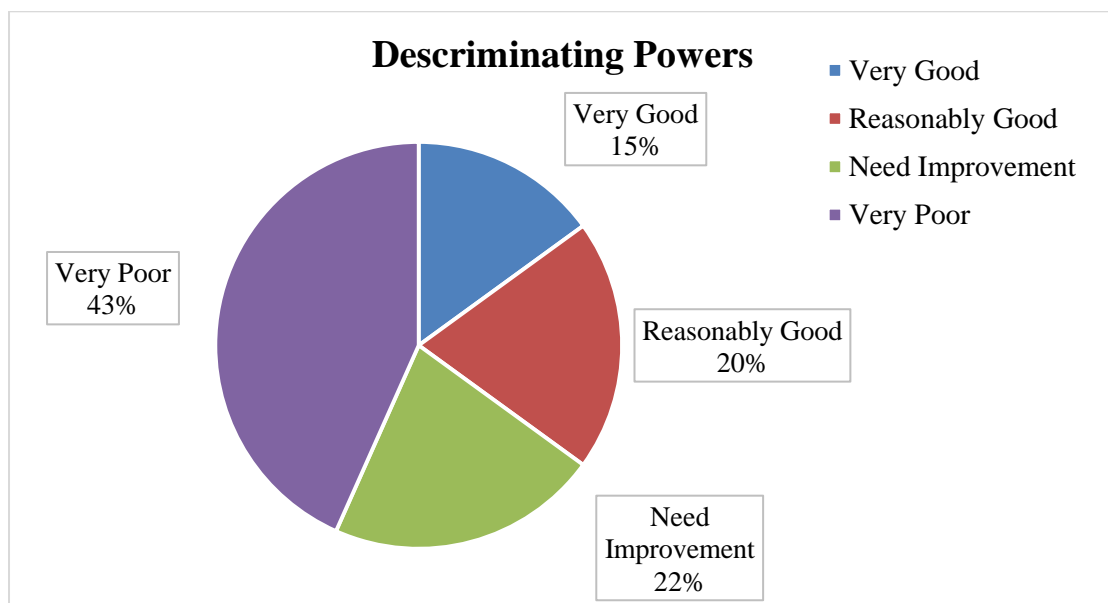
Figure 5   Pie Chart of the Distribution of Discriminating Powers of the Test (First Draft)

Table 10 Item Analysis of the Test (First Draft)

		Level of Difficulty			
		High (≤ 0.33)	**Moderate (0.34~0.66)**	**Low (≥ 0.67)**	**Total**
Discriminating Index	0.4 and above		3, 8, 15, 26, 47, 50, 52, 59	24	9
	Between 0.30 ~ 0.39		1, 12, 19, 29, 35, 42, 45, 49, 58	21, 39, 40	12
	Between 0.20 ~ 0.29	57	23, 28, 31, 33, 37, 43, 51, 60	16, 27, 46, 53	13
	≤ 0.19	13, 41, 54	4, 5, 7, 9, 10, 11, 14, 17, 18, 20, 22, 25, 32, 34, 38, 44, 48, 55, 56	2,6, 30, 36	26
Total		4	44	12	60

Final Draft of English Teaching Knowledge Test

Final drafting is prepared on the basis of item analysis. After careful considering which items were accepted and eliminated, the researcher selected the items for final test and re-arranged them in accordance with the principles laid down by experts. The final draft of English Teaching Knowledge Test consists of 45 items and presented in Table 11 and its Table of Specifications is shown in Table 13.

Table 11   Distribution of Discriminating Power and Difficulty Values of Items of the best (First Draft)

		Level of Difficulty			
		High (≤ 0.33)	**Moderate (0.34~0.66)**	**Low (≥ 0.67)**	**Total**
Discriminating Index	0.4 and above		3, 8, 15, 26, 47, 50, 52, 59	24	9
	Between 0.30 ~ 0.39		1, 12, 19, 29, 35, 42, 45, 49, 58	21, 39, 40	12
	Between 0.20 ~ 0.29	57	23, 28, 31, 33, 37, 43, 51, 60	16, 27, 46, 53	13
	≤ 0.19	54	4, 5, 11, 17, 18, 20, 32, 34	2, 6	11
Total		2	33	10	45

The above result can be summarized as Table 12, in which the percentage of good, fair and poor items can clearly be seen. From the test, 55.56% of items are good, 20% are fair and 24.44% are modified. 25 items out of 45 are good, 9 are fair and 11 are modified respectively. To have better understanding, percentage of difficulty value and discriminating index for 45 items is shown by pie chart in Figure 6.

Table 12 Percentage of Difficulty Value and Discriminating Index for 45 Items

Item Quality	Item Numbers	Total Number of Items	Percentage of Items
Good	3, 8, 15, 26, 47, 50, 52, 59, 1, 12, 19, 29, 35, 42, 45, 49, 58, 23, 28, 31, 33, 37, 43, 51, 60	25	55.56%
Fair	24, 21, 39, 40, 16, 27, 46, 53, 57	9	20%
Modified	54, 4, 5, 11, 17, 18, 20, 32, 34, 2, 6	11	24.44%
Total		45	100%
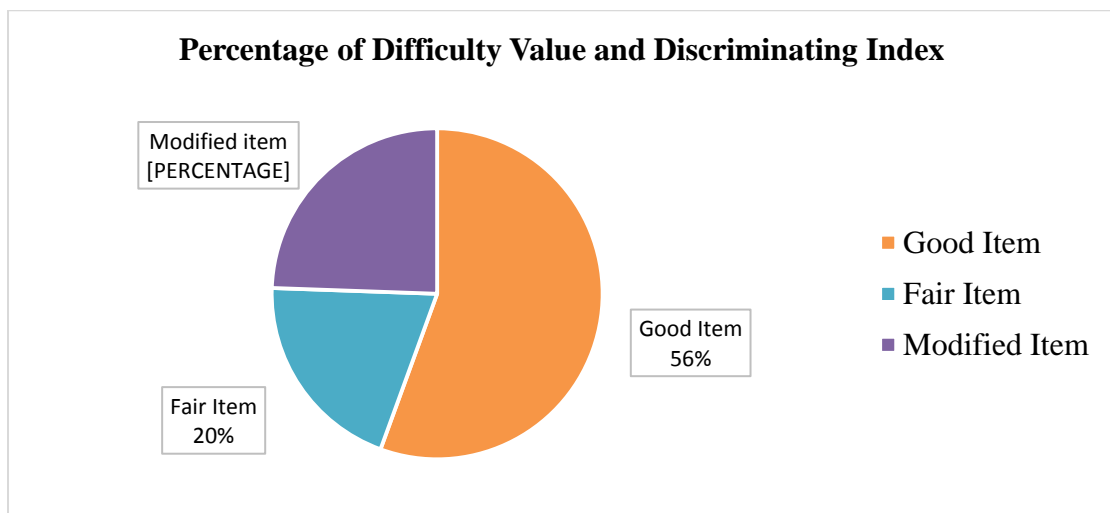
Figure 6   Percentage of Difficulty Value and Discriminating Index for 45 Items

Table 13   Table of Specifications for the Final Draft of English Teaching Knowledge Test

No.	Name of the group	No.	Content	Item numbers		No. of items	Total	weight
				Lower Level (Remem-ber, Underst-and)	Higher Level (Apply, analyse, evaluate, create)			
1.	**Part I:** Language and background to language learning and teaching	1.	Grammatical terms	1	-	1	15	33.33 %
		2.	Lexical terms	2	-	1		
		3.	The uses of adverbs	3, 4	-	2		
		4.	Functions	5	-	1		
		5.	The phonemic symbols	6	-	1		
		6.	Speaking skill	7	-	1		

No.	Name of the group	No.	Content	Item numbers		No. of items	Total	weight
				Lower Level (Remem-ber, Underst-and)	Higher Level (Apply, analyse, evaluate, create)			
		7.	Learner needs	8	-	1		
		8.	Learning strategies	-	9	1		
		9.	Techniques for presenting new language	-	10	1		
		10.	Task types	11, 12	-	2		
		11.	Teaching approaches	13	14	2		
		12.	Assessment task	-	15	1		
2.	**Part II:** Lesson planning and use of resources for language teaching	1.	Main teaching focuses	16	-	1	15	33.33 %
		2.	Main stage aims	-	17, 18	2		
		3.	Main focuses of assessment	-	19, 20	2		
		4.	The dictionary tasks	21	22	2		
		5.	Ways of using supplementary material	-	23, 24, 25	3		
		6.	Teaching aids	26, 27	-	2		
		7.	Activity aims	-	28	1		
		8.	Problems with course books and solutions	-	29, 30	2		
3.	**Part III:** Managing the teaching and learning process	1.	The teaching activities	31, 32	-	2	15	33.33 %
		2.	Teacher's language and trainer's comment	-	33	1		
		3.	Interaction patterns	34, 35	-	2		
		4.	Giving instructions	-	36, 37	2		
		5.	Classroom situations and possible teacher actions	-	38, 39	2		
		6.	Correction techniques	40	-	1		

Standardization of English Teaching Knowledge Test

Forty-five (45) items constituted the final form of English Teaching Knowledge Test. The test was further standardized by validation of the test that included establishing reliability and validity.

Reliability of the Test

Reliability of the present study was measured by KR-20 Method (Kuder-Richardson Method). General Guideline for interpreting reliability of the test are mentioned in Table 14.

Table 14   General Guidelines for Reliability Interpretation

Reliability coefficient value	Interpretation
0.90 and up	excellent
0.80 ~ 0.89	good
0.70 ~ 0.79	adequate
below 0.70	may have limited applicability

The reliability of the first draft test was 0.597 and it was limited to apply. After items were analysed by TAP (Test Analysis Program, version 14.7.4) and some poor items were discarded so the reliability of final draft was 0.7. This shows that English Teaching Knowledge Test has high reliability.

Validity of the Test

There are different methods of estimating validity such as face validity, content validity, construct validity, predictive validity and concurrent validity. The researcher opted for content validity in this study. The content validity is concerned with the relevance of the contents of the items, individually and as a whole. In which expert judgment was taken into consideration. To estimate content validity of English teaching knowledge test, test was given to 10 experts to compare test items with the content and objectives of content. The experts agreed with the researcher with the distribution of content and objective of the content as well as with the scoring scheme. In this way content validity of English Teaching Knowledge Test was established.

Conclusion and Suggestion

Conclusion

Teaching and learning pedagogy of TEFL in Myanmar's classroom are focused on lecturing for being teacher-centred. It is claimed in this study that such educational problem may explain a lack of English teaching knowledge in most teachers of English. For this reason, the researcher was interested in developing English Teaching Knowledge Test in order to promote student teachers' knowledge of teaching English and to evaluate their performance. This research aimed to develop and produce a reliable and valid English Teaching Knowledge Test for student teachers.

The test was standardized on the sample of 120 students studying in final year, first semester, Yangon University of Education. Theoretical and empirical literature related to the study was reviewed. The reliability of the test was determined through KR-20 method of reliability which was 0.7 and content validity of the test was estimated. Hence, the constructed English Teaching Knowledge Test has a high reliability and validity. The test can be used by the

teacher educators, teacher trainers and mentors to assess pre-service and in-service teachers' knowledge of teaching English. From this study, ETKT test will be beneficial for student teachers in developing their knowledge about teaching English. Nevertheless, the above results indicated that the test should have to be improved more for higher validity and reliability.

Suggestion

It is highly recommended that examining multiple choice items should employ the use of other effective statistics in test development validation processes. In this paper, the development of English Teaching Knowledge Test is restricted to student teachers from final year, first semester, Yangon University of Education. As a further research, it, therefore, should be developed the test with other universities of education and education colleges. As time is restricted in this study, small amount of items were used and could not have parallel forms or sub-test. Moreover, the content may not be covered enough to test knowledge of student teachers in teaching English because the test included only 60 items first draft and 45 items in final. Therefore, many items should be written and prepared for testing based on the content and students' language proficiency level.

For the teacher educators and teacher trainers, this test should be used to help them to evaluate the quality of Teaching English Courses in their universities. Additionally, it would help them to look into the areas that they are good at and that they need to improve not only for their teaching method but also for their students' future teaching practices. If they have a good command of developing tests, they are strongly recommended to construct Teaching Knowledge Test for other fields such as teaching mathematics, teaching science, etc.

In order to improve educational test and measurement in Myanmar, more modernized and systematic testing system and procedure should be applied. It is hoped that future researcher should reflect the present study and improve some items as necessary and then can apply for their future researches. Furthermore, a way of developing Teaching Knowledge Test and its trends are presented in this paper so that the new researchers or unexperienced researchers in developing tests can be used as their reference for upcoming researches.

Finally, policy makers in education should be advocated by this study that developing a standardized test for teachers plays a vital role in promoting teacher education and professional development of teachers. Likewise, teaching knowledge tests can even be used as a standardized norm for teacher certification and quality assurance.

References

Borg, S. (2006). The distinctive characteristics of foreign language teachers. *Language Teaching Research,* 10(1), 3-31.

Bukova-Guzel, E. (2010*).* An investigation of pre-service mathematics teachers' pedagogical content knowledge, using solid objects. *Scientific Research and Essays,* 5, 1872-1880.

Cochran-Smith, M., & Zeichner, K. M. (2005). *Studying teacher education: The report of the AERA panel on research and teacher education*. Mahwah, NJ: Erlbaum.

Darling-Hammond, L., & Bransford, J. (2007). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco: Jossey-Bass.

Ebel, R.L. (1979). *Essentials of educational measurement* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.

Freeman, D., Katz, A., Gomez, P. G., & Burns, A. (2015). English-for-teaching: rethinking teacher proficiency in the classroom. *ELT Journal*, 69(2), 129–139, doi: 10.1093/elt/ccu074

Grossman, P. (1990). *The making of a teacher. Teacher knowledge and teacher education*. Teachers College Press, Columbia University, New York.

Shulman, L.S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review,* 57(1), 1-22.

CREATING LEARNING ENVIRONMENT THAT FOSTERS READING MOTIVATION OF MIDDLE SCHOOL STUDENTS

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Abstract

This study investigated learning environment that fosters Grade 8 students' reading motivation. Descriptive research design and survey method were used. This study based on Guthrie and Wigfield's (2000) engagement model. To examine learning environment for reading, researcher made Learning Environment for Reading Questionnaires based on Motivations for Reading Questionnaire of Wigfield and Guthrie (1997) was used in this study. In addition, the Reading Motivation Questionnaires (RMQ) modified from the Motivations for Reading Questionnaire of Wigfield and Guthrie (1997) were applied to measure students' reading motivation in this study. Findings from questionnaire surveys revealed that physical learning environment was the best for reading. According to the descriptive statistics, this result showed that the students were high curious in reading among ten scales of reading motivations. Again, *t*-test showed that students' reading motivations were significantly gender difference. This study was found that there was a significant relationship between learning environment for reading and students' reading motivation (r = .483, p < .01).The ANOVA results stated that there were significantly differences in learning environments that foster students' reading motivation among four types of schools. Tukey HSD results also indicated that learning environments of high schools were significantly different from those of middle schools and monastic schools. The results from this study showed that learning environment is the salient factor that influences students' reading motivation. Therefore, according to the results of the present study, it can be to create learning environment that fosters students' reading motivation in this study.

Keywords: Learning environment, reading motivations

Introduction

The classroom is the basic unit of the organization of the educational system. The classroom has become an important place for educational research because most learning takes place there. According to Wilson (1996), learning environments are defined as the social, physical, psychological, and pedagogical contexts in which learning occurs and which affect student achievement and attitudes. A learning environment is a combination of social and physical qualities that create the classroom experiences. It includes classroom management procedures, as well as the way the space is organized, furnished and maintained.

Motivation is the key role in learning (Edmunds & Bauserman, 2006). According to Guthrie & Wigfield (2000), motivation is what activates behavior. There is a vast amount research that supports the idea that motivation plays a major role in learning (Deci & Ryan, 1985).

Motivation for reading is an important contributor to students' reading achievement and school success. Motivation is the learners' willingness to engage in and persist at a task. Learning environment is an important factor that affects students' motivation to read. Kamil's (2003) synthesis of research on adolescent literacy found that motivation is one concept that continually surfaces as an important focus in reading and learning to read, particularly for adolescents.

Furthermore, reading researchers have expressed about reading attitudes, reading behaviour, and reading motivation. Reading motivation is a very important aspect of a student's reading process. Reading motivation is the motivational drive to read, an area of interest in the

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field of education (Internet source). According to Guthrie and Wigfield (1997), reading motivation is defined as the individual's personal goals, values, and beliefs with regard to the topics, process, and outcomes of reading. It is then one's goals, values, and beliefs that determine the degree to which one is motivated to read. Moreover, the closer the literacy activities match students' motivational beliefs, values, needs and goals, the more willing students will be to read.

Recent studies in the field of educational psychology, science education and learning environment has also emphasized the importance of the relations between students' learning environment and their motivation (Ben Ari, 2003; Jackson & Davis, 2000; Stipek, 2002, cited in Arisoy, 2007).

People who engage in reading for pleasure are motivated to read, but someone who is not reading for enjoyment is not motivated to read. Reading takes a large amount of effort, but if students are without the motivation to read, they will put little effort into the task of reading (Guthrie et al., 2004). According to Guthrie et al. (2004), a student who is motivated to read will read factor of whether we choose activities to do, or not do certain activities. This means that the more motivated a student is, the more reading the student will do.

There is a widely reported trend that middle school students are less intrinsically motivated for reading than elementary students are. Gottfried (1985) showed that as students moved from Grade 4 to Grade 7, their intrinsic motivation for reading declined. Research has shown decline in motivation and performance for many children as they move from elementary school into middle school (Eccles & Midgley, 1999).

In middle school, students are more oriented to grades, competition, and their own competence than elementary students are. The more a student reads, the more the student comprehends, which is why it is so important to increase students' reading motivation. To improve students' motivation to read in middle school, we need to create learning environment that fosters reading motivation for middle school students. Therefore, this study will be based on Guthrie and Wigfield's (2000) engagement model of reading development.

Purpose of the Study

The main aim of the study is to study learning environment that fosters reading motivation of middle school students. The specific objectives of this study are:

1. To investigate learning environment that fosters reading motivation of Grade 8 students.
2. To explore the effect of learning environment on students' reading motivation.
3. To investigate Grade 8 students' reading motivation.
4. To compare the differences between males' and females' reading motivation.
5. To compare learning environments that foster reading motivation of Grade 8 by schools.

Related Literature

Most of the students are not interested in reading. It is salient task a teacher faces. Classrooms may be filled with students who never want to read. Thus, it needs to motivate students, especially students who are not interested in reading, and to work to read each and every student (Gambrell, 1996). Motivation to read is essential in students' success throughout their education and so the types of reading activities they enjoy must be identified. Good reading skills and habits are essential for today's students. To possess these skills and habits, need to be motivated each and every student. High motivation to read is key to a successful reader.

Theoretical Framework

Both the theoretical discussion on the relevance and importance of socio-affective factors in reading development and the confirmation of a relationship between students' social and affective reading experiences on one hand, and the literacy levels or reading proficiency on the other, point towards a necessity for a socio-affective approach in reading instruction. In relation to this, Guthrie and Wigfield's (2000) model, which focuses on *engagement* through motivation to develop reading ability, is of relevance and is presented and explained below. The model is presented below and is followed by discussions of the instructional framework.

Learning goals. This instructional technique refers to the purpose for learning and is linked to performance and learning goal theory. Whereas performance goals are based on outperforming others, learning goals are based on dedication to understanding and learning.

Reward-world involvement. This technique can be referred to as authentic interactions. They refer to connections between academic curricula and the personal experiences of students. Reading instruction embedded within intrinsically motivating activities that relate to students' personal experiences, such as collecting information, observing and reporting, led to increases in reading motivation and strategy use.

Autonomy support. Students' independence and responsibility is the focus of this technique. Its application to reading involves the teacher's guidance in leading students to make responsible choices in reading. Based on the convention that choice is motivating, the technique develops independence and affords students control over topics, themes and reading materials, with teacher support.

Interesting texts. The use of interesting texts is based on the assumption that texts that are personally significant and that meet the cognitive competence of students would be motivating, and consequently develop comprehension abilities. In addition, interesting texts assist in focusing reading instruction on word recognition and word fluency.

Strategy instruction. This technique involves direct instruction of reading and comprehension strategies such as summarising, paraphrasing and synthesising through teacher modelling.

Collaboration. Social collaboration in the classroom was found to promote intrinsic motivation for reading and learning, and to maintain active learning over an extended period of time.

Praise and rewards. Praise and rewards could be in the form of marks, encouraging comments, and book awards. Students can become extrinsically motivated and depend on performance goals, which involve the use of temporal and surface strategies such as memorisation and guessing. That is, praise should be sincere, specific and sufficient and should be properly given for praiseworthy success in the manner preferred by the learner.

Evaluation. Evaluation in the form of tests, assignments and projects should reflect students' ownership and provide motivation for reading. Evaluations that are purely teacher centred are controlling and may cause anxiety and diminish intrinsic motivation, which may curtail conceptual learning. Personalized evaluations may be difficult to administer but these contribute towards instilling motivations for reading.

Teacher involvement. The teacher's knowledge of individual students; care about their progress; and pedagogical understanding of how to foster their active participation (Guthrie & Wigfield, 2000) are important avenues for increasing students' motivation and fostering engagement. Bus

(2001, cited in Boakye, 2011) showed that children who interacted positively with their parents and received parents' attention had positive attitudes towards learning, and subsequently achieved success in learning. When students feel that significant adults such as parents and teachers are involved in their learning, they become motivated and strive towards success in learning.

Struggling Readers in Middle School

In elementary level, students have to learn the lessons with a single teacher and a relatively child-centered. In middle level, they have to learn many complex things. Moreover, they also face difficulties with their lessons, and struggle them to understand clearly, especially in reading. Most fail to understand much of what they read. Moreover, Bintz (1997, cited in Guthrie & Davis, 2003) suggested that many middle school students struggle with reading because they lack interest in the kinds of reading they are typically required to do in school, such as textbooks and certain teacher selected texts.

Struggling readers are notably unmotivated. They are especially likely to have low confidence in their reading (Wigfield et al., 1998, cited in Guthrie & Davis, 2003). These students are likely to lack confidence in their reading capability; struggling readers in the middle school are more likely to be extrinsically motivated than intrinsically motivated.

Many middle school students who are low achievers in reading feel socially marginalized. Lower achievers in middle school are likely to feel disrespected and uncomfortable in school. They do not enjoy a sense of belonging in the school. These struggling students are less eager to form positive relationships in school and are less concerned with close friendships and peer acceptance than higher achieving students (Anderman, 1999, cited in Guthrie & Davis, 2003). All of these qualities struggling readers point to disengagement.

Therefore, struggling students are more likely to be motivated if their learning environment offers them choices, instruction and learning topic that are relevant to their lives, and scaffolded learning activities that encourage them with to the content, with texts, with other students and with the world.

Design and Procedure

Sampling: The samples chosen for the present study consisted of 600 Grade 8 students: male (n=289) and female (n=311) in 2013-2014 academic year. A simple random sampling technique was used in selecting students for the study. The participants for the study were chosen from 3 high schools, 1 branch high school, 2 middle schools, 3 monastic schools located in Sagaing Township in Sagaing Region,

Method: In this study, descriptive research design and survey method were used. Questionnaires were used to elicit information on students' reading motivation and learning environment for reading through a descriptive survey. For the quantitative study, the Reading Motivation Questionnaires (MRQ) (40 items) which intended to assess students' reading motivation which is modified from the questionnaires of Wigfield and Guthrie (1997) were used. To examine learning environment that fosters students' reading motivation, 15 items Learning Environment for Reading Questionnaires (LERQ) were used by the researcher.

Learning Environment for Reading Questionnaires: A researcher-made learning environment for reading questionnaire based on Motivations for Reading Questionnaire of Wig field and Guthrie (1997) was used to examine how learning environment has the effect on Grade 8

students' reading motivation. The learning environment for reading questionnaires were based on frequencies ranging always, frequently, sometimes, seldom, never respectively. The scoring was based on 5 (always) to 1 (never). After doing the pilot study, the reliability coefficient (Cronbach's Alpha) of the Learning Environment for Reading Questionnaires was .555.

Reading Motivation Questionnaires (MRQ): The Reading Motivation Questionnaires (MRQ) were modified from the questionnaires designed by Wigfield and Guthrie (1997). This scale included 40 statements that were designed by 10 dimensions (Reading Efficacy, Reading Challenge, Reading Curiosity, Reading Involvement, Reading Work Avoidance, Competition in Reading, Recognition for Reading, Reading for Grades, Social Reasons for Reading and Compliance).

With experts' reviews and analysis of pilot study, the Reading Motivation Questionnaires (MRQ) used in this study. The MRQ consisted of 40 items.

Data Collection: The data were collected by using the Reading Motivation Questionnaires (MRQ) and researcher-made learning environment for reading questionnaires (LERQ). Respondents were administered to complete MRQ and LERQ. They were given 45 minutes. In addition, the questionnaires were handed out to students during regular class hours in their classroom. Before completing the questionnaires, researcher explained respondents about instruction on how to answer the questionnaires and told them to ask questions if they do not have clarity to fill out. Again, the researcher assured to the students to answer the questionnaires honestly and   quietly and not to discuss each other about the answer.

Data Analysis and Findings

An Analysis of Learning Environment on Students' Reading Motivation

Firstly, the descriptive results for all 600 respondents were presented in Table (1). The mean and standard deviation of the whole sample were 56.81 and 7.146. As described in Table (1), the mean scores across items (item 1 to 5) for social learning environment was 18.64, for physical learning environment (item 6 to 10) was 20.57 and for pedagogical learning environment (item 11 to 15) was 17.60.

Table 1 Descriptive Statistics for Learning Environment on Students' Reading Motivation

No.	Variables	*N*	Minimum	Maximum	Mean	Std. Deviation
1	Social Learning Environment	600	7	25	18.64	3.259
2	Physical Learning Environment	600	7	25	20.57	3.011
3	Pedagogical Learning Environment	600	8	25	17.60	3.130
	Total	600	26	75	56.81	7.146

As presented in Table (1), physical learning environment was the best among three scales (Mean=20.57) and the lowest standard deviation (3.011). This result stated that the students had better physical learning environment for reading than social learning environment and pedagogical learning environment. Again, when comparing the rest two means, it was found that social leaning environment was better for students reading motivation than pedagogical learning environment.

Analysis of Students' Reading Motivation

Table 2   Descriptive Statistics for Students' Reading Motivation

Variables	*N*	Minimum	Maximum	Mean	Std. Deviation
Reading Efficacy	600	9	20	15.74	2.409
Reading Challenge	600	4	20	15.34	2.676
Reading Curiosity	600	7	20	17.27	2.122
Reading Involvement	600	5	20	15.23	2.799
Reading Work Avoidance	600	4	20	13.65	3.286
Competition in Reading	600	5	20	15.67	2.806
Recognition for Reading	600	5	20	16.78	2.310
Reading for Grades	600	7	20	16.12	2.327
Social Reasons for Reading	600	4	20	14.92	3.115
Compliance	600	4	20	15.20	3.322
Total	600	86	199	155.93	16.379

As shown in Table (2), reading curiosity was the highest among ten scales (Mean=17.27) and the lowest standard deviation (2.122). This result showed that the students had high curiosity in reading. Moreover, among 10 scales, it can be clearly seen that the mean score of reading work avoidance (13.65) was the lowest. It was found that the students were low in the avoidance of work in reading.

Mean Comparison of Reading Motivation by Gender

Moreover, to find out gender differences in reading motivation, descriptive statistics was conducted to assess the mean scores and standard deviations of the male and female students' reading motivation. The means and standard deviations of the male and female students' reading motivation were shown in the following Table (3).

Table 3   Group Statistics for Male and Female Students' Reading Motivation

Variable	Gender	*N*	Mean	Std. Deviation	Mean Difference
Reading Motivations	**Male**	289	153.87	15.885	-3.97
	Female	311	157.84	16.624	

This table showed that the results of descriptive statistics for male and female students' reading motivation were stated differently. When comparing the overall means of male and female students' reading motivation, this result revealed that females were higher than males. To sum up, it was found that females read more than males.

Again, in order to find out the differences between male and female students' reading motivation, t-test was made. The result was presented in Table (4).

Table 4 The Result of *t*-test for Reading Motivation by Gender

No.	Variables	Gender	*t*	*df*	*p*	Mean Difference
1	**Reading Efficacy**	**Male**	-2.156	598	0.031	-0.423
		Female				
2	**Reading Challenge**	**Male**	-1.092	598	0.275	-0.239
		Female				
3	**Reading Curiosity**	**Male**	-0.829	598	0.407	-0.144
		Female				
4	**Reading Involvement**	**Male**	0.803	598	0.422	0.184
		Female				
5	**Reading Work Avoidance**	**Male**	-1.877	598	0.061	-0.503
		Female				
6	**Competition in Reading**	**Male**	-1.167	598	0.244	-0.268
		Female				
7	**Recognition for Reading**	**Male**	-3.005	598	0.003	-0.563
		Female				
8	**Reading for Grades**	**Male**	-2.778	598	0.006	-0.525
		Female				
9	**Social Reasons for Reading**	**Male**	-4.942	598	0.000	-1.234
		Female				
10	**Compliance**	**Male**	0.929	598	0.053	-0.252
		Female				
	Total	**Male**	-2.984	598	0.003	-3.967
		Female				

According to the result of *t*-test, there were no significant differences in reading challenge, reading curiosity, reading involvement, competition in reading, reading work avoidance, and compliance by gender. But, significant differences were found in reading efficacy, recognition for reading, reading for grades, and social reasons for reading. To be specific, the result of t-test for students' reading motivations revealed that there was significantly gender difference.

Relationship between Learning Environment and Students' Reading Motivation

After examining students' learning environment for reading and reading motivation, it was continued to investigate the relationship between learning environment and students' reading motivation. Pearson-Product moment correlation conducted the results as shown in Table (5).

Table 5 Relationship between Learning Environment and Students' Reading Motivation

Variables	Reading Motivations	Learning Environments
Learning Environments	1	.483** 0
Reading Motivations	.483** 0	1

**. Correlation is significant at the 0.01 level (2-tailed).

The result of Table (5) indicated that learning environment for reading was correlated significantly with students' reading motivation (r=.483, p< .01). The degree of correlation was good. This result showed that there was a significant relationship between learning environment for reading and students' reading motivation. Thus, it can be concluded that learning environment for reading had the effect on students' reading motivation.

The Differences in Learning Environments that Foster Students Reading Motivation of by Schools

The learning environments for reading that foster students' reading motivation were also investigated according to the school types. By using descriptive analyses, the mean and standard deviation of learning environments for reading by school types were clearly described in the following Table (6).

Table 6   Mean and Standard Deviation for Learning Environments for Reading that Foster Students' Reading Motivation by School Types

No.	Variables	*N*	Mean	Std. Deviation
1	**High Schools**	296	57.86	6.854
2	**Branch of High Schools**	67	57.42	5.957
3	**Middle Schools**	129	55.11	7.898
4	**Monastic Schools**	108	55.61	7.188
	Total	600	56.81	7.146

Table (6) stated that the mean scores of high schools were the highest (Mean=57.86) and that of middle schools were the lowest (Mean=55.11) on learning environments for reading among school types. This meant that learning environments of high schools were the best for reading among four types of schools. But, learning environments of middle schools were the lowest mean scores for reading compared to other school types.

Table 7 The Results of ANOVA in the Differences in Learning Environments that Foster Students' Reading Motivation by Different Schools.

Variable		Sum of Squares	*df*	Mean Square	*F*	Sig.
Learning Environments	Between Groups	878.607	3	292.869	5.875	0.001
	Within Groups	29712.49	596	49.853		
	Total	**30591.09**	**599**			

Again, it was also required to compute ANOVA for finding out whether the three components of learning environments differ significantly on students' reading motivation among four types of schools. The results were described in the following Table (8).

Table 8 The Results of ANOVA for Three Categories of Learning Environments for Reading on Students Reading Motivation among Four Types of Schools

Variables		Sum of Squares	df	Mean Square	F	Sig.
Social Learning Environment	Between Groups	205.676	3	68.559	6.639	.000
	Within Groups	6154.842	596	10.327		
	Total	**6360.518**	**599**			
Physical Learning Environment	Between Groups	120.854	3	40.285	4.523	0.004
	Within Groups	5308.064	596	8.906		
	Total	**5428.918**	**599**			
Pedagogical Learning Environment	Between Groups	168.869	3	56.29	5.887	0.001
	Within Groups	5698.724	596	9.562		
	Total	**5867.593**	**599**			

According to the ANOVA results of the above Table (8), it can be clearly seen that three categories (social learning environment, physical learning environment, and pedagogical learning environment) of learning environments for reading were four types of schools. In order to get more detailed information of which pairs of schools had significantly differences among four types of schools; Post-Hoc Test was computed by Tukey HSD method. The results were shown in Table (9).

Table 9 The Result of Tukey for Learning Environments among Four Types of Schools

Variable	(I) school	(J) school	Mean Difference (I-J)	Sig.
Learning Environments	High Schools	Branch of High School	0.44	0.967
		Middle Schools	2.750*	0.001
		Monastic Schools	2.247*	0.025
	Branch of High School	High Schools	-0.44	0.967
		Middle Schools	2.309	0.132
		Monastic Schools	1.807	0.354
	Middle Schools	High Schools	-2.750*	0.001
		Branch of High School	-2.309	0.132
		Monastic Schools	-0.503	0.948
	Monastic Schools	High Schools	-2.247*	0.025
		Branch of High School	-1.807	0.354
		Middle Schools	0.503	0.948

*. The mean difference is significant at the 0.05 level.

As shown in Table (9), it can be clearly seen that learning environments of high schools were different in those of the rest others. Moreover, it was found that between high schools and middle schools, and high schools and monastic schools. But, learning environments of branch of high school was no significant difference with those of the rest three schools. In addition, it was also found that there were no significant differences between learning environments from middle schools and monastic schools. Therefore, it was obvious that learning environments of the different types of schools or the locality affects students' reading motivation.

Summary of the Research Study and Conclusion of the Results

The responses in learning environment for reading questionnaires based on frequencies (always, frequently, sometimes, seldom, never) showed that the mean score of Grade 8 students revealed that their learning environment for reading was satisfactory. It implied that learning environment were highly associated with students' reading. According to the descriptive statistics, physical learning environment was the best for students' reading. Moreover, social learning environment was better for students' reading than pedagogical learning environment compared to mean scores.

In the present study, the result showed that the students had high curiosity in reading because the mean scores of Grade 8 students' curiosity in reading was 17.27 and the lowest standard deviation (2.122) as compared to the other mean scores. It was also found that students were low to avoid the work of reading because the mean score of reading work avoidance (13.65) was the lowest.

Gender Differences. Based on the mean comparison for reading motivation by gender, the group statistics showed that the mean scores of male and female students' reading motivation were 153.87 and 157.84. Therefore, it can be clearly seen that there were slight differences in mean scores by gender in reading motivation. Again, in order to know the gender differences in reading motivation, *t*-test was used. The result of t-test by gender revealed that there was significant difference on reading motivations and it was significant at 0.05 level. This present study found that females read more than males.

The Relationship between Learning Environment and Reading Motivation.

Continuously, Pearson correlation analyses showed that learning environments for reading had the significant relationship with students' reading motivation (r=.483, p < .01). Thus, there was a positive relationship between learning environments for reading and students' reading motivation. Above reasons, it can be concluded that learning environments for reading had the effect on students' reading motivation.

School Differences. By using descriptive analyses, the mean and standard deviation of learning environments for reading by school types. These results stated that learning environments of high schools were the best for reading among four types of schools. However, learning environments of middle schools were the lowest mean scores for reading compared to other school types. The ANOVA result showed that there were significant differences in learning environments among four types of schools at 0.05 level. This, it can be said that learning environments played an important role in reading education to foster Grade 8 students reading motivation. Learning environments were also vital predictors to motivate students' reading.

According to the Tukey HSD results, it was interestingly found that learning environments of high schools were significantly difference and better to promote students' reading motivation than learning environments of middle schools and monastic schools. So, the learning environments of the types of schools need to be considered for fostering students' reading motivation.

Conclusion

The classroom learning environment is an important place for educational research because most learning takes place there. Leaning environment researches give information and knowledge about what goes on in school settings beyond the notation of student achievement. Learning environment researchers have conducted in many areas and different forms of classroom environments (e.g. technology enhanced learning environment, science-learning environment), including especially in the area of reading. In the present study, the researcher focused on learning environment that fosters reading motivation. The researcher conducted the present study with quantitative approaches. Moreover, interviews, observation, standardized test assessment by the researcher, and qualitative research method should also be conducted.

Next studies should pay attention to students at various grades in different areas. Similarly, this study intended only for middle schools. Therefore, future studies should do primary schools, high schools, college levels and university levels in different areas and places.

To sum up, reading is essential to learning. It is a tool of education that is utilized from the elementary grade through adulthood into old age, as the individual continues his formal or informal education. Many adults do not appreciate the fact that their skill in reading has been acquired - that were not born able to read and comprehend what they read (Crow & Crow, 1979). Gradually, they become struggling readers and face many difficulties in reading. Therefore, they need to motivate. Interestingly, reading requires motivation (Anderson & Lapp, 1988). That is, motivation is very important in reading environment. Anyhow, one needs to motivate what, why, when and how to do anything. So, this study will contribute to an important role in the area of the teaching-learning process.

Acknowledgements

References

Anderson, P. S., & Lapp, D. (1988). *Language in elementary education* (4th ed). USA: Macmillan.

Arisoy, N. (2007). Examining 8th grade students' perception of learning environment of science classrooms in relation to motivational beliefs and attitudes. Retrieved September 9, 2013, from http://etd. lib. metu. edu.tr/upload/3/12608137/index.pdf.

Boakey, N. (2011). A multifaceted model for designing reading development programmes for L2 learners at tertiary level. Retrieved January 29, 2013, from http:// repository. up.ac.za/ bitstream/ handle/ 2263/ 18333/ Boakye_Multifaceted%282011%29.pdf?sequence=1.

Crow, L. D., & Crow, A. (1979). Educational psychology. New Delhi: Eurisia.

Deci, E. L., Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior.* New York: Plenum.

Eccles, J. S., & Midgley, C. (1999). Stage environment fit: Developmentally appropriate classrooms for early adolescents. In R. E. Ames & C. Ames (Eds.), *Research on Motivation in Education*. (Vol.3, pp. 139-186). New York: Academic.

Edmunds, K. M., & Bauserman, K. L. (2006). What teachers can learn about reading motivation through conversations with children? *The Reading Teacher, 59*(5), 414-424.

Gambrell, L. B. (1996). Creating classroom cultures that fosters reading motivation. *The Reading Teachers, 65*(3). pp. 172-178.

Gottfried, A. E. (1985). Academic intrinsic motivation in elementary and junior high school students. *Journal of Educational Psychology, 77*(6), 631-645.

Guthrie, J. T., & Davis, M. H. (2003). Motivating struggling readers in middle school through an engagement model of classroom practices. *Reading and Writing Quarterly, 19,* 59-85. Retrieved November 16, 2013, from http://www.cori.umd. edu/research-publications/2003-guthrie-davis.pdf.

Guthrie, J. T., Perencevich, K. C., Tonks, S. & Wigfield, A. (2004). Children's Motivation for Reading: Domain Specificity and Instructional Influences. *The Journal of Educational Research 97*(6), pp. 299-309.

Guthrie., J. T., & Wigfield, A. (2000). Engagement and motivation in reading. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol.3, pp. 403-420). Mahwah, NJ: Erlbaum.

Kamil, M. L. (2003). *Adolescents and literacy: Reading for* the *21st century.* Washington, DC: Alliance, for Excellent Education. Retrieved October 22, 2013, from http://www. mheresearch. com/ assets/ products/539fd53b59e32bb12/motivation and engagement. pdf.

Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breath of their reading. *Journal of Educational Psychology, 89,* 420-432.

Wilson, B. G. (1996). *Introduction: What is a constructivist learning environment?* In B. G. Wilson (Ed.). Constructivist, N.J: Educational Technology Publications.

AN ANALYSIS OF THE IMPACT OF PLAY ON PRESCHOOL CHILDREN'S SOCIAL SKILLS DEVELOPMENT

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Abstract

The purpose of this study is to investigate the impact of play on preschool children's social skills development. In addition, gender difference, age differences and differences among responsible agencies were further investigated. For quantitative study, preschool Children's play and social skills were examined by using questionnaire survey method. In order to assess preschool children's play behavior, the Penn Interactive Peer Play Scale (PIPPS) was used. In order to assess preschool children's social skills, the Preschool and Kindergarten Behavior Scales-2nd edition (PKBS-2; Merrell, 2002) was used. Qualitative study was conducted by using play and social skills checklist, preschool teacher interview form and naturalistic observation. The study began with a quantitative approach as a primary method, and then a qualitative follow up study was conducted to support the quantitative results. A total of 565 children from 12 preschools and their class teachers and parents were participated as the sample in this study. By using the descriptive procedure with the data obtained from the teacher-rated and parent-rated questionnaire, play behavior of preschool children can be estimated. According to teacher rating, the mean score of play disruption is the highest and that of play disconnection is the lowest among play behaviors. A child with a high score in each subscale was considered as a child with good play behavior. According to gender, the mean value of play behavior of female preschool children was higher than that of male preschool children. By means of responsible agencies, the mean score of play behavior of children under DSW was highest and that of children under MOE was the lowest. By different age groups, the mean score of children who are over five years old was highest among other age groups. The older the children's age, the more positive play behavior they have. Concerning with social skills development, the mean score of social cooperation is the highest and that of social interaction is the lowest among other social skills. A child with a high score in each subscale was considered as a child with good social skills. Based on gender difference, The mean value of social skills of female preschool children was higher than that of male preschool children. The mean score of social skills of children from preschool under DSW was highest and that of children from preschools under MOE was lowest. In comparing according to age groups, the mean score of children who are over five years old was highest among other age groups. The older the children's age, the higher the social skills they have. Moreover, it can be reasonably said that according to parents and teacher rating, social skills development of preschool children were highly correlated with their play.

Keywords: social skills, preschool children, play disruption, play disconnection, social cooperation, social interaction

Introduction

Play is so important to optimal child development that it has been recognized by the United Nations High Commission for Human Rights as a right of every child (United Nations High Commissioner for Human Rights, 2006). This birthright is challenged by forces including child labour and exploitation practices, war and neighborhood violence, and the limited resources available to children living in poverty. However, even those children who are fortunate enough to have abundant available resources and who live in relative peace may not be receiving the full benefits of play. Since every child deserves the opportunity to develop to their unique potential, child advocates ought to consider all factors that interfere with optimal development and press for circumstances that allow each child to fully reap the advantages associated with play.

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Significance of the Study

Children have an innate need to relate with others. This is a pro-social behavior which helps the children to develop as a social race. Their social skills through cooperative social behaviours are developed. Since the social skill can be learnt by copying and imitating others as they play. It can be disastrous if children are not exposed into a playing environment where they can interact and play among their peers. In a learning environment, they copy from teachers and play mates the appropriate phrase and actions. Children need to hear and see, then practise from their teachers. Children who are not exposed to acceptable social behaviour become unpopular and sometimes are ridiculed by other children.

Play is fundamental to children's happiness and well-being, and the evidence shows that it is also influential in their health and future life chances. If children's opportunities for play are restricted there are likely to be profound effects on their life experience in general and more specifically on their physical and mental health. For example, obesity, rickets and attention deficit disorder are just some of the growing problems experienced by children that health experts have recently linked to a lack of particular forms of play (Play England 2011).

In Myanmar, Most of the parents of preschool children usually think that academic achievement is more important than all round development of children such as physical, social, emotional and language development. They usually do not take into account of the importance of play in their children's education. They know less about the concept of learning by playing. For the above reasons, the researcher wants to raise parental awareness about play. So the researcher will attempt to explore the impact of play on social skills development of preschool children.

Purpose of the Study

The main purpose of this study is to investigate the impact of play on social skills development of preschool children.

Specific Objectives of the Study

The specific objectives of the present study were,

1. To explore the different play behaviors of preschool children.
2. To explore the different social skills of preschool children.
3. To determine whether there is gender difference between play behavior and social skills of male students and that of female students.
4. To explore how the presence of teacher during children's play affects children's social skills development.
5. To explore which type of play contributes more benefits for children's social skills development.

Definitions of the Key Terms

Play refers to assimilation or child's efforts to make environmental stimuli match his or her own concepts. (Piaget, 1962)

Guided Play refers to a kind of play in which adults can facilitate children's learning while maintaining a playful approach in interactions is known as "guided play". (Hirsch Pasek, 2009).

Pre School refers to an educational establishment offering early childhood education to children between the ages of three and five, prior to the commencement of compulsory education at primary school. (*https://en.wikipedia.org/wiki/Preschool*)

Social skill is any skill facilitating interaction and communication with others. (Bullis, 2001)

Review of Related Literature

The Role of Play in Child Development

According to Vygotsky (1978), to define play as an activity that gives pleasure to the child is inaccurate for two reasons. First, many activities give the child much keener experiences of pleasure than play, for example, sucking a pacifier, even though the child is not being satiated. And second, there are games in which the activity itself is not pleasurable, for example, games, predominantly at the end of preschool and the beginning of school age, that give pleasure only if the child finds the result interesting. Sporting games (not only athletic sports, but other games that can be won or lost) are very often accompanied by displeasure when the outcome is unfavorable to the child.

A very young child tends to gratify her desires immediately; normally the interval between a desire and its fulfillment is extremely short. No one has met a child under three years old who wants to do something a few days in the future. However, at the preschool age, a great many unrealizable tendencies and desires emerge. Toward the beginning of preschool age, when desires that cannot be immediately gratified or forgotten make their appearance and the tendency to immediate fulfillment of desires, characteristic of the preceding stage, is retained, the child's behavior changes. To resolve this tension, the preschool child enters an imaginary, illusory world in which the unrealizable desires can be realized, and this world is play. Imagination is a new psychological process for the child; it is not present in the consciousness of the very young child, is totally absent in animals, and represents a specifically human form of conscious activity.

Theories of Play

Despite the differences in definition and purpose, investigators do agree that play develops through a series of stages as children mature. Many psychologists, anthropologists and philosophers have attempted to provide theoretical framework in order to understand play, its properties, functions, origins and indicators.

Darwin (1872) was interested in the expression of emotions in animals and man and the connections between human and animal behavior. His interest in smile of humans and ape babies stimulated the interest of his followers in the area of play of animal. Karl Groos was one of them. He concentrated on the play of animals in the beginning and then shifted his emphasis on the play of humans.

While observing the play behavior in animals, he realized that those animals, who have more complex forms of adaptation are more playful. He inferred that the youthful play was required to practice a variety of behavior for which inherited instincts might not be wholly adequate. Human child with a long childhood has more time to play and pre-exercise the skills needed for adult life. He introduced pre-exercise theory or the practice theory, which postulate that play is a form of practice for more serious adult behavior. It has become one of the commonly accepted explanations available in the literature (Schwartzman, 1978).

Methodology

The purpose of this study is to investigate the impact of play on preschool children's social skills development. Both quantitative and qualitative methods were used in this study. For quantitative study, preschool Children's play and social skills were examined by using questionnaire survey method. Qualitative study was conducted by using play and social skills checklist, preschool teacher interview form and naturalistic observation. The study began with a

quantitative approach as a primary method, then a qualitative follow up study was conducted to support the quantitative results.

Subjects of the Study

In Myanmar, The Ministry of Education (MOE) and the Ministry of Social Welfare, Relief and Resettlement (MSWRR) are the lead ministries involved in the provision of ECCD services. In addition, Myanmar Maternal and Child Welfare Association and a number of non-governmental and private sector organizations actively supporting communities with the provision of ECCD services. To collect the required data, preschool children from Yangon region, Mandalay region and Kayin State were chosen as the participants of this study. There are numerous numbers of preschools in these cities so stratification was done according to their responsible agencies. Thus, stratification becomes (1) preschools under Ministry of Education, (2) preschools under Department of Social Welfare and (3) Private preschools. By stratified random sampling, preschool from each type was selected in these cities. So, the sample included all 3 to 5 years old children from these preschools. The number of preschool children participated in this study are shown in Table 3.1.

Table 3.1 Number of Preschool Children in the Study

Region	City	Responsible Agencies	Name of Schools	Number of Children
Yangon	Yangon	MOE	B.E.H.S (2) Sanchaung	40
			B.E.M.S (6) Hlaingtharyar	20
			B.E.P.S (3) North Dagon	20
		DSW	No.1 Preschool	100
		Private	Happy Home Private Preschool	45
			Myanmar Orchard	30
Kayin	Hpa-an	MOE	No.2 B.E.H.S (Branch) Hpa-an	30
		DSW	No.1 Preschool	117
		Private	Lin Let Yaung Chi Private Preschool	50
Mandalay	Pyinmana	MOE	No.15 B.E.P.S Thabyaehla	25
		DSW	Self-help Preschool	50
		Private	San Private Preschool	38
Total				**565**

Therefore, 565 children from 12 preschools and their class teachers and parents were participated as the sample in this study. Data were collected during school time. Informed consent forms were sent to the preschool children's parents and their teachers before preschool visit.

Instrumentation for Quantitative Study

For quantitative study, parents and teachers of preschool children were participated as the rater of children's play and social skills development. Since preschool teachers spend six to eight hours a day with children in their class and also parents spend all the rest of the time at with children at home, they are a good source for data on individual differences of children. They can quickly observe the behaviors of children during play time. In order to assess preschool children's play behavior, the Penn Interactive Peer Play Scale (PIPPS) was used. In order to assess preschool children's social skills, the Preschool and Kindergarten Behavior Scales-2nd edition (PKBS-2; Merrell, 2002) was used.

Data Analysis and Results

After the required instrument has been developed for the research and applied for data collection, the impact of preschool children's play on social skills development was explored. In addition, gender difference, age differences and differences among responsible agencies were further investigated. By using the statistical analyses, findings and results are discussed as follows.

Mean Comparison for Play Behavior of Preschool Children

By using the descriptive procedure with the data obtained from the teacher-rated and parent-rated questionnaire, play behavior of preschool children can be estimated. According to teacher rating, the mean score of play disruption is the highest and that of play disconnection is the lowest among play behaviors (See table 1 and Figure 1). A child with a high score in each subscale was considered as a child with good play behavior.

Table 1 Descriptive Statistics for Play Behavior According to Teacher Rating

Play Behavior	Mean	SD	Maximum	Minimum
Play Interaction	30.10	5.539	46	11
Play Disruption	40.80	6.006	51	15
Play Disconnection	29.89	9.143	116	14
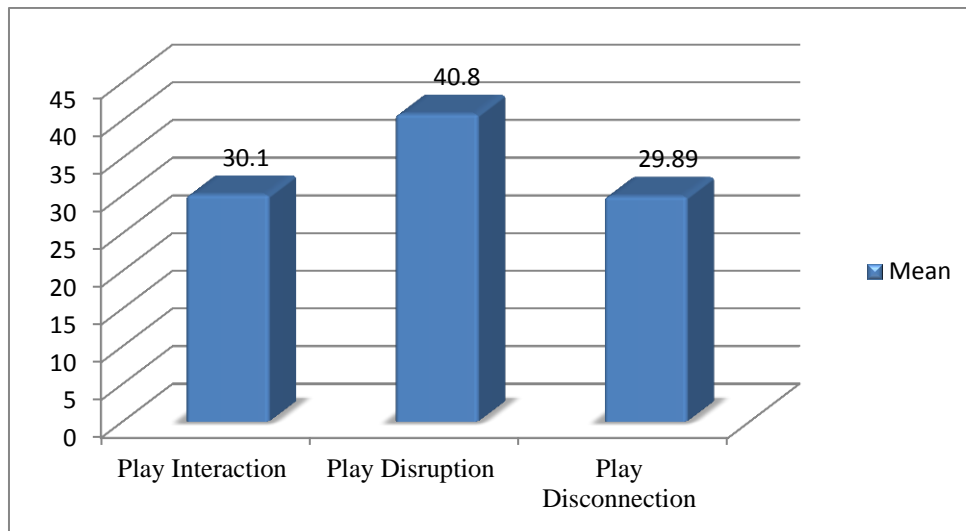
Figure 1 Mean Comparison of Play Behavior of Preschool Children According to Teacher Rating

According to teacher rating, the mean score of play disruption is the highest and that of play disconnection is the lowest among play behaviors (See table 4.2 and Figure 4.2). A child with a high score in each subscale was considered as a child with good play behavior.

Table 2 Descriptive Statistics for Play Behavior According to Parent Rating

Play Behavior	Mean	SD	Maximum	Minimum
Play Interaction	29.82	5.141	46	10
Play Disruption	40.94	5.680	56	15
Play Disconnection	29.93	9.083	116	12
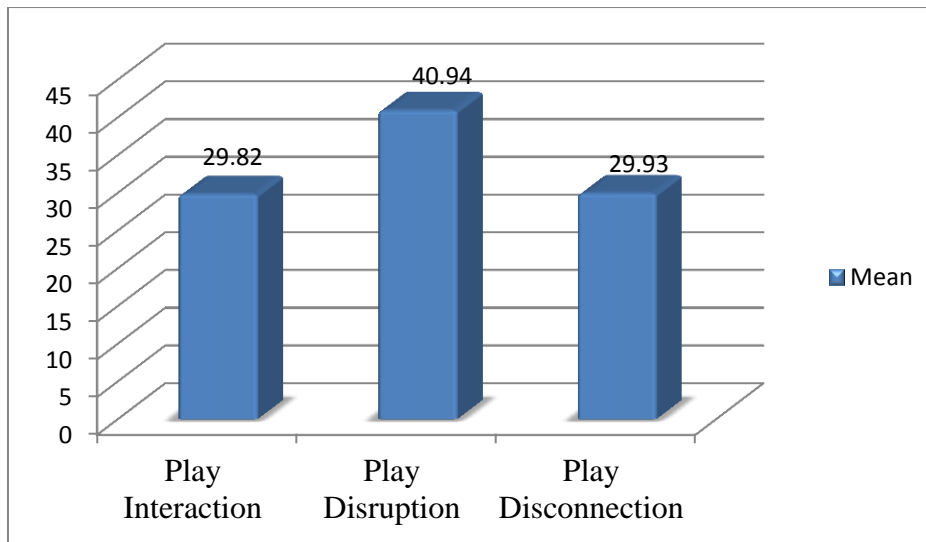
Figure 2 Mean Comparison of Play Behavior of Preschool Children According to Parent Rating

Comparison for Play Behavior of Preschool Children by Gender

In order to find out the gender difference concerning play behavior, descriptive statistics and independent sample *t*-test was conducted. (See table 4.3 and table 4.4)

Table 3   Descriptive Statistics for Play Behavior by Gender

Variable	Gender	N	Mean	Standard Deviation
Play Behavior	Male	279	96.96	13.20
	Female	286	99.82	13.53

According to table 3, the mean values of play behavior of female preschool children was higher than that of male preschool children. Visual presentation is shown in figure 3.
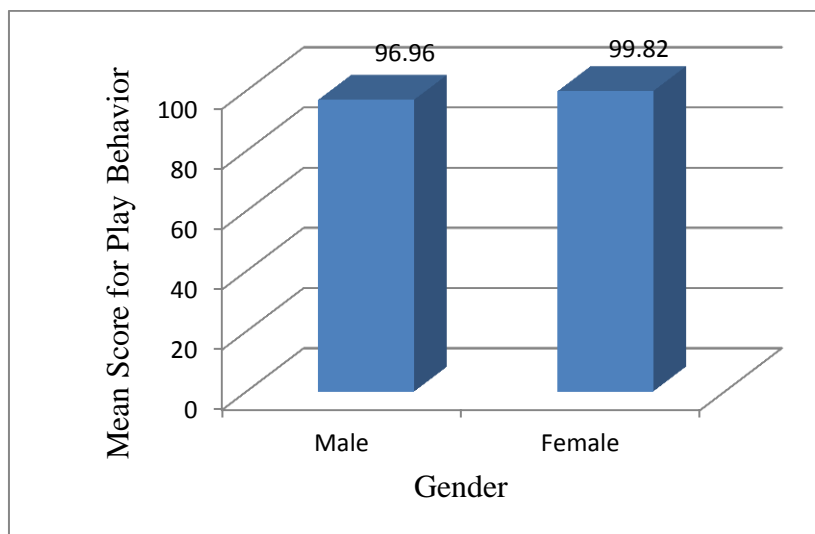
Figure 3   Mean Comparison of Play Behavior of Preschool Children by Gender

Although there were mean differences between male and female, independence sample t-test was used to examine whether this mean difference is significant or not. (See table 4)

Table 4   The Results of Independent Sample t-test for Play Behavior by Gender

Variable	*t*	df	sig (2-tailed)	Mean Difference
Play Behavior	-2.53	563	.011	-2.85

Table 4 revealed that there is significant difference between play behavior of male and female students. So, girls behave more positive play behavior than boys.

Comparison for Play Behavior of Preschool Children by Responsible Agencies

To compare the play behavior of preschool children by responsible agencies, descriptive statistics was made as shown in table 4.5 and table 5.

Table 5 Descriptive Statistics for Play Behavior by Responsible Agencies

Responsible Agencies	N	Mean	Standard Deviation
MOE	135	95.89	21.803
DSW	267	100.57	11.480
Private	163	97.23	9.884
Total	565	98.49	14.397

MOE   = Preschools under Ministry of Education
DSW   = Preschools under Department of Social Welfare
Private   = Private Preschools

Table 5 revealed that the mean score of play behavior of children under DSW was highest and that of children under MOE was the lowest. Visual presentation was shown with figure 4. Even though mean difference will be found among three age groups, one way analysis of variance (AVOVA) was executed to know whether there is statistically significance difference of not. (See table 6).

Figure 4   Mean Comparison of Play Behaviors of Preschool Children by Responsible Agencies

Table 6   One-way Analysis of Variance Summary Table Comparing Play Behaviors of Preschool Children by Responsible Agencies

Source	Source of Variation	df	Sum of Squares	Mean Square	F	Sig.
Play Behavior	Between groups	2321.073	2	1160.537	5.692	.004
	Within groups	114580.077	562	203.879		
	Total	116901.150	564			

According to the ANOVA results, there was significance difference among play behaviors of children by respective responsible agencies. It can be interpreted that children form preschools under DSW have more positive play behavior among other agencies.

Comparison for Play Behavior of Preschool Children by Age

To compare the play behavior of preschool children by age, descriptive statistics and one way ANOVA analysis were made as shown in table 4.7 and table 4.8.

Table 7   Descriptive Statistics for Play Behavior by Age

Age Groups	N	Mean	Standard Deviation
Between 2 and 3	11	89.45	23.513
Between 3 and 4	100	95.94	13.179
Between 4 and 5	282	97.72	13.734
Over 5 years old	172	101.80	14.823

As mentioned in table 7 and figure 5, the mean score of children who are over five years old was highest among other age groups. The older the children's age, the more positive play behavior they have. In order to examine whether these mean differences were significant or not, one way analysis of variance (AVOVA) was executed (See table 8).
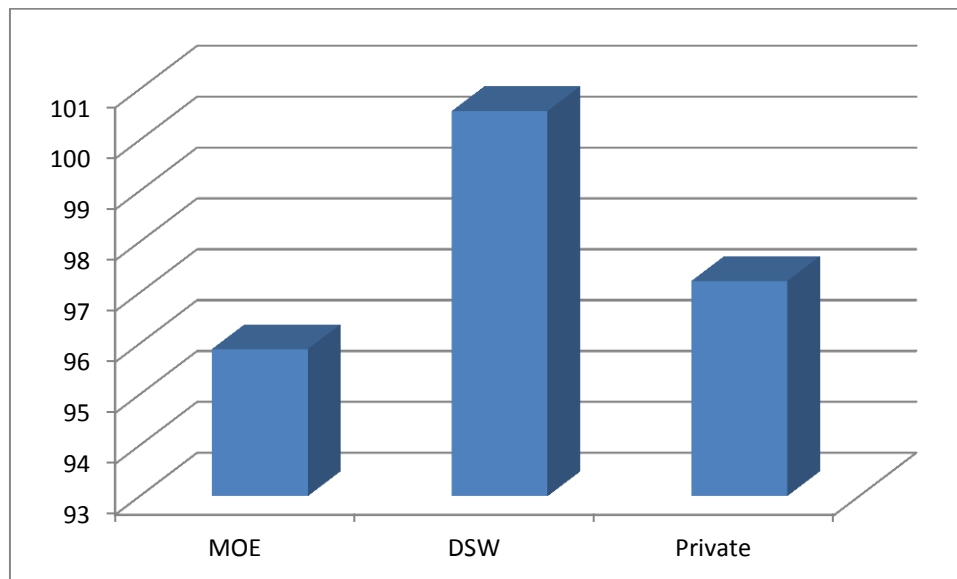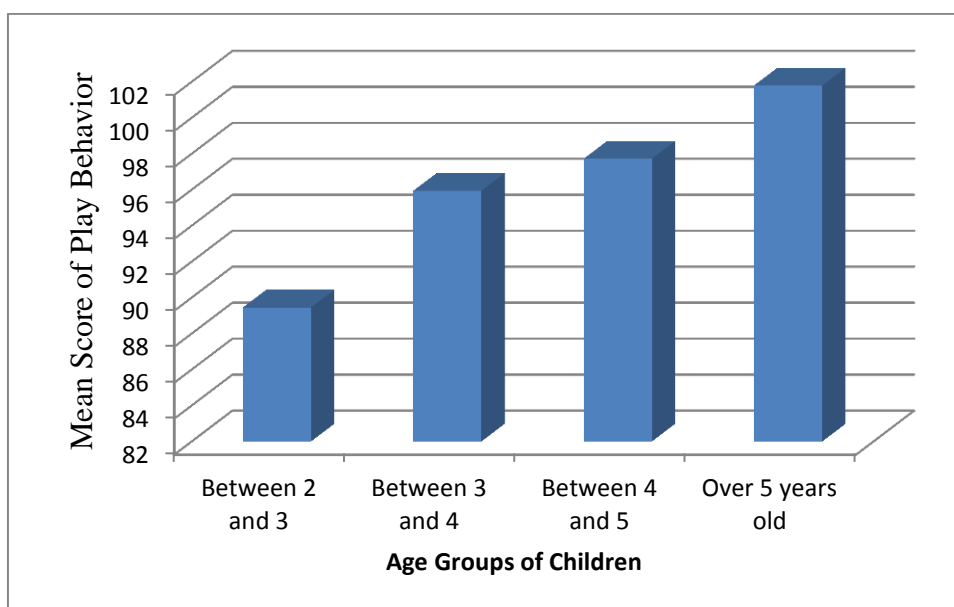

Figure 5   Mean Comparison of Play Behavior of Preschool Children by Age Groups

Table 8 One-way Analysis of Variance Summary Table Comparing Play Behavior of Preschool Children by Age Groups

Source	Source of Variation	df	Sum of Squares	Mean Square	F	Sig.
Play Behavior	Between groups	3602.635	3	1200.878	5.946	.001
	Within groups	113298.515	561	201.958		
	Total	116901.150	564			

According to the ANOVA results, there was significance difference among play behaviors of age groups. It means that the older the children, the more positive play behaviors they behave.

Social Skills Development of Preschool Children

The Three subscales of children's social skills (Social Coopreation, Social Interaction, Social Independence) of three- to five-year-old preschool children were rated by their teachers and parents. The teachers and parents assessed with 4-point-likert scale and scores ranged from a low of 0 to a high of 4. The results were presented as follows.

Mean Comparison for Social Skills Development of Preschool Children

By using the descriptive procedure with the data obtained from the teacher-rated and parent-rated questionnaire, social skills of preschool children can be estimated. According to teacher rating, the mean score of social cooperation is the highest and that of social interaction is the lowest among other social skills (See table 9 and Figure 6). A child with a high score in each subscale was considered as a child with good social skills.

Table 9 Descriptive Statistics for Play Behavior According to Teacher Rating

Social Skills	Mean	SD	Maximum	Minimum
Social Coopreation	39.78	6.405	48	17
Social Interaction	34.50	5.566	44	17
Social Independence	36.67	11.054	126	18
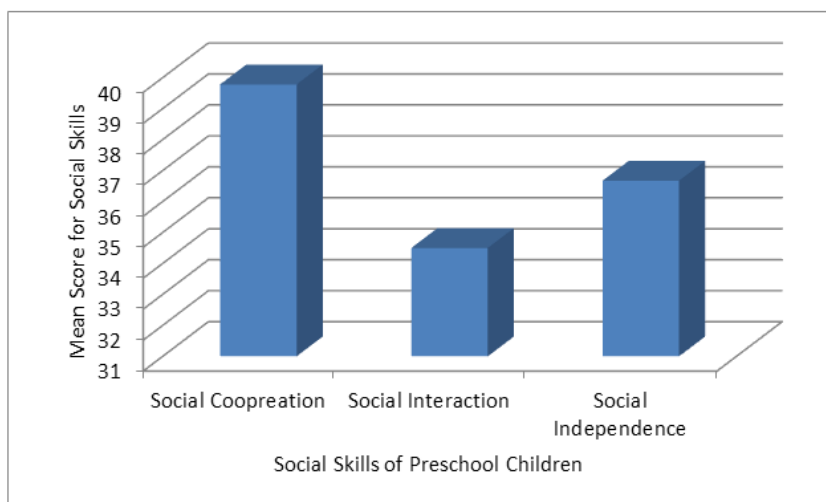
Figure 6 Mean Comparison of Social Skills of Preschool Children According to Teacher Rating

Moreover, descriptive statistics for social skills of preschool children according to parent rating were presented in table 4.10.

Table 10 Descriptive Statistics for Social Skills According to Parent Rating

Social Skills	Mean	SD	Maximum	Minimum
Social Coopreation	39.18	6.801	80	15
Social Interaction	33.94	6.090	44	11
Social Independence	36.24	11.312	126	11

According to parent rating, the mean score of social cooperation is the highest and that of social interaction is the lowest among other social skills (See table 10 and Figure 7). A child with a high score in each subscale was considered as a child with good social skills. Visual presentation was presented with figure 7.
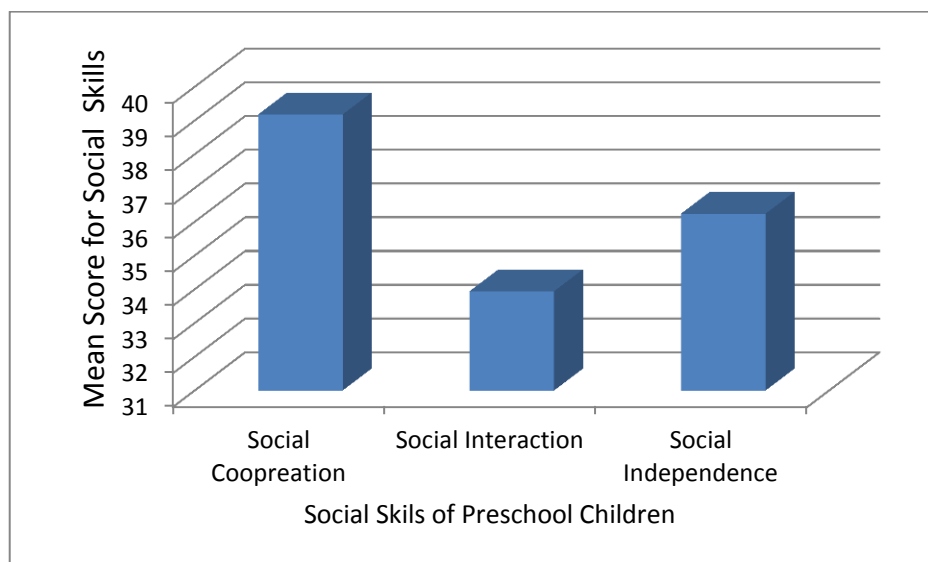
Figure 7 Mean Comparison of Social Skils of Preschool Children According to Parent Rating

Comparison for Social Skills of Preschool Children by Gender

In order to find out the gender difference concerning social skills, descriptive statistics and independent sample *t*-test was conducted. (See table 11 and table 12)

Table 11 Descriptive Statistics for Social Skills by Gender

Variable	Gender	N	Mean	Standard Deviation
Social Skills	Male	279	106.84	17.468
	Female	286	109.19	17.653

According to table 11, the mean value of social skils of female preschool children was higher than that of male preschool children. Although there were mean differences between male and female, independence sample t-test was used to examine whether this mean difference is significant or not. (See table 12)

Table 12 The Results of Independent Sample t-test for Social Skills by Gender

Variable	*t*	df	sig (2-tailed)	Mean Difference
Social Skills	-1.593	563	.112	-2.354

Table 12 revealed that there is no significant difference between social skills of male and female students.

Comparison for Social Skills of Preschool Children by Responsible Agencies

After that, to compare the social skills of preschool children by responsible agencies, descriptive statistics and one way ANOVA analysis were made as shown in table 13 and table 14.

Table 13 Descriptive Statistics for Social Skills by Responsible Agencies

Responsible Agencies	N	Mean	Standard Deviation
MOE	135	95.89	21.803
DSW	267	100.57	11.480
Private	163	97.23	9.884
Total	565	98.49	14.397

According to table 13, the mean score of social skills of children from preschool under DSW was highest and that of children from preschools under MOE was lowest. To examine whether the mean differences were significant or not, one way analysis of variance (AVOVA) was executed (See table 14).

Table 14 One-way Analysis of Variance Summary Table Comparing Social Skills of Preschool Children by Responsible Agencies

Variable	Source of Variation	df	Sum of Squares	Mean Square	F	Sig.
Social Skills	Between groups	2321.073	2	1160.537	5.692	.004
	Within groups	114580.077	562	203.879		
	Total	116901.150	564			

According to the ANOVA results, there was significance difference among social skills of children from respective responsible agencies. This may be because the preschools under department of social welfare place the emphasis on children's physical, intellectual, social and emotional development than academic skills. On the other hand, private preschools emphasize the academic skills such as Myanmar, English, Mathematics according to the parents' desire. Most of the parents of preschool children usually think that academic scores are more important than the overall development such as physical, social, emotional and language development. According to observation results, Preschools under ministry of education allow children do free play but not guide how to improve social skills of children through guided play by teachers.

Comparison for Social Skills of Preschool Children by Age

To compare the social skills of preschool children by age, descriptive statistics and one way ANOVA analysis were made as shown in table 15 and table 16.

Table 15 Descriptive Statistics for Social Skills by Age

Age Groups	N	Mean	Standard Deviation
Between 2 and 3	11	89.45	23.513
Between 3 and 4	100	95.94	13.179
Between 4 and 5	282	97.72	13.734
Over 5 years old	172	101.80	14.823

As mentioned in table 15, the mean score of children who are over five years old was highest among other age groups. The older the children's age, the higher the social skills they have. In order to examine whether these mean differences were significant or not, one way analysis of variance (AVOVA) was executed (See table 16).

Table 16 One-way Analysis of Variance Summary Table Comparing Social Skills of Preschool Children by Age Groups

Variable	Source of Variation	df	Sum of Squares	Mean Square	F	Sig.
Social Skills	Between groups	6081.702	3	2027.234	5.161	.002
	Within groups	220360.748	561	392.800		
	Total	226442.450	564			

According to the ANOVA results, there were significance difference among social skills of age groups. It means that the older children have higher social skills than younger children.

Correlation Between Preschool Children's Play and Social Skills

In order to examine whether preschool children's play affect their social skills development, correlation analyses were used. The following table shows the relationship between PIPPS(parents rating) and PKBS (parents rating).

Table 17 Correlation Between Preschool Children's Play and Social Skills According to Parent Rating

		Social Skills (Parent)
Play Behaviour (Parent)	Pearson Correlation	.724**
	Sig. (2-tailed)	.000
	N	565

**. Correlation is significant at the 0.01 level (2-tailed).

According to Table 4.17, it can be reasonably said that according to parents' rating, social skills development of preschool children were highly correlated with their play. Correlation was significant at 0.01 level. It means that children who do a lot of play activities will have high social skills.

Next, the correlation between preschool children's play and social skills was computed according to teacher rating. The following table shows the relationship between PIPPS (teacher rating) and PKBS (teacher).

Table 18 Correlation Between Preschool Children's Play and Social Skills According to Teacher Rating

		Social Skills (Teacher)
Play Behaviour (Teacher)	Pearson Correlation	.807**
	Sig. (2-tailed)	.000
	N	565

**Correlation is significant at the 0.01 level (2-tailed).

According to Table 4.18, it can be reasonably said that according to preschool teachers' rating, social skills development of preschool children were highly correlated with their play.

Correlation was significant at 0.01 level. Moreover, correlations among the subscales of PIPPS and PKBS were computed.

Table 19 Correlations among the subscales of Preschool Children's Play and Social Skills According to Parent Rating

Social Skills	Play Interaction	Play Disruption	Play Disconnection
Social Cooperation	.620**	.260**	-.039
Social Interaction	.681**	.164**	.015
Social Independence	.514**	-.223**	.825**

**Correlation is significant at the 0.01 level (2-tailed).

According to Table 19, it can be said that according to parents rating, three subscales of PKBS were strongly correlated with play interaction subscale and moderately correlated with play disruption and play disconnection. Correlation was significant at 0.01 level.

Table 20 Correlations among the subscales of Preschool Children's Play and Social Skills According to Teacher Rating

Social Skills	Play Interaction	Play Disruption	Play Disconnection
Social Cooperation	.692**	.408**	.019
Social Interaction	.710**	.327**	.071
Social Independence	.472**	-.155**	.857**

**Correlation is significant at the 0.01 level (2-tailed).

According to Table 20, it can be said that according to teachers rating, three subscales of PKBS were strongly correlated with play interaction subscale and moderately correlated with play disruption and play disconnection. Correlation was significant at 0.01 level.

Conclusion

Myanmar society is oriented towards national solidarity, with the government strongly emphasizing the importance of achieving national unity, equality and harmony between the various races which make up the Myanmar culture. This direction is most evident in the guiding principles of the government's Vision statement, a blueprint of national development intended to move Myanmar towards developed nation status. Social and economic development over the past 20 years through various policy initiatives has led to prominent change in all sectors of Myanmar society. In particular, education is seen as a means by which national goals can be achieved. With increasing emphasis on the importance of education has come a growing awareness by government, non-government organizations and parents of the importance of preschool education.

Acknowledgements

References

Athanasiou, M. S. (2007). Play-based approaches to preschool assessment. In B. A. Bracken & R. J. Nagle (Eds.), The psychoeducational assessment of preschool children (4th ed., pp. 219– 238). New Jersey: LEA.

Coolahan, K., Fantuzzo, J., Mendez, J., & McDermott, P. (2000). Preschool peer interactions and readiness to learn: relationships between classroom peer play and learning behaviors and conduct. *Journal of Educational Psychology, 92*, 458-465.

Fantuzzo, J., & McWayne, C. (2002). The relationship between peer-play interactions in the family context and dimensions of school readiness for low-income preschool children. *Journal of Educational Psychology, 94*, 79-87.

Fantuzzo, J., Mendez, J., & Tighe, E. (1998). Parental assessment of peer play: Development and validation of the parent version of the Penn Interactive Peer Play Scale. *Early Childhood Research Quarterly, 13*, 659-676.

Fantuzzo, J., Sutton-Smith, B., Coolahan, K.C., Manz, P.H., Canning, S., & Debnam, D. (1995). Assessment of preschool play interaction behaviors in young low-income children: Penn Interactive Peer Play Scale. *Early Childhood Research Quarterly, 10*, 105-120.

Fantuzzo, J., Sutton-Smith, B., Coolahan, K.C., Manz, P.H., Canning, S., & Debnam, D. (1995). Assessment of preschool play interaction behaviors in young low-income children: Penn Interactive Peer Play Scale. *Early Childhood Research Quarterly, 10*, 105-120.

Gagnon, S.G., & Nagle, R. J. (2004). Relationships between peer interactive play and social competence in at-risk preschool children. *Psychology in the Schools, 41*, 173-189.

Mahindu Jane Wambui K. (2011). Influence of Play on the Development of Preschool Children's Social Skills in Kabete Zone, Kenya.

Merrell, K.W. (1994, 2002). Preschool and Kindergarten Behavior Scales (PKBS) Second Edition Examiner's Manual. Austin, TX: Pro-Ed.

Sparrow, S.S., Balla, D.A., & Cicchetti, D.V. (1998). Vineland social-emotional early childhood scales (SEEC). Circle Pines, MN: American Guidance Service.

AN INVESTIGATION OF RELATIONSHIP AMONG EMOTIONAL INTELLIGENCE, PARENT ASSISTANCE AND ACADEMIC ACHIEVEMENT OF HIGH SCHOOL STUDENTS IN MAWLAMYINE TOWNSHIP

Ei Thinzar Ko[1], U Tun Thein[2]

Abstract

This study investigated the relationship among emotional intelligence, parent assistance and academic achievement of high school students in Mawlamyine Township. The participants ranged in age between 15 and 18 years. Quantitative approach was used in this study. Students" emotional intelligence was examined by using questionnaire survey method. In this study, three levels of emotional intelligence were measured with a modified Myanmar Version of Emotional Intelligence Scale (SEIRS) questionnaire developed by (Schuttle, Haggerty, Cooper, Golden & Domheim, 1998). It includes 33 items in which each item is rated with a five-point likert scale. Questionnaire for students is comprised with two sections; student"s personal data are in section A and the items of high school students" emotional intelligence are in section B. Questionnaire for parents include three sections. A total number of 500 students (235 male and 265 female students) and their respective parents participated in this study. The required sample was selected by using random sampling technique. The overall results showed that most of grade ten students fell into moderate emotional intelligence level group. The results showed that the participants would be classified into three groups: low emotional intelligence group (19%), moderate emotional intelligence group (65%), and high emotional intelligence group (16%). Data analysis involved the use of confirmatory factor analyses, descriptive and inferential statistics. After conducting factor analysis, six factors: positive affect, non verbal emotions, emotional management, happy emotions, emotion others and own emotions for SEIRS was only validated. Furthermore, there were only 25 items left for emotional intelligence.

Key words: Emotional Intelligence, Parent Assistance

Introduction

Education provides awareness and enables man to harmonize himself with his environment leading to constructing and molding a peaceful society. The quality of education can be assessed on the basis of the achievement of the aims and objectives of education. Academic achievement is undoubtedly a research after the heart of educational psychologists. The role of parent assistance in children"s education has become a central issue in educational policy and research.

Significance of the Study

Imbrosciano and Berlach (2003) have remarked that „"success"" may be viewed in three main domains. A good student is often referred to as being „"intelligent"", or „"well behaved"", or „"academically successful"". Arising from this are the questions: Are there any connection between these domains? Is there a strong connection, between intelligence and academic achievement? Do students with high intelligence behave better? These and many more questions underscore the important place intelligence has been found to play in academic success. In essence, the importance of emotional intelligence on academic achievement has been found to be very significant.

On parent assistance and academic achievement, studies have shown to date that the two constructs seems to be positively related. Findings have demonstrated that parent"s assistance in

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the education of the children has been found to be of benefit to parents, children, and schools (Tella 2003). The obviousness of the research findings reported in this study is that parent assistance improves facets of children‟s education such as daily attendance (e.g. Cotton & Wikelund, 2001), student achievement (e.g. Cotton & Wikelund, 2001) behavior (Simon, 2000) and motivation (e.g. Cotton & Wikelund, 2001). Nevertheless, and in spite of the studies reviewed, there is still a need to further investigate the relationship among emotional intelligence, parent assistance and academic achievement of high school students most especially in country like Myanmar.

Purposes of the Study

The primary purpose of this study is to investigate the significant impact of these two constructs (emotional intelligence and parent assistance) on academic achievement of high school students.

1. To find out school differences in emotional intelligence

2. To find out gender differences in sub skills of emotional intelligence

3. To investigate the effect of emotional intelligence on high school student‟s achievement

4. To investigate the effect of parent assistance on high school student‟s achievement

5. To explore how students‟ emotional intelligence and achievement differ by parent assistance level

6. To investigate the relationship among sub scales of emotional intelligence, academic achievement, family income and parent assistance

Definitions of Key Terms

Emotional Intelligence. Emotional intelligence (EI) is "the ability to monitor one‟s own and others‟ feelings and emotions, to discriminate among them and to use this information to guide one‟s thinking and actions (John D. Mayer and Peter Salovey, 2013).

Parent Assistance. Parent assistance is any intervention for parents aimed at reducing risks and promoting protective factors for their children, in relation to their social, physical and emotional well-being (Gardner, 2003).

Related Literature Review

What is Emotional Intelligence?

John Mayer and Peter Salovey define emotional intelligence as the ability to reason with emotion. US psychologists John Mayer and Peter Salovey published the first formal definition of emotional intelligence in 1990. Their publication also claimed that it might be possible to assess and measure a person‟s emotional intelligence. Mayer and Salovey believed that emotional intelligence is a subset of social intelligence and is about a person‟s ability to: (1) perceive emotion in oneself and others, (2) integrate emotion into thought, (3) understand emotion in oneself and others, and (4) manage or regulate emotion in oneself and others. They have also described emotional intelligence as being „knowledge of self and others‟ and, more specifically, „the ability to monitor one‟s own and others‟ feelings and emotions, to discriminate among them and to use this information to guide one‟s thinking‟.

Emotional Intelligence and Success

Goleman focused to a large extent on the power of emotional intelligence to help individuals achieve success and he closely equated success with money and earning power. Goleman also claimed that 20% of success in life is down to IQ and 80% to EQ, although critics argue that he had little or no scientific evidence to back this up. Whilst Mayer and Salovey claim that there is research to show that IQ contributes to 25% of the success achieved by individuals, they cannot make similar quantifiable estimates about the impact of emotional intelligence.

Emotions are critically important to our success and to our very survival. There are many reasons for this. First, emotions contain data and information about us, other people, and the world around us. Second, emotions assist us in thinking and decision making. Third, emotions are not chaotic, they can be understood and predicted and often follow certain rules or patterns. And fourth, because emotions contain data, we must remain open to our emotions, no matter how uncomfortable it may feel, and utilize these emotional data points in our thinking, decisions, and our actions.

Defining Parent Assistance

Reynolds (1996, p. 1121) defined parent assistance as "any interaction between a parent and child that may contribute to the child"s development or direct parent participation with a child"s school in the interest of the child." This definition suggests that an overall assistance will lead the child to a better future. Grolnick and Slowiaczek (1994) defined parent assistance as the dedication of resources by the parent to the child within a given domain. They described three areas in which parents are assisted: behavioral, cognitive, and personal. Parents need to be assisted in every area of their child"s life, so this sounds like apretty accurate definition of parent assistance.

Parent assistance in the learning process is important to student achievement. Children greatly benefit, when parents are involved in helping children increase academic skills. Parents want to help their child to achieve and can be the most effective educators for providing help.

Methodology

Sampling

In this study, a total number of 500 students (235 male and 265 female students) and their respective parents participated from 10 high schools located in Mawlamyine Township. The required sample was selected by using random sampling technique.

Research Method

Quantitative research design was used in this study. Descriptive survey method as quantitative design was applied.

Research Instrumentation

In order to get necessary information for the study, two questionnaires were conducted; one for Grade Ten students and the other for respective parents. In this study, three levels of emotional intelligence were measured with a modified Myanmar Version of Emotional Intelligence Scale (SEIRS) questionnaire developed by (Schuttle, Haggerty, Cooper, Golden & Domheim, 1998). It includes 33 items in which each item is rated with a five-point likert scale.

Questionnaire for students is comprised with two sections; student"s personal data are in section A and the items of high school students" emotional intelligence are in section B. The internal consistency of emotional intelligence scale is 0.784.

Questionnaire for parents includes three sections. Name the parent or guardian, number of children, family member, age of children, parent"s education level and income, nationality and religion, are in section A and parent assistance questionnaire are in section B and C. In Section B parent assistance questionnaire, 19 items are included; 5 items for family rules (e.g., Identifying regular study time.), 12 items for parent-student partnership concerning assistance of students" education (e.g., Providing students" classroom requirements.), 2 items for parent's educational values and interests (e.g., Exploring parents" expectations about students" education.). The scale reported satisfactory internal consistency with Cronbach"s alpha 0.58.

Data Analysis and Research Findings

Confirmatory Factor Analysis for Emotional Intelligence

Confirmatory factor analyses were used to establish the factor structure of the SEIRS. The reliability coefficients were largely acceptable for each of these six theoretically derived emotional intelligence (Alpha = 0.814).

In this study, the Kaiser Meyer Olkin Measure of Sampling Adequacy was 0.822. This was above the recommended value of 0.7 that is indicating that there were sufficient items for each factor in SEIRS. And Bartlett"s Test of Sphericity was significant ($p<0.001$). This means that the variables are highly correlated enough to provide a reasonable basis for factor analysis. The six factors also have eigenvalues (a measure of explained variances) greater than 1.0, which is a common criterion for a factor to be useful. Throughout this analysis process, items with initial value of less than 0.02 without loading were discarded.

After doing several steps, 8 items were eliminated because they had no loadings with any other factor. By taking out 8 items, the communalities were all above 0.20, it indicated that the relation between each item and other items is satisfactory. Therefore, the responses of 500 students upon 33 items were analyzed by the use of principal axis factoring analysis and varimax rotation for factor analysis methods.

Then, six factors were requested, based on the factor that the items were designed to index six constructs: own emotions component, emotion others component, happy emotions component, emotional management component, non-verbal emotions component, and positive affect component. Table 1 displayed the factor loadings for the rotated factors and communalities based on principal axis factoring with varimax rotation for 33 items of SEIRS. Visual presentation can also be seen in the figure 1.

Table 1   Factor Loading for the Rotated Factors of Emotional Intelligence

Emotional Intelligence	Factor						Communality
	1	2	3	4	5	6	
e22 Own Emotions	.487						.276
e20 Positive Affect	.455						.269
e27 Positive Affect	.455						.296
e9 Own Emotions	.446						.227
e19 Own Emotions	.438	.356					.321
e6 Positive Affect	.435						.259
e7 Own Emotions	.389						.231
e21 Emotional Management	.344						.220
e29 Emotion Others		.667					.460
e18 Emotion Others		.489					.298
e25 Own Emotions		.422					.306
e32 Emotion Others		.396					.222
e13 Happy Emotions			.577				.372
e30 Emotion Others			.495				.382
e24 Emotional Management			.478	.337			.420
e26 Emotion Others			.354				.248
e14 Happy Emotions			.327				.153
e1 Positive Affect				.596			.124
e28 Emotional Management				.319			.436
e11 Own Emotions					.493		.268
e15 Non Verbal Emotions					.449		.258
e4 Own Emotions					.324		.268
e10 Positive Affect						.599	.508
e23 Positive Affect						.362	.330
e3 Positive Affect						.325	.256
Eigenvalues	2.269	1.732	1.624	1.042	.946	.916	
% of variance	6.876	5.249	4.922	3.157	2.867	2.777	

Extraction Method: Principal Axis Factoring, Rotation Method: Varimax
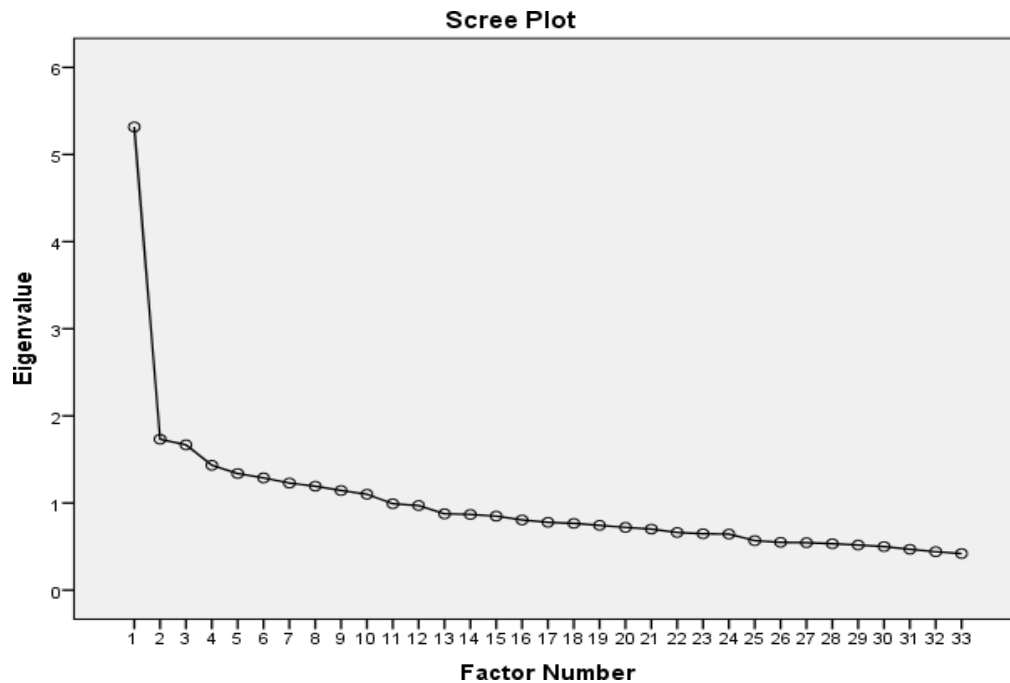
Figure 1 Items and Their Eigenvalues from Confirmatory Factor Analysis for Emotional Intelligence

According to the results of Table 1, it was verified that own emotions component items grouped into Factor (1), emotion others component items grouped into Factor (2), happy emotions component items grouped into Factor (3), emotional management component items grouped into Factor (4), non verbal emotions component items grouped into Factor (5), and positive affect component items grouped into Factor (6).

Emotional Intelligence Level of High School Students

Based on descriptive analyses, high school students in this study were identified into three groups: 16% of adolescent students with scores one standard deviation above the sample mean were considered upper level of emotional intelligence, 65% of adolescent students with scores around the sample mean were grouped into moderate ones and they were identified as moderate emotional intelligence, and the remaining adolescent students of 19% who scored one standard deviation lower than the sample mean were identified as low level of emotional intelligence (see Table 2 & Figure 2). In this study, most of the students reported as moderate emotional intelligence students. This made highlight a good sense of emotional intelligence students in this study.

Table 2 Levels of Emotional Intelligence of High School Students

Level	Frequency	f%
Low	95	19
Moderate	327	65
Upper	78	16
Total		100%

The Levels of Emotional Intelligence

Upper, 16%   Low, 19%

Middle, 65%
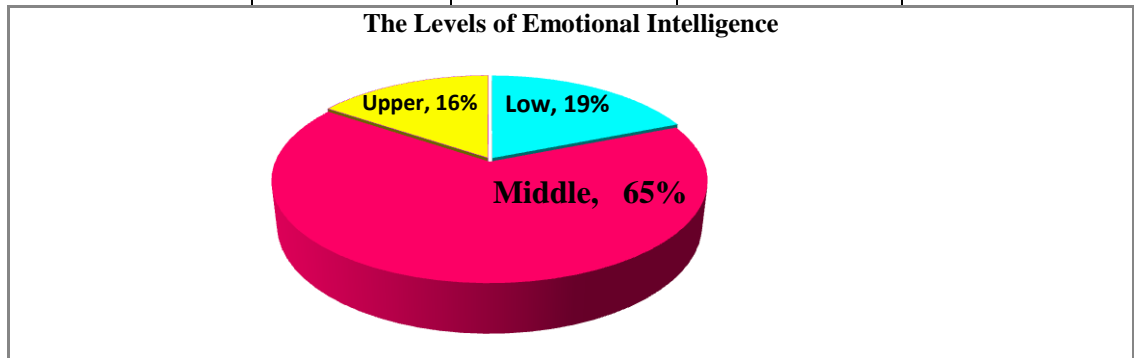
Figure 2 Three Levels of Emotional Intelligence of High School Students

Comparison of Students' Emotional Intelligence by School

Descriptive statistics were again conducted in order to find out school differences in emotional intelligence. The analyses revealed that there were slight differences in mean scores by school in emotional intelligence (see Table 3 & Figure 3).

Table 3 Means and Standard Deviations for Emotional Intelligence by Schools

School	N	Mean	Std. Deviation
B.E.H.S 1 Mawlamyine	50	74.05	7.98
B.E.H.S 2 Mawlamyine	50	73.95	7.81
B.E.H.S 4 Mawlamyine	50	77.35	10.51
B.E.H.S 6 Mawlamyine	50	79.14	9.14
B.E.H.S 7 Mawlamyine	50	76.73	8.02
B.E.H.S 9 Mawlamyine	50	73.80	9.36
B.E.H.S 10 Mawlamyine	50	75.12	7.76
B.E.H.S 12 Mawlamyine	50	74.56	8.49
B.E.H.S Branch (4) Mawlamyine	50	75.14	8.68
B.E.H.S Branch (8) Mawlamyine	50	73.26	8.42
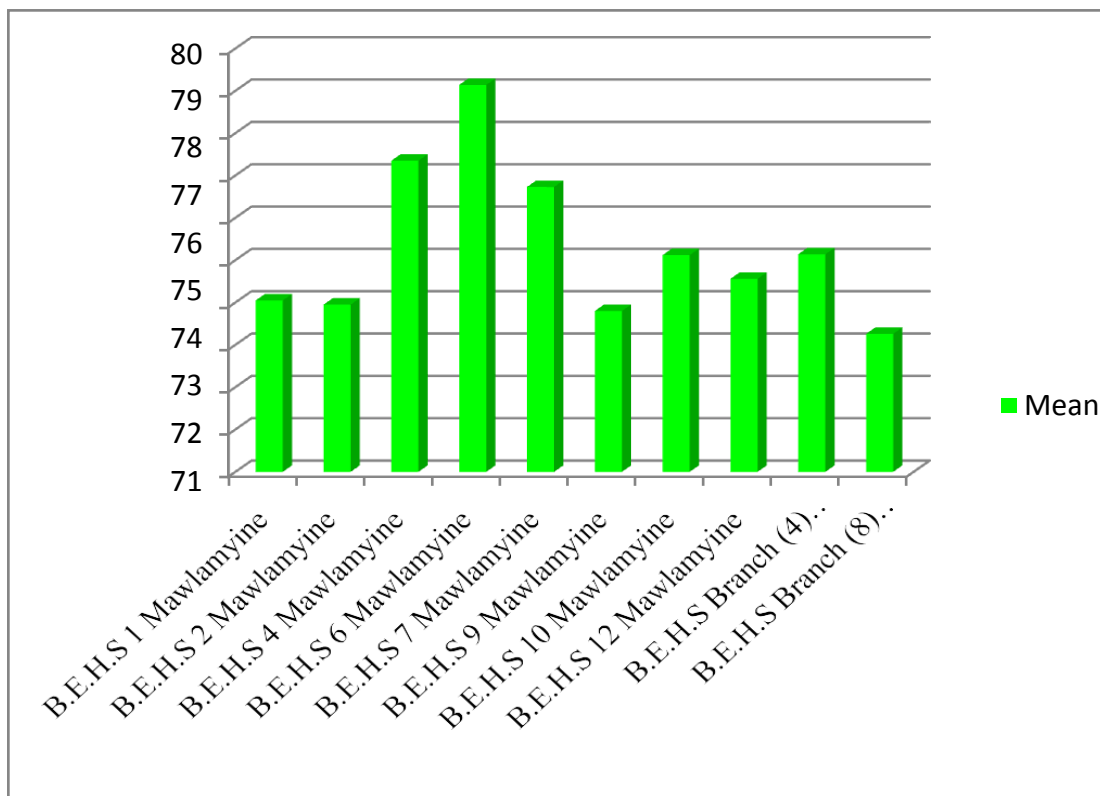
Figure 3   Comparisons of Emotional Intelligence by School

Then, one way analysis of variance (ANOVA) was conducted to find out the differences among school, regarding the students" emotional intelligence.

Table 4 ANOVA Table of Mean Comparison for Emotional Intelligence by School

Emotional Intelligence	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1569.39	9	174.38	2.328	.014
Within Groups	36703.31	490	74.90		
Total	38272.70	499			

Note: *The mean difference is significant at the 0.05 level.

ANOVA result showed that there was a significant difference among schools at the 0.05 level (see Table 4).

And then, to find out difference among six subscales of emotional intelligence by gender, descriptive analysis revealed the differences in means and standard deviations of six subscales of emotional intelligence between boys and girls (see Table 5).

Table 5 Comparison of Mean and Standard Deviation for Categories of Emotional Intelligence by Gender

Categories of Emotional Intelligence	Gender	N	Mean	Std. Deviation	Std. Error Mean
Positive Affect epercent	Boy	214	85.76	13.91	.95
	Girl	286	89.21	12.09	.71
Non verbal emotions epercent	Boy	214	60.47	19.53	1.34
	Girl	286	67.62	18.69	1.11

Categories of Emotional Intelligence	Gender	N	Mean	Std. Deviation	Std. Error Mean
Emotional Management epercent	Boy	214	72.80	19.92	1.36
	Girl	286	76.43	17.45	1.03
Happy Emotions epercent	Boy	214	82.45	14.02	.96
	Girl	286	85.65	11.29	.67
Emotion Others epercent	Boy	214	69.60	16.10	1.10
	Girl	286	72.19	16.98	1.00
Emotions Own epercent	Boy	214	75.18	12.68	.87
	Girl	286	78.34	12.28	.73

According to Table 5, girls have more positive outlook on life in general, but more specifically when facing problems than boys. Girls know others" emotions than boys. Girls have more aspects such as good mood, positive emotions, happiness and joy than boys. Girls" perception of their own emotions are more than boys. Girls have more aspects such as non verbal messages that the person send and receive from others, and how the person interprets these non verbal emotions. And then, Girls can control their emotions or fail to manage their emotions than boys. According to overall, girls have higher emotional intelligence than boys.

Table 6 The Results of Independent Sample t-test on Subscales of Emotional Intelligence by Gender

Variables	t	df	Sig	Mean Difference
Positive Affect epercent	-2.90**	421.32	.004	-3.44
Non Verbal Emotions epercent	-4.15***	498	.000	-7.16
Emotional Management epercent	-2.13*	423.45	.034	-3.63
Happy Emotions epercent	-2.74**	399.47	.006	-3.20
Emotion Others epercent	-1.72	498	.086	-2.58
Emotions Own epercent	-2.81**	498	.005	-3.16

The results of t-test (see Table 6) show that there were significantly differences in positive affect emotional intelligence, emotional management, happy emotions, and emotions own by gender at .01 level, and there was a significantly difference in non verbal emotional intelligence by gender at .001level.

The Relationship among Emotional Intelligence, Parent Assistance and Academic Achievement

The main aim of this study is to explore the effects of emotional intelligence and parent assistance on academic achievement of high school students if there is a relationship between independent variables(emotional intelligence and parent assistance) and dependent variable (academic achievement). To investigate the relationship between levels of emotional intelligence and levels of parent assistance, cross tabulation was conducted (see Table 7).

Table 7 Association between Levels of Emotional Intelligence and Levels of Parent Assistance

Variable			Level of Parent Assistance			Total
			Low	Moderate	High	
Level of Emotional Intelligence	Low	Count	25	62	8	95
		%	5.0%	12.4%	1.6%	19.0%
	Moderate	Count	42	234	51	327
		%	8.4%	46.8%	10.2%	65.4%
	High	Count	5	53	20	78
		%	1.0%	10.6%	4.0%	15.6%
Total		Count	72	349	79	500

Generally, out of 500 students, 95 low emotional intelligence students (19%) in this study produced 5% of low parent assistance, 12.4% of moderate parent assistance and 1.6 % of high parent assistance. And 327 moderate emotional intelligence students (65%) produced 8.4% of low parent assistance, 46.8% of moderate parent assistance and 10.2% of high parent assistance. Similarly, 78 of high emotional intelligence students (16%) produced 1% of low parent assistance, 10.6% of moderate parent assistance and 4% of high parent assistance (see Table 7). So, it can be said that students" levels of emotional intelligence were likely to be related with levels of parent assistance. Therefore, it was necessary to execute bivariate correlation to examine the relation among students" emotional intelligence, parent assistance and academic achievement.

The results in Table 8 showed that there was a significant relationship between students" emotional intelligence and parent assistance with coefficient of $r = .316$, it had high effects and significant relationship. Since students" emotional intelligence and parent assistance were positively significantly correlated with each other. It means that, in general, students who received more parent assistance have higher emotional intelligence than students who received less parent assistance. And, there was a significant relationship between students" emotional intelligence and academic achievement with coefficient of $r = .135$, it had medium effects but significant relationship. Since students" emotional intelligence and academic achievement were positively significantly correlated with each other. It means that, students with high emotional intelligence have greater achievement than students with low emotional intelligence. Similarly, there was a significant relationship between parent assistance and students" achievement with coefficient of $r = .136$, it had medium effects but significant relationship. Since parent assistance and achievement were positively significantly correlated with each other. It means that students who received more parent assistance have greater achievement than students who received less parent assistance.

Table 8 The Relationship among Emotional Intelligence, Parent Assistance an Academic Achievement

Variables	EI	PA	Achievement
Emotional Intelligence(EI)	1	.316**	.135**
Parent Assistance(PA)		1	.136**
Academic Achievement			1

Note: **Correlation is significant at 0.01 level (2 tailed).

Effects of Emotional Intelligence and Parent Assistance on Math Achievement, English Achievement and Total Achievement

To assess whether emotional intelligence and parent assistance have effects on students" English achievement, Math achievement, and Total achievement, and whether there was an interaction between emotional intelligence and parent assistance, a multivariate analysis of variance was conducted. The interaction was significant, Wilk"s Λ=.009, $F(644,92)$=1.40, p=.022, multivariate η^2=.91. This result indicated that students" emotional intelligence and parent assistance have effects on students" achievement. The main effect for emotional intelligence was significant, Wilk"s Λ=.108, $F(132,92)$=1.42, p=.036, multivariate η^2=.67. This indicate that the linear composite of English achievement, math achievement and total achievement differs for emotional intelligence. The main effect for parent assistance is also significant, Wilk"s Λ=.107, $F(128,92)$=1.48, p=.023, multivariate η^2=.67. For interaction effect, very large effect size was found since multivariate test eta-squared was above 0.45. For emotional intelligence and parent assistance have very large effect size because multivariate test eta-squared were above 0.45. This indicate that the linear composite differs for parent assistance (see Table 9).

Table 9 Reports MANOVA for the Effect of Emotional Intelligence and Parent Assistance on English Achievement, Math Achievement, and Total Achievement

Effect	Λ	F	df	Error df	η^2	p
Emotional Intelligence	.108	1.42	132	92	.67	.036
Parent Assistance	.107	1.48	128	92	.67	.023
Emotional Intelligence*Parent Assistance	.009	1.40	644	92	.91	.022

Comparison of Students' Achievement and Emotional Intelligence by Parent Assistance Level

In order to find out the differences among parent assistance levels, the full sample was split into three categories: high, moderate, and low. Then, descriptive analysis was computed for students" achievement and emotional intelligence. Table 10 indicates that students" emotional intelligence and achievement differ according to levels of parent assistance.

Table 10 Means and Standard Deviations for Achievement and Emotional Intelligence by Parent Assistance Level

PA Level / Variable	High	Moderate	Low
Achievement	63.53 (18.63)	60.15 (20.9)	54.15 (23.90)
Emotional Intelligence	78.80 (7.84)	75.18 (8.80)	72.06 (8.20)

Note: Numbers in parentheses are standard deviations. PA= Parent Assistance

PA= Parent Assistance

Comparison for Achievement by Parent Assistance Level

Next, in order to find out the difference in achievement according to parent assistance levels, one way analysis of variance (ANOVA) was conducted. The ANOVA result showed that there was a significant difference in academic achievement of students at 0.05 level (see Table 11).

Table 11 ANOVA Table of Mean Comparison for Achievement by Parent Assistance Level

Achievement	Sum of Squares	df	Mean Square	F	Sig.
Between Groups Within Groups Total	3448.60 219694.06 223142.66	2 497 499	1724.30 442.04	3.90	.021

Note: *The mean difference is significant at the 0.05 level.

Comparison for Emotional Intelligence by Parent Assistance Level

Then, one way analysis of variance (ANOVA) was conducted to find out the differences among the levels of parent assistance, regarding the students" emotional intelligence.

Table 12 ANOVA Table of Mean Comparison for Emotional Intelligence by Parent Assistance Level

Emotional Intelligence	Sum of Squares	df	Mean Square	F	Sig.
Between Groups Within Groups	1728.91	2	864.46	11.76	.000
Total	36543.79	497	73.53		
	38272.70	499			

Note: *The mean difference is significant at the 0.001 level.

ANOVA result showed that there was a significant difference among the three levels of parent assistance at the 0.001 level.

Relationship among Sub Skills of Emotional Intelligence, Academic Achievement, Family Income and Parent Assistance

To investigate there are relationships among subscales of emotional intelligence, achievement, family income and parent assistance, it was necessary to execute bivariate correlation to examine the relation between subscales of emotional intelligence and achievement.

Table 13 Relationship among Subscales of Emotional Intelligence, Academic Achievement, Family Income and Parent Assistance

Variable	1	2	3	4	5	6	7	8	9
1.Positive Affect	1	.195**	.256**	.342**	.303**	.372**	.179**	.078	.280**
2.Non Verbal Emotions		1	.115*	.215**	.267**	.217**	.064	.045	.147**
3.Emotional Management			1	.197**	.096*	.162**	.146**	.072	.174**
4.Happy Emotions				1	.337**	.380**	.062	-.058	.199**
5.Emotion Others					1	.373**	.012	.079	.165**
6.Own Emotions						1	.080	.031	.176**
7.Achievement							1	.129**	.136**
8.Family Income								1	.379**
9.Parent Assistance									1

Note: **Correlation is significant at 0.01 level (2 tailed).
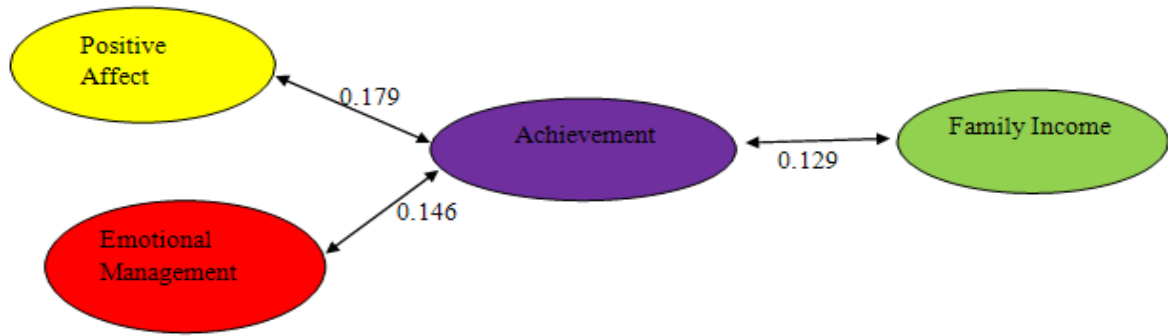
Figure 4 Relationship among Positive Affect, Emotional Management, Achievement and
Family Income
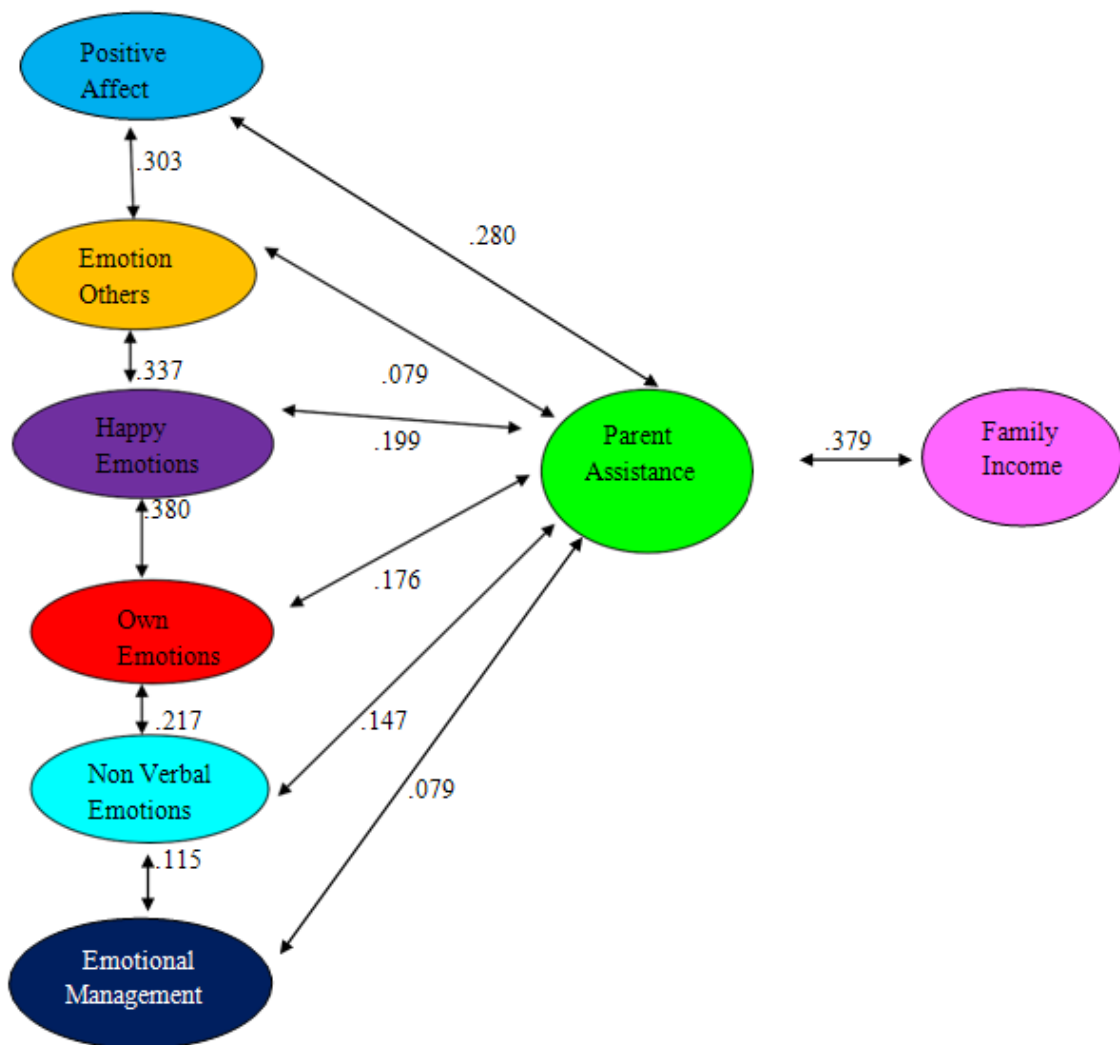
Figure 5 Relationship among Subscales of Emotional Intelligence, Parent Assistance and
Family Income

Conclusion

Findings from this study significantly describe that the relationship among emotional
intelligence, parent assistance and academic achievement. This study validates the previous

evidence that all the factors such as gender, schools and supportive ways affecting students" academic performance. This findings have some implications. First; parents could have to note that their interpersonal relationships and direct interest in the academics of their children could bring a better academic performance. Two; both the home and the school need to cooperate in making the learners to be well adjusted emotionally as this could make or more academic achievement. Students should be given the required support for their study especially by guiding or teaching by parents or others people. In the education system, it would like to emphasize that helping students is not only the duty of the teachers but also their parents" with the positive reinforcements, suggestions and the help they needed. It can be described that a high level of parent assistance with emotional intelligence, which are critical for academic success of the students.

Limitations

This study is limited because it only examined the emotional intelligence, parent assistance, and academic achievement of 500 high school students in Mawlamyine. It will be necessary to replicate these findings in a larger and more heterogeneous sample of students. For example, it will be important to know whether emotional intelligence correlates with parent assistance and academic achievement with elementary, middle, and high school students with different ethnic and socioeconomic backgrounds.

Recommendations

Based on the findings of the current research and its comparison with the findings of other researchers, future research also will need to examine whether emotional intelligence skills can be taught. That is, can students increase their scores on tests that measure the ability to perceive, use, understand, and regulate emotions? On the other hand the other researchers are recommended to conduct this research in other statistical pools and other educational periods (elementary, intermediate schools and universities and they should, specially, compare the difference in the means of boys and girls emotional intelligence.

References

Cotton, K., Wikelund, K. (2005). Parental involvement in education.

Goleman, D.(1998).What is your EI? An inventory on Emotional Abilities. Retrieved at 18/1/2013. http://inst.sanatfe.ccl.Fl.us/mweher/lioemo.html.

Grolnick, W. S., & Slowiaczek, M. L. (1994). Parents" involvement in children"s schooling: a multidimentional conceptualization and motivational model. Child Development, 64, 237-252

Imbrosciano, A., Berlach, R. (2003).Teacher perception of the relationships between intelligence, student behaviour, and academic achievement. Available at: http://www.findarticles.com Accessed on 18/12/2013.

Mayer, J, D & Salovey, P.(1990).The intelligence of emotional intelligence.

Reynolds, A. J. (1996). Cognitive and family-support mediators of pre-school effectiveness: A confirmatory analysis. *Child Development, 67*, 1119-1140.

Schuttle, N.S., Haggerty, D.J., Copper, J. T., Golden, C.J. and Dornheim, L. (1998) Development and validation of a measure of emotional intelligence. Personality and Individual Differences 25, 167-177

Simon, B.S. (2000). *Predictors of high school and family partnerships and the influence of partnerships on student success.* Doctoral dissertation, Johns Hopkins University, 2000. Available at: National Network of Partnership Schools Web site: http://www.csos.jhu.edu/p2000/type2/issue10/ttype2j4.htm12 Accessed on 13/ 09/ 2013.

Tella, A. (2003). Parental involvement , home background, and school environment as determinant of academic achievement of secondary school students in Osun State, Nigeria.

AN INVESTIGATION INTO THE IMPACT OF PSYCHOSOCIAL FACTORS ON THE ACADEMIC ACHIEVEMENT OF GRADE NINE STUDENTS

Kaung Myat Mon[1] and San Win[2]

Abstract

The primary purpose of this study was to investigate the impact of psychosocial factors on the academic achievement of Grade Nine students. A total of 900 students (408 males and 492 females) from Yangon Region, Bago Region and Rakhine State participated. For quantitative study, four research instruments: Life Orientation Test Revised (LOT-R), Perceived Social Support Scale (PSS), Adolescents' Psychosocial Functioning Inventory (APFI) and the Strengths and Difficulties Questionnaire (SDQ) were utilized. The results showed that the scores of perceived social support from friend (PSS-FR) were significantly correlated with academic achievement of students ($r = .128$, $p < 0.01$). Besides, the scores of perceived social support from family (PSS-FA) were significantly positively correlated with academic achievement of students ($r = .128$, $p < 0.01$) and the scores of adolescents' psychosocial functioning were also significantly correlated with the academic achievement of Grade Nine students ($r = .086$, $p < 0.05$). Stepwise regression analysis also confirmed that the perceived social support from friend and family had a significant impact on the academic achievement of students. For qualitative study, the instruments were Child and Adolescent Social Support Scale (CASSS) and Coping Response Interview Form. Qualitative results confirmed that perceived social support was a significant indicator in determining the academic achievement of students. Therefore, the results of this study revealed that if the social support is higher, the academic achievement of students will be higher. In conclusion, the findings of this study will contribute to educators, principles, teachers and even parents by recognizing the importance of social support in improving the academic achievement of students.

Keyword: Psychosocial Factors, Academic Achievement

Introduction

Education provides people with the skills and knowledge that enable them to lead fulfilling lives and to contribute to building the nation's wealth and better communities, which will support and enhance the unique identity, culture and values of organizations. It is important to do well in school because this lays the foundation for their many accomplishments in life, such as furthering their education. The true goals of education are to prepare individuals to lead more productive lives and contribute to the greater good in an ever changing society. For decades, education has been acknowledged as being the driving force behind successful organizations, communities, and nations (Hewitt, 2008).

As the world has changed and become a more globalized community, education has become an even more critical aspect of a thriving nation. All, regardless of race or class or economic status, are entitled to a fair chance and to the tools for developing their individual powers of mind and spirit to the utmost. This promise means that all children by virtue of their own efforts, competently guided, can hope to attain the mature and informed judgment needed to secure gainful employment, and to manage their own lives, thereby serving not only their own interests but also the progress of society itself. Our schools, therefore, must be able to increase academic achievement and produce students who can compete globally. This purpose was to create higher levels of success within the educational systems (Hewitt, 2008).

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The education system has grown and developed rapidly to cater to the demands and needs of the developing nation. Although the education system has developed across the time, the aim of the national education remains the same that is to produce high quality and professionally well-trained students. The students are equipped with a wholesome personality and strong leadership qualities so that they are capable of dealing with current and future challenges. To achieve this objective, various aspects of the students should be taken into consideration including their social life.

When considering academic achievement, it is imperative to determine the factors that are both related to and influence student performance. As educational leaders are being held more responsible for academic growth, there is a necessity to adequately identify those factors and them in order to increase acquisition of knowledge within the educational systems. Therefore, this study was conducted to measure the impact of psychosocial factors on the academic achievement of Grade Nine students.

Purposes of the Study

The main purpose of this study was to investigate the impact of psychosocial factors on the academic achievement of Grade Nine students. The specific objectives were as follows:
   (1) To investigate the psychosocial factors of Grade Nine students
   (2) To explore the academic achievement of Grade Nine students
   (3) To explore gender differences for psychosocial factors and academic achievement of Grade Nine students
   (4) To find the relationship between the psychosocial factors and the academic achievement   of Grade Nine students
   (5) To explore the impact of psychosocial factors on the academic achievement of Grade Nine students

Review of Related Literature

Education competence in the present world is interwoven with the progress of every society. As the world has become a more global community, the importance of acquiring a strong education has become even more imperative. Academic achievement of students especially at the elementary school level is not only a pointer to the effectiveness or otherwise of schools but a major determinant of the future of youths in particular and the nation in general. Academic achievement of a student may greatly be influenced by several psychological and sociological correlates such as his or her life orientation, perceived social support from his or her home and school environment.

The academic achievement of society's youth is a central focal point for society due to the idea that ensuring an education for a child helps promote a more successful future (e.g., job opportunities, financial compensation) for that individual compared to their counterparts. So, there are a variety of factors affecting the academic achievement of students. In this study, the influence of some psychosocial factors such as life orientation of students (optimism), perceived social support and psychosocial well-being on the academic achievement of Grade Nine students was examined.

Optimism: Optimism has been considered in a variety of ways within research frameworks. Rabiega and Cannon (2001) concurred with the expectation of a positive outcome but expand the parameters of optimism to include future events. Carver and Scheier (2003)

contended that optimism is a generalized and diffuse sense of confidence. Two main constructs of optimism are discussed in the literature: the explanatory or attributional style and the dispositional view. The explanatory style of optimism uses past experiences to predict future outcomes. There are three main factors which comprise the explanatory or attributional style. Seligman (1991) described an explanatory style which has three facets: permanence, pervasiveness and personalization.

The first factor is permanence or stability. This refers to the belief that the reasons behind the negative events are permanent. Individuals displaying this factor think in terms of always and never when they consider the likelihood of bad events. Pervasiveness or globality, the second factor, looks at whether the individual considers the negative or positive event as specific or universal. The optimist believes that bad events have specific causes, while good events will enhance everything he does; the pessimist believes that bad events have universal causes and that good events are caused by specific factors (Seligman, 1991). The final factor informing the explanatory or attributional style is personalization or locus of causality. Events can be attributed to either internal or external causes. Individuals can blame themselves for the bad events (an internal cause); or can attribute other people or circumstances as the external causes of the bad event. The other primary construct of optimism, the dispositional view, considers the direct beliefs individuals have about future life events without taking into account past experiences. It evaluates disposition or temperament.

Social Support: Social support refers to the experience being valued, respected, cared about, and loved by others who are present in one's life (Gurung, 2006). It may come from different sources such as family, friends, teachers, community, or any social groups to which one is affiliated. Social support can come in the form of tangible assistance provided by others when needed which includes appraisal of different situations, effective coping strategies, and emotional support. Social support is an element that can help individuals to reduce the amount of stress experienced as well as to help individuals cope better in dealing with stressful situations. To date, the literature has supported the existence of four main types of social support: emotional, instrumental/tangible, informational, and personal feedback/appraisal (Wills, Blechman, & McNamara, 1996). Emotional support is what people most often think of when they talk about social support; it is characterized by perceptions of care and warmth. Instrumental (i.e., tangible) support refers to concrete "helping behaviours" such as giving advice, loaning money, or sacrificing one's time. Finally, informational support involves "the accessibility of advice and/or guidance that is helpful in handling one's personal problems", while appraisal support alludes to non-critical personal feedback which the recipient values as honest and helpful.

Parent/family support: Parental support refers to "gestures or acts of caring, acceptance, and assistance that are expressed by a parent toward a child" (Shaw, Krause, Chatters, Connell, & Ingersoll-Dayton, 2004,). Support from parents received during childhood is thought to have significant and lasting health implications because the parent-child relationship serves as the context within which important health-enhancing social and psychological development takes place. For instance, if parents provide children with a caring and supportive environment, then children may generalize this learning experience. As they age, they may seek out environments in which social support is readily available.

Peer/classmate support: For young children, the family (parents, in particular) is typically their most important and influential source of support (Hall & Brassard, 2008). As individuals move from early childhood into later childhood and adolescence, however, they spend increasingly more time outside of the home interacting and developing relationships with others, including classmates and/or peers. Research has demonstrated the beneficial effects that peer support (i.e., the provision and reception of help and support characterized by empathy, mutual respect, shared responsibility, and agreement of what is considered to be helpful) can have on the outcomes of children and adolescents (Mead, Hilton, & Curtis, 2001). For instance, children who begin kindergarten with familiar classmates are more likely to develop stable, positive attitudes toward school than children with fewer such acquaintances (Ladd & Price, 1987).

Teacher support: Researchers have defined teacher support as "the degree to which students feel supported, respected, and valued by their teacher" (Doll, Zucker, & Brehm, 2004). The literature has consistently shown positive, supportive teacher-student relationships to be fundamental to fostering desirable socio-emotional, behavioral, and academic outcomes (Hamre & Pianta, 2006). For instance, positive teacher-student relationships serve as a resource for children at risk for school failure, while conflicting, negative relationships exacerbate that risk (Ladd & Burgess, 2001).

Well-being as a multifaceted concept is often thought of as one of the hallmarks of the liberal arts experience, resulting from educational encounters that both guide students in the search for meaning and direction in life and help them realize their true potential. Well-being is a multidimensional construct consisting of psychological, emotional and social aspects of functioning. According to the World Health Organization (2005), well-being can be subdivided into three aspects: psychological well-being, emotional well-being and social well-being. **Psychological well-being** is made up of several components at 6 dimensions: A person with a high level of psychological well-being strives for an aim in life (purpose in life), experiences continuously personal development (personal growth) and got the impression to be able to influence his environment (environmental mastery) (Ryff & Singer, 2006). Furthermore, people, scoring high on psychological well-being, have a positive view against oneself (self-acceptance), experience independency and self-determination regarding their thoughts and actions (autonomy) and have close relationships with others, based on mutual trust (positive interpersonal relationships). **Social well-being** consists of 4 components; social contacts, social participation, social attitude and society/community relatedness.

Method
Design of the Study

The main purpose of this study was to investigate the impact of psychosocial factors on the academic achievement of Grade Nine students. For quantitative study, four research instruments for psychosocial factors (89 items) and researcher made academic achievement test (75 items) were used in this study.

Sample of the Study

A total of 900 students, 300 from 6 schools of Yangon Region, 300 from 6 schools of Bago Region and 300 from 6 schools of Rakhine State, participated in this study. According

to the survey research findings, 25 students from two different locations were selected with some norms for qualitative study. Qualitative study was carried out by using rating scale and interview questions.

Instrumentation

This study was aimed at investigating the impact of psychosocial factors on the academic achievement of Grade Nine students. It consists of two parts. The first part was survey study and the latter, qualitative study. In survey study, psychosocial factors of Grade Nine students were examined by using 3-point Likert scale which were adapted from Life Orientation Test Revised (Scheier & Carver, 1992), Perceived Social Support Scale (Procidano & Heller, 1983), Adolescents' Psychosocial Functioning Inventory (Akpa et al., 2015) and the Strengths and Difficulties Questionnaire (Goodman,1997).The Life Orientation Test Revised designed by Scheier and Carver (1992) measures optimism by assessing generalized outcome expectancies of individuals. The scale consists of 10 items and each item is scaled on 3-point Likert scale with responses ranging from disagree to strongly agree. Perceived Social Support is a 38-item self-report scale composed of two subscales Perceived Social Support for friend (PSS-Fr) and Perceived Social Support for family (PSS-Fa) having 19 items each. The 23-item APFI has three subscales: Optimism and Coping Strategy (OCS) (4 items), General Psychosocial Dysfunctions (GPD) (15-items) and Behaviour and Relationship Problems (BRP) (4-items). Items in the SDQ are rated on a 3-point Likert scale (Not True, Somewhat True, Certainly True) and are divided into four subscales (with five items each) assessing different aspects of adolescents' psychosocial issues: Conduct problems Scale (CPS), Hyperactivity Scale (HAS), Peer Problems Scale (PPS) and Prosocial Scale (PSS).

Firstly, LOT-R, PSS, APFI and SDQ were adapted to Myanmar Language. After preparing the measuring scale, expert review was conducted for face validity and content validity by 10 experts in the field of Educational Psychology from Yangon University of Education. Next, revisions in item length and the wording of the items were adapted according to the suggestions from the experts. Then, pilot study was done with a sample of 108 Grade Nine students from B.E.H.S. (4) Hlaing to check whether the wording of statements had clarity in Myanmar Language and was appropriate and relevant to Grade Nine students or not. Pilot study for psychosocial factors and academic achievement was conducted on the third and last week of October, 2017. From pilot results, the internal consistency (Cronbach α) of the whole scale for measuring psychosocial factors is 0.907.

To measure students' academic achievement, a researcher made test consisting of three subjects; English, Mathematics and Science, was used. This test is a 100 item-multiple choice test with five alternatives for each item. After preparing the test, expert review were conducted for the face validity and content validity. Achievement test was validated by 8 experts from Department of Educational Psychology and 7 experts from Department of Educational Methodology. Then, pilot testing was done with 108 Grade Nine students of B.E.H.S. (4) Hlaing on the last week of October, 2017. After that, some items were left, some were modified to the students' understanding level. Finally, 75 items acceptable for item-statistics were selected to be used in the test.

Data Analysis and Results

Findings of Psychosocial Factors

Table 1　Descriptive Statistics of Psychosocial Factors by Location

Region/State	N	Mean	Mean %	SD	Min	Max
Yangon	300	206.78	81.1%	16.74	150	246
Bago	300	204.56	80.22%	15.10	143	247
Rakhine	300	202.78	79.52%	15.39	150	246
Total	900	204.71	80.25%	15.83	143	247

According to Table 1, the mean value of Yangon Region is 206.78, that of Bago Region is 204.56 and that of Rakhine State is 202.78 for psychosocial factors. From this result, it can be seen that the students from Yangon got higher scores for psychosocial factors than others.
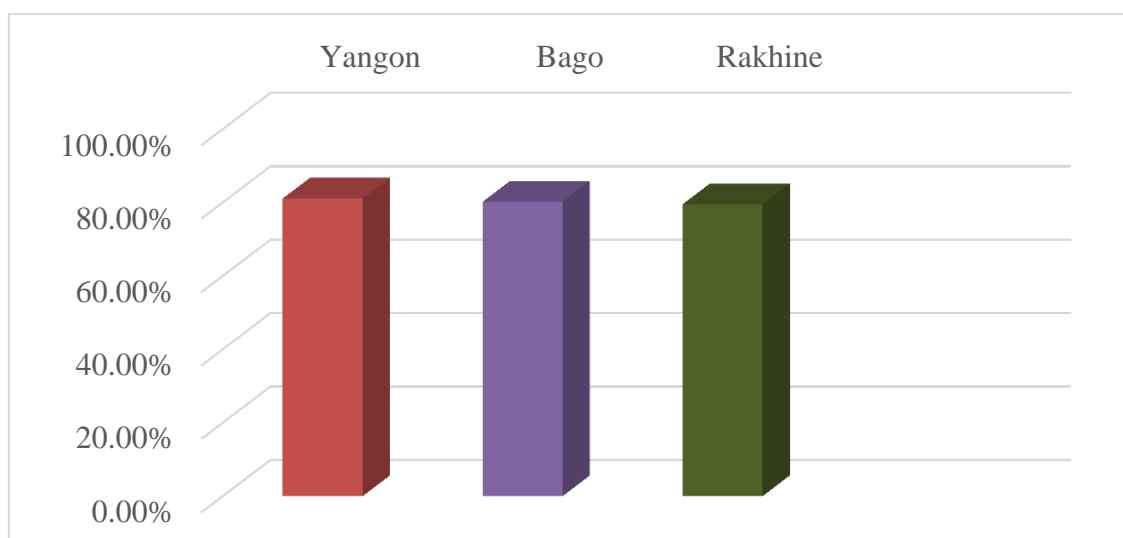
Figure 1　Comparison of Mean Percentage for Psychosocial Factors by Location

Table 2 ANOVA Results for Psychosocial Factors by Location

Psychosocial Factors	Sum of Squares	df	Mean Square	F	p
Between Group	2401.396	2	1200.689	4.836	.008
Within Group	222718.750	897	248.293		
Total	225120.146	899			

The ANOVA results pointed out that significant differences among psychosocial factors by locations of schools at the 0.05 level (see Table 2) and to examine more detailed information for a particular group, Post-hoc Test by Tukey method was utilized(see Table 3).

Table 3　Results of Tukey HSD Multiple Comparison for Psychosocial Factors by Location

Variable	(I) Location	(J) Location	Mean Difference (I-J)	p
Psychosocial Factors	Yangon	Bago	2.213	.198
		Rakhine	3.993[**]	.006

** The mean difference is significant at the 0.01 level.

The results of Table 3 revealed that students from Yangon Region were significantly different from Rakhine State and got higher scores in psychosocial factors than those from Rakhine State. But Bago Region did not show any significant differences with Yangon Region in psychosocial factors.

Comparison of Psychosocial Factors by Gender

The mean and standard deviation of psychosocial factors by gender were described in Table 4. Based on descriptive analysis, the mean score of psychosocial factors for males was slightly lower than females.

Table 4 Descriptive Statistics for Psychosocial Factors by Gender

Variable	Gender	N	Mean	Mean %	SD
Optimism	Male	409	13.65	45.5%	1.98
	Female	491	13.55	45.12%	1.86
PSS-FR	Male	409	43.64	76.56%	6.43
	Female	491	44.63	78.30%	5.81
PSS-FA	Male	409	44.76	78.53%	6.04
	Female	491	44.91	78.79%	6.32
PSF	Male	409	54.40	86.35%	4.50
	Female	491	55.12	87.49%	4.06
PSW	Male	409	46.95	78.25%	4.39
	Female	491	47.42	79.03%	4.47
Total	Male	409	203.49	79.8%	16.09
	Female	491	205.72	80.67%	15.55

Note: PSS-FR   = Perceived Social Support (Friend)

PSS-FA   = Perceived Social Support (Family)

PSF   = Psychosocial Functioning

PSW   = Psychosocial Well-being

In order to find out whether there were significant differences between male and female students with regard to the subscales of psychosocial factors, the independent sample *t* test was computed (see Table 5).

Table 5 Results of Independent Sample *t* test for Psychosocial Factors by Gender

Variable	t	df	p	Mean Difference
Optimism	.751	898	.453	.096
PSS-FR	-2.432*	898	**.015**	-.993
PSS-FA	-.346	898	.730	-.143
PSF	-2.552*	898	**.012**	-.720
PSW	-1.585	898	.113	-.470
Total	-2.104*	898	**.036**	-2.225

Note: * The mean difference is significant at the 0.05 level.

The result of *t* test revealed that there were significant difference between male and female students for the subscales of perceived social support (friend) PSS-FR (p < 0.05) and adolescents' psychosocial functioning (PSF) (p < 0.05). In addition, female students showed higher score than male students for total scores of psychosocial factors as a whole (p< 0.05).
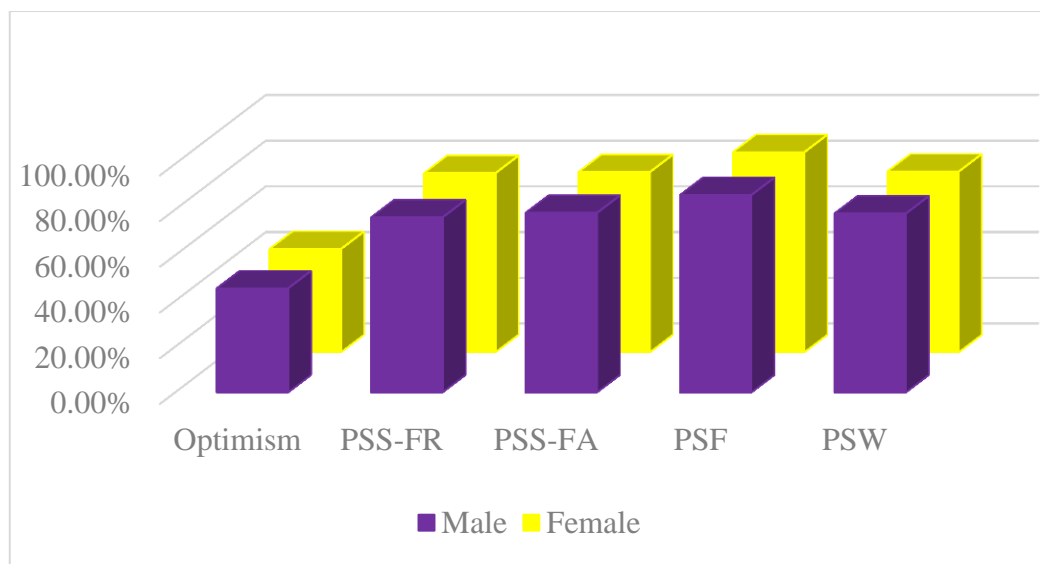
Figure 2 Comparison of Mean Percentage for Psychosocial Factors by Gender

Findings of Academic Achievement

Comparison of Academic Achievement by Location

Descriptive statistics from Table 6 showed that there were some mean differences in academic achievement of students with respect to locations of schools. In order to find out significant differences in academic achievement of students by location, one way analysis of variance ANOVA was used and the results were presented in Table 6.

Table 6 ANOVA Results for Academic Achievement by Location

Variable	N	Mean	SD	*F*	*p*
Yangon	300	46.22	12.33		
Bago	300	39.88	14.29	111.617	.000
Rakhine	300	31.00	10.74		

It was not surprising that the results indicated that students from Yangon Region did well in their subjects and they performed better than those from Bago Region and Rakhine State. This results also reveal that there are some differences in academic achievement of students depending on the location and it can be assumed that the results of academic achievement can vary and differ with different locations.

Table 7 Results of Tukey HSD Multiple Comparison for Academic Achievement by Location

Variable	(I) Location	(J) Location	Mean Difference (I-J)	*p*
Academic Achievement	Yangon	Bago	6.347***	**.000**
		Rakhine	15.227***	**.000**

*** The mean difference is significant at the 0.001 level.
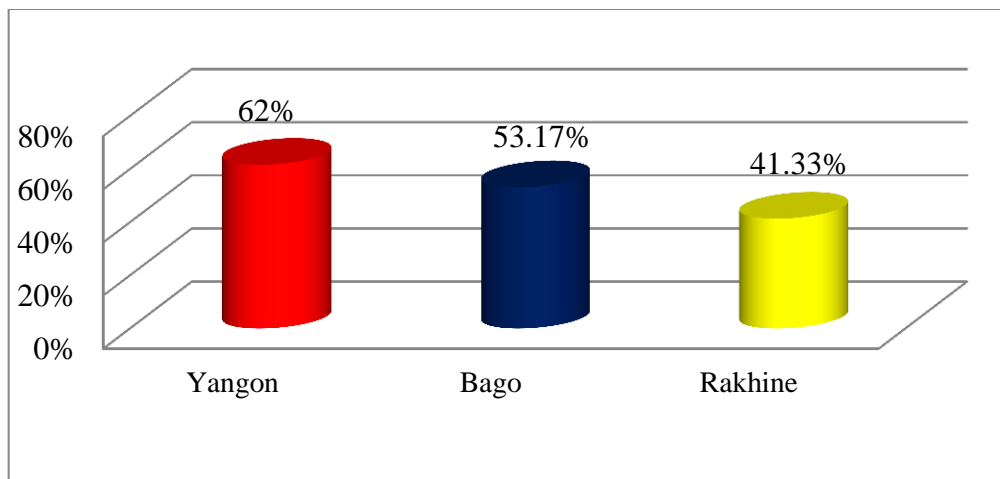
Figure 3   Comparison of Mean Percentage for Academic Achievement by Location

Comparison of Academic Achievement by Gender

According to descriptive analysis, slight differences in the participants was found concerning with academic achievement.

Table 8   Results of Independent Sample *t* test for Academic Achievement by Gender

Variable	Gender	N	Mean	SD	*t*	*p*
English	Male	408	11.12	6.68	-2.025	**.043**
	Female	492	11.98	6.41		
Mathematics	Male	408	12.12	5.55	-1.066	.287
	Female	492	12.48	5.33		
Science	Male	408	15.35	4.10	.679	.498
	Female	492	15.11	4.23		
Total	Male	408	38.51	14.23	-1.127	.260
	Female	492	39.47	13.80		

But, the result of *t* test showed that no significant difference was found in Mathematics and Science except English by gender. Therefore, it can be said that both male and female students performed equally in Mathematics and Science except in English and the results of academic scores were not influenced by gender differences except in English in this study (see Table 8).

Comparison of Psychosocial Factors by School Groups

According to table 9, schools within middle groups showed higher mean values than schools within high and low groups concerning psychosocial functioning and psychosocial well-being.

Table 9 ANOVA Results for Psychosocial Factors by School Groups

Variable	School Group	N	Mean	SD	*F*	*P*
Optimism	High	300	13.61	1.96	.027	.973
	Middle	300	13.58	1.79		
	Low	300	13.61	2.00		
PSS-FR	High	300	44.75	6.58	5.662	.004
	Middle	300	44.57	5.49		
	Low	300	43.22	6.14		
PSS-FA	High	300	45.39	6.44	2.234	.108
	Middle	300	44.84	6.20		
	Low	300	44.32	5.90		
PSF	High	300	54.67	4.19	4.890	.008
	Middle	300	55.38	3.65		
	Low	300	54.32	4.86		
PSW	High	300	47.01	4.52	.876	.419
	Middle	300	48.77	22.60		
	Low	300	47.14	4.83		
Total	High	300	205.52	16.71	4.357	.013
	Middle	300	206.07	14.37		
	Low	300	202.54	16.12		

In order to determine if there were significant differences for psychosocial factors among schools, ANOVA was computed.

According to ANOVA results, there exist significant differences at p<0.05 level in perceived social support (friend) PSS-FR, adolescents' psychosocial functioning, PSF and psychosocial factors total score within school groups.

To obtain more detailed information in which school groups performed better than others, the Post- Hoc analysis was applied. The Post- Hoc Test was executed by Tukey HSD method and the results were presented as follows.

Table 10 Results of Tukey HSD Multiple Comparison for Psychosocial Factors by School Groups

Variable	(I) School Group	(J) School Group	Mean Difference (I-J)	*p*
PSS-FR	High	Middle	.173	.935
		Low	1.527**	**.006**
PSF	Middle	High	.717	.099
		Low	1.067**	**.006**
Total	Middle	High	.547	.054
		Low	3.530*	**.017**

* The mean difference is significant at 0.05 level.

** The mean difference is significant at 0.01 level.

Based on the results of Table 10, schools within high groups showed significant difference than schools within low groups for perceived social support (friend), PSS-FR. For adolescents' psychosocial functioning, PSF and psychosocial factors total score, schools within middle groups performed better than schools within low groups.

	Optimism	PSS-FR	PSS-FA	PSF	PSW
■ High	75.61%	78.50%	79.63%	86.70%	78.35%
■ Middle	75.44%	78.19%	78.66%	87.90%	81.28%
■ Low	75.61%	75.82%	77.75%	86.20%	78.56%
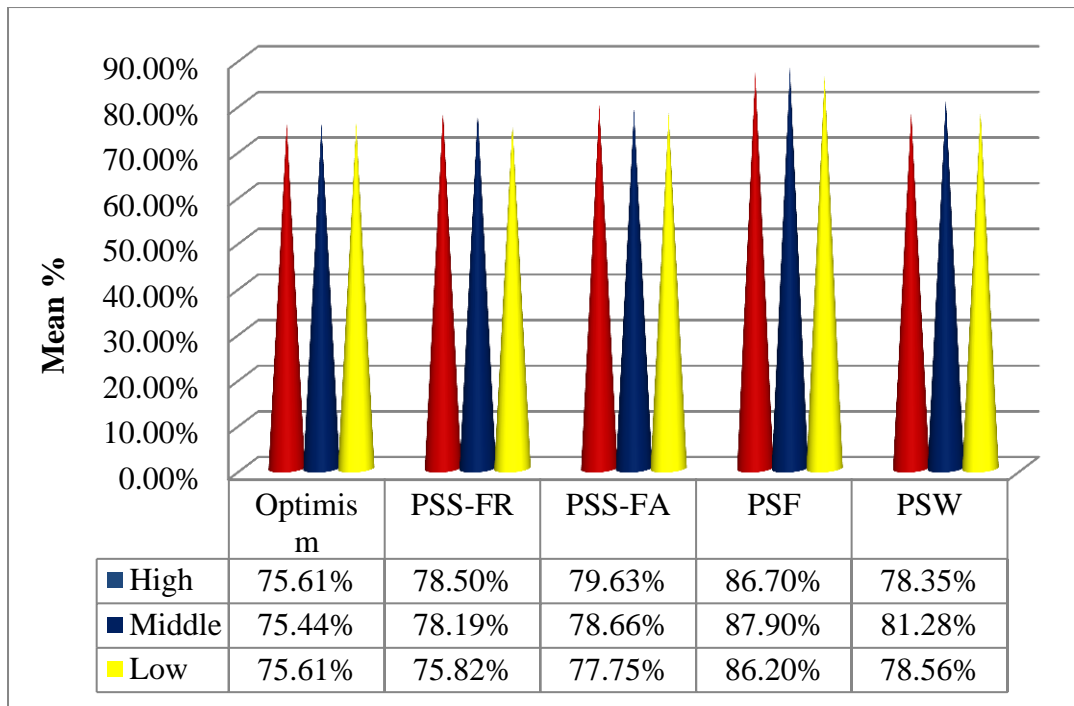
Figure 5 Comparison of Mean Percentage for Psychosocial Factors by School Groups

Correlations Between Psychosocial Factors and Total Scores of Academic Achievement

In order to examine the relationship between the total scores of psychosocial factors and academic achievement of Grade Nine students, Pearson Product-moment correlation was also applied.

Table 11 Correlations Between Psychosocial Factors and Total Scores of Academic Achievement

Variable	Academic Achievement
Optimism	.018
Perceived Social Support from Friend	.128**
Perceived Social Support from Family	.128**
Psychosocial Functioning	.086*
Psychosocial Well-being	.022
Total Scores of Psychosocial Factors	.124**

* Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.

The results shown in Table 11 revealed that there was significant correlation between the subscales of psychosocial factors and total scores of academic achievement of Grade Nine students at $p<0.01$ level. Thus the findings stated that the psychosocial factors of students can affect their academic achievement to some extent and so the influence of psychosocial factors should be considered in promoting academic achievement of students.

Stepwise Regression Analysis Between Psychosocial Factors and Academic Achievement

To find out the significant predictor of academic achievement of Grade Nine students in terms of psychosocial factors; optimism (LOT-R), perceived social support from friend

and family (PSS-FR, PSS-FA), psychosocial functioning and psychosocial well-being (APFI, SDQ), stepwise regression analysis was conducted as shown in table 12.

Table 12 Stepwise Regression Analysis for Psychosocial Factors and Academic Achievement

Variables	Unstandardized Coefficient		Standardized Coefficient	*t*	*p*
	B	Std. Error	Beta		
(Constant)	20.342	4.038		5.037***	.000
PSS-FR	.211	.082	.092	2.573*	**.010**
PSS-FA	.209	.081	.093	2.590*	**.010**

Note: * p< .05, ***p<.001

AA= 20.342 + 0.211PSS-FR + 0.209PSS-FA

According to the results of Table 12, it showed that perceived social support from friend (PSS-FR) and perceived social support from family (PSS-FA) were significantly correlated with academic achievement of students and they were significant predictors in positive direction. So, it can be interpreted that if the social support from either friends or family is greater, the academic achievement of students will become higher. Since R-squared value is 0.024, it indicated that approximately 2.4% of the variance in perceived social support of students can be explained for academic achievement.

Results of Rating Scale

Table 13 Frequency Percentage of Students' Responses Concerning Their Parents' Support

	My Parent(s)	Never	Sometimes	Always
1.	----- show they are proud of me.	3%	64%	33%
2.	----- understand me.	3%	45%	52%
3.	----- listen to me when I need to talk.	6%	33%	61%
4.	----- make suggestions when I don't know what to do.	3%	21%	76%
5.	----- give me good advice.	3%	36%	61%
6.	----- help me solve problems by giving me information.	3%	36%	61%
7.	----- tell me I did a good job when I do something well.	6%	40%	64%
8.	----- nicely tell me when I make mistakes.	6%	42%	52%
9.	----- reward me when I've done something well.	12%	52%	36%
10.	----- help me practice my activities.	10%	42%	48%
11.	----- take time to help me decide things.	12%	40%	48%
12.	----- get me many of the things I need.	0%	39%	61%

The results revealed that more than 50% of students had strong parental relationships and their parents gave all kinds of support for them. The parents also recognized their good action and sometimes rewarded them for doing some good jobs. They also took time to listen

to their children's feelings and helped them solve problems by giving them necessary information and guidance.

However, 12% of students showed that they never get rewards from their parents although they have done something well. They were also never given time by their parents in helping them decide things. Though some parents gave their children the necessary support, they were unaware of providing rewards on them, verbally or giving other presents. Some parents were also busy with their work and they seldom set aside time to help their children decide what they should do or not.

Table 14 Frequency Percentage of Students' Responses Concerning Their Teachers' Support

	My Teacher(s)	**Never**	**Sometimes**	**Always**
1.	----- cares about me.	4%	48%	48%
2.	----- treats me fairly.	0%	18%	82%
3.	----- make it ok to ask questions.	0%	21%	79%
4.	----- explains things that I don't understand.	0%	24%	76%
5.	----- show me how to do things.	0%	40%	60%
6.	----- help me solve problems by giving me information.	6%	61%	33%
7.	----- tell me I did a good job when I do something well.	6%	70%	24%
8.	----- nicely tell me when I make mistakes.	3%	36%	61%
9.	----- tell me how well I do on tasks.	3%	76%	21%
10.	----- make sure I have what I need for school.	27%	42%	31%
11.	----- take time to help me learn to do something well.	12%	48%	40%
12.	----- spends time with me when I need help.	12%	52%	36%

About 31% of students agreed that they had enough teacher support for them while 27% of students expressed that their teachers never make sure they have what they need for school. Besides, 70% of students reveal that they are sometimes recognized by their teachers for doing something well. Moreover, 82% of students accepted that their teachers treat them fairly without any bias. This finding is favourable and this may be the reason of having strong teacher-pupil relationships.

However, 12% of students said that they are never given time by their teachers in helping them to learn something well. They also accept that their teachers never spend their time whenever they need help.

**Table 15   Frequency Percentage of Students' Responses Concerning Their Classmates'
Support**

	My Classmates	**Never**	**Sometimes**	**Always**
1.	----- treat me nicely.	0%	27%	43%
2.	----- like most of my ideas and opinions.	15%	67%	18%
3.	----- pay attention to me.	18%	46%	36%
4.	----- give me ideas when I don't know what to do.	6%	52%	42%
5.	----- give me information so I can learn new things.	20%	40%	40%
6.	----- give me good advice.	3%	45%	52%
7.	----- tell me I did a good job when I do something well.	15%	58%	27%
8.	----- nicely tell me when I make mistakes.	18%	55%	27%
9.	----- notice when I have worked hard.	15%	58%	27%
10.	----- ask me to join activities.	12%	27%	61%
11.	----- spend time doing things with me.	10%	30%	60%
	----- help me with projects in class.	12%	27%	61%

About 60% of students always cooperate with their classmates and spend time doing their tasks together. Similarly, 59% of students accept that they are sometimes recognized and told them they did a good job by their classmates. In addition, 40% 0f students always get ideas and information from their classmates when they do not know what to do or to learn new things. On the other hand, only 18% of students assume that their classmates never pay attention to them and they were never told nicely whenever they make mistakes.

From this study, it could be concluded that the presence of social support from family and friends could affect students' academic achievement. Supports provided by family and friend could enhance students' academic achievement. Student with high social support will have better academic achievement compared to those who have lower social support. The support received by the students could help them to perform well in academic life. By having knowledge on how social support could help students to excel in study and cope with any psychological disturbances, much information could be derived to enhance the amount of support provided.

Conclusion

This study provides empirical evidence with regards to the impact of psychosocial factors on the academic achievement of Grade Nine students. Specifically the findings suggested that an increase in social support may lead to increase in academic achievement among students. By having knowledge and understanding on this area, it could help many parties, such as educators, counselors, and psychologist to design and develop proper ways of in upgrading the academic achievement of students. Information and ideas gained from this research could help them to face, manage, and handle the difficulties concerning academic achievement. Therefore, enhancing knowledge and strategies in providing proper supports among students may help to increase their academic achievement.

Acknowledgements

References

Carver, C. S., & Scheier, M. (2003). Optimism. In S. J. Lopez and C.R. Snyder (Eds.) *Positive Psychological Assessment: A Handbook of Models and Measures.* (pp.76-89). Washington, D.C.: American Psychological Association.

Doll, B., Zucker, S., & Brehm, K. (2004). *Resilient classrooms: Creating healthy environments for learning (Practical intervention in the schools)*. New York, NY: The Guilford Press.

Gurung, R. A. R. (2006). *Health Psychology: A Cultural Approach*, Belmont CA: Thomson Wadsworth.

Hall, S. P., & Brassard, M. R. (2008). Relational support as a predictor of identity status in an ethnically diverse adolescent sample. *Journal of Early Adolescence,* 28 (1), 92-114.

Hamre, B. K., & Pianta, R. C. (2006). Student-teacher relationships. In G.G. Bear, K.M. Minke, & A. Thomas (Eds.), *Children's Needs III* (pp. 59-71). Bethesda, MD: National Association of School Psychologists.

Hewitt, T. J. (2008). Speculations on a *Nation at Risk:* Realities and illusions. *Phi Delta Kappan*, *89* (8), 575-579.

Ladd, G. W., & Burgess, K. B. (2001). Do relational risks and protective factors moderate the linkages between childhood aggression and early psychological and school adjustment? *Child Development,* 72, 1570-1601.

Ladd, G.W., & Price, J. M. (1987). Predicting children's social and school adjustment following the transition from preschool to kindergarten. *Child Development,* 58, 1168-1189.

Mead, S., Hilton, D., & Curtis, L. (2001). Peer support: A theoretical perspective. *Psychiatric Rehabilitation Journal, 25* (2), 134-141.

Ryff, C. D., & Singer, B. H. (2006). Best news yet on the six-factor model of well-being. *Social Science Research*, *35* (4), 1103-1119.

Seligman, M. E. P. (1991). *Learned Optimism: How to Change Your Mind and Your Life*. New York: Free Press.

Shaw, B. A., Krause, N., Chatters, L. M., Connell, C. M., & Ingersoll-Dayton, B. (2004). Emotional support from parents in early life, aging, and health. *Psychology and Aging, 19* (1), 4-12.

Wills, T. A., Blechman, E. A., & McNamara, G. (1996). Family support, coping, and competence. In E. M. Hetherington & E. A. Blechman (Eds.), *Stress, coping, and resiliency in children and families* (pp. 107-133). Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc.

World Health Organization, (2005). Promoting mental health: Concepts, emerging evidence, practice. Geneva: WHO.

EXPLORING KNOWLEDGE OF CRITICAL THINKING SKILLS OF PRE-SERVICE TEACHER TRAINEES AND THEIR TEACHING PERCEPTIONS

Soe Soe Mar[*]

Abstract

The focus of this paper is to investigate Taungoo Education College pre-service teacher trainees' knowledge about the general concepts of critical thinking, including its skills. Moreover, this study explored their perceptions about critical thinking regarding implementation in the classrooms with a purpose of promoting teaching[1] and learning process.

The participants in this study were from two teacher education programmes at Taungoo Education College: 1) Certificate in Teacher Education students and 2) Diploma in Teacher Education students at Taungoo Education College. The study was conducted with 36 male trainees and 36 female trainees from each programme. Therefore, totally 72 trainees participated in this study.

The quantitative method was used, employing a three-part instrument. The quantitative data was analyzed with SPSS software program (ver. 25.0), using sums, means and standard deviations of pre-service teacher trainees' responses on the questionnaires. Two sets of questionnaire survey were used to investigate the pre-service teacher trainees' knowledge about the general concept of critical thinking and its skills, and their teaching perceptions. The first set consists of three sections adopted from Elder et al (2007), and Al-degether (2009) whereas the second one is a 5 point Likert scale which was revised by Stedman and Adams (2012).

According to the findings of the current study, pre-service teacher trainees who were enrolled at Taungoo Education College were found to have knowledge about critical thinking skills to some extent. However, the present study proved that pre-service teacher trainees held positive perceptions about the value of teaching critical thinking. The current study recommends that critical thinking skills should be emphasized in teacher education preparation programmes in order that pre-service teacher trainees themselves achieve 21st century skills and promote critical thinking in their future classrooms.

Keywords: critical thinking, perceptions, pre-service teacher trainees

Introduction

The intellectual roots of critical thinking are as ancient as its etymology, traceable, ultimately, to the teaching practice and vision of Socrates over 2,500 years ago. From Socrates to contemporary scholars, there have been continuous calls for the need of educated citizens and qualified workforce and citizens' capability to think critically. As the world is moving toward a technology-based economy, facing worldwide competition, there is a growing need for workers with analytical thinking skills who have the ability to integrate information from a wide range of sources and competently make fruitful success decisions. In a complex and swiftly altering world, critical thinking skill is an essential tool in order to successfully perform in the competitive life.

In the early twentieth century, John Dewey (1910, cited in Stanford Encyclopedia of Philosophy) introduced the term "critical thinking" as the name of an educational goal and identified with a scientific attitude of mind. He argued in 1938 that learning to think is the fundamental objective of education. The emphasis has been shifted from imparting information and content to the learners, to enhancing their thinking skills. Howie (2011) highlighted that the ability to think critically is one of the highest levels of mental activity.

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Educators have perceived it as a critical and important skill although it is not clear how useful it can be when incorporated in the education college programmes. In general, the job market and education view critical thinking as an essential skill at work and during training. Apart from subject competencies, higher learning institutions (HLIs) are challenged to produce graduates who can think critically.

Professor Frank Hardman et al (2013) quoted in his study on "Development of a Teacher Education Strategy Framework Linked to Pre- and In-Service Teacher Training in Myanmar" that PRESET and INSET are in need of radical reform if they are to deliver teacher education appropriate for the 21st century and produce teachers with the right value, skills and knowledge to be effective practitioners to bring about the desired outcomes of education. He also reported in his case study conducted in 2014 on "Teaching practices in Myanmar" that Myanmar primary teachers rely only on a single method made up of teacher-fronted "chalk and talk" promoting the transmission of knowledge and rote-learning. It was one of the studies conducted during "Comprehensive Education Sector Review (2012-2015)", which was undertaken by MOE, Myanmar for three and a half years. As a result, in Strategy 1 of Basic Education: Access, Quality and Inclusion, part of National Education Strategic Plan (2016-2021) of Myanmar, it is mentioned to redesign the basic education curriculum emphasizing 21st century skills.

According to International Bureau of Education, UNESCO, critical thinking is one of the most important 21st century skills. Most of the core competencies or skills frameworks seem to coverage on a common set of 21st century skills or competencies, namely: creativity; critical thinking; collaboration; communication Technology (ICT) literacy; and social and/or cultural competencies including citizenship.

Obviously, critical thinking skills need to be enhanced by teachers in their classrooms. However, Lauer (2005) argued that teachers might not be fully aware of the methods and strategies to integrate critical thinking skills into their classes. As the education colleges may only rely on the traditional teaching practice like chalk and talk method, this might be the reason that teachers face trouble when trying to integrate critical thinking into their teaching learning process. Ozkan-Akan (2003) stressed that perceptions of teachers have a crucial impact on the improvement of students' critical thinking abilities. Similarly, as mentioned in the study of Kowalczyk, Hackworth and Case-smith (2012), teachers' lack of adequate theoretical and practical awareness of critical thinking skills is possibly obstructing their proficient ability to facilitate the enhancement of critical thinking skills among students.

In order to inquire this issue in more detail, the current study was determined to explore the extent of knowledge the pre-service teacher trainees have about critical thinking skills and their current perceptions about critical thinking instruction.

1.1 Significance of the study

Research should be increasingly conducted to better understand the efficient means to enable teachers to fulfill their teaching duties and help their students acquire critical thinking skills. Understanding the teachers' level of knowledge about critical thinking skills and their perceptions would provide useful information to enhance teacher education programs. The current study attempted to contribute to the purpose of improving the Myanmar education system by examining the pre-service teachers' knowledge and perceptions about critical thinking skills. This study may help the decision-makers and teacher education curriculum and material

developers get useful suggestions to keep the teacher education programs in Myanmar updated in order to be in line with international teacher education standard.

1.2 Statement of the problem

The purpose of this study was to explore pre-service teachers' knowledge concerning critical thinking skills. Moreover, it was designed to investigate the perceptions of pre-service teachers towards the teaching of critical thinking skills. Teachers play a very critical role in the learning process and personal skills of their learners. They can significantly reinforce the way their learners think. Kowalczyk et al. (2012), therefore, stated that their perceptions toward teaching critical thinking skills and their lack of adequate awareness of thinking skills can also be a limitation to their ability to assist the learning process.

Although teachers may intend to teach at a higher level, which contain critical thinking skills, unfortunately, their perception and knowledge about this is inadequate. Gathering information regarding the knowledge and perception of pre-service teachers about teaching of critical thinking skills would be a valuable stage in the process of establishing a model of providing the best quality critical thinking instruction in their classrooms.

Sng (2011) suggested that critical thinking skills may vary depending on varieties of cultures, values and educational backgrounds. This means that critical thinking cannot be connected to intellectual skills alone. The way we think critically about the world around us is deeply affected by the construction of morals, principles, and spirituals views. Therefore, this study was intended to examine the knowledge and perceptions of critical thinking of pre-service teachers at Taungoo Education College. The aim of this study was to explore the patterns of pre-service teachers' understanding of basic critical thinking concepts and personal perceptions regarding critical thinking instruction.

1.3 Objectives of the study

The objectives of the present study are:

(1) To identify the knowledge of the pre-service teacher trainees regarding critical thinking skills.

(2) To explore the perceptions of the pre-service teacher trainees on critical thinking skills.

(3) To make practical recommendations based on the findings of the study regarding the implementation of the critical thinking in the teacher education context of Myanmar.

1.4 Research Questions

This study addressed the following research questions:

1. What is pre-service teacher trainees' knowledge regarding the critical thinking skills?
2. What are the perceptions of the pre-service teacher trainees, enrolled in Education College, regarding critical thinking skills?

Review of Related Literature

Critical Thinking is important for shaping the way students learn and think in today's information age. Critical thinking was defined by Facione (1990) as "purposeful, self-regulatory judgment, which leads to interpretation, analysis, evaluation, and inference, as well as explanation of evidential, conceptual, methodological, or contextual considerations upon which that judgment is based".

The definitions of critical thinking are diverse in terms of breadth and inclusiveness. While Ennis (2001) roughly defined it as reasonable and reflective thinking that is focused on deciding what to believe or do, Nosich (2009) saw it as more than making decisions; it is a meta-cognitive, reasonable, and authentic process that involves high standards and such concern as accuracy, relevance, and depth. Similarly, Fisher (2007) defined it as "a kind of evaluative thinking- which involves both criticism and creative thinking and which is particularly concerned with the quality of reasoning or argument which is presented in support of a belief or a course of action". Recently, Weissberg (2013) argued that the definitions of critical thinking are varied, but still have certain traits in common, remarkably the capability to invest reason to go further beyond the process of acquiring facts to reveal deep meaning.

According to Willingham (2007), there are specific types of critical thinking that are characteristic of different subject matters. It is generally agreed by the academia that establishing a universally-accepted definition of critical thinking is difficult. As for Halonen (1995), it indeed gains popularity in education but known as "is in a mystified state because no single definition is widely accepted". Sukie (2004) agreed that it "lacks clear consensus".

Facione (1990) mentioned that for better support the instruction and assessment of critical thinking, a consensus definition was given by an expert Delphi Panel of the 'American Philosophical Association' (APA), trying to incorporating both thinking dispositions characterized as "habits of mind", and cognitive skills and sub-skills:

Table 1 Critical Thinking Cognitive Skills and Sub-skills (Facione, 1990)

Skills	Sub-skills
1. Interpretation	Categorization, decoding significance, clarifying meaning
2. Analysis	Examining ideas, identifying arguments, analyzing arguments
3. Evaluation	Assessing claims, assessing arguments
4. Inference	Querying evidence, conjecturing alternatives, drawing conclusions
5. Explanation	Stating results, justifying procedures, presenting arguments
6. Self-regulation	Self-examination , self-correction

There is no denying that understanding *what we think and how we think* can result in a more explicit outcome in critically thinking, however, whether the functions and characteristics of critical thinking can enhance a good thinker in reasoning and logic after classroom instructions remains contentious.

2.1 21st century skills and Global Education Roadmaps

The 21st century is characterized by its rapid technological advancement. Castells (2010) described the 21st century as a period of intense transformation, is an unprecedented era as business operations have become so globalized that core business competencies place greater emphasis on knowledge, mobility and collaboration. According to Levy and Murname (2004), such businesses now call for a human workforce with expert thinking and complex communication skills as machines replace human beings in routine and manual work. Berry (2010) pointed out that education plays an integral role in preparing learners to become global and conscious citizens, and also to be ready for challenges associated with the highly mobilized and technology-dominated society. Scholars in the field of education have thus advocated to modify the education system to support the development of the requisite skills and literacies (Dunning, 2000; UNESCO, 2003; Levy & Murname, 2004; Pigozzi, 2006; Kozma, 2008; Black, 2009).

A range of international, national and more localized technology and information literacy frameworks have emerged to provide outcome benchmarks for the needed curricular reforms.

A number of frameworks for the 21st century and digital skills that have been adopted in different education policy environments around the world. Similarly, policy makers who decide to incorporate 21st century skills education into their curricula need to back up the changes with a well-articulated execution plan.

However, Silva (2009) pointed out that although the term '21st century skills' might sound modern, some of these skills are "not new, just newly important". Vital capabilities such as critical thinking and problem solving have always been essential. By mapping out the current landscape of 21stcentury skills development, these skills can be seen to have a stronger presence in curricula and that there is an even stronger need for a detailed, well-researched approach to guide educators, school administrators and policy makers through the intricate process of implementing 21stcentury skill education.

2.2 Frameworks Developed for Critical Thinking Skills

With the aim of strengthening one's understanding towards 21st century skills, many frameworks have been drawn up under the support of international organizations, governments and consulting firms. Among the vast range of frameworks, three of them have been chosen to illustrate the emergence of the main ideas and notions. It is hoped that these frameworks would represent the different perspectives one holds towards 21st century skills understood by both western and eastern societies, as well as by different education institutions and business corporations.

2.2.1 Framework based on OECD countries (2009)

Ananiadou and Claro (2009) developed the OECD framework was entitled "21st Century Skills and competences for New Millennium learners in OECD countries". In an attempt to provide clear definitions and understanding of the skills and competencies related to the 21st century, the authors examined and critically reviewed the effects of Information and Communication Technology (ICT) on young people, together with the consequential changes in the teaching and assessment systems of some OECD countries.

This framework was based on the competences and skills found in those countries in relation to the role of ICT in education. The three major dimensions of the framework include communication, information and ethics and social Impact.

2.2.2 Assessment and Teaching of 21st Century Skills [ATCS]

The Assessment and Teaching of 21st Century Skills [ATCS] is an international research initiative headquartered at the University of Melbourne and sponsored by Cisco, Intel and Microsoft. The group aimed at identifying and helping learners acquire the necessary skills needed to be successful in the 21st century workplace. The research group devoted its effort to analyzing the roles of standards and assessments in promoting learning, taking into consideration the use of technology in transforming assessment systems and education. The ATCS categorized 21st century skills into four prime types, namely: ways of thinking; ways of working; tools for working and; living in the world.

2.2.3 Partnership for 21st Century Skills [P21] (2009)

The American organization founded in 2002 conceptualized a framework for 21st century skills. This framework has become well-known in the field of information technology (IT) in education. It consists of eleven competencies which are classified into three gist elements including (1) learning and innovation skills (2) information, media and technology skills and (3) life and career skills. The framework also entails a support system that embodies standards, assessments, curriculum, instructions, professional development and learning environments. This can be illustrated as the following figure.
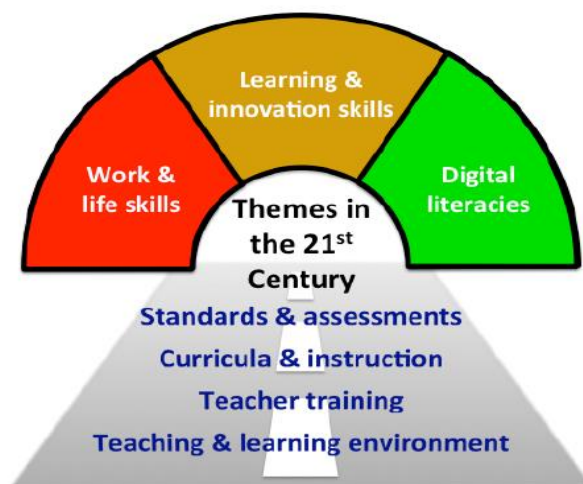
Figure 1 Rainbow illustration of the Partnership for 21st Century Skills Framework

2.3 Importance of Teaching Critical Skills

According to an American psychologist, Dr. Diane Halpern (2003), there has been substantial evidence showing that critical thinking can be improved with training. Research also suggested that improving critical thinking ability has a knock-on effect in improving problem-solving ability, openness, creativity, organization, planning and making the right choices in life.

According to Anisa Zulfiqar (2018), the Business Development Manager of Asia-Pearson APAC, there is a gap in critical thinking teaching at school and the ability to apply this skill at university or in the world of work. She also recommended some techniques to teach both teachers and students critical thinking skills and create a critical thinking culture in classrooms and schools as in the followings.

1. The first step to create a critical thinking culture is to introduce the concept with a good definition.
2. Moreover, all levels including teachers and students should be provided with opportunities for deeper learning (reflection, application, guided discussion).
3. It is also required to establish the importance of seeking evidence, closely examining reasoning and assumptions, analyzing basic concepts, and tracing out implications.
4. A model or framework of critical thinking should be introduced to organize and expedite learning. For example, the RED model developed by Goodwin Watson and Edward Glaser in 1930s.
   Recognize assumptions: This relates to the ability to separate fact from opinion in an argument.

Evaluate arguments: This is the ability to analyze information objectively accurately, question the quality of supporting evidence and understand how emotion influences the situation.

Draw conclusions: This is the ability to arrive at conclusions that logically follow from the available evidence.

5. Assessment to measure the current levels of critical thinking in teachers should be introduced and a development programme should be provided for those who need support. The ability to teach critical thinking to students starts with teachers having a good understanding on the concept first.

Methodology

To accomplish the objectives and fulfill the purpose of the study, the quantitative method was used to collect responses of the participants. The study employed a survey design. Stedman, and Adams (2012) argued that this approach is appropriate for such a study.

3.1 Participants

Participants of the current study were seventy-two students enrolled in pre-service teaching program in Taungoo Education College during the academic year 2018/2019. The participants were selected using a sample random selection. The majority of them will be teachers after second year program.

3.2 Data Collection Instrument

A Three-part instrument was used in the study. The first one is short demographic information about respondents including gender, specialization, level of study, age and previous experience (Matriculation exam scores).

The second one is to measure the participants' knowledge about critical thinking. It consisted of three sections adopted from Elder et al, (2007), and Al-degether (2009). The first section has sixteen statements that required participants to select the skills that are related to critical thinking. The participants were required to identify these skills by selecting "Yes" if they thought that the statement was one of the critical thinking skills or choosing "No" if they thought that the presented statement was not a skill of critical thinking. The second section includes six multiple-choice questions to determine the accuracy of an individual's knowledge of critical thinking.

The third section is on the nature of critical thinking, had nine True/False statements designed to gauge an individual's familiarity with specific critical thinking statements. For this part, that assesses pre-service teacher's knowledge about critical thinking, mean scores ranging from (0) to (0.35) reflected an inaccurate awareness of critical thinking. Mean scores ranging from (0.36) to (0.65) showed that the respondents had uncertain understanding of critical thinking, and mean scores ranging from (0.66) to (1) that pre-service teachers had accurate knowledge about critical thinking.

The third part was revised by Stedman and Adams (2012) from a list of questions first proposed by Choy and Cheah (2009). This part is intended to gauge participants' perceptions of critical thinking and critical thinking instruction. The revised questionnaire is comprised of 14 Likert-type statements using a scale of 1(Strongly Disagree) to 5 (Strongly Agree). Mean score within the range of (1 to 2.4) indicated disagreement opinion toward teaching critical

thinking. Mean scores of (2.5 to 3.4) indicated neutral opinion of teaching critical thinking. Mean score within the range of (3.5 to 5) indicated strong agreement about teaching critical thinking.

Further, the researcher translated the instrument into Myanmar language and it was reviewed by two specialists to check its face validity. The Myanmar version was discussed and revised until an agreement was reached on the final survey tool. Reliability was calculated by using testing and re-testing test-retest method and through the application of the questionnaire on an exploratory sample which consisted of (9) pre-service teacher trainees. The calculated Pearson correlation coefficient was (0.88). The stability coefficient was calculated according to the equation of internal consistency (Cronbach alpha), and the value of stability coefficient was (0.93). These values were considered appropriate for the purposes of the study.

3.3 Procedure

During the first semester in the academic year 2018/2019, questionnaires were distributed to the pre-service teachers in classroom. Pre-service teachers participating in the study were provided a verbal explanation of the study. To answer the question of the study, the following data analysis method was used: sums, means, and standard deviations of the teachers' responses on the questionnaires. The survey collected demographic data in order to identify the make-up of the responding sample. The quantitative data was analyzed with SPSS software program (ver.25.0).

Findings

Analyzing means and standard deviations of knowledge about critical thinking grouped by gender, by years attended, and by specialization, there were no significant differences in all areas of knowledge about critical thinking between the groups.

Computing means and standard deviations of perceptions on critical thinking skills grouped by gender and by year attended, there was no significant difference in perceptions on critical thinking between the groups by male and female while mean score of second year is greater than mean score of first year. It can be concluded that the perceptions on critical thinking skills of second year is higher than first year. Therefore, there was a significant difference in perceptions on critical thinking between the groups of year attended.

Table 2 Group Statistics of Knowledge and Perceptions on Critical Thinking Skills Grouped by Year Attended

Group Statistics					
	Year	N	Mean	Std. Deviation	Std. Error Mean
Skill	First	36	10.22	2.380	.397
	Second	36	10.81	1.925	.321
Nature	First	36	5.31	1.215	.202
	Second	36	5.11	1.348	.225
Accuracy	First	36	3.22	1.198	.200
	Second	36	3.08	1.228	.205
Perception	First	36	50.42	6.566	1.094
	Second	36	54.47	6.245	1.041

Table 3 Independent Sample *t* Test Results of Knowledge and Perceptions on Critical Thinking Skills Grouped by Year Attended

		t	df	*p*	Mean Difference
Skill	Equal variances assumed	-1.144	70	0.257	-0.583
	Equal variances not assumed	-1.144	67.065	0.257	-0.583
Nature	Equal variances assumed	0.643	70	0.522	0.194
	Equal variances not assumed	0.643	69.259	0.522	0.194
Accuracy	Equal variances assumed	0.486	70	0.629	0.139
	Equal variances not assumed	0.486	69.958	0.629	0.139
Perception	Equal variances assumed	-2.685	70	0.009	-4.056
	Equal variances not assumed	-2.685	69.825	0.009**	-4.056

*$p < .05$, ** $p < .01$, *** $p < .001$ at significant level

According to Table (2) and Table (3), there was a significant difference in perceptions on critical thinking between the groups of first year and second year ($p < 0.01$).

According to the means and standard deviations of perceptions on critical thinking skills grouped by specialization, there was no significant difference in perceptions on critical thinking between the group of arts and science.

Results and Discussion

This study was conducted to explore pre-service teachers' knowledge and perceptions about critical thinking. Survey research was conducted using the questionnaire instrument. To answer the research questions, statistical analysis of this study utilized descriptive statistics.

The first question was to identify the patterns of knowledge of pre-service teacher trainees regarding the critical thinking skills. This was accomplished through a systematic review of individual responses on the second part of the questionnaire with its three sections. The first section of this part explored pre-service teacher trainees' knowledge regarding the skills and sub-skills of critical thinking.

Table 4 Sum, Mean and Standard Deviation (SD) for Knowledge about Critical Thinking Skills

No.	The skill	Sum	Mean	SD
1	Examining relationships among statements.	21	.29	.201
2	Interpreting the meanings from variety of data or experiences.	44	.61	.491
3	Assessing the quality of ideas or data.	63	.88	.333
4	Identifying alternative claims and drawing conclusion.	62	.86	.348

No.	The skill	Sum	Mean	SD
5	Presenting results of one's reasoning.	50	.69	.464
6	Generating original and new insights.	62	.86	.348
7	Delivering information that committed to memory.	21	.29	.458
8	Generating questions from a particular topic.	68	.94	.231
9	Conforming, validating, or correcting one's reasoning procedure.	51	.71	.458
10	Working from specific facts to general principles.	43	.60	.494
11	Storing, retaining, and recalling information.	20	.28	.451
12	Separating relevant from irrelevant data.	66	.92	.278
13	Moving from a question or a problem toward one correct answer or a solution.	12	.17	.375
14	Making a prediction of what will happen in the future from given information.	51	.71	.458
15	Summarizing an article in one's own words	47	.65	.479
16	Analyzing an argument through sketching a graph or drawing a picture.	47	.65	.479

In the first section of the questionnaire, participants were required to distinguish the skills that were related to critical thinking. As could be seen in the table (4), no participant could correctly identify all skills or all items. The findings showed that the means of four out of the sixteen items existed in the low range (0-0.35) and the same pattern also existed in the (0.36-0.65) range. Therefore, the half of the sixteen statements existed in the high range (0.66-1). One of all items included in the low range with only twelve correct answers out of seventy two answers.

Table 5 Sum, Mean, Standard Deviation (SD) for Knowledge about Critical Thinking Skills

No.	The Statement	Sum	Mean	SD
1	It is important to clarify thinking whenever you are explaining something to someone; whenever someone is explaining something to you and; whenever you are analyzing an article or chapter.	39	.54	.502
2	Fair-minded thinking is connected with the accurate assessment of one's own reasoning.	9	.13	.333
3	Depth in reasoning best relates to complexities in the issue; logical interpretations; clarifying the issue.	37	.51	.503
4	One main requirement of critical thinking is to analyze thinking into its most basic components.	57	.79	.409
5	Critical thinkers assess thinking in order to determine what thinking to accept or what to reject.	42	.58	.496
6	An important fact that supports the need for an analytic dimension of critical thinking is that the analysis of thinking is presupposed in every subject.	43	.60	.494

As could be seen in table (5), there were a total of six statements to decide pre-service teacher trainees' familiarity with critical thinking concepts in the second section. Participants were required to select the correct completion of the statement out of three choices. Again, there was no single question where all respondents answered correctly, and only one mean score (0.79) existed in the high (0.66-1). The rest of the means was within the average and low range, with the

second statement, "Fair-minded thinking is connected with the accurate assessment of one's own reasoning", being answered correctly with only nine participants out of seventy-two trainees.

Table 6 Sum, Mean, Standard Deviation (SD) for Knowledge about Critical Thinking Skills

No.	The Statement	Sum	Mean	SD
1	As people grow older, they naturally develop as critical thinkers.	13	.18	.387
2	Critical thinking is self-disciplined.	70	.97	.165
3	Critical thinking enables one to think more deeply.	64	.89	.316
4	One should not analyze sympathetically points of view that are disgusting and obviously false.	35	.49	.503
5	If a statement is unclear, we benefit by asking what our purpose is in saying it.	66	.92	.278
6	Implications are conclusions you come to in a situation.	50	.69	.464
7	Critical thinking is important in learning to read well.	22	.31	.464
8	Critical thinkers use subjective standards to assess thinking.	29	.40	.494
9	Critical thinkers learn to ignore their emotions when making important decision	54	.75	.436

The third section included nine true/false statements investigating pre-service teacher trainees' knowledge regarding the nature of critical thinking. Similarly, there was no single statement that participants correctly agreed about. The means of five statements were founded to exist in the high range. In the rest four statements, two items included in the average range and two, in the low range. It means that nearly half of pre-service teacher trainees had uncertain understanding of the nature of critical thinking. The mean score (0.18) of the first statement, "As people grow older, they naturally develop as critical thinkers", fitted in the low range, with only thirteen correct answers.

Findings about pre-service teacher trainees who are enrolled in the Education College showed that they had poor knowledge regarding critical thinking which indicated that teacher students needed more preparation about critical thinking.

Table 7 Sum, Mean, Standard Deviation (SD) for Perceptions on Critical Thinking skills

No.	The Statement	Sum	Mean	SD
1	Critical thinking engages students' higher order thinking (analysis, synthesis and evaluation).	315	4.38	.701
2	Critical thinking encourages students to become independent thinkers.	244	3.39	1.157
3	Critical thinking encourages students to become active learners.	270	3.75	1.148
4	Critical thinking can be used to achieve better learning outcomes.	287	3.99	.911
5	Critical thinking will allow students a better understanding of course topics.	271	3.76	1.132
6	I believe that it is my responsibility to promote critical thinking in my courses.	262	3.64	1.104
7	Critical thinking is a method of thinking which would help students enjoy the learning process.	265	3.68	1.085
8	Critical thinking should always include a reflective component.	294	4.08	1.045
9	I am aware when students use critical thinking in my	252	3.50	.919

No.	The Statement	Sum	Mean	SD
	courses.			
10	I look for specific evidence of critical thinking by students in my courses.	228	3.17	1.088
11	I have the skills necessary to promote critical thinking by students in my courses.	258	3.58	1.045
12	I think that students have barriers to critical thinking, regardless of the strategies I use.	248	3.44	1.073
13	If required, I could implement critical thinking into my courses.	295	4.10	.891
14	In order for me to fully implement critical thinking into my courses, I would need additional support.	287	3.99	1.000

Data analysis of the perceptions scale stated that the means of eleven statements out of fourteen fell into the high range of agreement. Participants expressed their strong agreement (M=4.38) with the statement "Critical thinking engages students' higher order thinking (analysis, synthesis and evaluation)". The second highest mean (M=4.10) was recorded for the statement "If required, I could implement critical thinking into my courses". The third one (M=4.08) described that "Critical thinking should always include a reflective component". With high mean scores, participants strongly agreed the eight statements to hold positive opinions toward critical thinking and teaching its skills. Within the average range of mean scores, participants were not sure about two statements. With the least mean (M=3.17), they also showed their doubt about item number10.

Conclusion

This study revealed that very few of pre-service teachers who were enrolled at Taungoo Education College were found to have sufficient knowledge about critical thinking skills to somewhat degree. On the other hand, Lauer (2005) studied that EFL teachers did not have enough knowledge critical thinking concepts and skills to incorporate them into their classroom practice. Moreover, Kowalczyk, et al. (2012) claimed that teachers' absence of sufficient knowledge of critical thinking skills could hinder their ability to assist critical thinking among their students. When taking into consideration that none of questionnaires' statements was answered correctly by the participants, it can be concluded that the current teacher education programmes need to incorporate more instructions to apply critical thinking skills. Encouraging teacher educators at education colleges to incorporate critical thinking practices and techniques into their teaching-learning process will support pre-service teachers to have sufficient knowledge and concepts regarding critical thinking.

According to the current study, it was found out that pre-service teachers of Taungoo Education College held positive perceptions about the value of teaching critical thinking skills. They were found to agree strongly that critical thinking engages students' higher order thinking and supports them to implement critical thinking in their courses. They also agreed that critical thinking would allow them to have a better understanding of course topics, achieve better learning outcomes and enjoy the learning process. This study also revealed that there is no significance either gender or age among pre-service teachers and there is, however, a significance between Certificate in Teacher Education students and Diploma in Teacher Education students. It means that Diploma in Teacher Education students have greater knowledge and better perception of critical thinking skills than Certificate in Teacher Education students.

In accordance with this study, it is recommended that teacher education programmes need to incorporate specialized techniques to develop critical thinking skills among pre-service teachers. Teacher education programmes should support pre-service teachers to be fully aware of critical thinking skills and have best strategies to teach their pupils later in the classrooms. Further studies are required to explore teacher education educators' critical knowledge and perception about critical thinking skills.

Acknowledgements

References

Al-degether, R.(2009).Teacher educators' opinion and knowledge about critical thinking and the methods they use to encourage critical thinking skills in five female teacher colleges in Saudi Arabia (Order No,3352791). Available from ProQuest Dissertations & Theses Global. (3049190960).Retrieved from http://search.proquest.com/docview/3049190960?accountid=44936

Ananiadou, K. & Claro, M. (2009). *21st Century Skills and Competence for New Millennium Learners in OECD Education Working Papers, No 41,* OECD Publishing. Retrieved May 11, 2015 from http://www.oecd-ilibrary.org/education/21st-century-skills-and-competences-for-new-millennium-learners-in-oecd countries-218525261154

Beyer, B. (2001) Teaching thinking skills: defining the problem. In A. L. Costa (Ed.), *Developing Minds; A resource book for teaching thinking* (pp.35-40).Alexandria, VA: Association for Supervision and Curriculum Development.

Black, R. (2009). English-Language Learners, fan communities, and 21st-century skills. *Journal of Adolescent & Adult Literacy, 52*(8), 688-697.

Brookhart, s. (2010). How to assess higher order thinking skills in your classroom. Alexandria, VA: Association for Supervision and Curriculum Development.

Choy, S. C., & Cheah, P. K. (2009). Teacher perceptions of critical thinking among students and its influence on higher education. *International Journal of teaching and learning in Higher Education, 20(2),* 198-206.

Chu, S., Reynolds, R., Notari, M., Taveres, N., & Lee, C. (2016).21st Century Skills Development through Inquiry Based Learning From Theory to Practice. Springer Science.

Dewey, J. (1933). How We Think Chicago: Henry Regnery.

Elder, L., Paul R., &Cosgrove, R. (2007) *Critical Thinking Basic Concepts and Understandings Test.* Foundation for Critical Thinking. Retrieved on December 03, 2014 from: http:// www.c riticalthinking. org/ pages/ online-critical-thinking-basic-concepts-test/679

Emerson, M. K. (2013). A Model for Teaching Critical Thinking. Online Submission. Available at: http://eric.ed. gov/?id=ED540588 (Retrieved on Dec 23, 2015).

Ennis, R. (2001). Goals for a critical thinking curriculum and its assessment. In A. L. Costa (Ed.), Developing minds: A resource book for teaching thinking (pp. 44-46). Alexandria, VA: Association for Supervision and Curriculum Development.

Facione, P, A. (1990). Critical thinking: *A statement of expert consensus for the purposes of educational   assessment and instruction,* Millbrae, CA: California Academic Press,

Fisher, A. (2007). *Critical thinking: An Introduction.* Cambridge, England: Cambridge University Press.

Higgins, s., Hall, E., Baumfield, V., & Moseley, D. (2005). A meta- analysis of the impact of the implementation of thinking skills approaches on pupils. In *Research evidence in education library.* London: EPPI-Centre, Social Science Research nit, Institute of Education, University of London.

Howei, D. R. (2011). Teaching Students Thinking Skills and Strategies: A Framework for Cognitive Education in Inclusive Settings. London: Jessica Kingsley Publishers.

Kowalczyk, N. Hackworth, R & Case-smith, J. (2012). Perception of the use of critical thinking methods. *Radiologic Technology*, 83 (3), 226-237.

Lauer, T. (2005). Teaching critical thinking skills using course content materials. *Journal of College Science Teaching. 34(6)*, 34-44.

Nosich, G. (2009). *Learning to think things through:* A guide to critical thinking across the curriculum. Columbus, OH: Pearson Prentice Hall.

Paul, R., & Linda, E. (2006). *Critical thinking: Learn the tools the best thinkers use.* Columbus, OH: Pearson Prentice Hall.

Piaget, J. (1951). The Psychology of Intelligence, London: Routledge and Kegan Paul Ltd.

Raja, R. S. (1991). Education for the Twenty-First Century: Asia-Pacific Perspective. UNESCO

Reed, J. (1998). Effect of a model for critical thinking on student achievement in primary souse document analysis and interpretation, argumentative reasoning, critical thinking dispositions and history content in a community college history course. PhD diss., College of Education, University of South Florida.

Scriven, M., & Paul, R.(1987). Critical thinking as defined by the national council for excellence in critical thinking. The 8th Annual International Conference on Critical Thinking and Education Reform.

Sng, B. B. (2011). Cultural Perceptions of Critical Thinking Skills of Asian Theological College Students. *Journal of Adult Theological Education,* 8(2), 153-165. doi:10.1558/JATE.v8i2.153

Stedman, N. R., & Adams, B.L. (2012). Identifying Faculty's Knowledge of Critical thinking Concepts and Perceptions of Critical Thinking Instruction in Higher Education. *NACTA Journal, 56*(2), 9-14.

Suskie, L. (2004). Assessing student learning: A common sense guide, Bolton, MA: Anker Publishing.

Swartz, R. (2001). Infusing critical and creative thinking into content instruction. In A. L. Costa (Ed.), Developing minds: A resource book for teaching thinking (pp. 266-274). Alexandria, VA: Association for Supervision and Curriculum Development.

Weissberg, R (2013). Critically Thinking about Critical Thinking. Academic Questions, 26(3), 317-328 doi:10. 1007/ s12129-013-9375-2

Willingham, D. T. (2007) Can Critical Thinking Be Taught?, American Educator, Summer, pp. 8-19.

ACADEMIC MOTIVATION AND COLLEGE ADJUSTMENT OF FIRST YEAR PRE-SERVICE TEACHERS FROM EDUCATION COLLEGES

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Abstract

The main purpose of this study was to investigate academic motivation and college adjustment of first year pre-service teachers from selected Education Colleges. Moreover, the present study was to compare academic motivation and college adjustment of first year pre-service teachers in terms of gender and colleges. The quantitative research design and survey method were used in this study. A total of 780 first year pre-service teachers (male = 379, female = 411) were randomly chosen from four selected Education Colleges in Upper Myanmar as participants of the study. In this study, Academic Motivation Scale (AMS) consisting of 28 items (Cronbach's alpha = 0.869) was used to measure the first year pre-service teachers' academic motivation and Student Adaptation to College Questionnaire (SACQ) consisting of 50 items (Cronbach's alpha = 0.818) was used to measure the college adjustment of first year pre-service teachers. The data were analyzed by using descriptive statistics, independent samples t test, One way ANOVA and Pearson Product-moment correlation. The results revealed that there were significant differences in academic motivation and college adjustment by gender and colleges. The female first year pre-service teachers were higher than the male first year pre-service teachers in both academic motivation and college adjustment. The first year pre-service teachers from Education College 2 were higher in academic motivation and college adjustment than that from other three Education Colleges. The Pearson Product-moment correlation result revealed that a positively significant relationship ($r = 0.655$) was found between academic motivation and college adjustment. The results of this study revealed that first year pre-service teachers who have high academic motivation may experience better college adjustment. Besides, this study suggested that instructors should assist college students to improve academic motivation for better college adjustment. So, it is vital to emphasize first year pre-service teachers' academic motivation and college adjustment.

Keywords: Motivation, Academic Motivation, Adjustment, College Adjustment

Introduction

People must face a great number of changes throughout one's life. As students embark on the novel journey of transitioning to college or university, they are met with many new situations and presented with challenges that they have not faced before (Stoklosa, 2015). So, pursuing a college education requires "adjustment" on the part of all students.

If students become unable to adjust to the challenges effectively, they experience higher level of stress, depressive symptoms (Dyson & Renk, 2006).In contrast, if they can adapt well, they are likely to have more time to spend with peers, have more opportunities to explore different lifestyles and values and be challenged intellectually by academic work (Heaven, 2000). Therefore, college life is both opportunity and challenge for them.

Moreover, first year at college can be a very stressful period of social and academic change. The students often find that learning packages, teaching styles, classes are different from what obtained at the secondary school level. The competition is more acute. For these situations, students need to adjust academically. Likewise, instructors also need to guide them how to cope these situations. Socially, students need to form and establish new friends both with peers and lecturers. Living with roommates in hostels or halls in the college can present special problems. Sommer (2013) described students who engage in and who are part of social activities may adjust better. In contrast, students who have difficulty adjusting socially to college may feel isolated or

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alone; and as a result experience a lack of self-esteem and start to develop negative attitudes towards college. If students should be given enough social support from family and friends, they are able to handle adjustment challenges more competently.

Although college adjustment may be affected by numerous influences, the psychosocial resource (motivation) serves a fundamental role in a person's abilities to adjust to various situations. Stoklosa, 2015 described motivation to succeed in college is an important aspect of college outcomes.

Motivation may influence on performance in academic settings. Besides, academic is related to school, college, university and education. Thus, academic motivation can most simply be defined as the factors that influence a person to attend school and obtain a degree (Hakan & Munire, 2014). Besides, self-determination theorists posited that academic motivation is multidimensional in nature, and is comprised of three global types of motivation: intrinsic motivation, extrinsic motivation, and amotivation (Deci & Ryan, 1985).

Much of the literature on the effects of academic motivation on educational outcomes showed that it is linked to adjustment and academic performance at university (Baker, 2004). A greater understanding of academic motivation and its correlation can provide instructors and researchers alike with valuable information regarding how student adjusts to the college setting (Hakan & Munire, 2014). So, academic motivation can impact on college adjustment. Above these facts, this study aims to investigate academic motivation and college adjustment of first year pre-service teachers or college students.

Self-determination theory (SDT) consists of four mini-theories; cognitive evaluation theory, organismic integration theory, causality orientations theory, and basic needs theory. Among these mini-theories, cognitive evaluation theory and organismic integration theory was used in this study.

Cognitive evaluation theory, the first, was formulated to describe the effect of the environment and social contexts on intrinsic motivation (Deci, 1975; Deci & Ryan, 1980; as cited in Ryan & Deci, 2002). Thus, their theory examines the conditions that sustain versus diminish this innate propensity. CET suggested that social environments can facilitate or forestall intrinsic motivation by supporting versus thwarting people's innate psychological needs (autonomy, competence and relatedness).

Within SDT, Deci and Ryan (1985) introduced a second sub-theory, called organismic integration theory (OIT), to detail the different forms of extrinsic motivation and the contextual factors that either promote or hinder internalization and integration of the regulation for these behaviors. Organismic integrations theory (OIT) classified extrinsic motivation into four categories; external regulation, introjected regulation, identified regulation and integrated regulations. OIT posited that motivation can be viewed as a continuum with amotivation at the lowest end of the continuum and intrinsic motivation at the top. OIT proposed that supports for feelings of relatedness, support for competence and   support for autonomy are, indeed, crucial for promoting internalization.

Tinto (1993) contended that students travel through three stages during their first year to determine if they will depart or separate from their college setting. The first stage, separation requires students to disassociate themselves physically and socially from their previous. The second stage, transition comes either during or after the separation stage. They may not yet be

fully integrated or adapted into their new environment. They may be searching for a connection with their new and old settings (norms, values, relationships). In the last stage, adjustment or incorporation, the students are expected to become integrated or incorporated into the university community.

Besides, it is also very important that students have the ability to develop social and academic integration skills in both informal and formal ways. Formal academic integration includes researching topics in the library, attending labs and classes and engagement in various activities related to academic success. Informal academicen gagement includes student interaction with both staff and faculty. In terms of social integration, informal social integration involves interaction with peers, whilst formal social integration involves extracurricular activities. Higher levels of interaction can lead to higher levels of student persistence and graduation (Tinto, 1993).

According to Tinto's (1993) student integration theory, if students manage to have informal and formal social and academic integration, they can re-examine their commitments, goals and intentions from and to the institution. Based on these commitments, and levels of success and integration, students can decide if they want to remain at university.

Aims of the Study

The main aim of this study is to investigate academic motivation and college adjustment of first year pre-service teachers from selected Education Colleges. The specific objectives are as follow;

- To compare academic motivation and college adjustment of first year pre-service teachers by gender,
- To compare academic motivation and college adjustment of first year pre-service teachers by colleges,
- To examine whether there is a relationship between academic motivation and college adjustment of first year pre-service teachers

Definitions of Key Terms

Motivation: refers to the reasons underlying behavior (Guay et al., 2010).

Academic Motivation: Self-determination theorists posited that academic motivation is multidimensional in nature, and is comprised of three global types of motivation: intrinsic motivation, extrinsic motivation, and amotivation (Deci & Ryan, 1985).

Adjustment: is a continual process by which a person varies his/her behavior to produce a more harmonious relationship between himself/herself and his/her environment (Aggarwal, 1998).

College adjustment: refers to how successfully a student meets educational demands, commits to the institutional goals, deals with interpersonal experiences, and manages psychological distress during their first year of college (Baker & Siryk, 1989).

Materials and Methods

Research Design and Participants

The quantitative research design and survey method were used in this study. A total of 780 first year pre-service teachers (male = 369, female = 411) were randomly chosen from four

selected Education Colleges: Monywa, Magway, Meiktila, and Myitkyina in Upper Myanmar as participants of the study.

Instrumentation

Academic Motivation Scale (AMS): This inventory modified from Academic Motivation Scale (AMS) made by Vallerand et al., 1992. This inventory was build based on autonomy and contains 28 items for three subscales: intrinsic motivation, extrinsic motivation and amotivation. The extrinsic motivation and intrinsic motivation scales were each separated into three subcategories (Vallerand et al., 1992). According to the approach of Vallerand and Ratelle (2002), the scale was scored as a single composite of weighted dimensions such that intrinsic motivation was summed and weighted +2x, identified motivation was summed and weighted +1x, introjected motivation was not considered and extrinsic regulation was summed and weighted -1x and amotivation was summed and weighted -2x (Vallerand and Ratelle (2002; as cited in Alivernini & Lucidi, 2008). Multiplying the score for each subscale by its corresponding weight and adding all the products yielded an index for the individual's self-determined motivation. In this way, the final RAI measure served as an indicator of a person's overall motivational orientation with positive scores representing more autonomous regulation and negative scores representing more controlling regulation (Vallerand and Ratelle, 2002; as cited in Alivernini & Lucidi, 2008). This is 5-point Likert scale questionnaire.

Student Adaptation to College Questionnaire (SACQ): Student Adaptation to College Questionnaire (SACQ) developed by Baker & Siryk, (1989). This questionnaire is a self-report instrument. The original questionnaire contains 67 items for four subscales. The revised and applied questionnaire contains 50 items: 17 items for academic adjustment, 14 items for social adjustment, 11 items for personal-emotional adjustment, 6 items for institutional/attachment adjustment and 2 items for full scale. Moreover, items (1, 5, 9, 10, 11, 13, 17, 20, 22, 25, 26, 32, 34, 35, 37, 40, 47, 48, 49, 50) are positively scored. Other items are reversed scored. The instrument is a five-point Likert scale.

Findings

Descriptive Statistics for Academic Motivation of First Year Pre-Service Teachers

In terms of descriptive statistics, minimum-maximum scores, mean and standard deviation of academic motivation were calculated and used to describe the data. The results of analysis were described in Table 1.

Table 1 Descriptive Statistics for First Year Pre-service Teachers' Academic Motivation

Variable	Minimum	Maximum	Mean	*SD*
Academic Motivation	-10	9	3.35	2.439

Table 1 indicated that the mean score and standard deviation for the whole scale were 3.35 and 2.439 respectively. According to the approach of Vallerand and Ratelle (2002), a person's overall motivational orientation with positive scores represents more autonomous regulation and negative scores represents more controlling regulation. In this study, the range of this scale was -10 to 9 and the mean score of the whole score is 3.35. Therefore it can be said that the first year pre-service teachers in four selected Education Colleges have more autonomous regulation.

Descriptive Statistics for College Adjustment of First Year Pre-Service Teachers

In terms of descriptive statistics, minimum-maximum scores, mean and standard deviations of college adjustment were calculated and used to describe the data. The results of analysis were described in Table 2.

Table 2 Descriptive Statistics for First Year Pre-service Teachers' College Adjustment

Variable	Minimum	Maximum	Mean	SD
College Adjustment	70	245	185.26	24.570

As shown in Table 2, the mean score and standard deviation for the whole scale were 185.26 and 24.570 respectively. The theoretical mean score for college adjustment was 150. Therefore, it can be said that the first year pre-service teachers in four selected Education Colleges had satisfied college adjustment.

Comparison of Academic Motivation of First Year Pre-Service Teachers by Gender

To know whether the two groups of gender varied significantly in their academic motivation, the independent samples t test was administered. There were 369 male first year pre-service teachers and 411 female first year pre-service teachers in this study. The results were shown in Table 3.

Table 3 Comparison of Means and Standard Deviations, and the Result of Independent Samples t test for Academic Motivation by Gender

Variables	Gender	Mean	SD	t	df	p	MD
Academic Motivation	Male	2.99	2.667	-3.922***	778	.000	-.687
	Female	3.68	2.166				

Note: * The mean difference is significant at 0.001 level.**

For the academic motivation, the average mean score of male first year pre-service teachers was 2.99 and that of females was 3.68. The mean score of female first year pre-service teachers exceeds 0.69 points than that of the male first year pre-service teachers in academic motivation. According to the table 3, the result of independent samples t test showed that there wasa significant difference between male and female first year pre-service teachers in academic motivation (t=-3.922, $p<$ .001). Therefore, the academic motivation of female first year pre-service teachers was higher than that of male first year pre-service teachers.

Comparison of College Adjustment of First Year Pre-Service Teachers by Gender

To know whether there was a significant difference in college adjustment between male and female first year pre-service teachers, independent samples t test were shown in Table 4.

Table 4 Comparison of Means and Standard Deviations, and the Result of Independent Samples t test for College Adjustment by Gender

Variables	Gender	Mean	SD	t	df	p	MD
College Adjustment	Male	180.78	25.961	-4.862***	778	.000	-8.507
	Female	189.28	22.533				

Note: * The mean difference is significant at 0.001 level.**

According to Table 4, the mean score of male first year pre-service teachers for college adjustment was 180.78 and that of females was 189.28. The mean difference of college adjustment between male and female first year pre-service teachers was 8.5 points. And the result of *t* test confirmed that there was a significant difference between male and female first year pre-service teachers in college adjustment (t=-4.862, $p<$ .001). Therefore, female first year pre-service teachers had better college adjustment than male first year pre-service teachers.

Comparison of Academic Motivation and College Adjustment of First Year Pre Service Teachers by Colleges

In this study, four selected Education Colleges was renamed into Education College (EC)-1, Education College (EC)-2, Education College (EC)-3 and Education College (EC)-4.

Comparison of Academic Motivation of First Year Pre-Service Teachers by Colleges

In order to investigate whether there was a significant difference in first year pre-service teachers' academic motivation by education colleges, descriptive statistics was firstly conducted. The result can be seen in Table 5.

Table 5 Means and Standard Deviations for Academic Motivation of First Year Pre-Service Teachers by Colleges

Variable	Colleges	*N*	Mean	*SD*
Academic Motivation	EC-1	200	3.30	2.032
	EC-2	194	4.46	1.940
	EC-3	190	2.72	2.128
	EC-4	196	2.93	3.105

According to Table 5, EC-2 students got the highest mean scores (4.46) for academic motivation while EC-3 students got the least mean scores (2.72) for academic motivation among the four selected Education Colleges. To explore whether the differences of academic motivation by colleges were significant or not, one way analysis of variance (ANOVA) was conducted. The results of the analysis were displayed in Table 6.

Table 6 Result of ANOVA for Academic Motivation by Colleges

Variable		Sum of Square	*df*	Mean Square	*F*	*p*
Overall Academic Motivation	Between groups	348.220	3	116.073	21.025	.000
	Within groups	4284.119	776	5.521		
	Total	4632.338	779			

**Note: ***The mean difference is significant at .001 level.

According to the result of Table 6, there were significant differences in first year pre-service teachers' academic motivation by colleges at .001 level. To obtain more detailed information on which particular colleges had the significant differences, the Post Hoc Test was carried out by Games-Howell method. The results were shown in Table 7.

Table 7 The Result of Games-Howell Test for Academic Motivation by Colleges

Variable	(*I*) College	(*J*) College	*MD (I-J)*	Std. Error	*p*
Academic Motivation	EC-1	EC-3	.574*	.211	.034
	EC-2	EC-1	1.164***	.200	.000
		EC-3	1.738***	.208	.000
		EC-4	1.525***	.262	.000

**Note: ***The mean difference is significant at .001 level.
         *The mean difference is significant at .05 level.

According to Table 7, Games-Howell Test showed that there was a significant difference between EC-1 and EC-3. There were also significant differences between EC-2 and other three Education Colleges. Therefore, the first year pre-service teachers from EC-1 were significantly higher in academic motivation than those from EC-3 at .05 level. Moreover, the first year pre-service teachers from EC-2 were significantly higher in academic motivation than those from other colleges at .001 level. Therefore, it can be concluded that there was significant differences among four selected Education Colleges on academic motivation. And so, there was the influence of Education Colleges on academic motivation.

Comparison of College Adjustment of First Year Pre-Service Teachers by Colleges

In order to investigate whether there was a difference in first year pre-service teachers' college adjustment by colleges, the following descriptive statistics was conducted. The result can be seen in Table 8.

Table 8 Mean and Standard Deviation for College Adjustment of First Year Pre-Service Teachers by Colleges

Variable	Colleges	*N*	Mean	*SD*
College Adjustment	EC-1	200	187.56	22.229
	EC-2	194	194.70	22.287
	EC-3	190	178.31	21.771
	EC-4	196	180.32	28.120

According to Table 8, EC-2 students got the highest mean score (194.70) for college adjustment while EC-3 students got the lowest mean score (178.31) for college adjustment among the four selected Education Colleges. To explore whether the differences of college adjustment by colleges were significant or not, one way analysis of variance (ANOVA) was conducted. The results of the analysis were displayed in Table 9.

Table 9 Result of ANOVA for College Adjustment by Colleges

Variables		Sum of Square	*df*	Mean Square	*F*	*p*
Overall College Adjustment	Between groups	32292.650	3	10764.217	19.072	.000
	Within groups	437977.518	776	564.404		
	Total	470270.168	779			

**Note: ***The mean difference is significant at .001 level.

Table 9 indicated that a statistically difference was found that among four selected Education Colleges in over college adjustment at .001 level. To investigate more specifically how first year pre-service teachers' college adjustment differed in relation to their Education

Colleges, the Post Hoc Test was carried out by Games-Howell method. The results were shown in the following Table 10.

Table 10 The Result of Games-Howell Test for College Adjustment by Colleges

Variable	(*I*) College	(*J*) College	*MD (I-J)*	Std. Error	*p*
College Adjustment	EC-1	EC-3	9.244***	2.228	.000
		EC-4	7.239*	2.551	.025
	EC-2	EC-3	16.385***	2.248	.000
		EC-4	14.380***	2.568	.000
		EC-1	7.141**	2.243	.009

Note: ***The mean difference is significant at .001 level.
  **The mean difference is significant at .01 level.
  *The mean difference is significant at .05 level.

According to Table 10, Games-Howell Test revealed that there were significant differences between four selected Education Colleges on college adjustment. The first year pre-service teachers from EC-1 were significantly higher in college adjustment than those from EC-3 and EC-4 at .001 and .05 levels. The first year pre-service teachers from College-2 were significantly higher in college adjustment than those from other three Education Colleges at .001 and .01 levels. Therefore, it can be concluded that there were significant differences among four selected Education Colleges on college adjustment. And, there was the influence of Education Colleges on adjustment.

The Relationship between Academic Motivation and College Adjustment

To know whether there were significant relationships between academic motivation scores and college adjustment scores; Pearson Product-Moment Correlation was conducted. The results of the analysis were displayed in Table 11.

Table 11 Relationship between Academic Motivation and College Adjustment

Variables	Academic Adjustment	Social Adjustment	Personal-Emotional Adjustment	Institutional/ Attachment Adjustment	Overall College Adjustment
Intrinsic Motivation	.401***	.411***	.171***	.378***	**.405***
Extrinsic Motivation	.152***	.176***	.004	.229***	**.161***
Amotivation	-.606***	-.542***	-.506***	-.465***	**-.630***
Overall Academic Motivation	**.643***	**.605***	**.417***	**.538***	**.655***

Note: *** Correlation is significant at the 0.001 level (2-tailed).

According to Table 11, the result revealed that there was a statistically significant positive correlation between overall academic motivation and overall college adjustment ($r=0.655$, $p<.001$). So, it can be seen that academic motivation was positively correlated with college adjustment.

Moreover, it can be seen that intrinsic motivation is positively correlated with all subscales of college adjustment and overall college adjustment. And extrinsic motivation is also

positively correlated with overall college adjustment and the subscales of college adjustment except personal-emotional adjustment. Therefore, it can be said that the first year pre-service teachers with high intrinsic motivation and well integrated extrinsic motivation may be better their college adjustment. Nevertheless, amotivation is negatively correlated with all subscales of college adjustment and overall college adjustment. So, it can be said that the first year pre-service teachers with high amotivation may be low their college adjustment.

Discussion

Levels of Academic Motivation: Findings of this study showed that the first year pre-service teachers from four selected Education Colleges had more autonomous regulation. The reason behind this may be due to the following facts. The pre-service teachers from four selected Education Colleges learned academic subjects, three educational subjects, and co-curricular subjects and activities in their education colleges. Therefore, they may be curious and have eager to explore about their interests. Intrinsically motivated behavior is characterized by "curiosity, exploration, manipulation, spontaneity, and interest" (Petersen, Louw & Dumont, 2009). To maintain and improve first year pre-service teachers' intrinsic motivation, faculty members should equally provide autonomy, competence and relatedness.

Level of College Adjustment: The results of finding showed that the first year pre-service teachers from four selected Education Colleges had high college adjustment. The reasons behind this may be due to the following facts. Students who were well adjusted to university reported to receive more social support than moderately or poorly adjusted students (Halamandaris & Power, 1997). In addition, the first year pre-service teachers may replace family support systems with peer support systems to separate past communities (Law, 2007). Misra et al., (2000) described perceived social support from friends was predictive students' adjustment. Above these facts, the first year pre-service teachers from four selected Education Colleges had better college adjustment.

The instructors should guide college students to seek adequate social support for adjusting to the new demands, tasks, responsibilities and requirements of college life.

Gender Differences in Academic Motivation: The result of independent sample *t* test for comparing academic motivation revealed that the female first year pre-service teachers had more academic motivation than the male first year pre-service teachers. These findings are consistent to that of (Vallerand, et al., 1992; Ryan and Deci, 2000; Brouse, et al., 2010; Vecchione, et al., 2014) who reported that females tend to have higher levels of academic motivation than males. The reason behind this may be the following facts. Charles-Ogan (2015) described that the female students have better study habits (recording note taking carefully and spending greater amount of time on homework) than males. Student motivation will be associated with study habits and efforts (completion of assignments and hours spent studying) and finals grade (Maurer et al., 2008). Therefore, it may be said that the female first year pre-service teachers' academic motivation is higher than that the male first year pre-service teachers. Teachers should try to help male first year pre-service teachers to record note taking carefully, to spend more time for studying and to do more effort.

Gender Differences in College Adjustment: The result of independent samples *t* test for comparing college adjustment revealed that the female first year pre-service teachers had more college adjustment than the male first year pre-service teachers. This finding is consistent to that

of Halamandaris & Power, (1999) who found that females scored higher in overall adjustment to college than males. The reason why the female first year pre-service teachers reported to have better adjustment in this study could be attributed to the following facts. The female first year pre-service teachers may display a greater need for support because they tend to suffer more anxiety, depression and stress than males (Abdullah et al., 2009; as cited in Fernandez, 2017). So, females may seek for social support when they suffer anxiety and depression. Females' seeking for social support in the face of stress, particularly emotional support, made them more adjusted than males (Day & Livingstone, 2003). Therefore, the female first year pre-service teachers' college adjustment is better than the male first year pre-service teachers. To improve college adjustment of the male first year pre-service teachers, the teachers should help them to seek for social support when they face stresses

Differences in Academic Motivation by Colleges: The ANOVA results for academic motivation by colleges revealed that there was significant difference in academic motivation among four selected Education Colleges. According to the Post Hoc Test Games-Howell results, it was found that there was significant difference EC-1 and EC-3, EC-2 and EC-1, EC-2 and EC-3 and EC-2 and EC-4. It can be concluded that the academic motivation of EC-1 was higher than that of EC-3. Moreover, the academic motivation of EC-2 was higher than that of the other three Education Colleges. The reasons behind this may be the following facts. The study habits and efforts of pre-service teachers may not equal because of their different values and expectations regarding their college life. Student motivation will be associated with study habits and efforts (Maurer et al., 2008).

Differences in College Adjustment by Colleges: The ANOVA results for college adjustment by colleges showed that there was significant difference in college adjustment among four selected Education Colleges. According to the Post Hoc Test Games-Howell results, it was found that there was significant difference EC-1 and EC-3, EC-1 and EC-4, EC-2 and EC-1, EC-2 and EC-3 and EC-2 and EC-4. It can be said that the college adjustment of EC-1 was better than that of EC-3 and EC-4. Moreover, the college adjustment of EC-2 was better than that of the other three Education Colleges. The reasons behind this may be the following facts. Students' interaction with faculty (teachers) may diverse among Education Colleges. If there was a rapport between students and teachers, students may have opportunities to discuss their feelings and adjustment difficulties and may also get guidance from teachers (faculty support). Students who dedicate their energy to interact with faculty members, their adjustment level increase (Yalim, 2007).

The Relationship between Academic motivation and College Adjustment: The study found that academic motivation had a significant positive correlation with college adjustment. It is consistent with the previous researches conducted by Baker, 2004; Petersen et al., 2009; Sommer, 2013; Bryan, 2013; Vallerand & Bissonnettee (1992). The reasons behind this may be the following facts. Academic motivation was divided into intrinsic, extrinsic and amotivation. Intrinsic motivation was positively related to all four adjustment dimensions. Extrinsic motivation was also positively related to all four adjustment dimensions except personal-emotional adjustment. Lack of motivation will relate to poor adjustment to college and will be more prone to dropout. And so, amotivation was negatively related to all four adjustment dimensions. Above these facts, the higher levels of academic motivation will be better their college adjustment.

Conclusion

According to the result of the study, previous researches and literatures, it was found that the higher academic motivation, the better adjustment to college of first year pre-service teachers. Besides, what academic motivation is and how to sustain and foster it may be understood. Moreover, factors needed to have better adjustment to college are also known. For improving and maintaining academic motivation and having better college adjustment of first year pre-service teachers, this research may provide information for instructors in their educational field. In addition, this research suggests that the other facts such as performance, achievement, persistence and coping may influence academic motivation and college adjustment of first year pre-service teachers. It is anticipated that this research will be applicable for the future research field.

Acknowledgements

References

Alivernini, F., & Lucidi, F.(2008).The Academic Motivation Scale: An Italian Validation. *TPM*, *15(4),* 211-220. Retrieved June 14, 2018 from https:// www. google. Com /url ? q=https://www.researchgate .net/ publication/286683014_The_academic_motivation_scale_AMS_Factorial_structure_invariance_and_v alidity_in_theItalian_context.

Baker, S. R. (2004). Intrinsic, extrinsic, and amotivation orientations: Their role in University adjustment, stress, well-being and subsequent academic performance. *Current Psychology*, *23 (3),* 189-202. Retrieved June 7, 2018 from https:// www.google.com/url?q=https://link.springer.com/content/pdf/ 10.1007/s12144-004-1019-9. pdf

Baker, R. W., & Siryk, B. (1989). Student Adaptation to College Questionnaire manual. Los Angeles: Western Psychological Services. Retrieved October 29, 2018 from https:// www. google. com/url? q=https://www.wpspublish.com/store/Images/Downloads/Product/SACQ_Sample-Test-Report.pdf

Deci, E. L., & Ryan, R. M., (1985). Intrinsic motivation and self-determination in human behavior. New York, NY: Plenum Press. DOI:10.2307/2070638. ISSN: 0094-3061.

Dyson, R., & Renk, K. (2006). Freshmen adaptation to university life: Depressive symptoms, stress, and coping. *Journal of Clinical Psychology, 62(10),* 1231-1244. DOI: 10.1002/jclp.20295.

Guay, F., Chanal, J., Ratelle, C. F., Marsh, H. W., Larose, S., & Boivin, M. (2010). Intrinsic, identified, and controlled types of motivation for school subjects in young elementary school children. *British Journal of Educational Psychology, 80(4),* 711–735. Retrieved October 22, 2018 from https://www. google. com/url?q= https:// pdfs.semanticscholar.org/df79/1ece230597f013a99cb987082f93ac7c80 fb.pdf

Hakan, K., & Munire, E. (2014). Academic Motivation: Gender, Domain and Grade Differences. *Procedia-Social and Behavioral Sciences*, *143,* 708-715. Retrieved August 25, 2018 from https://www.google. com/url?q=https://core.ac.uk/downlo ad/pdf/82120793.pdf.

Heaven, P. C. L. (2000). The Social Psychology of Adolescence. Basingstoke; Palgrave. Law, D. W. (2007). Exhaustion in university students and the effect of coursework involvement. *Journal of American College Health, 55,* 239–245. http://dx.doi.org/ 10.320 0/JACH.55.4.239-245

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education, 7,* 133-144. doi:10.1177/1477878509104318.

Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality, 63(3),* 397-427. DOI: 10.1111/j.1467-6494.1995.tb00501.x.

Ryan, R. M., & Deci, E. L. (2002). *Overview of self-determination theory: An organismic dialectical perspective*. Handbook of self-determination research. Rochester Press, USA Chapter1, pp. 3-36. Retrieved July 1, 2018 from https://www.google.com/url?q=http://www.elaborer.org/cours/A16/ lectures/Ryan2004.pdf

Sommer, M. M. (2013). *Psychosocial Factors Predicting the Adjustment and Academic Performance of University Students.* Doctoral dissertation, University of South Africa. Retrieved July 20, 2018 from https://www.google.com/url?q=http://uir.unisa. ac.za/bitstream/handle/10500/13283/thesis_sommer_ mm.pdf

Stoklosa, A. M. (2015). *College Student Adjustment: Examination of Personal And Environmental Characteristics*. Wayne State University Dissertations. Retrieved May 4, 2018   from https://www.google. com/ url? q=https://digitalcommons.way ne.edu/oa dissertations/ 1297/pdf

Tinto, V. (1993). *Leaving College: Rethinking the Causes and Cures of Student Attrition. (2nd ed)*. Chicago: University of Chicago Press. Retrieved November 7, 2018 from https://press.uchicago.edu/ucp/ books/ book/chicago/L/bo3630345.html

Vallerand, R. J., Pelletier, L., Briere, N.M., Senecal, C., & Valliere, E. F. (1992). The academic motivation scale: A measure of intrinsic, extrinsic and amotivation in education. *Educational and Psychological Measurement*, *52 (4),* 1003-1017. Retrieved June 12, 2018 from https://www.google. com/url? q=https://www.researchgate.net/publication/304361902_The_academic_motivation_scale_A_measure_ of_intrinsic_extrinsic_and_amotivation_in_education

SELF-ESTEEM AND COMMUNICATION STYLE OF GRADE 10 STUDENTS

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Abstract

This study attempts to assess the self-esteem and communication style of Grade 10 students. It was conducted in 2018-2019 academic year. The instruments used in the study were self-esteem questionnaires developed by Heatherton, T. F. & Polivy, J. (1991) and Norton's communication style questionnaires (1978). Pilot study was done with a sample of 100 Grade 10 students. In this study, a total sample of 827 Grade 10 students (350 males and 477 females) from Monywa Township participated. In the data analysis, descriptive statistics, independent sample *t* test, one-way ANOVA and Pearson chi-square test were used in this study. According to the descriptive statistics, the students in this study had the satisfactory self-esteem. According to the result of Pearson chi-square test, there was a positive association between self-esteem and communication style. So it is important to emphasize the self-esteem of students since a person with a high self-esteem may have good communication style. Good communication makes learning easier, helps students achieve goals, increase opportunities for expanded learning, strengthens the connection between students and teachers, and creates an overall positive experience. Based on the results of this study, conclusion, discussion, suggestions, and recommendation were made for the benefits of teaching and learning.

Keywords: Self-Esteem, Communication, Communication Style

Introduction

As children go through school, they begin to understand and recognize differences between themselves and their classmates. Using social comparisons, children assess whether they did better or worse than classmates in different activities. These comparisons play an important role in shaping the child's self-esteem and influence the positive or negative feelings they have about themselves.

Self-esteem seems to affect a child's ability to learn and to behave in class. Self-esteem has been found to be related to forgiveness in close relationships, in that people with high self-esteem will be more forgiving than people with low self-esteem. While not all students with low self-esteem will do poorly in school, there is research that shows that low self-esteem can lead to less academic success (Daniel & King, 1997).

Students with higher self-esteem are more inclined to take an active part in their education than students with lower self-esteem (Phillips, Smith, Modaff, 2001). The lack of self-esteem can hinder motivation to learn, or develop friendships in students, or be poor communicators with others.

One endeavor of academic research on interpersonal communication is to find and describe individual differences in communication behavior. Only by knowing the current communication style of a person can be given on how to reasonably change communication behavior. So, students' self-esteem may influence communication style. The correspondence of self-esteem and communication style may impact students' ambitions.

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Objectives of the study

The main aim of the study is to investigate self-esteem and communication style of Grade 10 students. The specific objectives of the study are as follows:

1. To study self-esteem and communication style of Grade 10 students with respect to gender, age, and subject combination.
2. To examine the relationship between self-esteem and communication style of Grade 10 students.

Definition of Key Terms

Self-esteem: It refers to a relatively permanent positive or negative feeling about self that may become more or less positives and negatives as individuals encounter and interpret success and failures in their daily lives (Osborne, 1993).

Communication: It (from Latin communicare, meaning "to share") is the act of conveying meanings from one entity or group to another through the use of mutually understood signs and semiotic rules.

Communication Style: It is the way one verbally, nonverbally, and para verbally interacts to signal how literal meaning should be taken, interpreted, filtered or understood (Norton, 1978).

Materials and Method

Sample

A total of 827 students (male=350 and female=477) were randomly selected from Monywa Township.

Method

Descriptive research design and survey method was used in the present study.

Instrumentation

The State Self-Esteem Scale (SSES) developed by Heatherton and Polivy (1991) (no of items=20) and Communicator Style Measure Queationnaire (CSM) developed by Norton (1978) (no of items=38) were used in this study.

Findings

Descriptive Statistics for Self-Esteem

In order to find out the students' self-esteem, specific questionnaires were used. In terms of descriptive statistics, mean, standard deviation, maximum scores and minimum scores of students' self-esteem were presented in Table 1.

Table 1 Descriptive Statistics for Self-Esteem of Grade 10 students

Variable	*N*	Maximum Score	Minimum Score	Mean	*SD*
Self-Esteem	827	76	35	51.71	5.95

As shown in Table 1, the maximum score of students in self-esteem was 76 and minimum score was 35. The mean scores and standard deviation for the whole sample were 51.71 and 5.95 respectively. The students in this study had the satisfactory self-esteem because the mean score (51.71) was greater than the theoretical mean (50).

Descriptive Statistics of Sub Components for Self-esteem

The mean scores of the students' self-esteem according to three components were presented in Table 2.

Table 2 Self-Esteem by Different types of Components

Variables	N	No. of items	Minimum	Maximum	Mean	Mean %	SD
Performance	827	7	12	28	20.01	71.46	2.63
Social	827	7	7	27	15.65	55.89	3.00
Appearance	827	6	9	24	16.05	66.88	2.33

As shown in Table 2, the maximum scores of students' performance, social and appearance were 28, 27 and 24. The minimum scores of students' performance, social and appearance were 12, 7 and 9. The mean scores of students' performance, social and appearance were 20.01, 15.65 and 16.05.

Comparison of Self-Esteem by Gender

To find the difference between male and female students in self-esteem scores, descriptive analysis was conducted.

Table 3 Mean and Standard Deviation of Self-Esteem by Gender

Variable	Gender	N	Mean	SD	Mean Difference
Self-Esteem	Male	350	52.13	5.804	
	Female	477	51.40	6.047	.73

The result of Table 3 showed that the mean score of male's self-esteem was 52.13 and that of female students was 51.40. It was found that the mean score of self-esteem for males exceeds 0.73 than that of females. Moreover, this study further investigated whether there was significant difference in self-esteem between males and females by using the independent sample *t* test. The result of *t* test was presented in Table 4.

Table 4 Result of Independent Sample t test for Self-Esteem by Gender

Variable	*t*	*df*	*p*	Mean Difference
Self-Esteem	1.75	825	.08	.73

According to the result of Table 4, there was no significant difference in the self-esteem between males and females ($t=1.75$, $p>0.05$).

Comparison of Students' Self-Esteem according to Students' Age

For comparing self-esteem by ages of students, the descriptive analysis was conducted and the results were shown in Table 5.

Table 5 Mean and Standard Deviation for Self-Esteem by Age

Ages	N	Mean	SD	Minimum	Maximum
Under 15	360	51.76	5.607	37	70
15	410	51.82	6.283	35	76
Over 15	57	50.53	5.591	35	64

Table 5 showed that there were differences in self-esteem according to ages of students. It was found that the self-esteem of students with 15 ages was the highest mean scores according to students' age.

In order to investigate whether there were significant differences among students' age in self-esteem, one-way analysis of variance (ANOVA) was used. The result of ANOVA was shown in Table 6.

Table 6 Result of ANOVA for self-esteem according to students' age

Variable	Region Groups	Sum of Squares	df	Mean Square	F	p
Self-Esteem	Between Groups	86.057	2	43.028	1.215	.297
	Within Groups	29183.542	824	35.417		
	Total	29269.599	826			

According to the result of Table 6, there was no significant difference in self-esteem according to students' age (F=1.215, *p*>0.05).

Comparison of Students' Self-Esteem according to Subject Combination

For comparing self-esteem of students by subject combination, the descriptive analysis was conducted.

Table 7 Mean and Standard Deviation for Self-Esteem by Subject Combination

Variable	Subject	N	Mean	*SD*	Mean Difference
Self-Esteem	Combination 7	418	51.91	6.360	.41
	Combination 1	409	51.50	5.506	

The result of Table 7 showed that the mean score of students' self-esteem of combination 7 was 51.91 and that of combination 1 was 51.50. It was found that the mean score of students' self-esteem of combination 7 exceeds 0.41 than that of combination 1. Moreover, this study further investigated whether there was significant difference in self-esteem between combination 7 and combination 1 by using the independent sample *t* test. The result of *t* test was presented in Table 8.

Table 8 Result of Independent Sample t test for Self-Esteem by Subject Combination

Variable	t	df	p	Mean Difference
Self-Esteem	.979	825	.328	.41

According to the result of Table 8, there was no significant difference in the self-esteem according to subject combination (*t*=.979, *p*>0.05).

Descriptive Statistics for Communication Style

Descriptive analysis was used to know the pattern of score distribution on communication style of 827 high school students from Monywa Township in terms of *N* and percent %. The result of the analysis was described in Table 9.

Table 9 Percentage for Students' Communication Style

Communication Style	N	Percent (%)
Friendly	261	31%
Impression Leaving	15	2%
Relaxed	57	7%
Contentious	39	5%
Attentive	102	12%
Precise	99	12%
Animated	84	10%
Dramatic	55	7%
Open	66	8%
Dominant	49	6%
Total	827	100%

As shown in Table 9, the friendly style was 31%, the impression leaving style was 2%, the relaxed style was 7%, the contentious style was 5%, the attentive style was 12%, the precise style was 12%, the animated style was 10%, the dramatic style was 7%, the open style was 8% and the dominant style was 6%.

Therefore, the most common communication style was found in friendly style.

Descriptive Statistics of Different Styles for Communication Style

The mean scores of the students' communication style according to the ten components were presented in Table 10.

Table 10 Communication Style by Different types of Components

Variables	No. of items	Minimum	Maximum	Mean	Mean %
Friendly	4	5	16	12.06	75.35
Impression Leaving	4	4	16	9.40	58.77
Relaxed	4	5	16	9.99	62.42
Contentious	4	4	16	9.57	59.84
Attentive	3	4	12	8.30	69.19
Precise	4	4	16	10.67	66.70
Animated	4	4	16	10.39	64.96
Dramatic	4	4	16	10.09	63.05
Open	4	4	16	10.07	62.91
Dominant	3	3	16	7.48	62.37

As shown in Table 10, the maximum scores of students' friendly, impression leaving, relaxed, contentious, attentive, precise, animated, dramatic, open and dominant were 16, 16, 16, 16, 12 16, 16, 16, 16 and 12.

The minimum scores of students' friendly, impression leaving, relaxed, contentious, attentive, precise, animated, dramatic, open and dominant were 5, 4, 5, 4, 4, 4, 4, 4, 4 and 3.

The mean scores of students' friendly, impression leaving, relaxed, contentious, attentive, precise, animated, dramatic, open and dominant were 12.06, 9.40, 9.99, 9.57, 8.30, 10.67, 10.39, 10.09, 10.07 and 7.48. Students have the highest mean score in friendly style among other styles.

It was found that students' friendly communication style was slightly higher than other communication styles.

Comparison of Communication Style by Gender

In order to investigate whether there was a significant difference between male and female in students' different communication styles, Chi-square and Phi was computed and the result was shown in Table 11.

Table 11 Crosstabulation of Gender and Communication Styles

G		CS									
		C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
Male	Observed	95	9	23	20	50	34	28	32	38	21
	Expected	109.9	5.9	24.1	16.5	43.1	42.3	35.5	23.2	27.9	20.7
	% of Total	11.5%	1.1%	2.8%	2.4%	5.9%	4.1%	3.4%	3.9%	4.6%	2.5%
Female	Observed	165	5	34	19	53	66	56	23	28	28
	Expected	150.1	8.1	32.9	22.5	58.9	57.7	48.5	31.8	38.1	28.3
	% of Total	20.0%	0.6%	4.1%	2.3%	6.4%	8.0%	6.8%	2.8%	3.4%	3.4%
Chi-square=26.92(p=.001),Phi=.180											

G=Gender, CS=Communication Style, C1=Friendly, C2=Impression Leaving, C3=Relaxed, C4=Contentious, C5=Attentive, C6=Precise, C7=Animated, C8=Dramatic, C9=Open, C10=Dominant

In a crosstabulation, the chi-square statistics was 26.92 (p=.001) and phi was .180. There was significant difference between the communication styles of males and females at 0.001 level (see in Table 4.14).

The strength of association was smaller than typical as the value of effect size, phi was 0.180 according to Cohen (1988), cited in Morgan et al., 2004. Thus, the gender affects on the communication styles of high school students.

It was also revealed that the most common communication style used by both male and female students was friendly style.

Comparison of Students' Communication Style according to Students' Age

For comparing communication style by ages of students, the descriptive analysis was conducted.

Table 12   Percentage of Communication Style by students' age

	Under 15		15		Over 15	
	N	%	N	%	N	%
Friendly	115	13.90%	126	15.24%	18	2.17%
Impresssion Leaving	7	0.85%	7	0.85%	0	0.0%
Relaxed	28	3.39%	27	3.26%	2	0.24%
Contentious	11	1.33%	24	2.90%	4	0.48%
Attentive	42	5.08%	50	6.05%	11	1.33%
Precise	49	5.92%	43	5.20%	8	0.97%
Animated	39	4.72%	43	5.20%	2	0.24%
	Under 15		15		Over 15	
	N	%	N	%	N	%
Dramatic	25	3.02%	29	3.51%	2	0.24%
Open	26	3.14%	33	3.99%	7	0.85%
Dominant	18	2.18%	29	3.51%	2	0.24%
Total	360	43.53%	411	49.71%	56	6.76%

Table 12 showed that there were differences in communication style according to ages of students. Chi-square was conducted to find more valid evidence in investigating the differences of students' communication style by their age level.

Table 13 Crosstabulation of Students' Age and Communication Styles

A		CS									
		C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**
Under 15	Observed	115	7	28	11	42	49	39	25	26	18
	Expected	113.2	6.1	24.8	17.0	44.8	43.5	36.6	3.9	28.7	21.3
	% Total	13.9%	0.8%	3.4%	1.3%	5.1 %	5.9%	4.7%	3.0%	3.1%	.2%
15	Observed	127	7	27	24	50	43	43	28	33	28
	Expected	128.9	6.9	28.3	19.3	51.1	49.6	41.6	27.3	32.7	24.3
	% Total	15.4%	0.8%	3.3%	2.9%	6.0%	5.2%	.2%	.4%	4.0%	.4%
Over 15	Observed	18	0	2	4	11	8	2	2	7	3
	Expected	17.9	1.0	3.9	2.7	7.1	6.9	5.8	3.8	4.5	3.4
	% Total	2.2%	0.0%	0.2%	0.5%	1.3%	1.0%	.2%	.2%	0.8%	0.4%
Chi-square=16.832 (*p*=.535), Phi=.143											

A=Age, CS=Communication Style, C1=Friendly, C2=Impression Leaving, C3=Relaxed, C4=Contentious, C5=Attentive, C6=Precise, C7=Animated, C8=Dramatic, C9=Open, C10=Dominant

According to Table 13, the result revealed that there was no significant difference in students' communication style in terms of age level (chi square=16.832, *p*>0.05). The strength of association was smaller than typical as the value of effect size, phi was .143 according to Cohen (1988), cited in Morgan et al., 2004. Therefore, students' age factor cannot be analyzed as one of the significant factors for students' communication style.

Comparison of Students' Communication Style according to Subject Combination

In order to investigate whether there was significant difference in students' different communication style according to subject combination, the chi-square statistics was used. The result was presented in Table 14.

Table 14 Crosstabulation of Subject Combination and Communication Styles

SCom		CS									
		C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**
Com 7	Observed	127	6	30	20	52	47	52	33	26	25
	Expected	131.4	7.1	28.8	19.7	52.1	50.5	2.5	27.8	33.4	24.8
	% Total	15.4%	0.7%	3.6%	2.4%	6.3%	5.7%	6.3%	4.0%	3.1%	3.0%
Com 1	Observed	133	8	27	19	51	53	32	22	40	24
	Expected	128.6	6.9	28.2	19.3	50.9	49.5	41.5	27.2	32.6	24.2
	% Total	16.1%	1.0%	3.3%	2.3%	6.2%	6.4%	3.9%	2.7%	4.8%	2.9%
Chi-square=10.833(*p*=.287),Phi=.114											

SCom=Subject Combination, Com 7=Combination 7, Com 1=Combination 1, CS=Communication Style, C1=Friendly, C2=Impression Leaving, C3=Relaxed, C4=Contentious, C5=Attentive, C6=Precise, C7=Animated, C8=Dramatic, C9=Open, C10=Dominant

Table 14 showed that there was no significant difference in student' communication style in relation to combination 7 and combination 1 (chi-square=10.833, *p*>0.05). Thus, it cannot be identified that students' subject combination affects on students' communication style.

The Association between Self-Esteem and Communication Style

A crosstabulation confirmed the association between different sub components of self-esteem and different communication style in Table 15.

Table 15 Association between Different Sub Components of Self-Esteem and Different Communication Style

			Communication Style									
			C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**
Self-Esteem	P	Observed	218	12	49	36	91	87	70	39	52	40
		Expected	218.2	11.7	47.8	32.7	86.4	83.9	70.5	46.2	55.4	41.1
		% of Total	26.4	1.5%	5.9%	4.4%	11.0	10.5	8.5%	4.7%	6.3%	4.8%
	S	Observed	20	1	7	2	6	8	5	6	6	4
		Expected	20.4	1.1	4.5	3.1	8.1	7.9	6.6	4.3	5.2	3.9
		% of Total	2.4%	0.1%	0.8%	0.2%	0.7%	1.0%	0.6%	0.7%	0.7%	0.5%
	A A	Observed	22	1	1	1	6	5	9	10	9	5
		Expected	21.4	1.2	4.7	3.2	8.5	8.2	6.9	4.5	5.4	4.0
		% of Total	2.7%	0.1%	0.1%	0.1%	0.7%	0.6%	1.1%	1.2%	1.0%	0.6%
Chi-square=20.752 (p=.292), phi=.158												

P = Performance, S = Social, A = Appearance
C1=Friendly, C2=Impression Leaving, C3=Relaxed, C4=Contentious, C5=Attentive, C6=Precise, C7=Animated, C8=Dramatic, C9=Open, C10=Dominant

According to Table 4.19, the result revealed that there was no significant association between different sub components of self-esteem and different communication style.

Table 16 Association of Self-esteem and Communication Style

		Value	***p***
Pearson Chi-square		20.752	.292
Normal by	**Phi**	.158	.292
Normal	**Cramer's V**	.112	.292
N of Valid Cases		827	

According to Table 16, the result indicated a positive association between self-esteem and communication style (chi-square=20.752, *p*>0.05).Thus, it can be concluded that a person with a high self-esteem will have a good communication style.

Conclusion

Summary of Findings

In the present study, the survey study was conducted by drawing the sample of students in seven schools from rural and urban schools in Monywa Township during 2018-2019 academic year. The total sample was 827 students including 350 males and 477 females in Grade 10. Self-esteem in Grade 10 students was measured by self-esteem questionnaire of Heatherton, T. F. & Polivy, J. (1991). It contained 20 items and its reliability (Cronbach's alpha) was 0.71. Communication Style in Grade 10 students was examined by Norton's communication style

questionnaires (1978). It included 38 items and its reliability (Cronbach's alpha) was 0.79. These two questionnaires were examined by a 4-point Likert-type scale.

The components of self-esteem are performance, social and appearance. The components of communication style are friendly, impression leaving, relaxed, contentious, attentive, precise, animated, dramatic, open and dominant.

Gender Differences in Self-Esteem and Communication Style. Descriptive analysis for self-esteem by gender was performed and the result showed that females have lower self-esteem than males. The result of independent sample *t* test showed that there was no significant difference in self-esteem between male and female students. This is due to the fact that during the period from infancy to adolescence, students receive the same amount of parents and teachers' guiding to develop and improve self-esteem without differences between male and female. This finding was the same with the result of Simmons and Rosenberg (1975) who reported that girls were found to have lower self-esteem than boys during their adolescent year (cited in Harter, 1990). Other studies also stated that girls tend to exhibit lower self-esteem than boys did (cited in Quatman & Watson, 2001).

To analyze gender difference on the communication style, chi-square statistics was used and the result revealed that there was significant difference between the communication styles of males and females and the most common communication style of both male and female students was friendly style. So, it can be concluded that both adolescent males and adolescent females were friendly communicators. This may be because in adolescent stage, both male and female praise, and positively recognize the other when they communicate with others and they usually pay more affection to peer group organization. Moreover, males have more attention to be friendly with their friends or peers than females and thus the friendly communication style was more commonly found in males than females. This finding was the same to the result of the research studied by Cohen (1988) who found that there was significantly different in how the two genders perceive their communication style, and reported earlier results showing considerable actual differences in communication style between men and women.

Differences in Self-Esteem and Communication Style according to Age. According to the ANOVA results, it was found that there was no significant difference in self-esteem according to students' age. This may be the fact that self-esteem is stable because it slowly builds over time through personal experiences, such as repeatedly succeeding at various tasks or continually being valued by significant others. This result was in agreement with the previous research of Bohan (1973, cited in Chubb, Fertman & Ross, 1997) who reported that there was generally no significant difference between ages or gender.

Chi-square test was also used to analyze differences in communication style of Grade 10 students by age and the result revealed that there was no significant difference in communication styles of Grade 10 students in terms of age level. This may be because the students' communication style will not be changed quickly according to their age and it will be slowly changed based on their activities in their daily lives. This result was the same with the previous research that reports; Goals for the communication exchange as well as the gender and age of the communication pattern have been found no influence ratings of communication style (Simmons, R., 1987).

Differences in Self-Esteem and Communication Style by Subject Combination. According to the result of independent sample *t* test, there was no significant difference in the self-esteem according to subject combination. It can be assumed that because of attaining the same amount

of parents and teachers' guiding in developing self-esteem, self-esteem of combination 7 and combination 1 was not different.

Chi-square test was also used to analyze differences in communication style of Grade 10 students by subject combination and the result revealed that there was no significant difference in student' communication style in relation to combination 7 and combination 1.

Association between Self-Esteem and Communication Style. In order to investigate how associate self-esteem and communication style, chi-square test and phi was used. The result indicated a positive association between self-esteem and communication style. Thus, it can be concluded that a person with a high self-esteem may have good communication style. Performance and social self-esteem was most highly associated with friendly communication style and least associated with impression leaving style. Appearance self-esteem was most highly associated with friendly communication style and least associated with impression leaving style, relaxed style and contentious style.

Suggestion of the study

Guindon (1994) believes self-esteem plays a big role in how one interprets each other's communication. For example, a person with high self-esteem is more likely to interpret feedback as constructive rather than threatening because they perceive themselves as competent rather than inferior. Consequently, high self-esteem individuals will be less likely to engage in the problem communication styles of students because of their sense of identity and well-being. Lower self-esteem can lead to behavior problems (Guerra, Williams, & Sadek, 2011) and to increase aggression in some children (Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005) (cited in Bauman, 2012).

Although an individual may have several communication styles, there is only one communication style that is predominant. For example, a person may have the dominant style, open style, and dramatic style, the dominant style may become his/her major style that is predominant and best represents the personality.

It is important to investigate students' communication styles. Communication plays very significant role in every field of people's lives. In order for any proper relationship, they have to learn to communicate effectively with each other. Through interaction with other people, they learn about each other.

Communication skills are important for students in social networking. Communication in group activities, debate and family functions help students to analyze their communication skills level and standard. In conversation, listening to other people opinions is very important to reach new conclusions about the subject. When communication is effective, both the students and the teachers benefit from their social context. Communication makes learning easier, helps students achieve goals, increases opportunities for expanded learning, strengthens the connection between students and teachers, and creates an overall positive experience.

Based on the findings of this research, there are some suggestions for the parents, other family members in the family such as aunts, uncles and grandparents, and teachers, especially. In order to improve communication style for adolescents, family members, especially parents should notice and consider the following.

- Family members should train adolescents to communicate effectively with others.

- Family members and teachers should know students' communication style and train them to be a good communicator.

- Family members should put right their needs in communicating with others.

- Family members should encourage adolescents to be friendly, open and precise in communicating with others.
- Family members should spend time together in recreational activities such as sports activities, trips, movies, plays and concerts by showing how to communicate effectively.

  In cultivating the adolescents to improve communication style not only parents but also teachers play a crucial role. Therefore the teachers should consider the following suggestions.

- Teachers should not merely focus on academic achievement of students.
- Teachers should try to develop students to be good communicators.
- Teachers should create more activities that enhance good communication style for students.

Not only parents but also teachers need to join hand in hand so that students' communication style will be improved. The understanding of how students communicate helps teachers to organize better communication processes in order to enhance communication efficiency and to reduce students' potential conflicts.

Acknowledgements

References

Daniel, L. G. & King, D. A. (1997). Impact of inclusion education on academic achievement, student behavior and self-esteem, and parental attitudes. The Journal of Educational Research, 91(2), 67-80. Retrieved from http://www.jstor.org/stable/27542133

Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological Science*, 16(4), 328-335.

Guerra, N. G., Williams, K. R., & Sadek, S. (2011). Understanding bullying and victimization during childhood and adolescence: A mixed methods study. *Child Development*, 82(1), 295-310. do: 10.1111/j. 1467-8624.2010.01556.x

Guindon, M. (1994, March). Understanding the role of self-esteem in managing communication quality. IEEE Transactions on Professional Communication, 37(1), 2127.

Harter, S. (1993). Causes and consequences of low self-esteem in children and adolescents. In R. F. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 87–116). New York: Plenum.

Norton, (1978), Conceptualized communicator styles. Retrieved on August 6, 2018 from www. academic. csuohim. edu/neuendorf/

Osborne, R. E. (1993). Self: An eclectic approach. Boston: Allyn & Bacon.

Phillips, J., Smith, B., & Modaff, L. (2001). "Please don't call on me:" self-esteem, communication apprehension, and classroom participation. *Informally published manuscript, Psychology*, Murphy, La Crosse, Wisconsin. Retrieved from http://murphylibrary.uwlax.edu/digital/jur/2018/phillips-smith-modaff.pdf

Rosenberg, M., Simmons, R. G. (1975). *Black and white self-esteem: The urban school child*. Washington, DC: American Sociological Association.

Simmons, R. (1987). Self-Esteem in Adolescence. In T. Honess, K. Yardley (Eds.) *Self and Identity: Perspectives across the life span.* (pp172192). London and New York: Routkedge and Kegan Paul Ltd.

EMOTIONAL INTELLIGENCE AND SOCIAL ANXIETY OF UNDERGRADUATE STUDENTS FROM SAGAING UNIVERSITY OF EDUCATION

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Abstract

The main objective of this study was to study the effect of emotional intelligence on social anxiety of undergraduate students from Sagaing University of Education. Moreover, the present study was to find out the differences in emotional intelligence and social anxiety of undergraduate students among demographic characteristics (gender, subject stream and grade). The study adopted a survey research design and employed with a quantitative method. The participants in this study were 954 (male = 485, female = 469) first year, third year and final year students from Sagaing University of Education. As the instrument, the Emotional Intelligence Scale (EIS) with 60-item designed based on Singh (2004) and the Social Interaction Anxiety Scale (SIAS) with 20-item designed based on Mattick and Clarke (1995) were adapted and modified to assess the emotional intelligence and social anxiety of the students. After that, the data were analyzed by using descriptive statistics, *t* test and ANOVA test. The results revealed that demographic characteristic such as gender was found to have significant difference in emotional intelligence and also in social anxiety. Male students had high emotional intelligence and social anxiety than female students. But the students' subject stream and grade were found to have no influence on their emotional intelligence. Students' subject stream did not affect their social anxiety but there was significant difference in social anxiety by grade. Final year students experienced less social anxiety than first and third year students. Emotional intelligence and social anxiety of the students were negatively correlated (r=-0.202,p<0.01). Thus, it can be concluded that this study may assist educators in developing a better understanding of the effect of emotional intelligence on social anxiety of the students and it provides an essence that emotional intelligence can be one of the useful tools in handling social anxiety which prevent people from leading the life they want.

Keywords: Emotional Intelligence, Social Anxiety

Introduction

Importance of the Study

Intellectual skills are necessary for students to succeed when they transition from living with their parents to making it in "the real world." However, emotional skills are equally (perhaps even more) important to lifelong success and happiness. Unfortunately, such "soft-skills" are not typically taught in schools where success is measured by test scores not emotional maturity.

Psychologist Daniel Goleman estimated that, at best, people's intelligence quotient (IQ) makes up only 20 percent of the factors that determine life success, while other forces, such as emotional intelligence (EQ), wealth, temperament, family education levels and pure luck make up the balance. That means cognitive skills; verbal comprehension, memory, reasoning and processing speed, will help academically, but they will only get a person so far in life. To really go the distance, those IQ traits should be rounded out with social-emotional skills like motivation, perseverance, impulse control, coping mechanisms and the ability to delay gratification.

According to Psychology today, emotional intelligence involves being able to recognize one's own and others' emotions. This knowledge enables people to control their reactions,

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exercise empathy, put feelings into perspective, and adapt their words and actions so they were appropriate in any given situation. These skills are critical to good mental health, successful personal and professional relationships, and the ability to thrive in high-pressure careers.

Social anxiety is characterized by constant fear of one or more social or performance situations in which the person is exposed to unknown persons or to the possible scrutiny of others. It is a disorder that hinders the psychosocial adjustment of individuals because of the deep anguish and restlessness it generates. In addition, individuals may develop superstitious 'safety behaviors' that are ritually used to reduce anxiety and avoid imagined or feared catastrophic outcomes (Veale, 2003). Physical reactions associated with social anxiety include heightened autonomic nervous system arousal with increased heart rate, dizziness, dry mouth, excessive blushing and feelings of nausea (Muzina & El-Sayegh, 2001). Paradoxically, the safety behaviors may increase the individual's problems. For example, keeping one's arms close to the body may inadvertently increase sweating, whilst holding a hand over the mouth to reduce speech volume may result in others' increased attentions as they struggle to hear the mumbled words (Veale, 2003).

Social anxiety in adolescence is significantly related to other psychopathological disorders, such as loneliness or dysphoria, among others, and with difficulties in interpersonal relationships with peers. Furthermore, in the educational context, socially anxious students often show avoidance behaviors in response to school work, which makes it difficult to test their learning outcomes. As a result, they may present a lack of socio-school adaptation. In addition, adolescents with higher scores in social anxiety present a higher number of victimization behaviors to bullying and cyberbullying.

Salovey, Stroud, Woolery, and Epel (2002) found that high EI among young people between 16 and 23 years old was associated with lower levels of social anxiety and depression, less passive coping, and greater use of active coping strategies, as well as lower levels of rumination and perception of stressors as less threatening. Likewise, some studies confirm that adolescents with lower scores on trait emotional intelligence, specifically in emotional repair, reported a high risk of developing social anxiety characterized by negative thoughts about social interactions.

Aim of the Study

The main aim of this research is to study the emotional intelligence and social anxiety of undergraduate students from Sagaing University of Education.

Specific objectives in this study are;

- To examine the emotional intelligence and social anxiety of students from Sagaing University of Education by gender;
- To study the differences in emotional intelligence and social anxiety of students from Sagaing University of Education by subject streams;
- To study the differences in emotional intelligence and social anxiety of students from Sagaing University of Education by grades;
- To find out whether there is a relationship between emotional intelligence and social anxiety of students from Sagaing University of Education or not.

Definitions of Key Terms

Emotional Intelligence: Emotional intelligence is the capacity for recognizing our own feelings and those of others, for motivating ourselves, for managing emotions well in ourselves and in our relationships (Goleman, 1998).

Social Anxiety: Social anxiety can be defined as an intense fear of negative evaluation from others and a chronic concern and self-doubt about one's social anxiety and social performance (DSM-IV-TR, 2000).

Method

Participants

Participants of this research were first year, third year and final year students from Sagaing University of Education. By using simple random sampling method, the sample of students was identified. The sample for this study was chosen 954 first year, third year and final year students. There are 485 male and 469 female students of the total sample.

Research Design and Method

Quantitative research method was used in this study. Survey method and descriptive research design were used to investigate the effect of emotional intelligence and social anxiety of students from Sagaing University of Education.

Instrumentation

In this study, questionnaires of emotional intelligence developed by Singh (2004) and social interaction anxiety scale developed by Mattick and Clarke (1995) were used to measure students' emotional intelligence and social anxiety. Emotional intelligence scale was grouped into five categories; self-awareness, self-regulation, motivation, social awareness and social skills.

Findings

Students' Emotional Intelligence

Table 1 Descriptive Statistics for Students' Emotional Intelligence

Variable	No. of Item	Minimum	Maximum	Mean	*SD*
Self-awareness	12	19	48	36.01	3.810
Self-regulation	12	20	48	34.07	3.766
Motivation	12	22	48	35.61	3.813
Social awareness	12	20	48	33.20	4.136
Social skill	12	20	47	33.00	4.263
Emotional intelligence	60	129	237	171.90	15.996

Table 1 revealed that the observed mean score was 171.90 and the standard deviation was 15.996. The theoretical mean score was (150). Therefore, it may be assumed that the emotional intelligence of the students was slightly high.

Table 2 The Result of Independent Samples *t* test for Students' Emotional Intelligence by Gender

Variable	Gender	Mean	*SD*	*t*	*df*	*p*	Mean Difference
Overall Emotional Intelligence	Male	173.89	16.644	3.934*	952	0.000	4.044
	Female	169.85	15.040				

Note: *The mean difference is significant at 0.05 level.

According to the Table 2, the result showed that there was significant difference between male and female students in overall emotional intelligence ($p<0.001$). So, it can be said that male students had higher emotional intelligence than female students.

Table 3 The Result of Independent Samples *t* test for Subscales of Students' Emotional Intelligence by Gender

Subscales	Gender	N	Mean	SD	t	df	p	MD
Self- Awareness	Male	485	36.06	3.887	.346	952	.729	0.086
	Female	469	35.97	3.733				
Self- Regulation	Male	485	34.46	3.848	3.230*	952	.001	0.784
	Female	469	33.67	3.640				
Motivation	Male	485	35.95	4.013	2.763*	952	.006	0.680
	Female	469	35.27	3.565				
Social Awareness	Male	485	33.76	4.183	4.232*	952	.000	1.123
	Female	469	32.63	4.011				
Social Skill	Male	485	33.67	4.255	5.030*	952	.000	1.371
	Female	469	32.30	4.163				

Note: *The mean difference is significant at the 0.05 level.

Table 3 revealed that there were significant differences in self-regulation, motivation, social awareness and social skill ($p<0.05$) but no significant difference in self-awareness. Therefore, male students had higher mean scores in self-regulation, motivation, social awareness and social skill but not in self-awareness. So, it was found that male students were significantly higher than female students in the above mentioned subscales of emotional intelligence except self-awareness.

Besides, the subject stream was divided into Stream-1 and Stream-2. Students who are specialized in the subjects of science; Chemistry, Physics and Biology, were identified as Stream-1. Students who are not specialized in the subjects of science, i.e., Economics, Geography, History and who are specialized in the subjects of science plus Economics, i.e., Chemistry, Physics and Economics were identified as Stream-2. In order to compare emotional intelligence between Stream-1 and Stream-2 students, independent samples *t* test was used.

Table 4 The Result of Independent Samples *t* test for Students' Emotional   Intelligence by Subject Stream

Variable	Subject Stream	Mean	SD	t	df	p	Mean Difference
Emotional Intelligence	Stream-1	171.99	15.897	.219	952	.826	0.236
	Stream-2	171.75	16.190				

In order to know students' emotional intelligence difference in subscales, the independent samples *t* test used again.

Table 5 The Results of Independent Samples *t* test for subscales of Emotional Intelligence by Subject Stream

Subscales	Subject Stream	N	Mean	SD	t	df	p	Mean Difference
Self- Awareness	Stream-1	607	36.01	3.729	-.058	952	.954	-.015
	Stream-2	347	36.02	3.954				
Self- Regulation	Stream-1	607	34.19	3.758	1.271	952	.204	.322
	Stream-2	347	33.87	3.775				

Subscales	Subject Stream	N	Mean	SD	t	df	p	Mean Difference
Motivation	Stream-1	607	35.65	3.782	.449	952	.654	.115
	Stream-2	347	35.54	3.869				
Social Awareness	Stream-1	607	33.23	4.106	.275	952	.783	.077
	Stream-2	347	33.16	4.192				
Social Skill	Stream-1	607	32.90	4.256	-.915	952	.360	-.263
	Stream-2	347	33.17	4.278				

The results revealed that there was no significant difference in self-awareness, self-regulation, motivation, social awareness and social skill between Stream-1 and Stream-2 students (*p*=0.826).

The mean and standard deviation for students' emotional intelligence by grade were displayed by using descriptive statistics.

Table 6 Mean Comparison of Students' Emotional Intelligence by Grade

Variable	Grade	N	Mean	SD
Overall Emotional Intelligence	First year	322	170.85	16.780
	Third year	316	171.64	15.546
	Final year	316	173.24	15.572
	Total	954	171.90	15.996

Table 7 The Result of ANOVA for Students' Emotional Intelligence by Grade

Variables		Sum of Squares	df	Mean Square	F	P
Overall Emotional Intelligence	Between Groups	941.016	2	470.508	1.842	.159
	Within Groups	242896.918	951	255.412		
	Total	243837.934	953			

To explore the differences of students' emotional intelligence by grade, one way analysis of variance (ANOVA) was conducted. The results pointed out that there was no significant difference in the mean score of students' emotional intelligence by grade, (*F*=1.842, *p*>0.05).

Students' Social Anxiety

In terms of descriptive statistics, minimum, maximum, mean and standard deviation of students' social anxiety were calculated to analyze data. The results of analysis were described in Table 8.

Table 8 Descriptive Statistics for Students' Social Anxiety

Variable	No. of item	Minimum	Maximum	Mean	SD
Social Anxiety	20	21	71	44.51	9.250

Table 9 The Result of Independent Samples *t* test for Students' Social Anxiety by Gender

Variable	Gender	Mean	SD	t	df	p	Mean Difference
Social Anxiety	Male	45.62	8.996	3.796*	952	.000	2.258
	Female	43.37	9.377				

Note: *The mean difference is significant at 0.05 level.

The result showed that there was significant difference between male and female students in social anxiety (*p*<0.001). So, it can be said that male students tend to have more social anxiety in compared with female students.

In order to compare social anxiety between Stream-1 and Stream-2 students, independent samples *t* test was used. According to the result, there was no significant difference in social anxiety between Stream-1 and Stream-2, as *p*=0.077.

Table 10 The Result of Independent Samples *t* test for Students' Social Anxiety by Subject Stream

Variable	Subject Stream	Mean	*SD*	*t*	*df*	*p*	Mean Difference
Social Anxiety	Stream-1	44.11	9.413	-1.773	952	.077	-1.102
	Stream-2	45.22	8.927				

The mean and standard deviation for students' social anxiety by grade were displayed by using descriptive statistics. According to the result, the mean score of the first year students was 44.98 and that of third year students was 45.99. And the mean score of the final year student was 42.56. Thus the mean score of the final year students was the lowest and that of the third year students was the highest.

Table 11 Mean Comparison of Students' Social Anxiety by Grade

Variable	Grade	No. of Student	Mean	*SD*
Social Anxiety	First year	322	44.98	8.836
	Third year	316	45.99	9.032
	Final year	316	42.56	9.564
	Total	954	44.51	9.250

To explore the differences of students' social anxiety by grade, one way analysis of variance (ANOVA) was conducted. The results showed that there was significant difference in the mean scores of students' social anxiety by grade, (*F*=11.722, *p*<0.05). Therefore, students' social anxiety was seemed to be affected by grade.

Table 12 The Result of ANOVA for Students' Social Anxiety by Grade

Variables		Sum of Squares	*df*	Mean Square	*F*	*P*
Social Anxiety	Between Groups	1961.701	2	980.850	11.722	.000
	Within Groups	79574.594	951	83.675		
	Total	81536.295	953			

To investigate more specifically how students' social anxiety differed in relation to their grade, Post Hoc Test was carried out by Tukey HSD method.

Table 13 The Result of Tukey HSD Test for Social Anxiety by Grade

Variable	(I) Students' Grade	(J) Students' Grade	Mean Difference (I-J)	*P*
Social Anxiety	First year	Third year	-1.009	.345
		Final year	2.418[*]	.003
	Third year	First year	1.009	.345
		Final year	3.427[*]	.000
	Final year	First year	-2.418[*]	.003
		Third year	-3.427[*]	.000

Note: * The mean difference is significant at the 0.05 level.

There were significant differences between first year and final year and also between third year and final year ($p<0.05$). Thus, it can be interpreted that students' social anxiety depends on students' grade.

Relationship Between Emotional Intelligence and Social Anxiety of Students

To investigate the relationship between students' emotional intelligence and social anxiety, the Pearson's Product Moment Correlation was calculated. So, it was believed that there was a negative relationship between emotional intelligence and social anxiety.

Table 14 The Correlation Between Students' Emotional Intelligence and Social Anxiety

Variable	Emotional Intelligence	Social Anxiety
Emotional Intelligence	-	-0.202**
Social Anxiety	-0.202**	-

Note: The correlation is significant at the 0.01 level (2-tailed).

Table 15   Intercorrelation for Students' Emotional Intelligence and Social Anxiety

Variables	SeA	SeR	M	SoA	SoS	SA
SeA	-	-	-	-	-	-
SeR	.636**	-	-	-	-	-
M	.575**	.683**	-	-	-	-
SoA	.432**	.572**	.512**	-	-	-
SoS	.462**	.647**	.568**	.594**	-	-
SA	-.184**	-.161**	-.157**	-.131**	-.183**	-

Note: ** Correlation is significant at the 0.01 level (2-tailed).SeA=Self-awareness, SeR= Self-regulation, M=Motivation, SoA= Social awareness, SoS= Social Skill,

SA = Social Anxiety

According to the results, it indicated that the subscales of emotional intelligence were significantly and negatively correlated with social anxiety of the undergraduate students. So, it may be concluded that understand the emotions of self and ability to manage conflicts and emotions on others is the key to relieve social anxiety of the individual.

Results of Simple Linear Regression on Emotional Intelligence and Social Anxiety of Undergraduate Students

To examine how well emotional intelligence can predict social anxiety of undergraduate students, simple linear regression was calculated. To get more exact information, the results can also be seen in the following Table.

Table 16 Results of Simple Linear Regression on Emotional Intelligence and Social Anxiety

Model	Unstandardized Coefficient		Standardized Coefficient	*t*	*Sig.*
	B	Std. Error	Beta		
1(constant)	64.573	3.169		20.376	.000
Emotional Intelligence	-.117	.018	-.202	-6.357	.000

a. Dependent Variable: Social Anxiety

Social Anxiety = 64.573-0.117 Emotional Intelligence

So, it can be interpreted that if the students had high emotional intelligence, their social anxiety would be under controlled.

SeA=Self-awareness, SeR= Self-regulation, M=Motivation, SoA= Social awareness, SoS= Social Skill
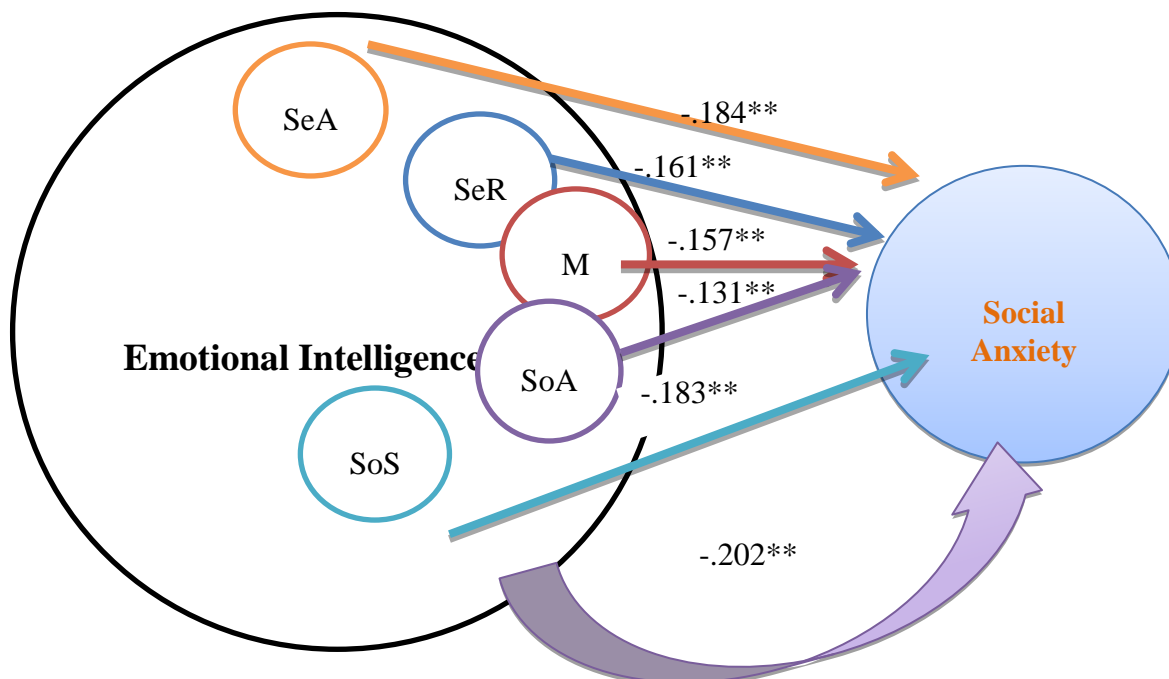
Figure 1 Relationship Model Between Emotional Intelligence and Social Anxiety

According to the result, the simple linear regression correlation coefficient (R) = 0.202 and adjusted R square was 0.404. Thus, it can be concluded that 4%of social anxiety can be predicted from emotional intelligence.

Conclusion

So, the main purpose of this research was to study the emotional intelligence and social anxiety of undergraduate students from Sagaing University of Education. Moreover, gender differences, differences in subject streams and grade differences were also examined. And then, the relationship between emotional intelligence and social anxiety of undergraduate students from Sagaing University of Education was observed. Finally, regression analysis was conducted to predict social anxiety from emotional intelligence. The number of 954 undergraduate students was selected from Sagaing University of Education as the participants of the present study. Emotional intelligence scale developed and standardized by Singh (2004) was used to investigate students' emotional intelligence. And then to investigate students' social anxiety, social interaction anxiety scale developed by Mattick and Clarke (1998) was used. The Emotional Intelligence Scale consists of five subscales: self-awareness, self-regulation, motivation, social awareness and social skill and consists of 60 items (12 items consist in each subscale). The Social Interaction Anxiety Scale consists of 20 items.

The descriptive analysis revealed that the average value of mean score for students' emotional intelligence was 171.90 and that for social anxiety was 44.51. Mean comparisons for the five subscales of students' emotional intelligence showed that students had the highest emotional intelligence in self-awareness. According to the Goleman (1995), self-awareness is the

ability to read one's emotions and recognize their impact while using gut feelings to guide decisions. Based on the result that students had the highest self-awareness among other subscales, it may be assumed that students can best recognize their emotional state and whenever they used their immediate feeling or reaction in making decisions, they already considered the effects of these decisions on self and others. Moreover, the mean score of the students in the subscale of social skill is the lowest. So, it might be assumed that students may be weak in the ability to interact with other people and ability to influence the emotions of the other person.

According to the *t* test result, although male students and female students did not differ in the subscales of emotional self-awareness, male students had higher in overall emotional intelligence than female students. Generally, it might be assumed that male students outperformed female students in recognizing and understanding emotions of others and in using this awareness to manage behavior and relationships according to the situation. This finding was consistent with the previous study conducted by Chu (2002) and Ahmad and Khan (2009). According to Ahmad and Khan (2009), one of the reasons for males had high emotional intelligence than females are that men are a powerful member in our society.

Comparing with students' emotional intelligence by subject stream, the result of *t* test indicated that students' emotional intelligence did not differ in respect with their subject stream they learned. So, subject stream did not affect the emotional intelligence of the students. The success that the students got from the school or institution or university was typically measured by test scores but not by emotional skill (soft-skills) which was also important for lifelong success and happiness.

Besides, the result of ANOVA among different grade indicated that the emotional intelligence of students did not differ by their grades. According to Bar-On (2000), Bradberry and Greaves (2005), Singh (2006) and Stein (2009), the overall emotional intelligence increases with age, i.e., in transition from young adulthood to middle age and then from middle age to mature age. The young adulthood group is youngest group of all which has the basic learning stage. This stage is also considered inexperienced and naive. According to Erik Erikson (1963), young adulthood is the age group of people from 17-year to 23-year old. But young adulthood group had no significant correlation between components of emotional intelligence (Goleman,1988; Salovey & Mayer,1990; Maddocks & Sparrows,1998). The participants in this research: first year, third year and final year students, belonged to the young adulthood and thus it is clear that their emotional intelligence did not differ whatever their grade will be.

As the next study, the result of *t* test for social anxiety of the students by gender showed that male students had higher mean score than female students. It can be said that male students seemed to have more social anxiety than female students. This finding was consistent with the previous studies conducted by Hirai et al.(2011) and Iancu et al.(2006). Based on the above result, one of the possible reasons for male students score higher in social awareness may be that they can sense and understand other's emotions, although they showed some deficits in social skill, i.e., unable to fulfill timely demands in all areas of functioning during social interaction. Hence, they may develop fear of negative evaluation or rejection which triggers social anxiety in some situation. As female students were less sensitive to other's emotions, they might experience less social anxiety than the male did.

Next, in comparing the students' social anxiety by their subject stream, it was found that male and female students did not differ in experiencing social anxiety according to their subject

streams. Social anxiety sometimes caused by intense fear of negative evaluation from others (DSM-IV-TR, 2000). It is cleared that whatever the subject stream may be, they did not felt or they did not feared that they will be negatively evaluated by others.

Then, according to the result of ANOVA among different grades, students' social anxiety tends to differ by their grades. From the Post Hoc test, it can be interpreted that the final year students had the lowest social anxiety. This finding was consistent with the previous study conducted by Villiers (2009) and found that only the age of the student was involved to some degree in the level of social anxiety; in other words, the older the student, generally the lower the levels of social anxiety. Since meeting new people, living in new environment and interacting with certain authority may trigger social anxiety in everyone, final year students, in comparing with the first year and third year students, will be more familiar with the custom, culture of University and familiar with more authority in the University. Moreover, with respect to their grade and age, it was clear that final year students had low level of social anxiety than other students: first year and third year students.

In order to find the correlations among the variables in this study, correlation matrix were applied. This matrix indicated that the emotional intelligence was negatively correlated. But the strength of the correlation is slightly weak. This means that if the students' had high emotional intelligence then they would experience less social anxiety. Moreover, the five subscales of emotional intelligence were significantly correlated with their social anxiety. And the intercorrelations for subscales of emotional intelligence were also significantly correlated with each other.

Finally, the researcher tried to find good predictor of undergraduate students' social anxiety. Simple linear regression was applied to find the model summary for students' social anxiety. The simple linear regression correlation coefficient (R)=0.202 and adjusted R square was 0.0404. It can be concluded that 4% of social anxiety can be predicted from emotional intelligence.

Discussion and Suggestion

The possible solutions to overcome anxiety in social situations might be firstly considered the relationship of emotional intelligence and social anxiety. Emotional intelligence was known as one of the constructs that could bring success, well beings and happiness to one's life.

The most common example of social anxiety is anxiousness about public speaking. Making small talk, eating in front of others and using public restrooms also can trigger worry and unease for some. Social anxiety is defined as anxiety anticipating a social situation, or anxiety during or after that situation, Weeks (2012) said. "At the heart of social anxiety is the fear of evaluation." There are many ways which we can use to overcome social anxiety. One of the ways is to challenge own mentality and negative thoughts which can be an effective way to reduce symptoms of social anxiety. Next, instead of focusing on self and what other people are thinking of, focusing should be on other people and try to be present, make genuine connections. By making small lifestyle changes can help to improve self-confidence and ability to cope with anxiety symptoms. The last and most important is to find the social situation and engage in it.

Thus, emotional intelligence can be associated with superior social functioning, through greater emotional understanding of others and more adaptive interpersonal relationship skills, thus fostering more pleasant social interactions. Emotional intelligence could act by reducing the

frequency and duration of negative emotions that appear as a consequence of certain stressful events and social interactions. So enhancing emotional intelligence can be the useful tool in relieving the social anxiety that one experienced.

Acknowledgements

References

Aghdasi, S., Kiamanesh, A.R., & Ebrahim, A.R.N. (2011). Emotional intelligence and organizational commitment: testing the mediatory role of occupational stress and job satisfaction. *Procedia- Social and Behavioral Sciences*, 29, 1965-1975. DOI: 10.1016/j.sbspro.2011.11.447

Akintayo, D.I., & Babalola, S.S. (2012). The impact of emotional intelligence on workers' behaviour in industrial organizations. *International Journal of Humanities & Social Sciences,4(2)*,83-90. Retrieved September 20, 2018, from http://www.ajol.info/ index.php/ijhss/article/view/86870/76659

Antony, M. M. & Rowa, K. (2008). *Social anxiety disorder. Advances in psychotherapy.* Evidence-based practice: Hogrefe Publishing.

Barling, J., Slater, F., & Kelloway, E.K. (2000). Transformational leadership and emotional intelligence: exploratory study. *Leadership & Organization Development Journal, 23(4)*, 198-204.

Barlow, D. H. (1988). *Anxiety and its disorders*. New York: Guilford Press.

Barlow, D.H., & Liebowitz, M.D. (2005). *Specific phobia and social phobia*. Retrieved September 20, 2018 from http://student.mscc.huji.ac.il/forensic/subs/phob.htm

Bar-On, R. (1997). *Bar-On Emotional Quotient Inventory (EQ-I)*. Technical Manual. Toronto, Canada: Multi-Health Systems.

Bar-On, R. (2002). *Bar-On Emotional Quotient Inventory (EQ-I)*. Technical Manual. Toronto, Canada: Multi-Health Systems

Castella, K.D., Goldin, P., Jazaieri, H,; Ziv, M., Dweck, C.S. & Gross, J.J. (2013). Beliefs About Emotion: Links to Emotion Regulation, Well-Being, and Psychological Distress. *Basic Appl. Soc. Psychol. 2013, 35*, 497–505.

Cavallo, K. (2001). *Emotional Competence and Leadership Excellence at Johnson& Johnson: The Emotional Intelligence and Leadership Study.* Consortium for Research on Emotional Intelligence in Organisation. Retrieved November 5, 2018, from http://www.eiconsortium.org/reports/jj_ei_study.html

Cichy, R.F., Cha, J., Kim, S.D., &Singerling, J.B. (2007). Emotional intelligence and organizational commitment among private club board and committee volunteer leaders: a pilot study. *Hospitality Review Volume, 25(1).*Retrieved September 28, 2018, from http://digitalcommons.fiu.edu/cgi/ viewcontent.cgi? article= 1432& context= hospitality review

Greco, L. A. & Morris, T. L. (2005). Factors influencing the link between social anxiety and peer acceptance: Contributions of social skills and close friendships during middle childhood. *Behavior Therapy*, 36(2), 197-205.

Hofmann, S. G., & Barlow, D. H. (2002). Social phobia (social anxiety disorder). In D. H. Barlow (Ed.), *Anxiety and Its Disorders*: the Nature and Treatment of Anxiety and Panic (2nd ed,) (pp. 454–476). New York: Guilford Press.

Horn, D., Ruppin, E., Usher, M. & Herman, M. (1993). *Neural Network Modelling of Memory Deterioration in Alzheimer's Disease*. Neural Computation, Vol. 5: 736-749.

Kagan, J., Reznick, J.S., & Snidman, N. (1987). *The physiology and psychology of behavioral inhibition in children.* Child Development 58, 1459–1473.

Kaplan H. I. & Sadock, B. J. (1998). *Anxiety disorders*: Overview. In: H.I. Kaplan & B.J. Sadock (Eds.).

Mellings, M. B., & Alden, L. E. (2000). *Cognitive processes in social anxiety: the effects of selffocus, rumination, and anticipatory processing*. Behaviour Research and Therapy, 38, 243–257.

Menzies, R.G. and Clarke, J.C. (1995). *The etiology of phobias: A non-associative account.* Clinical Psychology Review 15, 23–48

Merikangas, K., Lieb, R., Wittchen, H., & A venevoli, S. (2003). *Family and high-risk studies of social anxiety disorder.* Acta Psychiatrica Scandinavica, 108, 28-37.

Mersch, P. Hildebrand, M., Mavy, E. H., Wessel, I., & Van Hout, W. J. (1992). Somatic symptoms in social anxiety: A treatment method based on rational emotive therapy and paradoxical interventions. *Journal of Behaviour Therapy and Experimental Psychiatry, 23*, 199–211.

Miller, S. R. (2003). *Shyness, Social Acceptance, and Self-Esteem in Early Adolescents: Interrelationships and the role of parent's problem solving*. Unpublished Doctoral Dissertation. The University of Georgia, Athens- Georgia.

Morris, T. L. (2001): Social Phobia. In M. W.Vasey., & M. R Dadds (Eds). *The Developmental Psychopathology of Anxiety* (pp. 435-485). New York: Oxford University Press.

Moscovitch, D. A. (2009). *What is the core fear in social phobia? A new model to facilitate individualised case conceptualization and treatment*. Cognitive and Behavioural Practice, 16, 123-134.

Mulkens, S., Bogels, S., & de Jong, P. J. (1999). *Attentional focus and fear of blushing: A case study*. Behavioral and Cognitive Psychotherapy, 27, 153–164.

Rangriz, F., & Mehrabi, J. (2010).The relationship between emotional intelligence, organisational commitment and employees' performance in Iran. *International Journal of Business and Management, 5(8), 50-56.* Retrieved September 20, 2018, from http://ccsenet.org/journal/index.php/ijbm/article/view/6898

Ranta, K., Kaltiala-Heino, R., Rantanen, P. & Marttunen, M. (2009). *Social phobia in Finnish general adolescent population: Prevalence, comorbidity, individual and family correlates, and service use*. Depress. Anxiety 2009, 26, 528–536.

Rapee, R. M. & Heimberg, R. G. (1997). A Cognitive-behavioral model of anxiety in social anxiety. *Behavior Research and Therapy*, 35, 741-756.

Rapee, RM, & Melville, LF (1997). Retrospective recall of family factors in social phobia and panic disorder. *Depression and Anxiety*, 5, 7-11.

Ravichandran, K., Arasu, R., & Kumar, S.A. (2011).The impact of emotional intelligence on employee work engagement behavior: an empirical study. *International Journal of Business and Management, 6(11),* 157-169. DOI:10.5539/ijbm.v6n11p157

Reid, D., & Reid, F. (2007). *Text or talk? Social anxiety, loneliness, and divergent preferences for cell phone use.* CyberPsychology & Behavior, 10(3), 424-435.

Retrieved December 2, 2018, from http://jwpress.com/ JAAHE /Issues/ JAAHEFall2005-v1i1.pdf

Safren, S.A., Heimberg, R.G., Horner, K., Juster, H., Schneier, F.R. & Liebowitz, M.R. (1999). Factor structure of social fears: The Liebowitz Social Anxiety Scale. *Journal of Anxiety Disorders. Vol. 13*, No. 3, pp 253-270.

Salovey, P. & Mayer, J.D. (1990). *Emotional intelligence. Imagination, cognition, and personality*, 9, 185-211.

Van Rooy, D.L., Alonso, A., & Viswesvaran, C. (2004). Group differences in emotional intelligence scores: Theoretical and practical implications. P*ersonality and Individual Differences*, 38, 689-700. doi:10.1016/j.paid.2004.05.023

Vassilopoulos, S. (2005). Anticipatory processing plays a role in maintaining social anxiety. *Anxiety, Stress & Coping*, 18(4), 321-332.

Veale D. (2003). Treatment of social phobia. Advances in Psychiatric Treatment. Vol. 9. 258-264.

Venberg, E. M., Abwender, D. A., Ewell, K. E., & Beery, S. H. (1992). Social anxiety and peer relationships in early adolescence. A prospective analysis. *Journal of Clinical Child Psychology, 21, 189-196.*

Voncken, M., Alden, L., Bagels, S., & Roelofs, J. (2008). Social rejection in social anxiety disorder: The role ofperformance deficits, evoked negative emotions and dissimilarity. *British Journal ofClinical Psychology, 47(4), 439-450.*

Walsh, J. (2002). Shyness and social phobia. *Health & Social Work*, 27(2), 137.

Wang, P. S., Lane, M., Olfson, M., et al (2005). Twelve month use of mental health services in the US: Results from the National Comorbidity Survey Replication (NCS-R). *Archives of General Psychiatry*, 62, 629 –640

Zampetakis, L.A., & Moustakis, V. (2010). Managers' trait emotional intelligence and group outcomes: the case of group job satisfaction. *Small Group Research*, XX(x), 126.DOI:10.1177/1046496410373627

Zeidner, M. (2013). *What We Know about Emotional Intelligence*. Dev. Learn. Organ. Int. J. 2013, 27.

Zeidner, M., Matthews, G. & Roberts, R.D. (2012). The emotional intelligence, health, and well-being nexus: what have we learned and what have we missed? *Appl. Psychol. Health Well-Being* 2012, 4, 1–30.

CRITICAL THINKING DISPOSITION AND SELF-DIRECTED LEARNING READINESS OF UNIVERSITY STUDENTS

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Abstract

A total of 925 third year and fourth year students from universities in Sagaing District were randomly selected in this study. Descriptive research design and survey method were used. California Critical Thinking Disposition Inventory (CCTDI) adapted by Kokdemir (2003) and Self-directed Learning Readiness Scale (SDLRS) developed by Dr. Lucy M. Guglielmino (1977) were used. It was found that there was no significant difference in total critical thinking disposition by gender, grade and university. But for subscales, male students were better in systematicity and self-confidence than female ones. In analyticity and truth-seeking, female students were better than male students. Fourth year students were found to be better in systematicity than third year students. It was also found that students in University 1 and University 5 were more open-minded and then students in University 1 were also better in analyticity than the other universities. In comparing self-directed learning readiness by gender, grade and university, significant difference was not found. The result of correlation matrix indicated that critical thinking disposition and self-directed learning readiness was significantly correlated in positive direction (r=.671, p<.01). So, critical thinking disposition is one of the important factors to improve the students' level of self-directed learning readiness.
Keywords: critical thinking, critical thinking disposition, self-directed learning

Introduction

Higher education is a fundamental to a country's societal and economic development. It is responsible for nurturing skilled human capital needed in government, business and industry. Institute of International Education (2013) presented that there is a need in higher education system of Myanmar that can produce students who possess the skill of critical thinking and innovation (as cited in Po Po Thaung Win, 2015).

Critical thinking is one of the aspects of thinking, which is accepted as a way of overcoming problems and eases the way of reaching the information in our lives (Hudgins & Edelman, 1988). According to Reynolds (2011), critical thinking is an important element of all professional fields and academic disciplines. Critical thinking helps individuals to think and analyze critically about their own learning, and to strive and develop expertise in their areas of professionalism (Phan, 2010). That is why, it is considered as one of the important skills required for human (Mimbs, 2005; Halvorsen, 2005).

Critical thinking disposition is the desire and motivation of the individual to think critically (Zhang, 2003). A student's disposition to think critically is a necessary precondition for critical thinking, and it greatly affects critical thinking capability (cited in Demirhan & Koklukaya, 2013).

Self-directed learning (SDL) is "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes"(Knowles, 1975).

Self-directed learning is the key to personal and academic success (cited in Zemke, 1982). Thus, higher educators increasingly see the advocacy of self-directed learning as an important

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goal for higher education (Kreber, 1998). Since university students were very important human resources for developing countries, especially in Myanmar, it was need to consider the role of their learning to be self-directed. Besides, in order to facilitate students' self-directed learning, it is critical to assess students' readiness (Klunklin, Viseskul, Sripusanapan, & Turale, 2010). Osman (2015) found that self-directed learning is a skill which can be improved through learning activities catered to increase the readiness level of self-directed learning.

Moreover, the study of Abd-Elmoghith, El-Aziz and Rashawn (2018) also indicated that the self-directed learning readiness increased when critical thinking skills found. So, it is necessary to increase critical thinking disposition to increase self-directed learning readiness. That is why; the present study chose critical thinking disposition as an important factor for improving critical thinking and studying self-directed learning readiness of the university students.

Objectives of the Study

This main aim of this study was to examine critical thinking disposition and self-directed learning readiness of university students. The specific objectives were;

1. To identify the levels of critical thinking disposition and self-directed learning readiness of university students.
2. To examine critical thinking disposition and self-directed learning readiness of university students by gender, grade and university.
3. To find out the relationship between critical thinking disposition and self-directed learning readiness of university students.

Definitions of Key Terms

Critical Thinking Disposition: Critical thinking disposition is the desire and motivation of the individual to think critically (Zhang, 2003).

Self-directed Learning: Self-directed learning (SDL) is "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (Knowles, 1975).

Materials and Method

In this study, quantitative approach and descriptive survey design was used.

Participants

By using simple random sampling technique, 925 students (426 males and 499 females) in (2018-2019) academic year were chosen as participants of the present study.

Instrumentation

The first instrument was the California Critical Thinking Disposition Inventory (CCTDI) adapted by Kokdemir (2003). It measures the critical thinking disposition by six scales: Open-mindedness, Inquisitiveness, Systematicity, Truth-seeking, Analyticity and Self-confidence. The total items used in the present study were 51 items examined by six-point Likert type (1= Strongly disagree, 2= Disagree, 3= Partly disagree, 4= Partly agree, 5= Agree, and 6= Strongly agree).

The second instrument, Self-directed Learning Scale (SDLRS) developed by Dr. Lucy. M. Guglielmino (1977) was used to measure self-directed learning readiness of university students. The total number of items used in this study were 58 items and all are five-point Likert type (1=Almost never true of me, 2=Not often true of me, 3=Sometimes true of me, 4= Usually true of me and 5=Almost always true of me).

Firstly, the instruments used in this study were translated into Myanmar version. To study whether the instruments were reliable, pilot testing was done. The internal consistencies were (.732) for California Critical Thinking Disposition Inventory (CCTDI) and (.905) for Self-directed Learning Readiness Scale (SDLRS).

Findings

Table 1   Descriptive Statistics for Critical Thinking Disposition of University Students

Variable	No. of Students	Minimum	Maximum	Mean	*SD*
Critical Thinking Disposition	925	157	263	204.66	17.025

According to Table 1, it was found that mean score for critical thinking disposition of university students was 204.66 and standard deviation was 17.025. The mean score (204.66) for critical thinking disposition of university students was less than 240 scores defined by Kokdemir (2003). So, it can be concluded that critical thinking disposition of university students were low.

Table 2 The Results of Independent Sample *t* test for Critical Thinking Disposition of University Students by Gender

Variables	Gender	*N*	Mean	*SD*	*t*	*df*	*p*
Systematicity	Male	426	22.03	3.681	2.798**	923	.005
	Female	499	21.37	3.457			
Truth-seeking	Male	426	25.38	6.007	-5.520***	769.029	.000
	Female	499	27.28	4.424			
Analyticity	Male	426	50.13	7.696	-2.789**	795.492	.005
	Female	499	51.39	5.978			
Self-confidence	Male	426	27.77	6.022	2.017*	923	.044
	Female	499	27.01	5.499			
Critical Thinking Disposition (Total)	Male	426	203.95	18.368	-1.157	923	.242
	Female	499	205.26	15.782			

Note ***Significance at 0.001 level **Significance at 0.01 level *Significance at 0.05 level

According to Table 2, among six subscales, it was found significant differences only in systematicity (*t*=2.798, *p*=.005), truth-seeking (*t*=-5.520, *p*=.000), analyticity (*t*=-2.789, *p*=.005) and self-confidence (*t*=2.017, *p*=.044) by gender. So, it can be concluded that male students had better systematicity and self-confidence than female students. And, female students were better in truth-seeking and analyticity than the males. In comparing total critical thinking disposition by gender, significant difference was not found.

Table 3 The Results of Independent Sample *t* test for Critical Thinking Disposition of University Students by Grade

Variables	Grade	*N*	Mean	*SD*	*t*	*df*	*p*
Systematicity	3 rd Year	466	21.44	3.297	-2.022*	923	.043
	4th Year	459	21.91	3.825			
Critical Thinking Disposition (Total)	3 rd Year	466	203.72	16.330	-1.691	923	.091
	4th Year	459	205.61	17.669			

Note:***Significance at 0.05 level

In Table 3, among six subscales, it was found that fourth year students had better systematicity than third year one (*t*=-2.022, *p*=.043). But, in comparing total critical thinking disposition by grade, significant difference was not found.

Table 4 ANOVA Results for Critical Thinking Disposition of University Students by University

Variables	Region Group	Sum of Squares	*df*	Mean Square	*F*	*p*
Open-mindedness	Between Groups	307.448	4	76.862	4.683	.001**
	Within Groups	15100.156	920	16.413		
	Total	15407.604	924			
Analyticity	Between Groups	557.206	4	139.301	2.996	.018*
	Within Groups	42775.925	920	46.496		
	Total	43333.131	924			
Critical Thinking Disposition	Between Groups	1873.893	4	468.473	1.621	.167
	Within Groups	265943.095	920	289.069		
	Total	267816.988	924			

Note: **Significance at 0.01 level; *Significance at 0.05 level

In comparing subscales of critical thinking disposition by university, a statistically significant differences were found in open-mindedness (*F*=4.683, *p*=.001) and analyticity (*F*=2.996, *p*= .018). But, in comparing total critical thinking disposition by university, significant difference was not found.

Table 5 Results of Games-Howell for Open-mindedness and Analyticity by University

Subscales	University (I)	University (J)	Mean Difference (I-J)	*p*
Open-mindedness	University 1	University 2	1.038	.137
		University 3	.851	.198
		University 4	1.093	.034*
		University 5	-.367	.920
	University 5	University 1	.367	.920
		University 2	1.406	.032*
		University 3	1.218	.045*
		University 4	1.460	.006**
Analyticity	University 1	University 2	1.871	.112
		University 3	.817	.699
		University 4	1.695	.013*
		University 5	2.088	.029*

*Mean difference is significant at 0.05 level **Mean difference is significant at 0.01 level.

It was found that students in university 1 and 5 were more open-minded than the other universities. For analyticity, students in university 1 had higher analyticity than others.

Table 6 Descriptive Statistics for Self-directed Learning Readiness

Variable	N	Minimum	Maximum	Mean	*SD*
Self-directed Learning Readiness	925	141	278	213.86	21.417

According to Table 6, it was found that mean score for self-directed learning readiness of university students was 213.86 and standard deviation was 21.417. The mean score (213.86) for self-directed learning readiness of university students was between the scores 202 and 206 defined by Guglielmino (1977). So, it could be concluded that self-directed learning readiness of university students was average.

Table 7   Independent Sample *t* test for Self-directed Learning Readiness by Gender

Variable	Gender	*N*	Mean	*t*	*df*	*p*	*MD*
Self-directed Learning Readiness	Male	426	214.17	.406	923	.685	.574
	Female	499	213.60				

According to the result of *t* test, it was found that no significant difference in self-directed learning readiness by gender.

Table 8   Independent Sample *t* test for Self-directed Learning Readiness by Grade

Variable	Grade	*N*	Mean	*t*	*df*	*p*	*MD*
Self-directed Learning Readiness	3rd Year	466	213.57	-.413	923	.680	-.582
	4th Year	459	214.15				

According to the result of *t* test, significant difference in the self-directed learning readiness by grade was not found.

Table 9   ANOVA Results for Self-directed Learning Readiness by University

Variable	Region Group	Sum of Squares	*df*	Mean Square	*F*	*p*
Self-directed Learning Readiness	Between Groups	2757.789	4	689.447	1.506	.198
	Within Groups	421069.941	920	457.685		
	Total	423827.730	924			

According to the ANOVA result, it was revealed that there was no significant difference in self-directed learning readiness in terms of universities.

Table 10 Correlation Matrix between Critical Thinking Disposition and Self- directed Learning Readiness

Variable	Self-directed Learning Readiness
Critical Thinking Disposition	.671**

**Correlation is significant at 0.01 level.

According to the Table 10, statistically significant positive correlation between critical thinking disposition and self-directed learning readiness (r=.671, *p*<0.01) was found. Therefore, it can be concluded that better critical thinking disposition university students possessed, the higher self-directed learning readiness they had.

Discussion and Conclusion

Critical Thinking Disposition of University Students: Based on the criteria developed by Kokdemir (2003), it was found that university students' critical thinking disposition was low level. The present study is agreed with some of these studies that have reported that students generally have low level critical thinking disposition (Genc, 2008; Cetinkaya, 2011; Bakir, 2015)

Based on findings of the present study, some suggestions were discussed for improving learner's level of critical thinking disposition. To develop their critical thinking disposition, learners should-

- Eager to seek the truth and ask questions about what they want to know
- Be tolerant of divergent views and think open-mindedly

To improve learners' critical thinking disposition, educators and administrators should-

- Create time for students to reflect what they have learned
- Accept and ask to anticipate alternative solutions when students solve problems

Critical Thinking Disposition of University Students by Gender: The result revealed that there was no significant difference in critical thinking disposition between male and female students. The overall findings have also confirmed that no significant difference in critical thinking disposition by gender (Laird, 2005, Ben-Chaim et al. 2000; Biber et al. 2013; Kucuk & Uzun, 2013; Bidjerano, 2005; Gurol et al. 2013; Bakir, 2015).

In comparing gender difference in subscales of critical thinking disposition, the result showed that male university students were better in systematicity and self-confidence than female university students. The result of the present study is congruent with the finding of Demirhan and Koklukaya (2013). It was also found that critical thinking disposition scores in subscales of truth-seeking and analyticity were in favor of female university students. The result is consistent with Cetinkaya (2011).

Therefore, to adapt sex difference in critical thinking disposition subscales of systematicity, truth-seeking, analyticity and self-confidence of students, educators and administrators should-

- Choose the teaching-learning activities that make their female students to use facts and logic in solving complex problems
- Encourage their male students to focus questions carefully before answering it

Critical Thinking Disposition of University Students by Grade: The result showed that there was no significant difference between third year and fourth year students in terms of grade. Similar result was found on the previous studies conducted by Profetto-McGrath (2003), Laird (2005) and Ozyurt (2015) that CTDs levels of students did not vary statistically significant by grade.

In comparing its subscales by grade, the subscale of systematicity is in favor of fourth year students when compared with third year students. This result is agreed with Coskun (2001)'s result (cited in Gulec, 2010).

Therefore, to adapt grade difference in critical thinking disposition subscale of systematicity, educators and administrators should-

- Take care of grade difference in their learning environment
- Provide different teaching-learning strategies that can develop reasoning and reflective capacity for students from all grade levels.

Critical Thinking Disposition of University Students by University: The result from the ANOVA showed that there was no significant difference in critical thinking disposition by university. But in the subscales of open-mindedness and analyticity, by Games-Howell method, students in university 1 and 5 had more open-mindedness than those in other universities. And, students in university 1 were found to be more analytical than the other universities.

Therefore, to adapt university differences in subscales of open-mindedness and analyticity, educators and administrators should-

- Take care of university difference in critical thinking disposition
- Provide their instructional strategies that can improve their students' thinking

Self-directed Learning Readiness of University Students: It was found that university students' readiness for self-directed learning was average level. The result supports the finding of Alfaifi (2006) that undergraduate students at Saudi Electronic University on Riyadh campus have an average level of self-directed learning readiness.

Therefore, some suggestions were discussed for learners, educators and administrators for improving the level of self-directed learning readiness. Learners should-

- Love to learn
- Be responsible for their learning

Educators and administrators should-

- Help students aware their roles in learning
- Allow individual learners to approach a task in different ways using different strategies
- Plan instructional strategies that could facilitate learners' own learning

Self-directed Learning Readiness of University Students by Gender: The result revealed that there was no significant difference in self-directed learning readiness by gender. Most of the studies have confirmed no significant difference in self-directed learning by gender (Roberts, 1986; Cox 2002; Carson, 2012; Alfaifi, 2016).

Self-directed Learning Readiness of University Students by Grade: The result indicated that there was no significant difference in self-directed learning readiness by grade. The present study is agreed with Kan'an and Osman (2015). Therefore, educators should provide different teaching-learning strategies that can develop all grade levels of students.

Self-directed Learning Readiness of University Students by University: The result indicated that there was no significant different in self-directed learning readiness by university.

Critical Thinking Disposition and Self-directed Learning Readiness: It was found statistically significant positive correlation between critical thinking disposition and self-directed learning readiness. This finding was consistent with the findings of studies conducted by Haksoon Cho (2007), Karatas & Basbay (2014) and Abd-Elmoghith, El-Aziz and Rashawn (2018).

In summary, it is hoped that the current study will support to the university learning environment by providing the basic information of critical thinking disposition and self-directed learning readiness.

References

Abd-Elmoghith, N. G., A;El-Aziz, M. A., & Rashawn, T. (2018).Self-directed learning readiness: its effect on nursing students critical thinking abilities. *International Journal of Nursing Didactics*, *8* (3), 16-20.

Alfaifi, M. S. (2016). *Self-directed learning readiness among undergraduate at Saudi Electronic University in Saudi Arabia.* (Unpublished Doctoral Degree Thesis) University of South Florida. Retrieved July 28, 2018, from http://scholarcommons.usf.edu/etd/6449/

Bakir, S. (2015). Critical thinking dispositions of pre-service teachers. *Educational Research and Reviews*, *10* (2), 225-233.

Ben-Chaim, D., Ron, S., & Zoller, U. (2000). The disposition of eleventh grade science students toward critical thinking, *Journal of Science and Educational Technology, 9* (2), 149-159.

Biber, A. C., Tuna, A., & Incikabi, L. (2013). An investigation of critical thinking dispositions of mathematics teacher candidates. *Education Research, 4* (2), 109-117.

Bidjerano, T. (2005). *Gender differences in self-regulated learning.* Paper presented at the annual meeting of the Northeastern Educational Research Association, Kerhonkson, NY.

Carson, E. H. (2012). *Self-directed learning and academic achievement in secondary online students*. (Unpublished Doctoral Dissertations, University of Tennessee at Chattanooga Chattanooga, Tennessee) Retrieved August 13, 2018, from http://eric.ed.gov/?id=ED545680

Cetinkaya, Z. (2011). Türkçe öğretmen adaylarının eleştirel düşünmeye ilişkin görüşlerinin belirlenmesi. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 12* (3), 93-108.

Cox, B. F. (2002). *The relationship between creativity and self-directed learning among adult community college students*. (Unpublished Doctoral Dissertations, University of Tennessee – Knoxville) Retrieved July 24, 2018, from http://trace.tennessee.edu/utk_graddiss/2351

Demirhan, E., & Koklukaya, A. N. (2013). The critical thinking dispositions of prospective science teachers. *Social and Behavioral Sciences*, *116* (2014) 1551-1555.

Genc, S. Z. (2008). "Critical thinking tendencies among teacher candidates". *Kurum ve Uygulamada Egitim Bilimleri Dergisi, 8* (1), 107-117.

Guglielmino, L. M. (1978). Development of the self-directed learning readiness scale.   (Doctoral dissertation, University of Georgia, 1977). *Dissertation Abstracts International, 38*, 6467A

Gulec, H. C. (2010). Evaluation of prospective primary and pre-school teachers' critical thinking level. *Education and Science*, *35* (157), 1-14.

Gurol, A., Uslu, S., Potat, O., Ylglt, N. & Yucel, O. (2013). Critical thinking disposition in students of vocational school of health services. *Electronic Journal of Vocational Colleges*, *5*, 28-36.

Haksoon Cho. (2007). A significant positive correlation between critical thinking disposition and self-directed learning and academic achievement was found. *Journal of the Korean Society Health Information and Health Statistics*, *32* (2), 57-72.

Halvorsen, A. (2005). Incorporating critical thinking skills development into ESL/EFL courses. *The Internet TESL Journal*, *11* (3), 1-5.

Kan'an, A., & Osman, K. (2015). The relationship between self-directed learning skills and science achievement among Qatari Students. *Creative Education*, *6*, 790-797.

Karatas, K. & Basbay, M. (2014). Predicting self-directed learning readiness level in terms of critical thinking disposition, general self-efficacy and academic achievement. *Elementary Educational Online*. *13* (3), 916-933.

Knowles, M. S. (1975*). Self-directed learning: A guide for learners and teachers*. New York: Association Press.

Kokdemir, D. (2003). *Belirsizlik durumlarinda karar verme ve problem cozme (Decision making and problem solving under uncertainty).* (Unpublished doctoral dissertation) Ankara University, Ankara Retrieved from https://www.researchgate.net/publication/27567682-BELIRSIZLIKDURUMLARINDA-KARAR -VERME-VE-PROBLEM-COZME-Decision-Making-and-Problem-Solving-under-Uncer

Kreber, C. (1998). The relationships between self-directed learning, critical thinking, and psychological type, and some implications for teaching in higher education. *Studies in Higher Education*, *23* (1), 71-86.

Kucuk D. P., & Uzun Y.B. (2013). Critical thinking tendencies of music teacher candidates. Ahi Evran University. *Journal of Kisehir Educational Faculty, 14* (1), 327-345.

Klunklin, A. Viseskul, N. Sripusanapan, A., & Turale, S. (2010). Readiness for self-directed learning among nursing students in Thailand. *Nursing and Health Sciences, 12*, 177-81.

Mimbs, C. A. (2005). Teaching from the critical thinking, problem-based curricular approach: strategies, challenges, and recommendations. *Journal of Family and Consumer Sciences Education*, *23* (2), 7-18.

Osman, M. H. (2015). Ready or not: students with self-directed learning? *Journal of Engineering Science and Technology*. Special Issue on UKM Teaching and Learning Congress 2013, 6 (1) 84-90.

Ozyurt, O. (2015). Examining the critical thinking dispositions and the problem solving skills of computer engineering students. *Eurasia Journal of Mathematics, Science and Technology Education*, *11* (2), 353-361.

Laird, T. F. N. (2005). College students' experiences with diversity and their effects on academic self-confidence, social agency and disposition toward critical thinking. *Research of Higher Education*, *46* (1), 365-387.

Phan, H. P. (2010). Critical Thinking as a self-regulatory process component in teaching and learning. *Psicothema*, *22* (2), 284-292.

Po Po Thaung Win, (2015). *An Overview of Higher Education Reform in Myanmar.* University Academic Service Centre (UNISERV), Chiang Mai University, Thailand. Retrieved September 20, 2018, from http://rcsd.soc.cmu.a.c.th/web/Burma/home.php#

Profetto-McGrath, J. (2003). The relationship of critical thinking skills and critical thinking dispositions of baccalaureate nursing students. *Journal of Advanced Nursing*, *42* (6), 569-577.

Reynolds, M. (2011). Critical thinking and systems thinking: towards a critical literacy for systems thinking in practice. In C. P. Horvath and J. M. Forte, (Eds). *Critical Thinking*, 37-68. New York, USA: Nova Science Publishers

Roberts, D. G. (1986). A study of the use of the self-directed learning readiness scale as related to selected organization variables (Doctoral Dissertation, George Washington University, 1986). *Dissertation Abstracts International-A, 47*, 12-18.

Zemke, R. (1982). Self-directed Learning: A must in the information age. *Training*. *12*, 28-30.

Zhang, L. F. (2003). Contributions of thinking styles to critical thinking disposition. *Journal of Psychology*, *137* (6), 517-543.

PERCEIVED PARENTING STYLES AND EMOTIONAL AND BEHAVIOURAL PROBLEMS OF GRADE 11 STUDENTS

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Abstract

The main purpose of this study is to investigate the relationship between perceived parenting styles and emotional and behavioral problems of Grade 11 students from Taungdwingyi Township. In this study, 736 students were randomly selected to access the perceived parenting styles and emotional and behavioral problems. The necessary data were collected through the questionnaires to find out the perceived parenting styles and emotional and behavioral problems of Grade 11 students. In this study, two questionnaires were used: Scale of Parenting Style developed by Gafoor, Kurukkan, 2014 and Strengths and Difficulties Questionnaire developed by Goodman H, Melzer Z, Bailey V (1997). Scale of parenting style questionnaire consists of 38 items and Strengths and Difficulties Questionnaire consists of 20 items. Descriptive statistics of perceived parenting styles of students showed that most of the parents preferred authoritative parenting style. The result of the Chi-square statistics also confirmed that father's parenting style was significantly different according to father's education, but mothers' parenting style was not significantly different according to mother's education and parenting styles were not significantly different according to parents occupation. Then, in conducting descriptive statistics of emotional and behavioral problems of students, the result showed that 22% of Grade 11 students suffer high level of emotional and behavioral problems. When conducting emotional and behavioral problems by gender, school location and parent's occupation, girls were higher in it than the boys, students in rural setting were higher in it than students in urban setting and students whose mothers were merchants were higher in emotional and behavioral problems than others respectively. Finally, the result of the ANOVA revealed that there was no significantly different in emotional and behavioral problems between different parenting groups. Therefore, it was suggested that other factors that can influence on emotional and behavioral problems of Grade 11 students should also be researched.

Keywords: parenting style, perceived parenting style, emotional and behavioural problems

Introduction

Most young children display behaviors that would not be socially acceptable in older children, or could cause personal and interpersonal problems if they persisted into adolescence and adulthood. Examples include tantrums, unfounded fears and overly anxious behavior, aggressive behavior such as hitting or biting, disruptive behavior and defiance. A child's feelings and behaviors might be influenced by temperament, culture, relationships, health, tiredness, family circumstances, school environment, experiences of early childhood care and education and a range of other factors. Almost all children show difficulties in managing their feelings and behavior at times, particularly during certain stages of development. They can often be addressed successfully as the child develops further and is provided with guidance and support from family and carers. If these problems were very serious, it would be very dangerous for both parents and off springs.

In fact, most of the teenagers might have emotional and behavioural problems according to their physical and mental situations, nurturance of their parent's parenting styles, socio economic status and cultural surrounding. Actually, people might think these problems are not serious because they can destroy the personality and daily life situation of people and then, can even become serious problems unless it cannot be cared. Therefore, it is very interesting to study

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the factors that influence on emotional and behavioural problems of people. However, it might not be afford to study every factor that influences it according to time frame. Parenting style is chosen to study whether it affects or not on emotional and behavioural problems of adolescents to what extent.

Parenting is the process of promoting and supporting the physical, emotional, social and intellectual development of a child from infancy to adulthood. It plays a very vital role in the up-bringing of children. It is the duty of the parents to properly rear their children and up bring them to be a very responsible person in the society. It is a very serious social phenomenon as it determines the future of the children. It is a reciprocal process where the parent influences the child's development, and in return, the child influences the parent (Sclafani, 2004 cited in Singh, C, K., & Rani, P, 2013). Therefore, it is very interesting to investigate how many parents preferred good parenting practices and styles.

Parenting typologies such as authoritative, authoritarian, permissive and neglectful developed by Baumrind (1966) were found to be a pivotal element in defining the behavior and attitude of parents toward their children (Joshi, H, L, Sharma, M., & Mehra, R, K, 2009). Additionally, the interaction between parents and children is associated with cultural surroundings (Keshavarz & Baharudin, 2009). Moreover, differences in gender, socio economic status, parental employment or income and parental education and school related factors might also influence on emotional and behavioural problems of children.

A survey conducted by Newsweek in 1997 found that 61 percent of parents believe that the difference in boys in girls come from way they are raised rather than genetics. In the school – aged children, the difference between the sexes is more evident. The teenage girls perceive more stressors in life than teenage boys, especially when it comes to interpersonal relationships. Moreover, teenage girls react more strongly to these stressors, are more likely to experience emotional and behavioral problems. While there are some discrepancies between boy and girls, parenting can make a difference. Studies show that children who do receive the proper emotional support experience mental and emotional problems (cited in everyday health, 2017).

Home environment provided by the parents, parental behaviour, their interaction with child and related factors tend to influence on the cognitive development and socialization of children though the degree of influence may vary (Yeats et al., 1983, cited in Singh, C, K., & Rani, P, 2013). In the same way, school environment is also important for the development of emotions and behavior of children. Children's skills and mental well-being are influenced by family characteristics, such as parental education and income, as well as other factors that are part of the family environment and school environment and school location. According to school location, the expected outcomes of parents on education and children 'behaviour' may be different. Therefore, their parenting styles and attitudes towards children may not be uniform and so the situation of emotions and behaviour of children might be different according to their school location. For these reasons, the differences in emotional and behavioural of children according to school location were very interesting. Therefore, there might be many factors that can influence on emotional and behavioural problems of children. Among them, it is assumed that parenting style might be a factor that can influence on emotional and behavioural problems of children.

Research Questions

1. Are there any differences in parenting styles by father's education and mother's education?
2. Are there any significant differences in emotional and behavioural problems of students by gender?
3. Are there any differences in emotional and behavioural problems of students by school location?
4. Are there any differences in emotional and behavioural problems of students according to mother's occupation?
5. Are there any significant relationship between parenting styles and emotional and behavioural problems of students?

Definitions of Key Terms

Parent - Parent is a person who fosters all facts of child's growth-nourishing, protecting, and guiding new life through the course of development (Brown, 1978).

Parenting - Parenting is the process of promoting and supporting the physical, emotional, social, financial and intellectual development of a child from infancy to adulthood (Gallarin, 2012).

Parenting Style - A constellation of attitudes towards the child that are communicated to the child and that, taken together, create an emotional climate in which parent's behaviors are expressed. These behaviors include both the specific, goal-directed behavior through which parents perform their parental duties (to be referred as parenting practice) and non-goal directed parental behavior such as gestures, changes in tone of voice, or the spontaneous expression of emotion (Darling N & Steinberg L, 1993).

Perceived Parenting Style - Perceived parenting style is an opinion of adolescents or childhood about the style of parental behavior during their childhood (Fonte, 2009; Lopes et al., 2004).

Emotional and Behavioural Problem - Emotional problem describes as a child who experiencing anxious, depressed, having somatic complaints and withdrawn from social activities (McCrae, 2009). Behavioural Problem describes as a child who exhibit aggressive behavior, anger, fighting that affect his/her relationship with the people around him/her (McCrae, 2009, cited in Rosli, N, A. 2009)

Methodology

Sample of the Study

The survey research was conducted for grade 11 students in Taungdwingyi Township during the academic year of 2018-2019. By random sampling method, **three high schools** and **five branch high schools** were chosen. The total number of the participants in this study was 736. This study was comprised of 381 rural students and 355 urban students; including 400 were male and 400 were female students. The data were mentioned in Table 1.

Table1 Number of Students Participated in the Study

Grade	Gender		School Location		Total
	Male	**Female**	**Rural**	**Urban**	
Grade 10	363	373	381	355	736

Research Method

Descriptive research design and questionnaire survey method were used in this study.

Instrumentation

Two instruments were used for this research in order to obtain data from the students. The Scale of Parenting Style developed by Gafoor K, A and Kurukkan A(2014) was used to access the parental responsiveness and demandingness and Strengths and Difficulties Questionnaire including five scales: emotional symptoms, conduct problems, hyperactivity, peer problems and pro social developed by Goodman H, Melzer Z, Bailey V (1997) was used to access the emotional and behavioral problems. The Scale of Parenting Style is 38 item measure used to access parental responsiveness (e.g., "My parents spend free time with me) and demandingness (e.g., My parents enquire the reason for my failure). Strengths and Difficulties questionnaire consists of 5 items in each sub scale. Each of these questionnaire needs and optimal response as 0=Not true, 1=Somewhat true, 3=Certainly true.

Data Analysis and Findings

Table 2 Descriptive Statistics for Perceived Parenting Styles of Students

Type of Parenting Style	Father		Mother	
	Frequency	**Percentage (%)**	**Frequency**	**Percentage (%)**
Authoritative	293	39.9	281	38.2
Authoritarian	79	10.7	114	15.5
Permissive	104	14.1	98	13.3
Neglectful	260	35.3	243	33.0
Total	736	100	736	100

Table 2 indicated the frequency distribution and percentage of each parenting style of Grade 11 students in Taungdwingyi Township. According to the table, the result showed that the number of fathers who preferred authoritative parenting style was 293 (39.9%) and mothers who preferred this style was 281(38.2%), the number of fathers who preferred neglectful parenting style was 260(35.3%) and mothers who preferred this style was 243(33.0%), the number of fathers who preferred permissive parenting style was 104(14.1%), mothers who preferred this style were 98(13.3%). Very few number of fathers 79(10.7%) preferred authoritarian parenting style and mothers who preferred authoritarian parenting style were 14(15.5%).

Table 3 Cross-tabulation of Father's Education and Father's Parenting Styles

Father's Education		Father's Parenting Styles				Total
		Authoritative	Authoritarian	Permissive	Neglectful	
Primary	O	135	23	47	118	323
	E	128.6	34.7	45.6	114.1	
	R	41.8%	7.1%	14.6%	36.5%	43.9%
Middle	O	117	34	46	93	290
	E	115.4	31.1	41.0	102.4	
	R	40.3%	11.7%	15.9%	32.1%	39.4%
High	O	29	12	8	31	80
	E	31.8	8.6	11.3	28.3	
	R	36.2%	15.0%	10.0%	38.8%	10.9%
Graduated	O	12	10	3	18	43
	E	17.1	4.6	6.1	15.2	
	R	27.9%	23.3%	7.0%	41.9%	5.8%
Total		293 39.8%	79 10.7%	104 14.1%	260 35.3%	736 100%

X^2 =18.925(p=0.026), Cramer's V =0.093
Note: O=Observe Counts, E=Expected Counts

In a cross-tabulation, the chi-square statistics was 18.925 (p=0.026) and Cramer's V was 0.093. It can be said that most of the fathers whose education are primary preferred authoritative, permissive and neglectful parenting styles, most fathers whose education are middle preferred permissive and neglectful parenting styles mostly, fathers whose education is high school preferred authoritarian and neglectful parenting styles and fathers whose education is graduate preferred authoritarian and neglectful parenting styles. Most of the fathers whose education was primary more preferred authoritative parenting style than fathers whose education were graduated.

Table 4 Cross- tabulation of Mother's Education and Mother's Parenting Styles

Mother's Education		Mother's Parenting Styles				Total
		Authoritative	Authoritarian	Permissive	Neglectful	
Primary	O	147	63	59	136	405
	E	154.6	62.7	53.9	133.7	
	R	36.3%	15.6%	14.6%	33.6%	55.0%
Middle	O	97	37	28	71	233
	E	89	36.1	31.0	76.9	
	R	41.6%	15.9%	12.0%	30.5%	31.7%
High	O	25	7	6	22	60
	E	22.9	9.3	8.0	19.8	
	R	41.7%	11.7%	10.0%	36.7%	8.2%
Graduate	O	12	7	5	14	38
	E	14.5	5.9	5.1	12.5	
	R	31.6%	18.4%	13.2%	36.8%	5.2%
Total		281 38.2%	114 15.5%	98 13.3%	243 33.0%	736 100%

X^2 = 4.703(p=.859), Cramer's V= 0.046
Note: O=Observed Counts, E=Expected Counts

In a cross-tabulation, the chi-square statistics was 4.703 (p=.859) and cramer's *V* was 0.046. There was no significant difference in mother's parenting styles with respect to mother's education.

Table 5 Descriptive Statistics for Emotional and Behavioral Problems of the Students

Variables	*N*	Mean	Medium	*SD*	Minimum	Maximum
Emotional and Behavioral Problems	736	15.78	16.0	4.485	5	31

In Table 4.5, mean, medium, standard deviation, minimum and maximum of emotional and behavioral problems of students were shown. The mean score of emotional and behavioral problems was 15.78 and the standard deviation was 4.485. The average mean score of emotional and behavioral problems was 20. Therefore, the students the students from Taungdwingyi Township had low in emotional and behavioral problems.

Table 6 Result of *t* test for Emotional and Behavioral Problems of Students by Gender

Variable	Gender	N	Mean	*MD*	*SD*	*t*	*df*	*p*
Emotional and Behavioral Problem	Male	363	13.82	-1.98	4.346	-6.070	734	0.000
	Female	373	15.80		4.537			

Note: ***The mean difference is significant at the 0.001 level.

Table 6 showed that there was significant difference in emotional and behavioral problems between males and females.

Table 7 Result of *t* test for Emotional and Behavioral Problems Subscales of Students by Gender

Subscales	Student Gender	N	Mean	*SD*	*t*	*df*	*p*
Emotional Symptom	Male	363	4.07	2.001	-10.786***	733.769	0.000
	Female	373	5.70	2.093			
Conduct Problem	Male	363	3.62	1.561	.121	734	.904
	Female	373	3.61	1.572			
Peer Problem	Male	363	3.56	1.578	-5.200***	734	0.000
	Female	373	4.21	1.762			
Hyperactivity	Male	363	3.57	1.795	3.082**	734	0.002
	Female	373	3.17	1.689			

Note: **The mean difference is significant at the 0.01 level.
***The mean difference is significant at the 0.001

According to Table 7, a statistically significant difference was found in emotional symptoms, peer problems and hyperactivity among emotional and behavioral problems subscales according to gender. The emotional symptoms subscale was significant at the 0.001 level, peer problems subscale was significant at the 0.001 level and hyperactivity subscale was significant at the 0.01 level. There was no significant difference in conduct problem subscale by gender.

Table 8 Result of *t* test for Emotional and Behavioral Problems of Students by School Location

Variable	School Location	N	Mean	MD	SD	t	df	p
Emotional and Behavioral Problem	**Urban**	355	15.43		4.538	-2.067*	734	0.039
	Rural	381	16.11	.68	4.416			

Note: *The mean difference is significant at the 0.05 level.

Table 8 showed that there was significant difference in emotional and behavioral problems between urban and rural students. The result showed that the emotional and behavioral problems of students were influenced by school location.

Table 9 Descriptive Statistics for Emotional and Behavioral Problems of Students by Father's Occupation

Variable	Mother's Occupation	N	Mean	SD
Emotional and Behavioral Problems	Civil Servant	53	15.47	4.979
	Merchant	59	16.66	4.000
	Farmer	531	15.62	4.429
	Others	93	16.15	4.591

As shown in Table 9, the differences in the mean scores were observed according to father's occupation. The mean score of emotional and behavioral problems of students whose fathers were merchants (16.66) was highest among the occupations, civil servants (15.47), farmer (15.62) and others (16.15).

Table 10 Result of ANOVA for Emotional and Behavioural Problems of Students by Father's Occupation

Emotional and Behavioural Problems	Sum of Squares	df	Mean Square	F	p
Between Groups	152.930	3	50.977	2.550	.055
Within Groups	14631.971	732	19.989		
Total	14784.901	735			

There was no significant difference in emotional and behavioral problems according to father's occupation.

Table 11 Descriptive Statistics for Emotional and Behavioral Problems of Students by Mother's Occupation

Variable	Mother's Occupation	N	Mean	SD
Emotional and Behavioral Problems	**Civil Servant**	31	15.42	4.209
	Merchant	50	17.58	4.908
	Dependent	603	15.62	4.429
	Others	52	16.15	4.591

In Table 11, students whose mothers were merchant have the highest mean score among others. To analyze these differences, One Way Analysis of Variance (ANOVA) was performed in terms of kinds of mother's occupation. The result showed in Table.

Table 12 ANOVA Result for Emotional and Behavioral Problems of the Students by Mother's Occupation

Emotional and Behavioral Problems	*df*	Mean Square	*F*	*p*
Between Group	3	63.221		
Within Group	732	19.939	3.171*	.024
Total	735			

Note: *The mean difference is significant at the 0.05 level.

In Table 12, the ANOVA results revealed that there was significant difference in emotional and behavioral problems of students by mother's occupation. The Post Hoc Test was carried out by Tukey HSD method to get more specific information about which specific pair of means in mothers' occupation had the differences.

Table 13 Result of Post Hoc Test for Multiple Comparisons by Tukey HSD Method

(I)Mother's Occupation	(J)Mother's Occupation	Mean Difference	*p*
Merchant	Civil Servant	2.161	0.149
	Dependence	1.965	.015*
	Others	1.426	.372
Dependence	Civil Servant	.196	.995
	Merchant	-1.965	.015*
	Others	-.539	.838

Note:* The mean difference is significant at the 0.05 level.

Table 13 revealed that emotional and behavioral problems of students whose mothers were merchants were significantly different from that of student whose mothers were dependence with the mean difference, 1.965 and the *p* value was.015 .The students whose fathers were merchant face more in emotional and behavioral problems than others.

Table 14   Comparison of Emotional and Behavioural Problems of Students by Father's Parenting Styles

Variable	Fathers' Parenting Style	*N*	Mean	*SD*
Emotional and Behavioral Problems	Authoritative	293	15.60	4.478
	Authoritarian	79	15.75	4.724
	Permissive	104	15.38	4.394
	Neglectful	260	16.15	4.454

The result showed that the mean score of students whose fathers preferred neglectful parenting style was higher than that of students whose mothers preferred other parenting styles. So, students whose fathers preferred neglectful parenting style faced more in emotional and behavioral problems than others.

In order to find the differences in emotional and behavioral problems with respect to fathers' parenting styles, One Way Analysis Of Variance (ANOVA) was conducted whether there was a significant difference or not.

Table 15 Result of ANOVA for Emotional and Behavioral Problems of Students by Father's Parenting Styles

Emotional and behavioural problems	Sum of Square	df	Mean Square	F	p
Between Groups	62.159	3	20.720		
Within Groups	14722.742	732	20.113	1.030	.379
Total	14784.901	735			

There was no significant difference in emotional and behavioral problems of students with respect to fathers' parenting styles.

Table 16 Comparison of Emotional and Behavioral Problems of Students by Mother's Parenting Styles

Variable	Mother's Parenting Style	N	Mean	SD
Emotional and Behavioral Problems	Authoritative	281	15.78	4.469
	Authoritarian	114	15.90	4.424
	Permissive	98	15.57	4.649
	Neglectful	243	15.92	4.485

The result showed the mean score of students whose mothers preferred neglectful parenting style was higher than that of students whose mothers preferred other parenting styles. So, students whose mothers preferred neglectful parenting style faced more in emotional and behavioral problems than students whose mothers preferred other three styles.

In order to find the differences in emotional and behavioral problems with respect to mothers' parenting styles, One Way Analysis Of Variance (ANOVA) was conducted whether there was a significant difference or not.

Table 17 Result of ANOVA for Emotional and Behavioral Problems of Students by Mother's Parenting Styles

Emotional and Behavioural Problems	Sum of Squares	df	Mean Square	F	p
Between Groups	18.093	3	6.031		
Within Groups	14766.808	732	20.173	.299	.826
Total	14784.901	735			

There was no significant difference in emotional and behavioral problems of students with respect to mothers' parenting styles

Discussions of the Findings

The result of the Chi-square statistic showed that there was significant in fathers' parenting styles according to fathers' education. This finding is consistent with the work of

Bushati, J (2014). He found that authoritative parents have the highest level of education and all parents who are negligent have low education level. The researcher found that most of the graduated fathers in Taungdwingyi Township preferred neglectful and authoritarian parenting styles. This might be as most of the graduates were civil servants according to Myanmar culture, and therefore, they must use most of their time on their job. Moreover, their salary might be not enough to fulfill every need of their children and thus, they might work second job for their family. By the comparison of expected counts and observed counts of each style, most of graduated fathers in Taungdwingyi Township also preferred more in authoritarian parenting style than others. This might be since most of the educated fathers want their children to be educated as they do, and they might be high in demandingness, but be low in responsiveness. Moreover, they might be high in expectation for their children's education and achievement.

The result of the Chi-square statistic showed that there was no significant difference in mother's parenting styles with respect to mother's education. This finding is not consistent with the work of Dornbusch S, Ritter P, Leiderman P, H, Roberts D, & Fraleigh M, (1987). They found that higher educated parents show a more authoritative parenting style in comparison to the authoritarian and permissive parenting styles. According to Belsky et al. (2002), parenting style is influenced by social support and financial security. Social supports can benefit parents' psychological and physical health, positively impacting the child (cited in Okagaki, L& Luster,T.2005). Parents who do not receive the social support are more likely to be restrictive and punitive, creating an authoritarian living environment (Belsky, 1984; Chase-Lansdale & Pittman, 2002 cited in Okagaki, L& Luster, T, 2005). Moreover, a lack of financial security reduce the effectiveness in parenting, creating environment with less warmth, harsher discipline, and less stimulation(Chase-Lansdale & Pittman, 2002;Forehand & Kotchick, 2002, cited in Okagaki, L& Luster,T.2005). Therefore, parenting style is not the only factor that can influence emotional and behavioural problems of children.

There was significant difference in emotional and behavioral problem by gender. This finding is consistent with the work of Vanchindorj B et al., (2017). He found that there was significant difference in emotional and behavioral problem by gender. This is because females might be more anxious when they experience worse phenomenon than boys. Moreover, girls were more prone to talk about what they are thinking and feeling, and to demonstrate how they were feeling with their tears, facial expressions, and hand gestures, and body language. Most of the girls seem to be more comfortable figuring out how they feel by talking through it. Most of the boys were afraid of their emotions and kept them buried inside in order to protect themselves from looking weak.

Again, emotional and behavioral problems subscales were computed by *t* test. Based on the result of *t* test by gender, there was significant difference in emotional symptom scale of emotional and behavioral problems. Females were higher in emotional symptom scale than the males. This finding is consistent with the work of Vachindorj B et al. (2017). He suggested that females are more common in emotional symptoms than the males. Moreove, it was suggested by Moriguc, hi,Y(2014) that men and women did not differ overall in their intensity of moment-to-moment emotional reactions. But, the neural circuitry recruited during emotion processing differed between the sexes. Women showed neural activity in the anterior insula cortex, which processes bodily sensations. This means that they deeply experienced emotions within their bodies. On the other hand, men showed neural responses in the visual cortex. While processing

these images, male brain immediately activated circuitry involved in regulating shift or attention to the world. This allowed them to shift the emotional impact of the images away from themselves (cited in Cummins, D, 2014).

Based on the result of *t* test by gender, there was no significant difference in conduct problems scale of students between males and female. This finding is not consistent with the work of Klostermann, S & Connell, A & Stormshak, E, A (2014). They found the important gender differences in conduct problems. However, this finding is congruent with the work of Storvoll, E, E (2011). He found that there were no males and females differences in the conduct problems. According to age range of the participants, every child might have conduct problems to some extent.

Based on the result of *t* test by gender, there was significant difference in peer problems scale of students between males and females. Females were higher in peer problems than the males. This finding is consistent with the work of Vanchindorj et al. (2017). They found that peer problems were more common in female adolescents than the males. A survey conducted by Newsweek journal also stated that teenage girls perceive more stressors in life than teenage boy, especially when it comes to interpersonal relationship. Moreover, teenage girls react more strongly to these stressors, are more likely to experience emotional and behavioral problems (cited in every day health, 2017).

Based on the result of *t* test by gender, there was significant difference in hyperactivity scale of students between males and females. Hyperactivity problem was higher in males than females. This finding is consistent with the work of Rucklidge JJ et al. (2010). He found that boys are three times more likely to receive hyperactivity than girls. According to Kinman, T (2016), Hyperactivity disorder is one of the most common conditions diagnosed in children. It is a neurodevelopmental disorder that causes various hyperactive and disruptive behaviors. One reason that boys are labeled with hyperactivity is because of the symptom they display. Boys with hyperactivity are more likely to act out. They tend to be more active than girls, causing problems at home and in the school.

Then, there was significant difference in emotional and behavioral problems by school location. This finding is consistent with the work of Zhang, H et al. (2011). They found that rural group was higher than the urban group in overall mental health problems. Emotional and behavioral problems among children occur more frequently in deprived areas. In a review of area deprivation on children health, Sellstrom and Bremberg estimated that areas deprivation increases the prevalence of behavioral problems by 12%. They concluded that behavioral problems may be in part being attributed to a child immediate environment. Leventhal and Brooks-Gunn have identified three explanatory factors deprived areas. First factor is a lack of institutional resources. Second, the difficulties encounter by many parents in deprived areas could lead to more child behavioral problems as parents transfer their own economic, social and health difficulties and the resulting psychological problems to the relationships that they have with their children. Third, the norm and collective efficacy that shape the child behavior could be insufficient (cited in Reijneveld,S,A et al.,2009).

There was no significant difference in emotional and behavioral problems by father's occupation. This finding is not consistent with the work of Li, J and Pollmann-Schult M (2016). They found that father's parenting style is influenced by father's occupation. This might be as most of the grade-11 students do not live in home and were in borders and private schools.

Therefore, their problems cannot significantly different according to father's occupation. But, by the comparison of mean scores on emotional and behavioral problems of children; children of merchant fathers were higher in emotional and behavioral problems than others. According to Li, J and Pollmann-Schult M (2016), father's commuting to work has multiple negative impacts on tend to have more emotional and social problems. Fathers whose were merchants commute to work over a long distance home for their business and cannot live with their children almost every time. Therefore, they might not provide emotional support to their children and they might not have direct contact and direct interaction with their children. For these reasons, emotional and behavioral problems of children whose fathers were merchants were the highest in emotional and behavioral problems among the occupations.

There was significant difference in emotional and behavioral problems by mother's occupation. This finding is consistent with the work of Ali, EA and Rattan (2015). They found that mother's working conditions can impact on emotional and behavioral problems of children. Mother working more than 20 hours per week may not form sensitive relation with her children and have insecure attachment. According to Abdel-Fattach et al., (2004), mother's occupation were associated with higher risk of developing emotional and behavioral disturbance. According to working condition of Myanmar, mothers whose were merchants might be busier than others and, they must concentrate on their work. For these reasons, children whose mothers were merchants might be higher in emotional and behavioral problems than the children whose mothers were other occupations.

ANOVA also revealed that there was no statistically significant difference in emotional and behavioral problems with respect to parenting styles of fathers and mothers. This finding is consistent with the work of Rosli, N, A (2014). It was found that no statistically significant differences were found in emotional and behavioral problems between the various parenting groups. This finding is not congruent with the work of Rizvi, S, F, I (2016). He found that authoritative upbringing of both mother and father was established as most optimum style with significant negative relationship with problem behaviors while authoritarian and permissive parenting for mother and father separately as well as together was associated with different problem behaviors.

According to Brown (2017), biological and genetic factors are identified as the causes of emotional and behavioral problems. Some studies showed that the parental drug exposure contribute to children' emotional and behavioral problems. Identifying the biology causes for these condition also play an important role in treatment. Moreover, all the factors of the environments have the positive or negative influences on each individual' growth and development. Of course, a single negative factor will be difficult to impact on the individual' emotion and behavior, but the combinations of many factors like neglect, abuse, poverty, inconsistent expectations and rules, parental stress, turmoil over long period of time, and confusion can lead to emotional and behavioral problems in children and adults. Among them, poverty is the most obvious factor that linked to these conditions. Among the tremendous factors that influence the students also include teachers and schools. What educator do can influence on the students like teachers' expectations, feedback, and especially the number and character of their interactions with students. The factors of school climate like positiveness, consistency of rules, expectation, high level of supervision in all school settings, high level of parents and community involvement, cultural sensitivity, the feelings of identification and involvement on

the parts of students will have the positive or negative influence on the students' emotions and behaviors. Therefore, the future researchers should researched others factors that influence on emotional and behavioral problems.

Moreover, age range of children can also be a factor that can influence on emotional and behavioral problems of children. According to Hashmi, S (2013), adolescent can be defined as follows:

- A - Aggressive, Anemic, Abortion
- D - Dynamic, Developing, Depressed
- - Overconfident, Overindulging, Obese
- L - Loud but lonely and lacking information
- E - Enthusiastic, Explorative, and Experimenting
- S - Social, Sexual and Spiritual
- C - Courageous, Cheerful, and Concern
- E - Emotional, Eager, Emulating
- N - Nervous, never say no to Peers
- T - Temperamental, Teenage Pregnancy companied with low usage of contraceptives.

Therefore, age range of children might also be a factor that can influence on emotional and behavioral problems of children.

Conclusion

Mental health problems in children are common throughout the world. According to estimates provided by World Health Organization, 20% or one-fifth of children worldwide suffer mental health and behavioral disorder. Most are adolescents between the age of 10-19. WHO Report-2001 show the prevalence of anxiety was 13%, behavioral disorders 10.3%, emotional disorder 6.3% among children ages 9-17. At minimum, 3% of children age children complain of severe depression, suicidal thoughts, and psychosis and attention deficit hyperactivity disorder. Moreover, these problems can have serious negative consequences on children academic achievement and social development (Patricia, N et al., 2012 cited in Rosli, N, A. 2009). Therefore, other factors that can influence on emotional and behavioral problems of students should be researched.

Acknowledgements

Reference

Abdel-Fattach, Moataz M., & Asal,Abdel-Rehman A., & Alaasmary, Saeed M., & Al-Helali,Nabils., & Al-Jabban, Tawfiq M., & Arafa,Mostafa A. (2004). Emotional and behavioral problems among male Saudi schoolchildren and adolescents prevalence and risk factors. *German Journal of Psychiatry*. Retrieved January 9, 2019 from www.psytnet.apa.org>record/2004-11428-001

Abington. (2018). Why Parenting Education is Essential. Retrieved November 23, 2018 fromhttps://www.abingtonhealth.org/services-specialities/childrens-health/resources/why-parenting-education is essential/#XHQVW-Qn6w

Ali, EA., & Rattani. (2015). Effect of Maternal Employment on Child's Emotional Development. *International Journal of Nursing Educaition*, April-June,2015, Vol, 7, No, 2. 55-59. DOI: 105958/0974-9357. 2015. 000744. Retrieved February 4, 2019 from https://www.academia.edu/19998968/Effects-of-Maternal-Employment-on-Child-s Emotional-Development

Brown. 2017. Emotional and Behavioral Disorders- cause symptoms, treatment. Retrieved January 25, 2019 from www.vkool.com>health

Bushati, J. 2014. The relation between parental demographics, parenting styles and student academic achievement. European Scientific Journal May 2014. Vol.10.No.13 ISSN:1857-7881 (Print) e-ISSN 1857-7431. Retrieved October 1, 2018 from https://eujournal.org.>article>viewfile

Baumrind, D. (1966). Effects of authoritative parental control on child behavior. Child Development, 37 (4), 887-907. Retrieved November 5, 2018 from https://www.researchgate.net/publication/233897133-Effect- of -Authoritative -Parental-Control -on- Child Behavior

Cummins, D. 2014. Are Males and Females Equally Emotional? Retrieved January 1,2019 from https://www.psychologytoday.com/us/blog/good-thinking/201406/are-males-and-frmales-equally-emotinal

Darling, N., & Sternberg, L. (1993). Parenting style as context: An integrative model. Psychological Bulletin, 113, 487-496. Retrieved August 15, 2018 from https://www.google.com/search?ie=UTF-8&source=androidbrowser&q=parenting +styles+as+context

Dornbusch, S., Ritter, P., Leiderman, P. H., Roberts, D., & Fraleigh, M. (1987). The relation of parenting style to adolescent school performance. Child Development, 58, 1244-1257.DOI:10.2307/1130618.

Everyday health. (2017). Parenting Boys Vs. Girls: How Different Is It? Retrieved November 22, 2018 from https://www.everydayhealth

Fonte, B.A. (2009). Relationship between parenting styles, emotional intelligence and self esteem.

Gallarin, M., & Alonso-Arbiol, I. (2012). Parenting practices, parental attachement and aggressiveness in adolescents: A predictive model. *Journal of Adolescence*, 35(6), 1601-1610. Retrieved Decmber 4, 2018 from https://www.sciencedirect.com>pii

Gofoor, K, A and Kurukkan, A. (2014). Construction and Validation of Scale of Parenting Style. Guru Journal of Behavioral and Social Sciences. Vol.2(4)315-323:DOI:2320-9038. Retrieved September 24, 2018 from www.files.eric.gov

Goodman R., & Meltzer H., & Bailey V. (1997). Strengths and Difficulties Questionnaires. A research note.Journal of child psychology and psychiatry. Vol. 38, 581-586. Retrieved September 24, 2018 from www.psychology.org.nz

Hashmi, S. (2013). Adolescence: An Age of Strom and Stress. *Review of Art and Humanities.* June 2013, Vol-2, No. 1, 19-33.Retrieved January 25, 2019 from www.aripd.org/rah

Joshi, H. L., Sharma, M., &Mehra, R. K. (2009). Depression among adolescents: Role of self - efficacy and parenting style. *Journal of Psychology & Mental Health, 16,* 13-17. Retrieved October 12, 2018 from https://search.proquest.com/openview/56259bdea856d85621b86eae1b0bf1d9/1?pqorigsite=gscholar&cbl=29082

Keshavarz, S., & Baharudin, R. (2009). Parenting style in a collectivist culture of Malaysia. *European Journal of Social Sciences, 10*(1), 66-73. Retrieved October 14 2018 from https:// scinapse.io / papers/ 171883798

Kinman, T. (2016). ADHD Symptoms Differ in Boys and Girls. Retrieved January 1, 2019 from https://www. healthline.com>health>ad

Klostermann, S & Connell, A & Stormshak, E, A. (2014). Gender Differences in the Developmental Links Between Conduct Problems and Depression Across Early Adolescent. *Journal of Research on Adolescence*. Vol.26 (1): 76-89: DOI: 10.1111/jora.12170.Retrieved February 6, 2019 from https://www. researchgate.net>publication

Li, j., & Pollen-Schult, M. (2015). Fathers' Commute to Work and Children's Social and Emotional Well-Being in Germany. *Journal of Family and Economic Issue*. DOI 10.1007/s10834-015-9467-y. Retrieved February 4, 2019 from https://www.researchgate.net>publication

Lopes, P.N., Brackett, M.A., Nezlek,J.B., Schutz, A., Sellin, I., & Salovey, P.(2004). Emotional intelligence and social interaction. Personality and Social Psychology Bulletin, 30(8), 1018-1034.

Okagaki, L & Luster,T. (2005). Parenting: An Ecological Perspective. American. Erlbaum, L. Retrieved December 1, 2018 from https://www.amazon.com>Parenting-Ec…

Rizvi. (2015). Emotional and Behavioral Problems Associated with Parenting Styles in Pakistan Adolescents. *VFAST Transactions on Education and Social Sciences*. Vol. 8 (2), 6-13. Retrieved November 13 2018 from https://www.researchgate.net

Rosli, N, A. (2009). Effect of Parenting Styles on Children's Emotional and Behavioral Problems among Different Ethnicities of Muslim Children in the US. Marquette University Retrieved September 17, 2018 from www.hppt://epublications.marquette.edu/dissertations _ mu/376

Rucklidge JJ. (2010). Gender Differences in Attention Deficit/ Hyperactivity Disorder. Retrieved February 2, 2019 from https://www.ncbi.nlm.nih.gov>pubmed

Singh, C, K., & Rani, P. 2013. Comparison of Rural and Urban Children according to Home Environment and Parenting Style. Asian Journal of Home Science. Vol. 8 (2), 665-667. Retrieved November 23, 2018 from www.researchjournal.co.in>assignment

Storvoll, E, E. (2011). Gender differences in the association between conduct problems and other problems among adolescent. *Journal of Scandinavian Studies in Criminology and Crime Prevention*. Volume 3, 2003-Issue 2, 194-209. Retrieved September 4, 2018 from https://tandfonline.com>doi>abs

Vachindorj B., & Naidansuren T., & Bayartsogt B., & Yerlan G., & Namandak A., & Batdelger S., & Ochir C., & Lkhagvasuren N. (2017). Prevalence of Emotional and Behavioral Problems and Some Risk Factors. *Journal of Mental Disorders and Treatment.* Vol. 3(1): DOI: 10.4172/2471-271X.1000136.

Zemanta. (2012). Impact of Parenting Styles on Children and Adolescent. Retrieved October 28, 2018 from www.whatispsychology.biz/impact-of-parenting-styles-on-children-and-adolescent

Zhang, H., & Chang, K., & Zhang, F. (2011). Mental health problems and coping styles of urban and rural students in China. Retrieved January 2, 2019 from https://www.onlinelibrary.wiley.com/ doi/abs/ 10.1002/ jcop. 20492

FACEBOOK ADDICTION AND LONELINESS OF UNIVERSITY STUDENTS FROM SAGAING DISTRICT

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Abstract

The primary purpose of this study is to examine Facebook addiction and loneliness of university students from Sagaing District. The sample consists of 760 university students (368 males and 392 females) from Sagaing University of Education, Sagaing University, Cooperative University Sagaing and Sagaing Technological Unversity. Bergen Facebook Addiction Scale designed by Andreassen, Torsheim and Brunborg (2012) was used to measure Facebook addiction of university students. The Revised UCLA Loneliness Scale designed by Russell, Peplau and Cutrona (1980) and Russell and Cutrona, (1988) was used to measure loneliness of students. According to results, 11.97% of the university students had higher level of Facebook addiction and male students were more addicted to Facebook than females. There were significant differences in Facebook addiction by university, by the time participant spend on Facebook in a day. Then, male students feel more loneliness than females. There were significant differences in loneliness by university. Finally, there was a significant positive correlation between Facebook addiction and loneliness.

Keywords: Facebook addiction, Loneliness

Introduction

As the youth of 21st century, being familiar with modern social media, Facebook is essential. Facebook has a total number of 2.2 billion user's monthly active, who spend hours per day on it (Donnelly, 2018).

Facebook is great for communication, networking and planning events. It is a social platform that was designed to connect people and clearly it achieves this in a number of ways. It also offers the opportunity of self-presentation, of creating and maintains relationships of manifesting different social and individual interest.

In Myanmar, Facebook is the most popular online social media and there are 16 million Facebook users. According to research by NapoleonCat.com, over 53% of all Facebook users who live in Myanmar are aged 18-24, the age of university students. Today's university students highly value Facebook and have integrated it into all aspects of their lives. Even though the use of these new technologies on the lifestyle of school age children and youth are beneficiary, such as better communication and self- improvement, the over using or misusing of Facebook may result in some physical and mental injury.

Facebook's utility and popularity often masks its more psychologically damaging aspects. Like everything else, there is an acceptable level of use and an unacceptable level of use, a point where normality becomes abuse and a point where the average social media user becomes a Facebook addict. Some of the people may feel a compulsion to check Facebook constantly and have trouble going one day without it. For a minority, the situation is a lot worse. Some people do not just feel compelled to use Facebook, but their Facebook use has become so out of control that it interferes with work, studies, relationships and normal social functioning. This is the point when a habit turns into an addiction or a pathological disorder.

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Facebook addiction is a common problem among adults, and young people (Cao Lin, Hanh Le, & Cheng, 2012). Facebook addicts display issues concerned with friendships, family, work or school environment. Addicts begin to spend less time with their friends, relatives or families, and stay home all day, activating on Facebook and being passive at the events that happen around them (cited in Balci et al, 2013).

Human beings are social creatures and they all need love and affection, as well as face-to-face communication with others (Shaw & Gant, 2002). It has been suggested that people possess a need to belong and if these needs are not met it can affect their emotions and drive them to experience negative emotional feelings such as loneliness (Baumeister & Leary, 1995). Loneliness is an important psychological problem that more people suffer in this modern era although there are a lot of tools which enables them to become more sociable. Loneliness has been defined as an experience that occurred when a person's network of social relations is lacking in some important way, either qualitatively or quantitatively (Peplau & Perlman, 1982; Perlman & Peplau, 1981). It is a complex and unpleasant feeling that usually arises when individuals experience a disparity between current social relations and desired social relations (Peplau & Perlman, 1982; Perlman & Peplau, 1981). Loneliness is a universal, depressing and a draining condition that can have a great effect on individuals' lives. It has been reported that it can make individuals feel as they are the only person in the world, and some go to the extreme and state that it can decrease individuals desire to live (Killeen, 1998).

By the review of some of the surveys, social communication by internet indicates it is very weak compare to face to face interaction and in the long run, it makes the over users to becomes lonelier (Shojaiee, 2008). Moreover, loneliness can also lead to negative impact on the physical wellbeing (Kristin, 2016). So, it is critical for researchers to focus on university students to gain a dynamic understanding of Facebook addiction and loneliness. Meanwhile, the previous studies have conflicting results as to the relationships of Facebook addiction and loneliness of students. While the study of Steggink (2015) show a significant relationship between Facebook addiction and loneliness, but a recent study of Karakose et al. (2016) reveals no significant relationship between the two variables. So, it is deemed relevant to study the relationship of Facebook addiction and loneliness in Myanmar society. But rooting research in Facebook addiction is really rare in Myanmar. In the recent years, there is one research about Facebook use and self-esteem done by Khin Mar Myint(2015) from Sagaing University of Education. But this research only revealed just normal usage of Facebook rather than addictive use of Facebook. So, this study would examine mainly on addictive use of Facebook and whether the relationship of the two variables Facebook addiction and loneliness exists or not among the university students of Myanmar context.

Aim of the Study

The main aim of this study is to examine Facebook addiction and loneliness of university students from Sagaing District.

The specific objectives are as follow:

1. To explore Facebook addiction of university students by gender.
2. To compare Facebook addiction of university students by university.
3. To compare Facebook addiction of university students by the time participant spend on Facebook in a day.

4. To compare loneliness of university students by gender.
5. To compare loneliness of university students by university.
6. To find out the relationship between Facebook addiction and loneliness of university students.
7. To find out the impact of Facebook addiction on loneliness of university students.

1.3 Research Questions

1. Are there any statistically significant differences in Facebook addiction of university students by gender?
2. Are there any statistically significant differences in Facebook addiction of university students by university?
3. Are there any statistically significant differences in Facebook addiction of university students by the time participant spend on Facebook in a day?
4. Are there any statistically significant differences in loneliness of university students by gender?
5. Are there any statistically significant differences in loneliness of university students by university?
6. Is there any significant relationship between Facebook addiction and loneliness of university students?
7. Is there any impact of Facebook addiction on loneliness of university students?

Scope of the Study

In this research, university students from Sagaing District of Myanmar were selected as participants.

Definitions of Key Terms

Facebook is the name of social networking site that was launched in 2004 (Dictionary. com, 2012).

Addiction is the need of strong desire to do or to have something, or a very strong liking for something (Cambridge Dictionary, 2018).

Facebook Addiction is a term coined by researchers that is applied to individuals who engage in excessive, compulsive Facebook use for the purpose of mood alternation, with negative personal outcomes (Ryan. et al., 2014).

Loneliness is the response of an individual with a lack of social relationships, or a lack of closeness, sincerity and emotionality in relationships, even though the individual has various social relationships (Ozben, 2014).

Methodology

Sampling

The survey research was conducted for the university students from Sagaing District. The university students who are attending in Sagaing Co-operative University, Sagaing Technological University, Sagaing University and Sagaing University of Education participated in this study. The sample consists of 200 university students from each university. The students were randomly selected. The total of participants in this study was 800 university students.

Method

Descriptive research design and questionnaire survey method were used in this study.

Instrumentation

In this study, Bergen Facebook Addiction Scale (BFAS, Andreassen, Torsheim & Brunborg, 2012) and the Revised UCLA Loneliness Scale designed by Russell, Peplau & Cutrona (1980) and Russell & Cutrona, (1988) were used to assess Facebook addiction and loneliness of university students. The Facebook Addiction Questionnaire was composed of 18 items and the Revised UCLA Loneliness Scale was composed of 20 items. The instrument were transformed into Myanmar version and expert's reviews were requested. The respondents completed the instrument using a Likert scale of four answers; ranging from ─strongly disagree to strongly agree. In this Questionnaire, the scores on (strongly disagree) items represented the lowest level of Facebook addiction while the scores on (strongly agree) indicated the highest level. The internal consistency (Chronbach alpha) of Bergen Facebook Addiction Scale and the Revised UCLA loneliness scale were 0.901 and 0.858 respectively.

Data Analysis

The data getting from questionnaires were entered into a computer data file and analyzed by using SPSS software. By descriptive analysis, the mean, standard deviation, maximum and minimum scores for participants' Facebook addiction scale and loneliness scale were calculated. Independent samples *t* test analysis was used to investigate whether there was a significant difference in Facebook addiction and loneliness of university students by gender. Then, to investigate whether there were significant differences between Facebook addiction and loneliness by university and by the time participant spend in Facebook in a day, one-way ANOVA was conducted. And then, Pearson-Product Moment Correlation was carried out to find out if there were any significant correlations between Facebook addiction and loneliness of the university students. Finally, bivariate or simple linear regression was conducted in order to be able to indicate prediction of one variable from another to investigate the impact of Facebook addiction on loneliness of university students.

Findings

Descriptive Statistics for Facebook Addiction

Facebook addiction scores of university students were pointed out by descriptive statistics. In terms of descriptive statistics, minimum and maximum scores, mean and standard deviation of the students' Facebook addiction were presented in Table 1.

Table 1 Descriptive Statistics for Facebook Addiction of Students

Variable	*N*	Minimum	Maximum	Mean	*SD*
Facebook Addiction	760	18	69	37.81	8.281

As shown in Table 1, the mean score in students' Facebook addiction was 37.81 and standard deviation was 8.281. The maximum score of students' Facebook addiction was 69 and minimum score was 18. The theoretical mean score is 45 and it was higher than the observed mean score. Therefore, in general, most of the students of the current study had low level of Facebook addiction.

Comparison of Facebook Addiction of Students by Gender

To find the difference in Facebook addiction between male and female descriptive analysis was conducted. The mean and standard deviations of male and female students were described in Table 2.

Table 2 The Result of Independent Samples *t* test on Facebook Addiction of Students by Gender

Variable	Gender	*N*	Mean	*SD*	Mean Difference	*t*	*df*	*p*
Facebook Addiction	Male	368	38.81	8.770	1.93	3.32***	785	0.001
	Female	392	36.88	7.689				

Note: ***The mean difference is significant at 0.001 level.

According to the results of Table 2, there were significant differences in Facebook addiction between males and females (*p*=0.001). So it can be said that male students have higher level of Facebook addiction than females.

Comparison of Facebook Addiction of Students by University

In order to investigate whether there were significant differences in Facebook addiction of students by university, descriptive statistics was conducted. All the four universities were coded in University 1, 2, 3 and 4. The mean scores and standard deviation of students' Facebook addiction by university were presented in Table 4.

Table 3 Descriptive Statistics for Facebook Addiction of Students by University

Variable	University	*N*	Mean	*SD*
Facebook Addiction	University 1	190	38.91	8.102
	University 2	190	36.76	7.956
	University 3	190	36.68	8.280
	University 4	190	38.89	8.552

According to Table 3, University 1 has the highest mean score and University 3 has the lowest mean score.

To explore the significant differences in students' Facebook addiction by university, one-way analysis of variance (ANOVA) was used.

Table 4 Results of ANOVA for Facebook Addiction of Students by University

Students' Facebook Addiction	Sum of Squares	*df*	Mean Square	*F*	*p*
Between Groups	900.541	3	300.180	4.437**	.004
Within Groups	51147.553	756	67.655		
Total	52048.093	759			

Note: **The mean difference is significant at 0.01 level.

ANOVA results showed that there were significant differences in Facebook addiction by university at 0.01 level. To obtain more detailed information in each group, Post-Hoc test was executed by Tukey HSD method.

Table 5 Result of Tukey HSD for Facebook Addiction of Students according to University

University(I)	University(J)	Mean Difference (I-J)	p
University 1	University 2	2.147	.054
	University 3	2.226[*]	.042
	University 4	.021	1.000
University 2	University 1	-2.147	.054
	University 3	.079	1.000
	University 4	-2.126	.058
University 3	University 1	-2.226[*]	.042
	University 2	-.079	1.000
	University 4	-2.205[*]	.045
University 4	University 1	-.021	1.000
	University 2	2.126	.058
	University 3	2.205[*]	.045

Note: * The mean difference is significant at the 0.05 level.

According to the Table 5, there was significant difference between University 1 and University 3 ($p<0.05$). There was also significant difference between University 4 and University 3 ($p<0.05$). It can be interpreted that students from University 1 and 4 have higher level of Facebook addiction than the other two universities and students from University 3 are least addicted to Facebook in comparing with the last three universities.

Comparison of Facebook Addiction of Students by the Time Participant Spend on Facebook in a Day

In order to investigate whether there were significant differences in students' Facebook addiction by the time participant spend on Facebook in a day, descriptive statistics was conducted.

Table 6 Descriptive Statistics for Facebook Addiction of Students by the Time Participant spend on Facebook in a Day

Variable	Hour	N	Mean	SD
Facebook Addiction	Over 1 hour	313	34.76	7.919
	Over 2 hours	196	38.51	7.198
	Over 3 hours	153	39.66	7.674
	Over 4 hours	60	41.60	7.452
	Over 5 hours	38	45.95	9.355

According to Table 6, the students who had used Facebook over 5 hours in a day have the highest mean score and those who had used Facebook over 1 hour in a day have the lowest mean score.

To explore the significant differences in students' Facebook addiction by the time spent of the respondent by using Facebook, one way analysis of variance (ANOVA) was used.

Table 7   Results of ANOVA for Facebook Addiction of Students by Time Participant Spend on Facebook in a Day

	Sum of Squares	df	Mean Square	F	p
Between Groups	6914.946	4	270.718		
Within Groups	45133.147	755	67.504	4.010**	.003
Total	52048.093	759			

Note: **The mean difference is significant at 0.01 level.

According to Table 7, ANOVA results showed that there were significant differences in Facebook addiction by the time participant spend on Facebook in a day at 0.01 level. To obtain more detailed information in each group, Post-Hoc test was executed by Games-Howell method.

Table 8 Result of Games-Howell for Facebook Addiction of Students by the Time Participant Spend on Facebook in a Day

(I) Hour	(J) Hour	Mean Difference (I-J)	Sig.
Over 1hour	Over 2 hours	-3.753*	.000
	Over 3 hours	-4.903*	.000
	Over 4 hours	-6.843*	.000
	Over 5 hours	-11.190*	.000
Over 2 hours	Over 1 hour	3.753*	.000
	Over 3 hours	-1.150	.642
	Over 4 hours	-3.090	.054
	Over 5 hours	-7.437*	.000
Over 3 hours	Over 1 hour	4.903*	.000
	Over 2 hours	1.150	.642
	Over 4 hours	-1.940	.468
	Over 5 hours	-6.287*	.000
Over 4 hours	Over 1 hour	6.843*	.000
	Over 2 hours	3.090	.054
	Over 3 hours	1.940	.468
	Over 5 hours	-4.347	.053
Over 5 hours	Over 1 hour	11.190*	.000
	Over 2 hours	7.437*	.000
	Over 3 hours	6.287*	.000
	Over 4 hours	4.347	.053

Note: * The mean difference is significant at the 0.05 level.

As shown in Table 8, there were significant differences between 1 hour users and the other users. It can be interpreted that those who use Facebook over 2 hours and above in a day are supposed to have higher level of Facebook addiction.

Descriptive Statistics for Loneliness

Students' loneliness scores were pointed out by descriptive statistics. In terms of descriptive statistics, minimum and maximum scores, mean and standard deviation of the loneliness scores were presented in Table 9.

Table 9 Descriptive Statistics for Loneliness Students

Variable	*N*	Minimum	Maximum	Mean	*SD*
Loneliness	760	20	63	35.78	7.294

  As shown in Table 9, the mean score in students' loneliness score was 37.78 and standard deviation was 7.294. The maximum score of students' Facebook addiction was 63 and minimum score was 20.The theoretical mean score is 50 and it is higher than the observed mean score. Therefore, the students in the current study had low level of loneliness.

Comparison of Loneliness of Students by Gender

  To find the difference between male and female students' loneliness, descriptive analysis was conducted. The mean and standard deviations of male and female students were described in Table 10.

Table 10 The Result of Independent Samples t test on Loneliness of Students by Gender

Variable	Gender	*N*	Mean	*SD*	Mean Difference	*t*	*df*	*p*
Loneliness	male	368	36.39	7.570	1.166	2.209*	758	0.027
	female	392	35.22	6.988				

Note: *The mean difference is significant at 0.05 level.

  According to the results of Table 10, there were significant differences in loneliness between males and females at 0.05 level. So it can be said that male students feel more loneliness than females.

Comparison of Loneliness of Students by University

  In order to investigate whether there were significant differences in students' loneliness by university, descriptive statistics was conducted. All the four universities are coded in University 1, 2, 3, and 4. The mean scores and standard deviation of students' loneliness by university were presented in Table 16.

Table 11 Descriptive Statistics for loneliness of Students by University

Variable	University	*N*	Mean	*SD*
Loneliness	University 1	190	36.04	7.876
	University 2	190	35.05	6.414
	University 3	190	34.87	7.023
	University 4	190	37.18	7.600

  According to Table 16, the mean score of University 4 is highest and that of University 3 was lowest.

  To explore the significant differences in students' loneliness by university, one way analysis of variance (ANOVA) was used.

Table 12   Results of ANOVA for Loneliness of Students by University

Students' Loneliness Scores	Sum of Squares	*df*	Mean Square	*F*	*p*
Between Groups	644.747	3	214.916	4.089**	.007
Within Groups	39737.863	756	52.563		
Total	40382.611	759			

Note: **The mean difference is significant at 0.01 level.

ANOVA results showed that there were significant differences in loneliness by university at 0.01 level. To obtain more detailed information in each group, Post-Hoc test was executed by Games-Howell method

Table 13 Result of Games-Howell for Loneliness of Students by University

University(I)	University(J)	Mean Difference(I-J)	Sig.
University 1	University 2	.995	.532
	University 3	1.174	.419
	University 4	-1.137	.480
University 2	University 1	-.995	.532
	University 3	.179	.994
	University 4	-2.132*	.017
University 3	University 1	-1.174	.419
	University 2	-.179	.994
	University 4	-2.311*	.012
University 4	University 1	1.137	.480
	University 2	2.132*	.017
	University 3	2.311*	.012

Note: * The mean difference is significant at the 0.05 level.

As shown in Table 13, University 4 has significant differences in comparing with University 2 and University 3. It can be interpreted that students from University 1 and 4 feel more loneliness than the students from University 2 and 3.

The Relationship between Facebook Addiction and Loneliness of University Students

In order to investigate the relationship between Facebook addiction and loneliness of university students, Pearson Product-Moment Correlation was applied.

Table 14 Correlation between Facebook Addiction and Loneliness of University Students

Variable	Facebook Addiction	Loneliness
Facebook Addiction	1	.336**
Loneliness	.336**	1

Note: ** Correlation is significant at the 0.01 level (2-tailed).

According to Table 14, the result indicated that there was a significant positive correlation between the students' Facebook addiction and loneliness (r = .366) at o.01 level which indicated that as Facebook addiction increased, loneliness will increase accordingly. Thus, it can be interpreted that students who addicted to Facebook feel more loneliness than those who are not addicts.

The Impact of Facebook Addiction on Loneliness of University Students

Then, bivariate or simple linear regression was conducted in order to be able to indicate prediction of loneliness from Facebook addiction. In order to know the percentage of prediction of loneliness from Facebook addiction, the model summary of predictor, the Facebook addiction item total, was described in the following model summary Table 4.21.

Table 15 Model Summary for Facebook Addiction and Loneliness of University Students

Model	*R*	*R* Square	Adjusted R Square	Std. Error of the Estimate
1	.336[a]	.113	.112	6.874

a. Predictors: (Constant), Facebook Addiction

The result indicates that the adjusted R square was 0.113. This indicates that 11% of the variance in loneliness was explained by Facebook addiction of the students.

The relationship between Facebook addiction and loneliness of students can be identified by the regression coefficient, which is the slope of the best-fit line or regression line. The regression coefficient was described in the following Table 16.

Table 16 Result of Regression Coefficient for Facebook Addiction and Loneliness of University Students

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.583	1.166		21.079	.000
	Facebook Addiction	.296	.030	.336	9.832	.000

a. Dependent Variable: Loneliness

According to Table 16, the identified equation to understand the relationship between Facebook addiction and loneliness was;

Loneliness = 24.583 + 0.296 Facebook Addiction.

Discussion

The current study was conducted to investigate prevalence of Facebook addiction of university students in Sagaing District, Myanmar. Descriptive analysis was conducted and the result showed that the mean score in students' Facebook addiction was 37.81 and standard deviation was 8.281. The maximum score of students' Facebook addiction was 69 and minimum score was 18. The theoretical mean score is 45 and it was higher than the observed mean score (37.81). Therefore, it can be interpreted that generally most of the students in the current study have low level of Facebook addiction. This result is congruent to the findings of Steggink (2015) which only minority of the students were addicted to Facebook. The reason for this result may be because most of the university students had their university activities which allow them to live in reality world more and more.

To find the difference in Facebook addiction between male and female descriptive analysis was conducted and it was found that the level of Facebook addiction is significantly higher for male students than that of females. The result of current study is consistent with the study of Yaman (2016) who found that Facebook addiction scores of male students were seen to have higher scores than females' students. This result may be because once males are deeply engaged in a task or game, they may not demonstrate much sensitivity to other people or their surroundings. While males excel in highly task-focused projects, females are great multi-taskers. Girls tend to more quickly transition between tasks than boys do (Gregory, 2014). So, boys should engage more in social activity and real life social interaction rather than spending too much time thinking about Facebook or planned used of Facebook.

To explore the significant differences in students' Facebook addiction by university, one way analysis of variance (ANOVA) was used. ANOVA results showed that there were significant differences in Facebook addiction by university at 0.01 level. To obtain more detailed information in each group, Post-Hoc test was executed by Tukey HSD method and found that there was significant difference between University 1 and University 3 ($p<0.05$). There was also significant difference between University 4 and University 3 ($p<0.05$). There was no significant difference between University 1 and 4. It can be interpreted that students from University 1 and 4 have higher level of Facebook addiction than the other two universities and students from University 3 are least addicted to Facebook in comparing with the last three universities. The reason for this result may be because the nature of the university and individual's characteristics of the participant.

To explore the significant differences in students' Facebook addiction by the time spent of the respondent by using Facebook, one way analysis of variance (ANOVA) was used. ANOVA results showed that there were significant differences in Facebook addiction by the time participant spend on Facebook in a day at 0.01 level. To obtain more detailed information in each group, Post-Hoc test was executed by Games-Howell method and the results showed that there were significant differences between 1 hour users and the other users. It can be interpreted that those who use Facebook over 2 hours and above had higher level of Facebook addiction. And then, participants who spend five or more hours on Facebook in a day are more addicted to Facebook than the other participants. The outcome of current study completely aligned with the result of the study of Şükrü and Abdülkadir (2013) and Karakose et al., (2016). According to Şükrü and Abdülkadir (2013), when Facebook operating time increased, Facebook addiction level will increase clearly. Karakose et al., (2016) also stated that participants who spent two, three, or five or more hours on Facebook in a day had significantly higher addiction levels than participants who spent one hour or less on Facebook in a day. This result may be because spending too much time on Facebook causes users to stay on Facebook more and more and also it causes users to spend little time with reality world and attachment to Facebook gradually grows and finally addicted to Facebook.

And then, descriptive analysis was conducted to explored mean and standard deviation of students' loneliness and the result showed that the mean score in students' loneliness score was 37.78 and standard deviation was 7.294. The maximum score of students' Facebook addiction was 63 and minimum score was 20. The theoretical mean score is 50 and it is higher than the observed mean score (37.78). It can be said that participants of the current study have low levels of loneliness. This can be regarded as a positive result. This result was consistent with the result of Rahamn et. al, (2012) who found that university students have low level of loneliness. The reason for this result may be because all of the participants in the current study are studying in the university and they have to attend day class. At school they are required to attend all classes so throughout most of the day they are surrounded by their peers. Their social relationships are more intense. Thus, they spend plenty of their time with their peers and this can reduce the feelings of loneliness. Ingvadóttir (2014) explained this as university students make contact with their friends; they prevent emergent feelings of loneliness.

To find the difference between male and female students' loneliness, descriptive analysis was conducted and it was found that the mean score of loneliness for male students exceeded 1.166 points than that of females. In order to determine whether it was significant or not, the

independent samples *t* test was used. The results of independent samples *t* test showed that there were significant differences in   loneliness between males and females at 0.05 level. It can be interpreted that male students feel more loneliness than females. the result of current study is in line with the statements of Yang (2009) and Saleem et al., (2015) that males were lonelier than females. The result may be because females are more sociable than males and have greater contact with their peers and this can reduce loneliness (Abdi, 2010).

In order to investigate whether there were significant differences in students' loneliness by university, descriptive statistics was conducted. All the four universities are coded in University 1, 2, 3, and 4. It was found that the mean score of University 4 is highest and that of University 3 was lowest. To explore the significant differences in students' loneliness by university, one way analysis of variance (ANOVA) was used. ANOVA results showed that there were significant differences in loneliness by university at 0.01 level. To obtain more detailed information in each group, Post-Hoc test was executed by Games-Howell method. University 4 has significant differences in comparing with University 2 and University 3. It can be interpreted that students from University 1 and 4 feel more loneliness than those from University 2 and 3 and the level of loneliness of students from University 3 is least. This result is reasonable because students from University 1 and 4 are most addicted to Facebook and Facebook addiction and loneliness is positively correlated. The greater the level of addiction, the more that it could increase the level of the loneliness of the students.

In order to investigate the relationship between Facebook addiction and loneliness of university students, Pearson Product-Moment Correlation was applied. The result indicated that there was a significant positive correlation between the students' Facebook addiction and loneliness (r = .366) at o.01 level which indicated that as Facebook addiction increased, loneliness will increase accordingly. Thus, it can be interpreted that students who use Facebook addictively suffer more loneliness than those who are not addicted to Facebook. This finding is in line with other research results which analyze Facebook addiction and loneliness such as Hu (2007), Antia (2014), Saleem et al., (2015), Steggink (2015), Shettar et al., (2017), Gretchen and Felix (2017), Biolcati et al., (2018) and Toma (2018). The reason for this correlation may be because Facebook addicts stay online and spend most of their time by using Facebook without participating in any social activities. This feeling of loneliness when a person became addicted to Facebook can be attributed to the lack of personal contact with real friends in the virtual environment. Thus, they are detached from the physical world which made them a desire for company. Hence, the more they addicted to Facebook, the more they far away from real social interactions and the more they suffer loneliness.

Then, bivariate or simple linear regression was conducted in order to be able to indicate prediction of loneliness from Facebook addiction. The result indicates that the adjusted *R* square was 0.113. This indicates that 11% of the variance in loneliness was explained by Facebook addiction of the students. It was also found that the independent variable (Facebook addiction) was the highest contributor of dependent variable (loneliness) in regression analysis. The researcher concluded that the identified equation to understand the relationship of Facebook addiction and loneliness was;

Loneliness = 24.583 + 0.296 Facebook Addiction.

Conclusion

Sure, Facebook can allow people to communicate with old friends, classmates and people from all over the world, but the nature of interaction on Facebook is conducive to more social isolation. And even if we are interacting with close friends and family on Facebook instead of face-to-face interaction, this is still no substitute for real life social interactions; the kind which human mind is geared towards. The problem with habitual or addictive Facebook use is that many people do come to accept this as a substitute. The more time they spend on the artificial social world of Facebook, the more isolated they will become. Human beings are a social species and they depend on hearing another's voice and seeing each other's facial expressions and body language for proper human interaction. Facebook and other social media platforms just don't meet these requirements.

Therefore, teachers should encourage students to actively involved in real life social activities rather than living on a virtual planet by using Facebook. Let the students know that Facebook is a tool which helps to polish and maintain relationship, however, not a tool for socialization in real life.

In addition, in the 21st century where Facebook and Internet usage is becoming more widespread, precautions should be taken to ensure that students make face-to-face contact at places outside of school and their social environment. With this respect, teachers should design university-wide outreach programming to provide larger groups of undergraduates with useful information regarding Facebook addiction. Additionally, talking directly about various aspects of Facebook addiction and how they relate to overall functioning with campus groups could generate much more discussion and self-exploration regarding Facebook addiction on university campuses.

The outcomes of this thesis should lead to a deeper understanding of whether Facebook addiction does actually exist, and to spread the knowledge of Facebook addiction and loneliness to all around Myanmar society. By performing this research, the existent of Facebook addiction should be revealed. It will then be possible to obtain a clearer picture about the Facebook addiction as a whole. This will be advantageous to Facebook addicts, as it will enable more accurate diagnosis. Furthermore, guidance and counseling professionals will be able to formulate more useful clinical interventions if they thoroughly understand Facebook addiction and loneliness and this may lead to the development of preventative strategies for Facebook addiction among university students. So, students would use Facebook as a useful tool for their education field and they can prevent suffering from loneliness as a side effect of Facebook addiction. The results of the current study will take part in a corner to create modernized and well-developed country with physically and mentally healthy person.

Acknowledgements

Reference

Abdi, B.(2010) Gender Differences in Social Skills, Problem Behaviors and Academic Competence of Iranian Kindergarten Children based on their parent and Teacher Rating. *Procedia- Social and Behavioral Sciences 5:1175-1179*

Antia, B.I.(2014). The relationship between Facebook addiction and loneliness; a comparison between high school students and university students. (Unpublished bachelor's thesis). Reykjavik University, Iceland.

Balci, S.(2013). Facebook Addiction among University Students in Turkey: "Selcuk University Example". *International Refereed Journal.*

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. Psychological Bulletin, 117(3), 497–529. doi:10.1037/0033-2909.117.3.497

Biolcati, T.,Mancini, G.,Pupi, V.& Mugheddu, V.(2018).Facebook addiction: onset predictors. *Journal of Clinical Medicine.2018,7,118;doi:10.3390/jcm7060118*

Cao, H., Sun, Y., Wan, Y., Hao, J., & Tao, F. (2011). Problematic Internet use in Chinese adolescents and its relation to psychosomatic symptoms and life satisfaction. *Bmc Public Health, 11.*

Donnelly, G.(2018). *75 Super-useful Facebook Statistics for 2018.* Retrieved November 18, 2018, from https://www.woedstream.com/blog/ws/2018/11/07/facebook-statistics

Gregory, L. J. Ph.D., (2014) Do you ever wonder why men and women think so differently? *Brain differences between gender.*

Gretchen, B.C. & Felix, C.C.(2017).Relationship between Facebook addiction and loneliness of Filipino high school students. *Liceo Journal of Higher Education Research.doi:http://dx.doi.org/10.7828/ljher.v13i1.1008*

Hu, M. (2007). *Social use of internet and loneliness.*(Doctoral dissertation, The Ohio State University, Japan)

Ingvadóttir, A. B. (2014). The relationship between Facebook use and loneliness: A comparison between high-school students and University students. *Unpublished Thesis, University of Reykjavik, Iceland.*

Karakose, T., Yiric, R., Uyagun, H. & Ozdemir, T. Y.(2016). Relationship between high school students' Facebook addiction and loneliness stauts. *Eurasia Journal of Mathematics, Science & Technology Education, 2016, 12(9), 2419-2429*Karim, R., & Chaudhri, P. (2012). Behavioral addictions: An overview. *Journal of Psychoactive Drugs, 44(1), 5-17.*

Khin, M.M.M.(2015). The impact of Facebook use on the self-esteem of f pre-service teachers from Sagaing University of Education. *Unpublished Thesis, Sagaing University of Education, Myanmar.*

Killeen, C. (1998). Loneliness: an epidemic in modern society. *Journal of Advanced Nursing, 28(4), 762–770.*

Kristin.T., (2016). Effects of Facebook on Teenagers: Positive and Negative. Retrieved August 18, 2018 from http://wehavekids.com/parenting/teens-and-Facebook

Saleem, M. et al (2015). Internet Addiction: It's relation with loneliness among undergraduate students of South Panjab, Parkistan. *Sci.Int.(Lahore),27(2),1469-1479,2015 ISSN 1013-5316; CODEN: SINTE 8*

Shaw, L. H., & Gant, L. M. (2002). In defence of the Internet: The relationship between Internet communication and depression, loneliness, self-esteem, and perceived social support. Cyber Psychology & Behavior, 5(2), 157–171.doi:10.1089/109493102753770552Shojaiee,M.S.(2008) Psychology and psychopathologoy of the internet. *Journal of Psycholog Internet with Religious, Number1, spring(Persian).*

Steggink, B.W. (2015). Facebook addiction: where does it come from?. A study based on the Bergen Facebook Addiction Scale. Stephanie, B.(2012). *An examination of relationship experiences in relation to loneliness and depressive symptomatology in emerging adulthood*. (Doctoral dissertation, Wayne State University, Machigan). Retrieved October 18, 2018 from http://digitalcommons.wayne.edu/oa_ dissertations

Shaw, L. H., & Gant, L. M. (2002). In defence of the Internet: The relationship between Internet communication and depression, loneliness, self-esteem, and perceived social support. Cyber Psychology & Behavior, 5(2), 157–171. doi:10.1089/109493102753770552

Shettar, M. et al.(2017) Facebook addiction and loneliness in the post graduate students of university in southern India. *International Journal of Social Psychiatry vol 63(4) 325-329* doi:https://doi.org/ 10.1177/ 0020764017705895

Şükrü, B. & Abdülkadir, G. (2013) Facebook Addiction among University Students in Turkey: "Selcuk University Example". Retrieved January 6, 2018 from   https://www.researchgate.net/publication/ 286214266_ Facebook_addiction_among_university_students_in_Turkey_Selcuk_University_example

Perlman, D., & Peplau, L. A. (1981).Towards a social psychology of loneliness. In Duck & Gilmour (Eds.), *Personal relationship disorder (pp. 31-56). Reterived from* https://www.researchgate. net/ publication/ 284034168

Perlman, D., & Peplau, L. A. (1982). Theoretical approaches to loneliness. In L.A. Peplau &D. Perlmman (Eds), *Loneliness: A sourcebook of current theory, research and therapy. P.p. 1-18)*

Saleem, M. et al (2015). Internet Addiction: It's relation with loneliness among undergraduate students of South Panjab, Parkistan. *Sci.Int.(Lahore),27(2),1469-1479,2015 ISSN 1013-5316; CODEN: SINTE 8*

Shojaiee,M.S.(2008) Psychology and psychopathologoy of the internet. *Journal of Psycholog Internet with Religious, Number1, spring(Persian).*

Steggink, B.W. (2015). Facebook addiction: where does it come from?. A study based on the Bergen Facebook Addiction Scale. Stephanie, B.(2012). *An examination of relationship experiences in relation to loneliness and depressive symptomatology in emerging adulthood*. (Doctoral dissertation, Wayne State University, Machigan). Retrieved October 18, 2018 from http://digitalcommons. wayne.edu/ oa_ dissertations

Toma, C.M.(2018). Living on virtual planet: predictors of Facebook addiction. *Romanian Journal of Cognitive Behavior Therapy and Hypnosis, Volume 5, Issue 1-2, January-June 2018.*

Yaman, C.(2016). Facebook Addiction levels of Students in the Physical Education and Sport Department. *Malaysian Online Journal of Educational Technology. Vol 4, issue 2.*

Young, K. S. (2004). Internet addiction - A new clinical phenomenon and its consequences. *American Behavioral Scientist, 48(4), 402-415.*

FACTORS INFLUENCING EDUCATIONAL ASPIRATION OF HIGH SCHOOL STUDENTS IN WUNTHO TOWNSHIP

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Abstract

This study aimed to explore some factors affecting on Educational Aspiration of High School Students in Wuntho Township. In this study, as the factors of Educational Aspiration, gender, grade, previous achievement, parents' education, parents' occupation, parents' expectation, school engagement, school motivation and school environment were investigated. A total of 613 high school students (263 males and 350 females) selected from four schools in Wuntho Township participated in this study. Educational Aspiration Scale developed by Prasad and Sherly (2007) was used to measure level of educational aspiration. To measure the students' engagement in school, school motivation and school environment of high school students, Students' Engagement in School developed by Veiga (2013), the Inventory of School Motivation (ISM) developed by McInerney et al. (1997) and the School Environment Inventory (SEI) developed by Mishra (1983) were used respectively. The data were analyzed by the Regression Analysis. Among the student-related factors, gender was the only significant predictor of educational aspiration. Among the parent-related factors, parents' occupation and parents' expectation were found as the significant predictors of educational aspiration. Lastly, school engagement, motivation and school environment were found as the positive significant school-related factors of Educational Aspiration.

Keywords: Educational Aspiration, School Engagement, Motivation, School Environment

Introduction

Nowadays, education has been recognized as a major instrument which societies can use to direct the process of change and development towards desired goals. An educated person is expected to be more rational in his thinking and be able to fulfill the political, economic, and cultural functions in a better way. And the concern of education has shifted from economic development to human development by emphasizing the development of people's capabilities in terms of improved health, knowledge, and skills, besides its contribution towards the growth of income. Schooling has a close link with the development of these capabilities. Investment in education has been emphasized a great deal in bringing about meaningful development in any country (Elizabeth, 2000). It is very clear how education is important for a nation and what an educated person is capable of.

Therefore, education becomes one of the top priorities in our country, For example, our country's enrollment rate of students aged 5+ in Grade 1 is 98.47% in 2011-2012 (Education for All: Access to and Quality of Education in Myanmar) and the percentage is increasing year by year. Literacy rate is over 89.5% (Census Report, 2014).The grade promotion rate of Myanmar has been calculated as 93.3 percent (Multiple Indicator Cluster Survey, 2009 – 2010).

But, data extracted from the Multiple Indicator Cluster Survey conducted in 2009-10 (UNICEF, 2011,cited in Hayden, 2013) showed that the main loss of students occur during the first two years of primary school, mainly for reasons of affordability and access. The data also show that by the end of the primary school years, only about 70% of students who commenced in primary school five years earlier remain enrolled, and that the transition from primary to secondary school brings about a further loss of students. By grade 6, only about 50% of students

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who commenced in primary school six years earlier remain enrolled. The loss continues, and by grade 10 only 23% of students who commenced in primary school 10 years earlier remain enrolled. Between grade 10 and grade 11, there is a further significant loss, and by the final year of secondary school only 10% of the students who commenced in primary school 11 years earlier remain enrolled (UNICEF, 2011, cited in Hayden, 2013).

According to "the 2014 Myanmar Population and Housing Census: Thematic report on education", less than 7 per cent of the population 25 years of age and over reported 'graduate' as their highest level of education (7.6 per cent of women and 6.1 per cent of men) and only 0.6 per cent of women and 0.3 per cent of men had completed a level of education higher than graduate (postgraduate diploma, master's degree or PhD) as a consequence of high dropout rate. This amount is terribly low for a nation and our country needs much more educated persons.

By taking a look at that student enrollment rate, literacy rate, the grade promotion rate and the ratio of graduated persons of Myanmar, it can obviously be seen that there is the problem with the educational aspiration of our people who have little interest in higher education. High rate of literacy alone cannot drive our country into a higher level. We have to train highly educated persons as many as we can. Most of Myanmar people always say "I can read and write, and that's enough." They never try for higher education. They have no interest in higher education. On the other hand, they are lack of educational aspiration for higher education. That is why secondary education is marked by high rates of student dropout and failure to graduate, leaving the majority of youth without access to most forms of technical and vocational education training (TVET) or higher education according to "Improving Post-Primary Education Outcomes in Myanmar, 2016".

Aspiration means a strong desire to achieve something high or great. According to Sirin, Diemer, Jackson and Howell (2004, cited in Kaur, 2012), "Aspirations have been defined as the educational and vocational dreams that students have for the future". Educational aspiration is an important variable in predicting academic achievement and may be seen as an element in academic achievement motivation, focusing as they do on the desire for success and the development of goals to succeed in particular educational fields or to gain a particular degree.

Like the researcher said earlier, high education which can be achieved by high educational aspiration is needed for a nation, especially developing nations. In order to elevate the educational aspiration, firstly, we have to access the level of educational aspiration of our students. So we have to try to know how the secondary school students are planning about their future. Is graduating part of their plan? Do they have higher educational aspiration? How do we create high educational aspiration to them? Which factors affecting them? For example, family members emerged as influential individuals in students' academic lives (Bregman, 2010) and more engaged students will present a lower probability of leaving school and, consequently, will be more likely to have higher school aspirations (Veiga et al, 2013). According to these papers, these factors seem influence on educational aspiration.

In this study, the researchers will examine the effect of three groups of factors such as student-related factors, parent-related factors and school-related factors on Educational Aspiration of High School Students. First, students-related factors include gender, grade and achievement (GPA). College Choice Model (Hossler & Stage, 1992, cited in Suslu, 2014) is a well-accepted and cited theoretical model framework for the college aspiration. Demographic characteristics, achievement and gender are the key variables for this model. Hossler and Stage

(1992, cited in Suslu, 2014) founded a positive significant relationship between school activities, grades and students' aspirations.

Second, parents-related factors include parents' education, occupation and expectation. As a concept in sociology, Status Attainment Model (Blau & Daucan, 1967, Sewell et al., 1969, cited in Suslu, 2014) focuses on individual's position in society, and educational and occupational attainments are regarded as the outcomes of this model. Family variables such as parents' occupation, education and income, along with children's academic ability and achievement, influence educational outcomes through their effects on parental and peer influences and on shaping educational aspirations (Marshall, 1998, cited in Suslu, 2014). Hossler and Stage (1992, cited in Suslu, 2014) founded that parents' expectations had the strongest relationship to students' educational aspiration.

Third, school-related factors include school motivation, school engagement and school environment. In achievement goal theory, goals are cognitive representations of the purposes students adopt for their learning in achievement situations (Pintrich, Marx & Boyle, 1993, cited in Yeung & McInerney, 2005). Apart from academic achievement, importance outcomes as a function of achievement goals may include education and career aspirations (Yeung & McInerney, 2005). According to the Developmental Contextual Model of Career Development (Vondracek, Lerner & Schulenberg, 1986, cited in Suslu, 2014), school engagement is variable that influences on educational aspiration of students. The school environment is an important factor which helps in shaping the aspiration of the students (Bora, 2016).

For those reasons, this study aims to study factors affecting on educational aspiration of high school students, especially factors of parents' education, occupation etc. By doing this study, the researcher can expect that this study will provide knowledge about the factors affecting on Educational Aspiration of high school students. Then, this knowledge will help in finding the ways that will promote the Educational Aspiration.

Aim and Objectives

The main aim of this study was to explore some factors affecting on Educational Aspiration of High School Students. The specific objectives were:

(1) To investigate level of Educational Aspiration of High School Students,

(2) To investigate whether some student-related factors (gender, grade and previous academic achievement) can predict Educational Aspiration of High School Students or not,

(3) To investigate whether some parent-related factors (education, occupation and expectation) can predict Educational Aspiration of High School Students or not, and

(4) To investigate whether some school-related factors (school motivation, school engagement and school environment) can predict Educational Aspiration of High School Students or not.

Definitions of Key Terms

Educational Aspiration: Educational aspiration is a student's perception of his/her intention to follow further education after high school (Suslu, 2007).

School Motivation: School motivation or achievement motivation is multidimensional, forming eight sub categories: mastery (task, effort), performance (competition, social power), social (affiliation, social concern), and extrinsic (praise, token rewards) (Yeung & McInerney, 2005).

Students' Engagement in School: Students' engagement means the experience of centripetal connection of the student to the school in specific dimensions- cognitive, affective, behavioral and personal agency (Veiga, Robu, Moura, Goulao, & Galvao, 2013).

School environment: School environment implies the psycho-social climate of schools as perceived by the students. It is the quality and quantity of the cognitive, emotional and social support that has been available to the students during their school life in terms of teacher-pupil interactions (Bora, 2016).

Materials and Method

Research Design

The design adopted in this study was quantitative research. Descriptive survey method was used in this study.

Sampling

By using simple random sampling technique, the schools and students were selected from Wuntho Township, Sagaing Region. Two high schools and two high schools (branch) were chosen, and the students from these schools were randomly selected to participate in this study. A sample of 613 students (263 male (42.9%) and 350 female (57.1%)) participated in this study.

Instrumentation

The collected data for this study included demographic factors, educational aspiration, school engagement, school motivation and school environment. Students' demographic factors include gender, grade, previous achievement, parents' education, parents' occupation, parents' expectation, subject combination and school location. Where, gender was coded as 1=male, 2=female, grade was coded as 1=Grade 10, 2=Grade 11 and previous achievement was coded as 1=D, 2=C, 3=B, 4=A. Parents' education was coded as 1=Primary, 2=Middle, 3=High, 4=Bachelor, 5=Post Graduate, parents' occupation was coded as 1=unskilled manual worker, 2=skilled manual worker, 3=low level non-manual, 4=medium level non-manual, 5=high level non-manual) and parents' expectation was coded as 1=High School, 2=College, 3=Bachelor, 4=Master, 5=Ph.D. The Educational Aspiration Scale (EAS) developed by Prasad and Sherlay(2007) was used to investigate the levels of educational aspiration of high school students. The Students' engagement in School (SES-4DS) developed by Veiga (2013) was used to investigate students' engagement in school. The Inventory of School Motivation (ISM) developed by McInerney et al. (1997) was used to investigate school motivation. The School Environment Inventory (SEI) developed by Mishra (1983) was used to examine the perception on school environment. All items in all questionnaires can be answered with five point likert scale (Strongly Disagree, Slightly Agree, Agree, Very Agree and Strongly Agree).

After preparing research instruments, the expert review was conducted for content validity with the help of seven experts from Department of Educational Psychology. Pilot study was conducted with a sample of 50 students from Swan Chat Basic Education High School (Branch), Sagaing Township to test the internal consistency of the instruments.

Questionnaire for Educational Aspiration: The Educational Aspiration Scale developed by Prasad and Sherly (2007) included 30 items. The internal consistency (Cronbach's Alpha) for Educational Aspiration Scale was 0.922.

Questionnaire for School Engagement: Students' Engagement in School (SES-4DS) is a 20-items measure of school engagement developed by Veiga et al. (2013). There were 4 sub-scales such as cognitive, affective, behavioral and personal agency. The internal consistency (Cronbach's Alpha) for school engagement questionnaire was 0.706.

Questionnaire for School Motivation: The Inventory of School Motivation (ISM) developed by McInerney et al. (1997) included 15 items. There were 4 sub-scales such as task, effort, competition and praise. The internal consistency (Cronbach's Alpha) for school motivation was 0.894.

Questionnaire for School Environment: The School Environment Inventory (SEI) developed by Mishra (1983) included 32 items. There were 6 sub-scales such as creative stimulation, cognitive encouragement, acceptance, permissiveness, rejection and control. The internal consistency (Cronbach's Alpha) for school environment was 0.865.

Findings

The participants' level of educational aspiration was investigated by the use of Educational Aspiration Scale.

Table 1 Descriptive Statistics for Educational Aspiration of High School Students

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Educational Aspiration	613	51	150	112.04	16.84

As shown in Table 1, the resulted mean value (112.04) was greater than the theoretical mean value (90). Therefore, students' level of educational aspiration was satisfactorily good.

Effect of Student-related Variables (Gender, Grade and Previous Achievement) on Educational Aspiration of High School Students

A simultaneous multiple regression was conducted to predict educational aspiration from a combination of student-related factors (gender, grade and previous achievement).

Table 2 Simultaneous Multiple Regression Analysis Summary for Gender, Grade and Previous Achievement Predicting Educational Aspiration

Variables	B	SEB	β
Gender	3.58	1.40	.11*
Grade	1.38	1.46	.04
Previous Achievement	-.21	.66	-.01
Constant	104.95	3.57	

Note: $R^2 = .01$, $F(3,609) = 2.76$, $p < .05$
*$p < .05$

According to the result, a significant regression equation was found (F (3,609) =2.76, $p<.05$) with an R^2 of 0.01. This indicates that nearly 1% of the variance in educational aspiration was explained by the model. Since the percent explained by the model is very low, the regression equation will not be presented. The results showed that only gender significantly predicted educational aspiration when all three variables were included. It can be predicted that female students' educational aspiration exceeded 3.58 units than males' educational aspiration.

Figure 1 Multiple Regression Model for Predicting Educational Aspiration from Student-related Factors

Path Values are Standardized Regression Coefficients. *$p<.05$

Effect of Parent-related Variables (Parents' education, Parents' occupation and Parents' expectation) on Educational Aspiration of High School Students

A simultaneous multiple regression was conducted to predict educational aspiration from the combination of parent-related factors (parents' education, parents' occupation and parents' expectation). The result was presented in Table 3.

Table 3 Simultaneous Multiple Regression Analysis Summary for Parents' Education, Parents' Occupation and Parents' Expectation Predicting Educational Aspiration

Variables	B	SEB	β
Father's Education	1.131	1.05	.055
Mother's Education	.114	1.10	.005
Father's Occupation	-1.124	.54	-.085*
Mother's Occupation	-1.102	.50	-.091*
Parents' Expectation	.861	.19	.177***
Constant	105.721	2.58	

Note : R^2=.043, F (5,607)= 5.418, $p<.001$
*$p<.05$, ***$p<.001$

According to the result, a significant regression equation was found (F (5,607) = 5.418, $p<.001$) with an R^2 of 0.043. The results showed that father's occupation, mother's occupation and parents' expectation significantly predicted educational aspiration when all these variables

were included. This indicates that nearly 4.3% of the variance in educational aspiration of students was explained by the model. The model can be defined by the following equation:

Educational Aspiration = 1.131 Father's Education +0.114 Mother's Education -1.124 Father's Occupation – 1.102 Mother's Occupation + 0.861 Parents' Expectation + 105.721

It can be predicted that educational aspiration of high school students will increase 1.131 units for the increase in one level of father's education, will increase 0.114 units for the increase in one level of mother's education, will decrease 1.124 units for the increase in one level of father's occupation, will decrease 1.102 units for the increase in one level of mother's occupation, and will increase 0.861 units for the increase in one level of parents' expectation.
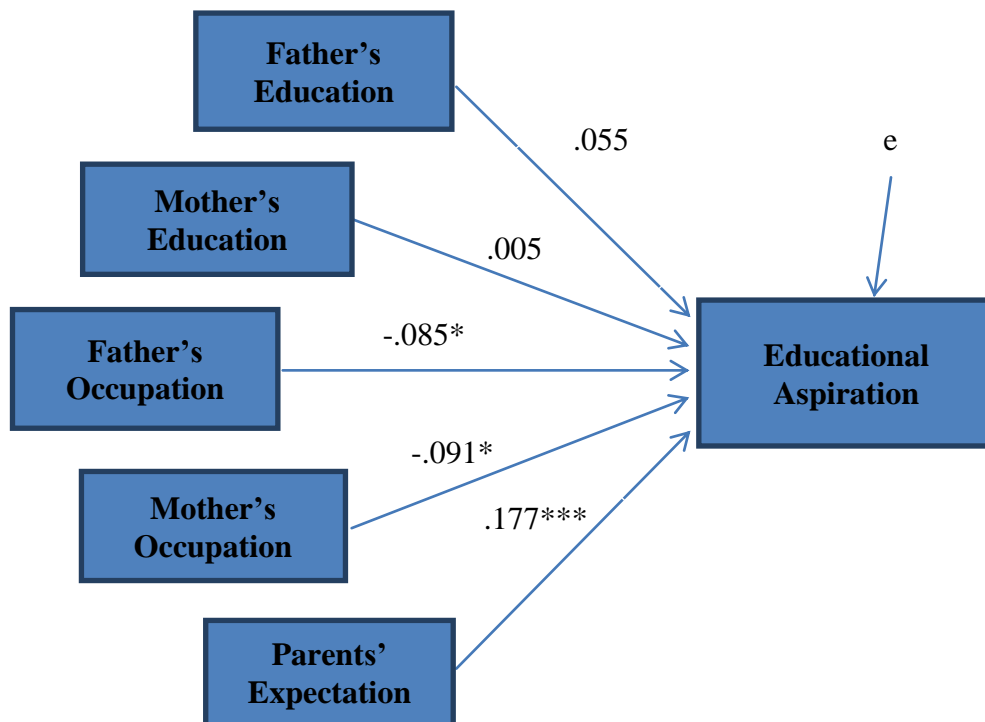
Figure 2   Multiple Regression Model for Predicting Educational Aspiration from Parent-related Factors
Path Values are Standardized Regression Coefficients. *p<.05

Effect of School-related Variables (School Motivation, School Engagement and School Environment) on Educational Aspiration of High School Students

A simultaneous multiple regression was conducted to predict educational aspiration from the combination of school-related factors.

Table 4 Simultaneous Multiple Regression Analysis Summary for School Motivation, School Engagement and School Environment Predicting Educational Aspiration

Variables	B	SEB	β
School Motivation	.53	.06	.33***
School Engagement	.46	.08	.23***
School Environment	.23	.04	.23***
Constant	26.09	4.82	

Note : R^2 =.41, $F(3,609)$ =141.74, $p<.001$

***$p<.001$

According to the result, a significant regression was found (F (3,609) =141.74, $p<.001$) with an R^2 of 0.41. The results showed that all of these three variables significantly predicted educational aspiration when all these variables were included. This indicates that nearly 41% of the variance in educational aspiration was explained by the model. The model can be defined by the following equation:

Educational Aspiration = 0.53 School Motivation + 0.46 School Engagement +0.23 School Environment + 26.09

It can be predicted that educational aspiration of high school students will increase 0.53 units for the increase in one unit of school motivation, 0.46 units for the increase in one unit of school engagement and 0.23 units for the increase in one unit of school environment.
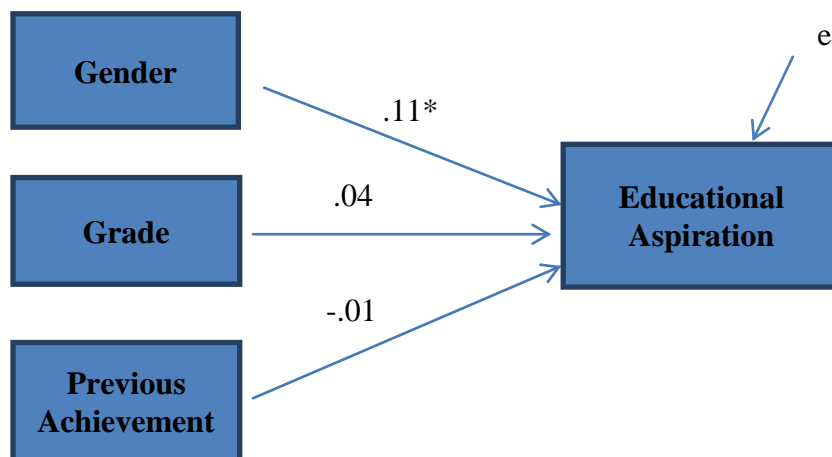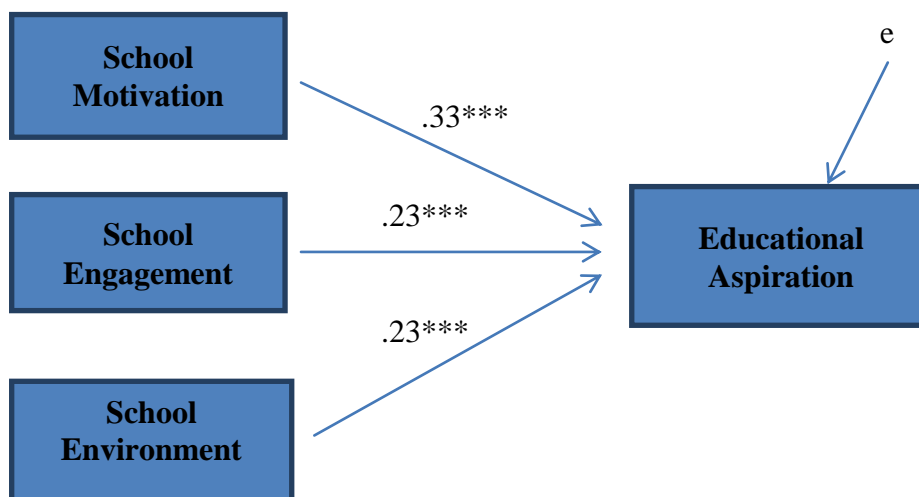

Figure 4.4 Multiple Regression Model for Predicting Educational Aspiration from School-related Factors
Path Values are Standardized Regression Coefficients. ***p<.001

Discussion and Conclusions

As the result of regression analysis, although gender significantly predicted educational aspiration of high school students, the remaining two variables (grade and achievement) cannot predict it. Therefore, there was significant difference in educational aspiration of high school students by gender. Female students had higher educational aspiration than males.

Women are exposed to higher normative restrictions than men and for this reason have higher standards for good behavior (Gottfredson & Hirshi, 1990, cited in Rampino & Taylor, 2013). According to Fox (1977, cited in Rampino & Taylor, 2013) even at very young ages girls are encouraged to show more passive and controlled conducts than boys in order to comply with what he refers to as the "nice girl" construct. Women and girls internalize this construct to the point where their aspirations coincide with the control level the society is willing to exert on them. Hence the fact that girls are more likely than boys to report that doing well at school means a great deal, reflects the fact that they have been brought up to display more responsible and socially acceptable behaviors. This implies that greater educational expectations among girls are fostered by higher parental control for daughters (Feliciano & Rumbaut, 2011, cited in Rampino & Taylor, 2013). Under tighter parental and social supervision girls develop more responsible

educational attitudes which can foster better educational attainments and ultimately higher educational aspirations. Therefore, it may be that female students had higher education aspirations than male students in this study.

As the result of second regression analysis, although parents' occupation and parents' expectation significantly predicted educational aspiration of high school students, the remaining variable, parents' education, cannot predict it. Therefore, there was no significant difference in educational aspiration of high school students by parents' education.

Parents who did not attend university may be eager for their children to enjoy higher education opportunities that they themselves did not have (Howard, Kotsiras, Dixon, Elasmar, Hall, Harkness & Herbert, 2009). The primary contributions of parents were their motivation, good intentions and encouragement (Wimberly & Noeth, 2004, cited in Frigo et al., 2007). Regardless of socioeconomic status (income, education, occupation), most parents want their children to do well in life (Frigo et al., 2007). Discrepancy in parents' educational achievements is far less important in motivating children to high-level aspiration and achievement than is consistently high educational achievement of both parents (Bregman, 2010). Therefore, it may be that there was no difference in educational aspiration among students with different parents' education levels in this study.

There was a significant difference in educational aspiration of high school students by parents' occupation. Students with lower level of parents' occupation had higher level of educational aspiration than those with higher level of parents' occupation.

Children do not want to remain as poor as their parents (Tafere, 2014). For example, the rural parents did not want their children to be farmers like them. They wanted their children to have a different livelihood (Tafere, 2014). For poor people, aspirations are also motivators to change their current state of life, rather than remaining immersed in it. According to Tafere (2014), despite living in poverty, poor families and their children were trying their best to bring success to children's education over the years. Aspirations are more influenced by perceived opportunities than current situation (St Clair & Benjamin, 2011, cited in Tafere, 2014). Therefore, parents' occupation is a significant negative predictor of Educational Aspiration of high school students.

There was significant difference in educational aspiration of high school students by parents' expectation. Moreover, parents' expectation was positively correlated with educational aspiration of high school students. Students' with higher parents' expectation had higher educational aspiration than students' with lower parents' expectation.

Parents with high expectation on children's education provide facilities and learning resources, help the child to develop goals and motivate, encourage success in learning through reward, follow up with the child's progress. Moreover, they help in solving problems, enrich their children's experiences through social and environmental situations and instill a love of learning from the earliest age (Hassan, 2004, cited in Graman & Ahmad, 2016). School involvement of parents is positively related to children's educational aspirations (Jung & Zhang, 2016). Aspirations of parents are one of the main predictors of academic achievement and social development of children, especially in decision making on the future education (Graman & Ahmad, 2016). Therefore, parents' expectation is a significant positive predictor of Educational Aspiration of high school students.

Finally, all of the three variables (school motivation, school engagement and school environment) significantly predicted educational aspiration of high school students when all these variables were included.

Motivation includes achievement goals. Students' achievement goals guide and direct their cognition, behavior, and affect as they engage in academic tasks (Pintrich, Marx & Boyle, 1993, cited in Yeung & McInerney, 2005). Achievement goals are presumed to be linked to achievement outcomes (Yeung & McInerney, 2005). Students' academic behavior and achievement are thought to be closely associated with their motivation (Ames, 1992, Dweck, 1989, Lepper & Hodell, 1989, Marsh & Yeung, 1997, 1997, Pintrich & Maehr, 1995, Wentzel, 1998, cited in Yeung & McInerney, 2005). Therefore, it may be that school motivation is a significant predictor of Educational Aspiration.

One of the aims of the curriculum in education is to maximize student engagement (Hargreaves, 2005, cited in Khodaeifaal, 2017). Involvement, engagement, and participation in the process of schooling seem to influence students to achieve successful school completion and bring them "a sense of belongingness and commitment" (Christenson, Sinclair, Lahr & Godber, 2001, Shernoff et al., 2003, cited in Khodaeifaal, 2017). The attitudes toward school appear to be the main condition for the development of educational aspirations (Geckova, Tavel, Van Dijk, Abel & Reijneveld, 2010, cited in Khodaeifaal, 2017). Therefore, it may be that school engagement is a significant predictor of Educational Aspiration.

School environment has significant role in influencing and shaping the behavior and thoughts of a child especially in the development of aspiration and attitude (Bashir & Kaur, 2017). School environment plays a crucial role in developing educational aspiration of students by participating various school activities like seminars, workshops, debates and by other aspects (Bashir & Kaur, 2017). According to Gupta and Bashir (2017), schools have a significant impact on students' education and progress as an association to the exterior environment and the place where they pass a large time of their day. Therefore, it may be that school environment is a significant predictor of Educational Aspiration.

Based on the above three groups of factors such as student-related factors, parent-related factors and school-related factors, students, parents and teachers should notice and consider some points to improve educational aspiration of high school students.

In order to improve Educational Aspiration of high school students, **students** should;

- strive to get better life than their parents have.
- apply well opportunities that they received and should not blame on the current situations they have.

In order to improve Educational Aspiration of high school students, **parents** should;

- train boys to have higher standard for good behaviors,
- set appropriate parental control although males should be given freedom,
- be eager to support physically as well as mentally in their children education,
- help students to possess the desire to get valuable career outcomes through education,
- encourage students' success in learning and follow up with the child's progress,

- instill a love of learning from the earliest age,

- be more involved in children's educational activities, and

- set realistic aspiration for children's education.

In order to improve Educational Aspiration of high school students, **teachers** should:

- help to raise their students' optimism and self-confidence,
- make students to have a sense of belongingness and commitment,
- help students to have achievement goals that can guide and direct their cognition and behavior,
- encourage students to have good educational attitudes toward school,
- help them to involve, engage and participate in school process,
- suggest the school to hold school activities such as seminars, workshops, debates and extracurricular activities.

And finally, the government should join tertiary education with the appropriate jobs and create the opportunities to apply educated persons' skills to develop their lives and country.

Acknowledgements

References

Bashir, L. & Kaur, R. (2017). A Study on Interrelation of Educational Aspiration with School Environment of Secondary School Students. *Educational Quest: An Int. J. of Education and Applied Social Science*: Vol. 8, Special Issue.

Bora, B. P. (2016). Educational and Occupational Aspiration In Relation To School Environment of the Secondary School Students of South Kamrup Area of Assam- A Study**.** *The International Journal of indian Psychology*, Vol.4, No.82.

Bregman, A. B. (2010). Educational Aspirations: Supporting College Trajectories for Latino Youth. Education and Psychology in The University of Michigan. Retrieved August 1, 2018 from https://deepblue.lib. umich.edu/ bitstream/ handle/ 2027.42 /77747/ abregman _1 .pdf?sequence=1 &is Allowed=y

Department of Population: Ministry of Labour, Immigration and Population With technical assistance from UNFPA, (2017). Thematic Report on Education. Retrieved August 4, 2018 from http:// myanmar. unfpa.org/ sites/ default/files/ pub-pdf/4H_ Education_ web_ 12june_3.pdf

Development Asia, (2016). Improving Post-Primary Education Outcomes in Myanmar. Retrieved August 4, 2018 from https://themimu.info/sites/themimu.info /files/ documents/ Summary Improving_Post-Primary_ Education_Outcomes_in_ Myanmar _Aug 2017.pdf

Elizabeth, (2000). A Study of The Educational Aspiration Self-concept and Interest in Relation to Academic Achievement of Girls in The Secondary Schools of East Khasi Hills District in Meghalaya. Department of Education : North –Eastern Hill University.

Frigo, T., Bryce, J., Anderson, M. & McKenzie, P. (2007). Australian Young People, their families and post school plans: a research review. Australian Council for Educational Research.

Graman, G. T. & Ahmad, A. (2016). Educational Aspirations among Chinese Parents. International Conference on Education and Regional Development 2016 "Cross-Cultural Education for Sustainable Regional Development", at Bandung, Indonesia.

Hayden, M. & Martin, R. (2013). Recovery of the Education System in Myanmar. *Journal of International and Comparative Education,* Volume 2, Issue 2. Retrieved July 31, 2018 from https://jice.um.edu.my/ article/ download/2558/774

Howard, G., Kotsiras, N., Dixon, M., Elasmar, N., Hall, P., Harkness, A. & Herbert, S. (2009). Inquiry into Geographical Differences in the Rate in which Victorian Students Participate in Higher Education. Education and Training Committee. Retrieved August 26, 2018 from https:// www.parliament. vic. gov.au/ images/stories/ committees /etc /HE_Report/ hefullreport.pdf

Jung, E. & Zhang, Y. (2016). Parental Involvement, children's aspirations, and achievement in new immigrant families. The Journal of Educational Research 2016, Vol.0, No.0,1-18.

Kaur, P. (2012). Educational Aspiration Of Adolescents In Relation To Their Level Of Intelligence. *International Multidisciplinary e-Journal*, Vol.1, Issue.7. https://pdfs. semanticscholar.org/1071/ f58a8 e90d647246 f24000ae31bff97d45d48.pdf

Khodaeifaal, S. (2017). Student Engagement: Enhancing Students' Appreciation for Learning and Their Achievement in High Schools. *International Journal of Education*. Vol. 9, No. 3. Retrieved August 7, 2018 from https://doi.org/10.5296/ije. v9i3.11678

Ministry of Education, (2012). Education for All: Access to and Quality of Education in Myanmar. Retrieved August 4, 2018 from http://yangon.sites.unicnetwork.org/ files/2013/05/Education-for-All-in-Myanmar-Final-2012-FEB-2.pdf

Ministry of National Planning and Economic Development, (2011). Myanmar Multiple Indicator Cluster Survey. Retrieved August 4, 2018 from https://www.unicef.org /myanmar/ MICS_Myanmar_Report_2009-10.pdf

Mishra, S. (2013). Science Attitude as a Determinant to Educational Aspiration in Students. *International Journal of Engineering Inventions*. Vol.2, Issue. 9. Retrieved August 6, 2018 from http://www.ijeijournal. com/ papers/ v2i9/E02092933.pdf

Rampino, T. & Taylor, M. (2013). Gender differences in educational aspirations and attitudes. Retrieved January 19, 2019 from https:// www.iser.essex. ac.uk/research/ publications/working-papers/iser/2013-15.pdf

Suslu, D. A. (2014). Educational aspirations of middle and high school students: a focus on Turkish American youth. Louisiana State University, Agricultural and Mechanical College. Retrieved August 5, 2018 from https://digitalcommons.lsu.edu/cgi/ viewcontent.cgi? Article =3952& context=gradschool_dissertations

Tafere,Y. (2014). Educational Aspirations of Students in Developing World: Evidence from Ethiopia. *Aspirations in Action Journal*. Retrieved August 5, 2018 from https://qisa.org/journal/article.do?id=12

Veiga, F. H., Robu, V., Moura, H., Goulao, F. & Galvao, D. (2013). Students' engagement in school, academic aspirations, and sex. Students' Engagement in School: International Perspectives of Psychology and Education.

Yeung, A. S. & McInerney, D. M. (2005). Students' School Motivation and Aspiration Over High School Years. Educational Psychology. Vol.25, No.5.

AN INTERVENTION BASED ANALYSIS OF REASONING SKILLS AMONG PRE-SERVICE TEACHERS FROM UNIVERSITIES OF EDUCATION IN MYANMAR

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Abstract

The main aim of this study was to investigate the reasoning skills of pre-service teachers from Universities of Education in Myanmar based on an intervention practice. As the participants for this study, 1626 pre-service teachers from Universities of Education were selected by stratified random sampling technique. Sequential explanatory design was mainly used. This study was based on Evans and Over's (1996) dual-process theory. A Reasoning Skills Test (RST) was mainly used to examine the participants' reasoning skills. Therefore, firstly, an optimal reasoning test was developed by using Item Response Test Theory (IRT). Based on the quantitative results, an intervention practice namely argument mapping technique was conducted to improve pre-service teachers' reasoning skills. Therefore, an intervention protocol required for intervention practice was also constructed in accordance with Myanmar culture. The results pointed that the reasoning skills of pre-service teachers after intervention were significantly higher than before intervention. Therefore, this study highlighted the reasoning skills can be trained and improved. Consequently, this study gave a reasoning skill test and an intervention technique suitable for Myanmar pre-service teachers. It is hoped that the contributions of this study can be a support for upgrading teacher education in Myanmar.

Keywords: Reasoning skills, item response theory, optimal test, intervention practice

Introduction

The powers of thinking and reasoning may thus be considered to be the essential tools for the welfare and meaningful existence of the individual as well as society. The reason is that a chief characteristic which can distinguish human beings from other species including the higher animals is cognitive ability including thinking, reasoning, problem solving and other aspects based on human brain functions.

Also, humans have used reasoning to work out what they should believe and how they should act since the earliest stages of human evolution. However, humans started to reflect on the reasoning process itself particularly in academic contexts. Johnson-Laird and Shafir (1993) indicated that reasoning and decision making are high level of thinking skills which have been investigated for the last thirty years. Kirwin (1995) concluded that reasoning is the cognitive process of looking for reasons for beliefs, conclusions, actions or feelings. Therefore, humans have the ability to engage in reasoning about their own reasoning.

Moreover, Professor Dr. Khin Zaw (2001) pointed the fact that man has reason and imagination leads not only to the necessity for having a sense of his own identity, but also for orienting himself in the world intellectually. Additionally, he differentiated reason from intelligence. Reason is man's faculty for grasping the world by thought, in contradiction to intelligence, which is man's ability to manipulate the world with the help of thought. Reason is man's instrument for arriving at the truth; but intelligence is his instrument for manipulating the world more successfully; the former is essentially human, the latter belongs to the animal part of man.

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Likewise, reasoning skills are instruments for making decisions using specific cognitive skills, assessing skills and thinking systematically or abstractly (Fischhoff, Crowell, & Kipke, 1999). So, reasoning plays a significant role in one's environment. It controls not only one's cognitive activities but may also influence the total behavior and personality. Reasoning may thus be termed as highly specialized thinking which helps an individual to explore mentally the cause-and-effect relationship of an event or solution of a problem by adopting some well-organized systematic steps based on previous experiences combined with present observation (Mangal, 2012).

At the present time, in the modern technological world, communications are sophisticated, and people have a variety of information to stimulate and inform their thinking. However, it is not just right information that is distributed in society. False and misleading information is also spread out to people too. People have to be able to analyze, discriminate and make good decisions on the basis of sound reasons. Education therefore has a crucial role to play in developing that ability.

In ancient years of Myanmar education, the technology used in teaching-learning process was rote learning. However, today's education system is directing to a system based on student's cognitive skills such as creative thinking, critical thinking, reasoning skills and problem solving skills. Therefore, the teachers and also pre-service teachers who will have to take the responsibility for students to be improved the cognitive skills should keep these skills themselves. Accordingly, these factors become the reasons for the researcher to develop a reasoning skill test as well as to explore a technique for improving the reasoning skills of pre-service teachers from Universities of Education in Myanmar.

Purpose of the Study: The main purpose of the study is to investigate the reasoning skills of pre-service teachers from Universities of Education in Myanmar based on an intervention practice. The specific objectives are as follows:

1. To develop a reasoning skill test by using Item Response Theory (IRT)
2. To examine the reasoning skills of pre-service teachers by using the optimal test
3. To compare the differences of pre-service teachers' reasoning skills according to gender and institution
4. To explore a technique to improve the pre-service teachers' reasoning skills

Related Literature Review

Early formulations of behaviorism regarded human life as a "black box." These behaviorists viewed *input* or *stimuli* as entering the "box" at one end and coming out the other end as *responses*. What was inside the box did not concern them. But over the past 50 years, psychologists have become increasingly interested in what goes on inside the box. They term these internal factors "cognition"— acts or processes of knowing. Cognition involves how humans go about representing, organizing, treating, and transforming information as they devise their behaviors. It encompasses such phenomena as sensation, perception, imagery, retention, recall, problem solving, reasoning, and thinking. Cognitive psychologists are especially interested in the cognitive structures and processes that allow a person to mentally represent events that transpire in the environment (Galotti, 2004).

Evans and Over's Dual-Process Theory: The psychological origins of the dualist distinction between rational and irrational thinking can be traced back to James (1890) and Freud

(1900). Both claimed that reasoning takes the form of two different modes of thought. James regarded reasoning as an experiential associative type of thinking, as well as a separate analytical deliberate mode (as cited in Osman, 2004).

This theory divided reasoning into two systems. System 1, implicit or tacit process, which is essentially pragmatic, is based on prior experiences, beliefs, and background knowledge and achieves goals reliably and efficiently without necessarily accompanying awareness. System 2 is explicit, intentional, sequential, controllable, and makes high demands of working memory. System 2 does not typically operate according to normative logical conventions, but it is capable of achieving solutions to logical problems as well as a range of problem types.

On the other hand, reasoning involves both conscious (or explicit) and unconscious (or tacit) processes. For example, inductive reasoning largely depends on the retrieval and unconscious evaluation of world knowledge, whereas deductive reasoning depends on rule-based or conscious formal procedures.

In fact, reasoning refers to the process of drawing conclusions or inferences from information. Reasoning always requires going beyond the information that is given (Bruner, 1957). In logic, an inference is called *deductive* if the truth of the initial information (or premises) guarantees the truth of the conclusion. The inference is called *inductive* if the truth of the premises makes the conclusion probable but not certain. Many researchers have found that performance on deductive and inductive tests is strongly related (Wilhelm, 2005).

Although there are several kinds of inductive reasoning, this research will focus on analogical and numerical reasoning.

Analogical Reasoning: The ability to reason analogically involves the ability to make judgments or predictions about unfamiliar problems on the basis of perceived similarities and relationships with familiar problems. This form of inferential reasoning also serves a variety of different functions ranging from drawing people's attention to already known relations to the reorganization and development of existing knowledge (Deloache, Miller, & Pierroutsakos, 1998).

Numerical Reasoning: It includes the ability to solve problems and arrive at answers, i.e., solution in a logical way and making generalization (Fatima, 2008). Numerical reasoning is about using numerical data to make reasoned decisions and solve problem. It relies on the ability to recognize how to go about solving a numerical problem, understanding the relationships between numbers, prior to completing the mathematical calculation required (Savill, 2011).

Like inductive reasoning, there are several kinds in deductive reasoning. However, this research will focus on analytical and abstract reasoning.

Analytical Reasoning: Analytic reasoning represents judgments made upon statements that are based on the virtue of the statement's own content. Analytical skill is the ability to visualize, articulate, conceptualize or solve both complex and uncomplicated problems by making decisions that are sensible given the available information. Such skills include demonstration of the ability to apply logical thinking to breaking complex problems into their component parts (Kant-Studien, 1987).

Abstract Reasoning: Abstract Reasoning is also known as fluid intelligence (Cattell, 1963) or analytic intelligence. Fluid intelligence is reasoning ability in its most abstract and

purest form. It is the ability to analyze novel problems, identify the patterns and relationships that underpin these problems and extrapolate from this using logic (Carpenter, Just, and Shell, 1990).

Design and Procedure

Sampling. As the participants of this study, there were 1626 pre-service teachers from first year to fifth year: male (n=746) and female (n=880) in 2017-2018 Academic Year. The participants for the study were chosen from Universities of Education in Myanmar: Yangon University of Education, Sagaing University of Education and University for the Development of National Races of the Union. A stratified random sampling technique was used.

Research Method. Sequential explanatory design from quantitative and qualitative mixed method approaches was taken as the primary design of this study. In the first part of this study, survey method was used. As the second part, an intervention based analysis based on the experimental method was also used.

Pilot Testing on Reasoning Skill Test. There were four subtests in reasoning skill test and each subtest comprised of 23 items. The test items were multiple-choice items. The responses in all test items will be scored 1 if answered correctly and 0 if answered incorrectly. Therefore, the total score for the test is 92. The test was administered to a sample of 220 pre-service teachers (from first year to fifth year) in Sagaing University of Education. After carrying out the item analysis based on an IRT parameter estimation procedure with two parameter logistic model (2 PLM), the number of test items for the field testing becomes 78 items.

Intervention Practice. After testing the reasoning skills of pre-service teachers, Professor Tim van Gelder's (2000) argument mapping technique was used to improve the reasoning skill of pre-service teachers who got low reasoning scores in field testing. The intervention plan and procedure are described specifically in the next section.

Data Collection Procedure. Students had to complete Reasoning Skill Test during 1 hour and 15 minutes. After administering the test, data analysis for test development was conducted. Then, based on the reasoning skill levels of pre-service teachers, 60 participants who got the low, moderate and high reasoning skill were trained with an intervention practice during three weeks. After that, their reasoning skills were tested again to assure the predictive validity of the test and how the reasoning skills can be improved.

Data Analysis and Findings

As the first part of the data analysis, a reasoning test development was conducted. The data analysis procedure followed the data analysis process of Hambleton et al. (1991) and Kolen and Brennan (2004).

Confirmatory Factor Analysis. Confirmatory factor analysis was used to establish the four factors structure of the reasoning skills test: analogical, numerical, analytical and abstract reasoning. In this study, the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.856 that is indicating sufficient items for each factor. Then, Bartlett's Test of Sphericity was significant ($p < .001$) which means that the variables are highly correlated enough to provide a reasonable basic for factor analysis.

After conducting the principal axis factor analysis, 31 items of 78 items were eliminated because they had low or no loadings with any other factors. By taking out 31 items, the communalities were all above 0.2 and it indicated that the relation between each item and other items is satisfactory. Given these overall indicators, factor analysis was conducted with 47 items.

Checking for Non-speediness of the Test. According to the non-speeded (power) test method (Gulliksen, 1950), the variance ratios of the four sub tests were nearly zero: 0.001 for analogical, 0.009 for numerical, 0.005 for analytical and 0.003 for abstract reasoning. Therefore, it could be confirmed that all tasks of the tests in current study were non-speeded.

Checking the Assumption of Unidimensionality. To investigate the assumption of unidimentionality, a principal factor analysis was conducted. The values of eigenvalue 1, 2, 3, 4, 5, 6, 7 were 5.489, 1.499, 1.266, 1.149, 0.919, 0.825 and so on, and thus eigenvalue 1 was larger enough than other eigenvalues to determine that the test data satisfy the assumption of unidimensionality.

Checking the Conformity of Model and Test Data. Figure 1 clearly shows expected and observed test score distributions for two parameter model. It indicates that actual observed data score distribution is fairly close to theoretical distribution. Therefore, it is concluded that model-data fit is adequate enough to apply IRT model for this test.
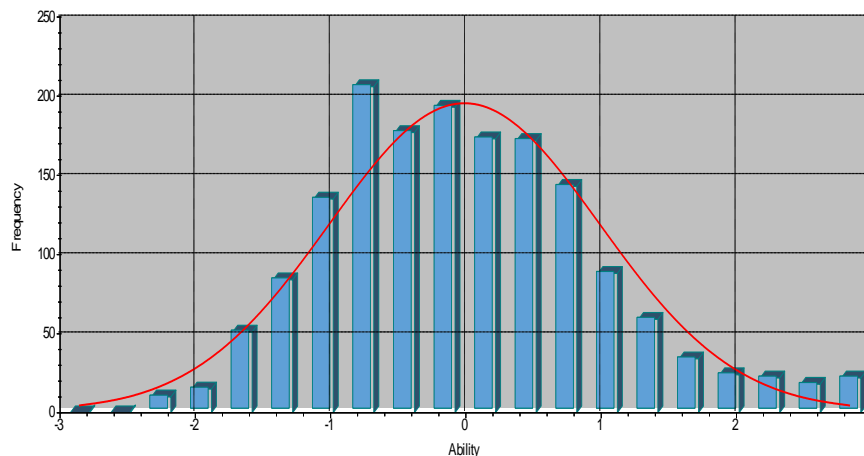
Figure 1 Frequency Distributions of Expected and Observed Scores

Estimation of Item and Ability Parameters. In order to obtain the information which items are appropriate for student teachers, an IRT parameter estimation procedure was carried out with two parameter logistic model (2 PLM) by utilizing BILOG-MG 3 software (Zimowski, Muraki, Mislevy & Bock, 2003). As the items were calibrated with 2 PLM, the characteristics of the items can be described by item difficulty (*b*) and item discrimination (*a*).

For item difficulty (*b*), easier items have lower (negative) difficulty indices and harder items have higher (positive) indices. The items with the difficulty *b* values within -3 to +3 were expected to be selected (Aye Aye Myint, 1997). In this study, all items have *b* values within the range of -3 to +3 and so they are selected as good items.

On the other hand, a higher value of item discrimination (*a*) indicates that the item discriminates between high and low proficiency examinees better. Since there are no items which have more than 2 (*a* value), all items can be acceptable.

Test Information Function. Based on the results of the parameter estimates of the test, test information curve (TIC) was also plotted. Figure 2 illustrates TIC of the 47-item test. SE is the standard error of estimation. The empirical reliability of the test was 0.902.

By looking at Figure 2, it is visually clear that the test is discriminating well among examinees with the range of ability level from -2.5 to +0.4 in the test. The maximum amount of information was I (θ) = 13.5 at θ = -1.15. These test items will be most suitable for student-teachers whose reasoning ability (θ) range is from -2.5 to +0.4. Therefore, it was judged that this test only can provide information well for student teachers with lower reasoning ability; however it may not provide enough information to assess student teachers with high and average reasoning skills.
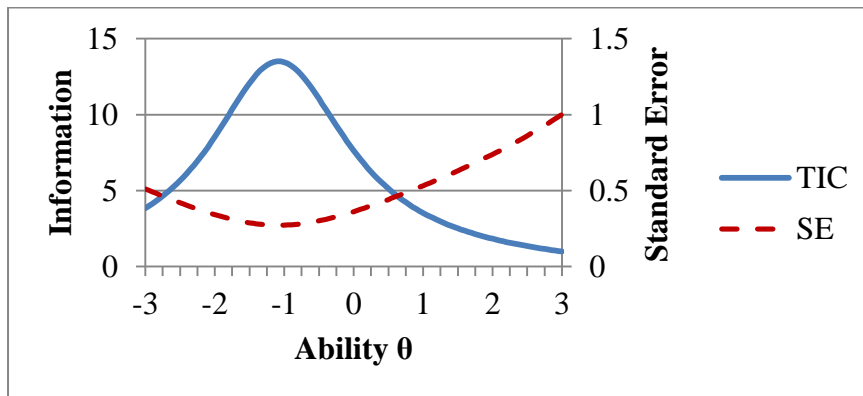
Figure 2 Test Information Curve for the Test with 47 items

Developing an Optimal Reasoning Skill Test. Since the present 47-item reasoning test is relatively easy, it is identified as an item pool and then an optimal reasoning skills test would be constructed by selecting some experimental items from that pool again. To construct systematically, a procedure to build test to meet any desired set of test specification outlined by Lord (1977) was followed.

According to Lord (1977), selecting and calculating the test items were continued again and again until the test information function approximates the target information function to a satisfactory degree. Therefore, among 47 test items, 8 items from each subtest were selected to construct a new test. In Figure 3, a test information curve for an optimal reasoning skills test can be seen. It is visually clear that the test is discriminating well among examinees with the range of ability level from -1.9 to +1.2 in the test. The maximum amount of information was I (θ) = 5.4 at θ = -0.12. Moreover, its empirical reliability is 0.85. Therefore, it can be judged that this optimal test can provide information well for student teachers with normal reasoning ability.
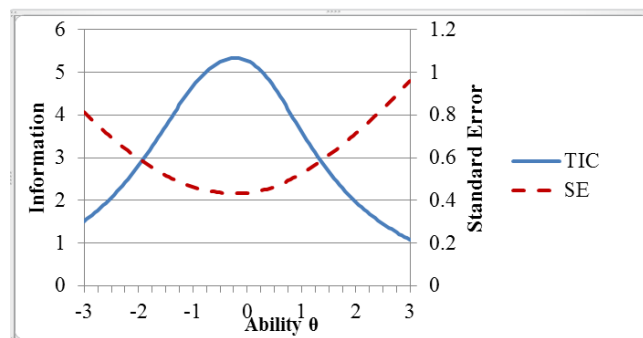
Figure 3 Test Information Curve for the Optimal Test with 32 items

Therefore, the format and content specification of the optimal reasoning skill test become as follows:

Table 1 Table of Content Specification for Optimal Reasoning Skills Test

No.	Names of Subtests	Tasks (Amount of Items)	Total Amount of Items	Time Limit (minute)
1.	Analogical Reasoning	Word (4), Figure (4)	8	3
2.	Numerical Reasoning	Word Problems (4), Data Interpretation (2), Mathematical Puzzles (2)	8	10
3.	Analytical Reasoning	Seating Arrangement (4), Combination (3), Ranking (1)	8	10
4.	Abstract Reasoning	Figure Addition/Subtraction (2), Distribution of three values (3), Distribution of two values (3)	8	7
		Total	32	30

As the second part of data analysis, research findings based on the optimal reasoning test were explored. According to Table 2, it was found that among the four reasoning skills, analytical reasoning skills of pre-service teachers are higher than others ($\bar{X}$=4.97, SD=2.124).

Table 2 Descriptive Statistics for Pre-service Teachers' Reasoning Skills

Reasoning Skills	Minimum	Maximum	Mean	Std. Deviation
Analogical	0	8	4.75	1.729
Numerical	0	8	4.12	1.890
Analytical	0	8	4.97	2.124
Abstract	0	8	3.58	1.925
Total	3	30	17.41	5.252

Again, when these skills were compared by dividing into two groups, it can be seen that pre-service teachers are higher in inductive reasoning than deductive (see Table 3).

Table 3 Mean Comparison for Reasoning Skills by Two Main Factors

Reasoning Skills	Mean	Std. Deviation
Inductive	8.87	2.958
Deductive	8.54	3.328

Then, Table 4 revealed that male pre-service teachers' inductive reasoning is significantly higher than females at α= 0.001 level. However, there are no differences in both deductive reasoning and overall reasoning.

Table 4 Independent Samples *t* Test Results of Reasoning Skill by Gender

	Gender	N	Mean	Mean Difference	t	df	p
Inductive	Male	746	9.18	0.568	3.874	1624	0.000
	Female	880	8.61				
Deductive	Male	746	8.40	-0.269	-1.625	1624	0.104
	Female	880	8.67				
Total	Male	746	17.58	0.299	1.144	1624	0.253
	Female	880	17.28				

After that, the differences of reasoning by university were explored. Since Table 5 showed that there were differences among universities, ANOVA test and post hoc analysis were continued. Based on Table 6 and Table 7, it can be concluded that University 1 is highest and University 3 is lowest significantly in reasoning of pre-service teachers from three universities at $\alpha = 0.001$ level.

Table 5 Descriptive Statistics for Pre-service Teachers' Reasoning Skills by University

University	N	Mean	Std. Deviation
1	519	20.18	4.374
2	525	17.95	4.861
3	582	14.46	4.787
Total	1626	17.41	5.252

Table 6 ANOVA Result of Reasoning Skills by University

	Sum of Squares	df	Mean Square	F	*p*
Between Groups	9210.933	2	4605.466		
Within Groups	35607.341	1623	21.939	209.919	.000
Total	44818.273	1625			

Table 7 Games-Howell Test Result of Pre-service Teachers' Reasoning Skill by University

(I) University	(J) University	Mean Difference (I-J)	Std. Error	*p*
1	2	2.238*	.286	.000
	3	5.724*	.276	.000
3	1	-5.724*	.276	.000
	2	-3.486*	.290	.000

* The mean difference is significant at the 0.001 level.

Intervention Based Analysis and Results

Based on the quantitative data results, an intervention practice was conducted to improve pre-service teachers' reasoning skills and to confirm the predictive validity of the reasoning skill test based on the quantitative results.

Research Method. As the research method, one group pretest-posttest experimental design was used.

Participants. There were 30 participants from university 1 (highest reasoning) and university 3 (lowest reasoning) respectively and totally 60 participants in this practice. The participants for this study are specifically described in Table 8 by stratum.

Table 8 Number of Participants from Selected Universities of Education

University	Reasoning Groups	Gender		Total
		Male	Female	
University 1	High	5	5	10
	Moderate	5	5	10
	Low	5	5	10
	Total	15	15	30
University 3	High	5	5	10
	Moderate	5	5	10
	Low	5	5	10
	Total	15	15	30
Total		30	30	60

Intervention Protocol. For intervention, a protocol is based on a technique for improving reasoning skills called argument mapping by Tim van Gelder (2000). The researcher joined the email short course (http://www.vangeldermonk.com/free-emailcourse.html) about argument mapping instructed by Dr. Tim van Gelder for three weeks in December 2017. The basic idea of the technique is that the participants create diagrams showing the parts of their reasoning, and how these diagrams are logically related. Myanmar contexts which may be familiar with them were supplemented to the lessons to be convenient for all Myanmar student teachers. Each lesson was managed with two parts: first 30-minute section was for lecture and second 30-minute section was for practicum.

After preparing the protocol, the expert reviews were taken for face validity and content validity by ten experts in the fields of Educational Psychology and Educational Test and Measurement at Yangon University of Education. A pilot practice was performed with a sample of 20 student teachers from Sagaing University of Education in June, 2018. This intervention protocol comprised of six lessons and six periods were taken to practice.

Table 9 Content and Time Limit of Argument Mapping Protocol

Period	Content	Time Limit
1	Making Your Core Argument	1 hour
2	Countering Objections	1 hour
3	Making Your CASE	1 hour
4	Defending Your Assumptions	1 hour
5	Finding Your Hidden Vulnerabilities	1 hour
6	Presenting with Impact	1 hour 15 minutes

Reasoning Skill Test for Posttest. To construct a posttest, 50% (16 items) of posttest items were taken from the pretest items as the common items and 50% of them were from the field testing results. Based on the item parameter estimates, a test information curve for reasoning skill posttest was drawn as in Figure 4. It is visually clear that the test is discriminating well among examinees with the range of ability level from   -1.8 to +0.9 in the test. The maximum amount of information was I (θ) = 4.9 at θ = -0.35. Moreover, its empirical reliability is 0.83. Therefore, it can be judged that this posttest is similar to the pretest (see Figure 4) and can provide information

well for student teachers with normal reasoning ability. Hence, the format and content specifications of the posttest were also similar to the pretest.
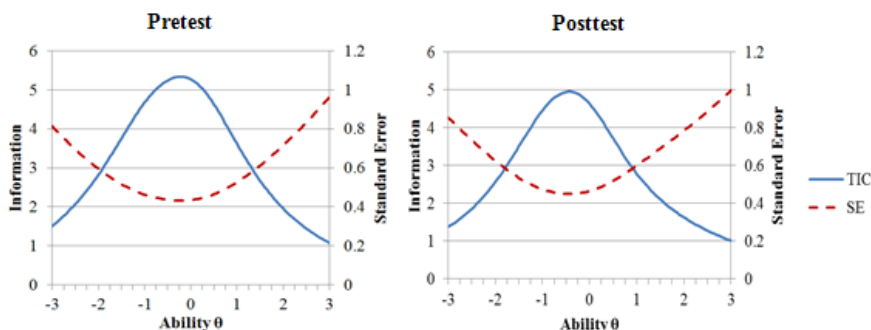
Figure 4 Comparison of Test Information Curves for the Reasoning Skill Pretest and Posttest

Comparison of Reasoning Skill Before and After Intervention. According to paired samples *t* test result, it can be perceived that their reasoning skills after intervention are significantly higher than before intervention ($p < .001$ level). Moreover, the same results were also found in both University 1 and University 3. Therefore, it can be concluded that Argument Mapping Technique intervention practice could well increase the student teachers' reasoning skills (See Table 10 and Figure 5).

Table 10 Paired Samples *t* Test Results of Reasoning Skills Before and After Intervention

University	Intervention	Mean	Std. Deviation	Mean Difference	*t*	*df*	*p*
University 1	Before	17.30	7.77	-2.93[*]	-8.04	29	0.000
	After	20.23	7.36				
University 3	Before	15.30	7.64	-2.63[*]	-7.18	29	0.000
	After	17.93	7.22				
Total	Before	16.30	7.71	-2.78[*]	-10.82	59	0.000
	After	19.08	7.32				

Note. [*] The mean difference is significant at the 0.001 level.
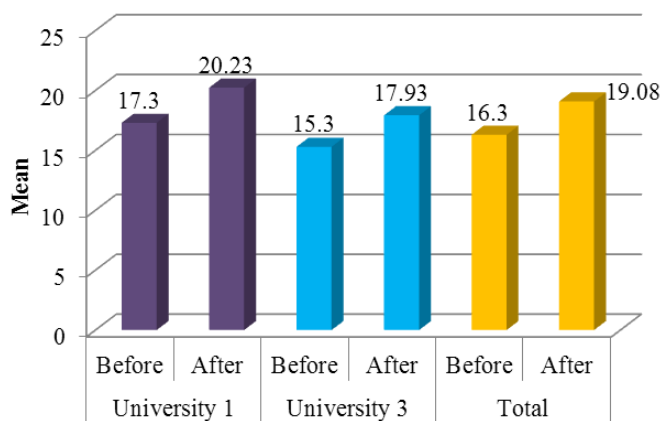
Figure 5 Mean Comparisons of Pre-service Teachers' Reasoning Skills Before and After Intervention

Conclusion and Recommendations

In this new millennium, the world is changing rapidly in science and technology and the changes have the greatest influence on economic, educational, environmental, cultural and social trends of the future. Consequently, these effects also fall on youths' thoughts and actions. They need to think correctly and to do properly. Reasoning skills have become more important in the modern world because there is too much information, and too many choices that come into human's minds.

The foremost responsibility would be the universities. After the students have selected to attend the respective university, they will study about specific knowledge which is expected to use for working in the future. Normally the Universities of Education teaches them academic and teacher education knowledge because this is their main duty. In the meantime, the challenges of the modern era would like the graduated students to have some other skills to work such as reasoning skills.

Future professionals are no longer to satisfy with their own expertise only, however they need to constantly study, learn, review, analyze, and classify the thinking ability to fit the needs of society in the future world. For that reason, the Universities of Education should consider their teaching techniques on how to improve the students' working skills.

In order to fulfill the goal of teacher education programs and improve students' reasoning skills, this study finally offers the following recommendations based on research findings and literature reviews:

- The aims of learning and teaching may need to be revised to improve the skills which are necessary for working after graduation.
  - The curriculum contents and implementation of the courses need to foster students' in-depth understanding of subject knowledge, analyses of theoretical background, and higher order cognitive competencies. This emphasis of teaching strategy and curriculum materials can enhance teacher educators' and pre-service teachers' recognition concerning "Thinking is learning".
  - The culture of teaching and learning in the classroom should provide more opportunities for student teachers to discuss and give the reason to their teachers.
  - Teacher educators should discuss and guide occasionally their trainees about how to solve classroom problems and how to reason methodically a problem.
  - Pre-service teachers should be sporadically provided with the skills test, such as, reasoning skills test, so that they know their levels of these skills since the beginning of their university life and it will help them to improve their working skills by practice.
  - To improve the pre-service teachers' reasoning skills, the teacher educators should use any practice like argument mapping technique performed in this study.
  - A series of campus symposia for public discussions on academic issues and social events might assist students to visualize the functions of reasoning skills and create beneficial campus environment facilitating reasoning skills development.

To sum up, since education is to prepare citizens with reasoning skills and to create more rational society or culture, it is hoped that the contributions of this study can not only provide insight to know about reasoning skill but also be a support for upgrading teacher education in Myanmar.

Acknowledgements

References

Aye Aye Myint. (1997). Investigation of the numerical reasoning ability of Myanmar high school students. *Bulletin of the Graduate School of Education and Human Development*, Toyko University, Press, 37, pp. 165-176.

Cattell, R. B. (1963). Theory of fluid and crystallized intelligence: A critical experiment. *Journal of Educational Psychology*, *54*(1), 1-22.

Deloache, J. S., Miller, K. F., & Pierroutsakos, S. L. (1998). Reasoning and problem solving. In Kuhn, D. & Siegler, R. S. (Eds.), *Handbook of child psychology: Cognition, perception and language* (5th ed., Vol. 2, pp. 801-850). New York: Wiey.

DeMars, C. (2010). *Item Response Theory*. New York, Oxford University Press.

Fatima, S. K. (2008). *Reasoning ability of adolescent students*. Study conducted in Rangareddy District of Andhra Pradesh, India.

Fischhoff, B., Crowell, N.A., & Kipke, M. (1999). *Adolescent decision making: implications for prevention programs* (Summary of a Workshop). Washington DC: National Academy Press.

Galotti, K. M. (2004). *Cognitive psychology: In and out of the laboratory (3rd ed.)*. Wadsworth: Thomson Learning Academic Resource Center.

Gulliksen, H. (1950). *Theory of mental tests*. New York: Wiley.

Hambleton, Ronald. K., Swaminathan, H., & Rogers, H. Jane. (1991). *Fundamentals of Item Response Theory*. Newbury Park, CA: Sage Publications, Inc.

Jeotee, Kunchon. (2012). *Reasoning skills, problem solving ability and academic ability: implications for study programme and career choice in the context of higher education in Thailand* (Unpublished doctoral Dissertation). Durham University, Thailand.

Johnson-Laird, P.N., & Shafir, E. (1993). The interaction between reasoning and decision making: an introduction. *Cognition,* 49, 2, 1-9.

Kant-Studien. (1987). Kant's system of perspectives. In Stephen Palmquist, *Knowledge and Experience - An Examination of the Four Reflective Perspectives in Kant's Critical Philosophy*, pp.170-200. Lanham: University Press of America (1993).

Khin Zaw, Dr. (2001a). *Advanced educational psychology*. PhD/ MEd Research Reference. Yangon: Yangon Institute of Education, YIOE.

Kirwin, C. (1995). Reasoning. In Ted Honderich (ed.). *The Oxford Companion to Philosophy*. Oxford: Oxford University Press.

Mangal. S. K. (2012). *Advanced educational psychology*. 2nd ed. New Delhi: PHL Learning Private Limited.

Osman, Magda. (2004). An evaluation of dual-process theories of reasoning. Retrieved January 20, 2016 from http://www.researchgate.net/publication/7864887.

Savill, O. (2011). *What are numerical reasoning tests: the difference between numerical reasoning and numerical comprehension*? Retrieved March 2, 2016 from www.assessment.co.uk.

Tim van Gelder, Dr. (2000). Argument mapping short course. Retrieved December 1, 2018 from http://www.vangeldermonk.com/free-emailcourse.html

Wilhelm, O. (2005). Measuring reasoning ability. In O. Wilhelm & R. W. Engle (Eds.), *Handbook of measuring and understanding intelligence* (pp. 373-392). Thousand Oaks, CA: Sage Press.

Zinmowski, M., Muraki, E., Mislevy, R., & Bock, D. (2003). *BILOG-MG [Computer software and manual]*. Lincolnwood, IL: Scientific Software International.

A META-ANALYSIS ON FACTORS INFLUENCING STUDENT SATISFACTION IN HIGHER EDUCATION

Wai Wai Than[1], Nu Nu Khaing[2]

Abstract

No single factor explains satisfaction among university students; there are a range of personal, social and institution specific factors. This meta-analysis summarizes the predictors of student satisfaction in higher education. The results will help clarify the existing researches on student satisfaction and identify the strongest predictors associated with satisfaction. As the Student Satisfaction studies were strengthened after 1980s, the search period of the relevant studies covered from 1990 to November 2018. The following search engines were consulted: Google, Eric, Academia and Google Scholar. To be included in the meta-analysis, each study had to fulfill the following criteria: (a) to be an empirical study where the necessary data to calculate the effect size were provided; (b) the study had to be conducted in higher education setting; (c) the paper had to be written in English; (d) samples of participants from normal population were accepted; and (e) the paper had to be published. The search yielded a total of 1147 references, out of which 1056 were removed step by step via selection criteria. Therefore, the total of 91 studies remained for the present meta-analysis. By reviewing these related studies, about 148 factors are found as influencing factors on student satisfaction in higher education. The data of the remaining studies were analyzed by Meta-Essentials. Among the different personal factors, self-efficacy, motivation and college experience were found to be the strongest predictors of student satisfaction. Among the instructional factors, courses, learning environment, and teaching and instruction were the strongest factors. Among the social factors, social presence and student-teacher relation were found to have the strongest effect on student satisfaction. Among the university factors, service quality, cost and reputation were the strongest predictors of student satisfaction. Among the outcome-related factors, job prospects and skills developed were the strongest predictors of student satisfaction.

Keywords: Meta-analysis, Meta-Essentials, Student Satisfaction

Introduction

Every human being needs to develop five main Capitals to survive: Human Capital, Social Capital, Natural Capital, Physical Capital and Financial Capital (Crook, 2001). To accumulate these Capitals, Education development plays a main role, especially it increases the capability, knowledge and employment opportunities which lead to Human Capital and consequently it could reduce the poverty rate with integrating and utilizing other Capitals. Therefore, in order to build up a nation with powerful human resources, education development should be created.

Institutions for higher education nowadays are confronted with a number of complex, educational difficulties. Meeting the educational needs of students and increasing retention and throughput rates is an important challenge for higher education. To cope with these challenges, institutions for higher education should devote great attention to the quality of institutions and to the support of students. With this higher education sector becoming increasingly competitive, university student satisfaction has become an important component of quality assurance.

McCann (2017) points out that more than two thirds of students studying some degrees at the UK's biggest universities are dropping out after first year. Middlesex and Wrexham both offered courses which had drop-out rates of 67 per cent, including human resource management

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and marketing and consumer psychology respectively. Therefore, recruiting students and preserving current students become a great challenge for higher education universities.

Many factors can influence the choice of a university by the students and also students' decisions to persist in their universities. Among them, university students' satisfaction is important to institutional success in that effective institutions have satisfied students because this satisfaction supports the enrollment of additional students and persistence of existing students. As a result, most universities around the world are constantly looking at how to improve the satisfaction of students at their institution.

Student Satisfaction is the extent to which a student's perceived educational experience meets or exceeds his or her expectations, measured as gaps between students' expectations and perceived reality (Schreiner & Juillerat, 1994). College student satisfaction refers to the level of enjoyment or realization of a requirement, aspiration, or expectation involving the college experience (Astin, 1993).

Clearly, the satisfaction of students with their studies is central to the success of the sector. From an institutional point of view, satisfied students are more likely to continue in their studies (retention) and are more likely to succeed academically and this is likely to enhance the financial position and reputation of the institution. The study of student satisfaction allows institutions to be attentive and responsive to the needs and desires of students. According to Low (2000), the capacity to continually measure and respond to student experiences will generate institutions that are adaptable and capable of thriving in a new and unknown era for higher education.

Student satisfaction has the powerful utility value for universities along the history. In 1996, satisfaction is noted as a useful tool in increasing retention and thus enrollment (Upcraft & Schuh). Additionally, Low (2000) argues that the construct also indicates effectiveness and vitality of an institution. Still others point to satisfaction as a mitigating influence on student motivation (Thomas & Galambos, 2004). Recruitment and retention have also been found to be positively related to satisfaction (Elliot & Shin, 2002; Tinto, 1993). In 2009, Goho and Blackman contend that student satisfaction can serve as an indicator of both educational and overall quality of an institution. Therefore, utility of this construct can be readily seen in the area of quality development of universities.

Obviously, college student satisfaction and success have received decades of attention due to their importance and possible interconnections. Research on student satisfaction has ranged across topics from individual and environmental influences on satisfaction (e.g., Hatcher et al., 1992; Keup, 1999) to predictors and outcomes of satisfaction (e.g., Bean & Vesper, 1994; Hull-Toye, 1995; Keup, 2007).

In this time of reforming Myanmar higher education, there is a need of researches in the field of university student satisfaction, the prestigious quality of higher education institutions. The administrators and policy makers should consider factors affecting on university student satisfaction in implementing higher education development plans. So, this research will explore how to get this necessary quality of higher education institutions and universities.

No single factor can explain satisfaction among university students; there are a range of personal, financial, social and institution specific factors. There are many factors external to the institution which may cause satisfaction among students and disruption to their education such as

serious illness, financial problems or family issues (Thompson & Prieto, 2013; Osman et al., 2010, cited in Sweeney, 2016). Health variables such as smoking and alcohol (Cox, 2009), student motivation, effort and anxiety about their personal ability (Sargent, Borthick & Lederberg, 2011, cited in Sweeney, 2016) have been shown to impact student satisfaction and retention.

By reviewing the literature, it can be seen that there are two types of student satisfaction models: structural and process. Structural models describe and organize the facets or dimensions of student satisfaction. Then, the process models explain or partially explain the causes and consequences of college student satisfaction. These student satisfaction models fall into many categories, including fit models, cognitive models, legitimating models, ecological models as well as some models focusing on only one aspect of satisfaction (Bean & Bradley, 1986; Pike, 1991).

According to Witt and Handal's (1984) person-environment fit theory of student satisfaction, environment and individual personal characteristics were predictors of student satisfaction.

As a cognitive model of student satisfaction, Okun and Weir's (1990) judgment model of college satisfaction also takes into consideration the moderation effects of attenuation and memory at all stages based on the idea that students who had a recent memory of a positive event had a higher life satisfaction.

The legitimating models view satisfaction as resulting from the opportunities that a student's degree will give him or her. In Bean and Bradley's (1986) model, institutional fit, academic integration, utility, academic difficulty, social life, memberships, and class level were expected to influence satisfaction.

As another approach, Benjamin and Hollings (1995) used the Quality of Student Life approach to argue for an ecological theory of satisfaction. They found that two areas of satisfaction were life satisfaction and campus satisfaction and that if students were satisfied with one aspect, they were mostly satisfied with the other area.

By reviewing the above theories, it can be found that many factors are affecting on student satisfaction of university students. Like this, many other researchers have explored different factors for student satisfaction. Since these predicting factors are different across studies, there becomes a need for synthesizing the previous literature of student satisfaction, with the aim of exploring consistent factors for student satisfaction. So, this study will explore factors affecting on student satisfaction of university students via meta-analysis study.

Meta analysis refers to a process of integration of the results of many studies to arrive at evidence synthesis (Normand, 1999). It is a method for systematically combining pertinent qualitative and quantitative data from several selected studies to develop a single conclusion that has greater statistical power. This conclusion is statistically stronger than the analysis of any single study, due to increased numbers of subjects, greater diversity among subjects or accumulated effects and results.

This meta-analysis summarizes the predictors of student satisfaction in the field of higher education. The results will help clarify the existing research on student satisfaction and identify

the predictors that are most strongly associated with different aspects of satisfaction, as well as help determine which theories of student satisfaction are most plausible.

Aim of the Study

The main aim of this study was to examine the factors influencing student satisfaction in higher education via meta-analysis studies.

Materials and Methods

Selection Criteria of the Studies

To be included in the meta-analysis, each study had to fulfill the following criteria: (a) to be an empirical study where the necessary data to calculate the effect size were provided; (b) the study had to be conducted in higher education setting; (c) the paper had to be written in English; (d) samples of participants from normal population were accepted; and (e) the paper had to be published.

Searching for the studies

As the Student Satisfaction studies were strengthened after 1980s, the search period of the relevant studies covered from 1990 to November 2018, both included. The following search engines were consulted: Google, Eric, Academia and Google Scholar. In the electronic searches, the keywords "Factors Influencing Student Satisfaction in higher education", "Factors affecting on Student Satisfaction in higher education", "Determinants of Student Satisfaction in higher education", and "Antecedents of Student Satisfaction in higher education" were used to be found in the full-text of the documents. In addition, the references of the studies retrieved were also checked in order to identify additional studies that might fulfill the selection criteria.

Data Extraction

To explore how study characteristics can affect the relationships among the factors and the study variable, a protocol was produced with guidelines on how to code substantive, methodological, and extrinsic characteristics of the studies. The following substantive variables were coded: mean and *SD* of the age (in years), gender distribution of the sample (% male), target population (undergraduate, post-graduate students and both) / (traditional, international and online students), and geographic location of the study (country). Regarding methodological characteristics, the following were extracted: research method (survey, case study, review, vs. experimental), and sample size. Two additional extrinsic variables were also coded: year of the study and type of study (single institution, multiple institutions and national studies).

Data Entry

The data were carefully entered from the coding sheets into an Excel spreadsheet. All the articles were double-checked for accuracy of coding and data entry. The data were then sorted to insure that there were no duplicate entries and that there were not two studies by the same author that might potentially contain the same data.

Table 1 Example of Coding Sheet

Author	Year	Age	Gender	Population	Country	Study	Sample Size	Method	Factor
Ntabathia	2013	20.4	37%	1	5	2	118	1	Service Quality (r=.59)
Dobler, et. al.	2013	21	39%	1	7	1	206	1	Reputation (r=.60)
Solinas, et. al.	2011	21.7	40%	1	3	1	403	1	Gender (d=.26)

Selection Process of the Studies

Figure 1 shows a flowchart describing the selection process of the studies. The search yielded a total of 1147 references, out of which 285 were removed because of duplicate studies. The remaining 862 references were checked by screening their titles and abstracts. Since 511 studies were irrelevant with the present study, the full texts of the remaining 351 studies were assessed for eligibility via selection criteria.

Out of the 351 studies, 260 studies were excluded for not meeting the above mentioned selection criteria. In particular, they were excluded because (a) some studies lacked necessary data to calculate effect size (n=156), (b) some studies were not written in English (n=7), (c) some studies did not include the clear methodology section (n=36), (d) some studies did not present the type of samples (n=5), (e) some studies intended for high school level (n=32), and some for free online class (n=16), and (f) some studies were unpublished doctoral dissertations (n=3) and master theses (n=5). Therefore, the total of 91 studies remained for the present meta-analysis studies.
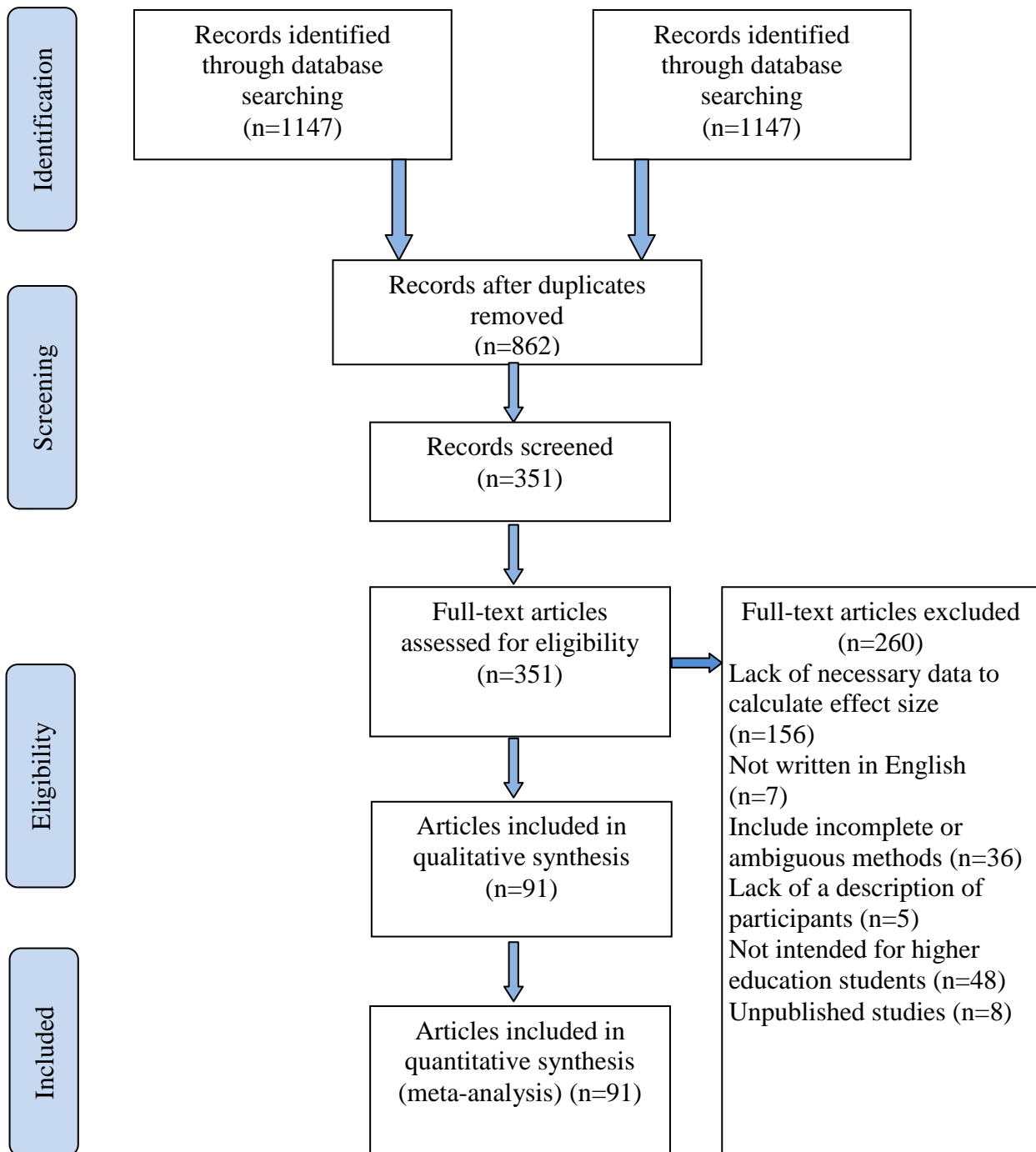
Figure 1   A Flowchart Showing the Selection Process of Studies for the Present Meta-analysis

Selecting the Factors to be included in Meta-analysis

By reviewing the selected studies, about 148 factors are found as influencing factors on student satisfaction in higher education. To be obvious, commonly found factors will be summarized into five groups of factors: Personal factors, Instructional factors, Social factors, University factors and Outcome-related factors. Among these five groups of factors, factors with at least 5 studies were selected to be included in the current meta-analysis studies. Totally 24 factors were included to analyze in the present meta-analysis.

Table 2 Factors to be Included in this Meta-analysis Study

Personal	Instructional	University	Social	Outcomes
Gender Age Self-efficacy Motivation College experience	Courses Learning Environment Teaching & instruction Assessment Teachers' Support Disturbance in Class Students' Support Collaborative Learning	Service quality Cost Reputation Facilities Technology	Safe at School Social Presence Student-teacher relation Student-student relation	Job Prospects Skills developed
5 Factors	8 Factors	5 Factors	4 Factors	2 Factors

Statistical Analysis

Separate meta-analyses were conducted for the selected factors from the review. Thus, a total of 24 meta-analyses were accomplished. In all cases, random-effects models were assumed in the statistical calculations (Borenstein, Hedges, Higgins, & Rothstein, 2009). In each meta-analysis, an average effect size and a 95% confidence interval were calculated with the improved method proposed by Hartung (Sánchez-Meca & Marín-Martínez, 2008).

In each meta-analysis, the heterogeneity of the correlation coefficients was investigated by constructing a forest plot and by calculating the Q statistic and the I^2 index. I^2 values about 25%, 50%, and 75% can be interpreted as reflecting low, moderate, and large heterogeneity (Higgins, Thompson, Deeks, & Altman, 2003). When the effect size exhibited heterogeneity, then sub-group analysis and moderator analyses were performed in order to identify the study characteristics statistically associated to the effect size. All statistical analyses were carried out with the programs *Meta-essentials* (Rhee, Suurmond & Hak, 2015).

Forest plots that show the dispersion of effect sizes and accompanying prediction intervals which express this dispersion are key to state-of-the-art meta-analysis (Hak et al., 2016; Kiran et al., 2017; Riley et al., 2011: cited in Suurmond, Rhee & Hak, 2017). The prediction interval offers "a convenient format for expressing the full uncertainty around inferences, since both magnitude and consistency of effects may be considered" (Higgins, Thompson, Spiegelhalter, 2009: cited in Suurmond, et. al., 2017). *Meta-Essentials* provides the prediction interval by default and automatically includes it in the forest plot.

Results and Discussion

Personal Factors Influencing Student Satisfaction in Higher Education

Table 3 Mean Effect Size, 95% Confidence Intervals, and Significance Level for the Personal Factors

Factors	N	k	r/g	95% CI		p	Q	I^2
				LL	UL			
Gender	6896	6	0.08	-0.07	0.22	.18	8.11	38.31%
Age	1763	6	0.05	-0.11	0.21	.595	64.8	92.28%
Self-efficacy	2629	10	0.41	0.31	0.50	.000	89.67	89.96%
Motivation	1955	6	0.43	0.25	0.58	.000	178.23	97.19%
College experience	6512	6	0.44	0.33	0.53	.000	102.87	95.14%

Note: N= total number of participants, k=number of studies, r/g=mean effect sizes for correlation and difference, LL and UL =lower and upper limits of the 95% confidence intervals; Q=Cochran's heterogeneity Q statistic; I^2=heterogeneity index, p=significance level.

From this analysis on personal factors, it can be found that the average effect of gender and age on student satisfaction is positive (g = 0.08) and (r=0.05) respectively and that the confidence intervals overlap with zero, thus our hypothesis is rejected. For gender, the effect sizes are nearly homogeneous and between-study variability is low in the data (I^2 = 38.31%); the prediction interval shows that the next study result is likely to find an effect size between -0.07 and +0.22. For age, the effect sizes are heterogeneous and between-study variability is present in the data (I^2 = 92.28%); the prediction interval shows that the next study result is likely to find an effect size between -0.11 and +0.21. Therefore, it can be concluded that gender and age may not influence student satisfaction in higher education.

Then, self-efficacy, motivation and college experience were found to have positive effects on student satisfaction with average correlation coefficients of +0.41, +0.43 and +0.44 respectively, and their confidence intervals do not overlap with zero, thus the proposed hypotheses were not rejected. For self-efficacy, the effect sizes are heterogeneous and between-study variability is present in the data (I^2 = 89.96%); the prediction interval shows that the next study result is likely to find an effect size between +0.31 and +0.50. For motivation, the effect sizes are heterogeneous and between-study variability is present in the data (I^2 = 97.19%); the prediction interval shows that the next study result is likely to find an effect size between +0.25 and +0.58. For college experience, the effect sizes are heterogeneous and between-study variability is present in the data (I^2 = 95.14%); the prediction interval shows that the next study result is likely to find an effect size between +0.33 and +0.53. Therefore, it can be concluded that self-efficacy, motivation and college experience may influence student satisfaction in higher education.

Instructional Factors Influencing Student Satisfaction in Higher Education

Table 4 Mean Effect Size, 95% Confidence Intervals, and Significance Level for the Instructional Factors

Factors	N	k	r/g	95% CI		p	Q	I^2
				LL	UL			
Courses	7182	9	0.46	0.35	0.56	.000	110.41	92.75%
Learning Environment	1363	6	0.51	0.36	0.63	.000	53.26	90.61%
Teaching & Instruction	9009	12	0.56	0.48	0.63	.000	190.59	94.23%
Assessment	6974	6	0.28	0.09	0.45	.015	328.07	98.48%
Teachers' Support	16955	6	0.37	0.34	0.39	.000	37.88	86.8%
Disturbance in Class	15917	5	-0.18	-0.21	-0.14	.000	33.87	88.19%
Students' Support	16503	6	0.3	0.19	0.40	.000	70.94	92.95%
Collaborative Learning	892	5	.43	.31	.54	.000	26.81	88.81%

From this meta-analysis on instructional factors, the average effects of all instructional factors on student satisfaction are positive and the confidence intervals does not overlap with zero, thus all the instructional factors influence on student satisfaction.

Among these factors, learning environment and teaching and instruction have large positive effect on student satisfaction (r=+0.51 & r=+0.56) respectively. For learning environment, the effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 90.61%); the prediction interval shows that the next study result is likely to find an effect size between +0.36 and +0.63, which is quite a broad range. For teaching and instruction, the effect sizes are not homogeneous and between-study variability is present in the data

(I^2 = 94.23%); the prediction interval shows that the next study result is likely to find an effect size between +0.48 and +0.63.

Then, courses, teachers' support and student's support have moderate positive effect on student satisfaction (r=+0.46, r=+0.37 & r=+0.3) respectively. For courses, the effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 92.75%); the prediction interval shows that the next study result is likely to find an effect size between +0.35 and +0.56. For teachers' support, the effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 86.80%); the prediction interval shows that the next study result is likely to find an effect size between +0.34 and +0.39. For students' support, the effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 92.95%); the prediction interval shows that the next study result is likely to find an effect size between +0.19 and +0.40, which is quite a broad range.

Next, assessment had a small positive effect on student satisfaction (r=+0.28). The effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 98.48%); the prediction interval shows that the next study result is likely to find an effect size between +0.09 and +0.45, which is quite a broad range.

Finally, disturbance in class has small negative effect on student satisfaction (r=-0.18). Its effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 88.19%); the prediction interval shows that the next study result is likely to find an effect size between -0.21 and -0.14.

University Factors Influencing Student Satisfaction in Higher Education

Table 5 Mean Effect Size, 95% Confidence Intervals, and Significance Level for the University-related Factors

Factors	*N*	*k*	*r/g*	95% CI		*p*	*Q*	*I²*
				LL	**UL**			
Service Quality	3919	13	0.63	0.52	0.72	.000	532.15	97.74%
Cost	2164	6	0.64	0.54	0.72	.000	83.53	94.01%
Reputation	2850	8	0.59	0.54	0.64	.000	33.74	79.25%
Facilities	9095	8	0.17	0.05	0.28	.001	89.11	92.14%
Technology	1208	5	0.34	0.21	0.46	.000	17.69	77.39%

From this meta-analysis on university factors, the average effects of all university factors on student satisfaction are positive and the confidence intervals does not overlap with zero, thus the hypotheses are supported.

Among these factors, service quality, cost and reputation have large positive effect on student satisfaction (r=+0.63, r=+0.64 & r=+0.59) respectively. For service quality, the effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 97.74%); the prediction interval shows that the next study result is likely to find an effect size between +0.52 and +0.72. For cost, the effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 94.01%); the prediction interval shows that the next study result is likely to find an effect size between +0.54 and +0.72. For reputation, the effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 79.25%); the prediction interval shows that the next study result is likely to find an effect size between +0.54 and +0.64.

Then, technology has moderate positive effect on student satisfaction (r=+0.34). Its effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 77.39%); the prediction interval shows that the next study result is likely to find an effect size between +0.21 and +0.46.

Unfortunately, university facilities have small positive effect on student satisfaction (r=+0.17). The effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 92.14%); the prediction interval shows that the next study result is likely to find an effect size between +0.05 and +0.28.

Social Factors Influencing Student Satisfaction in Higher Education

Table 6 Mean Effect Size, 95% Confidence Intervals, and Significance Level for the Social Factors

Factors	N	k	r/g	95% CI		p	Q	I^2
				LL	UL			
Safe at school	15801	5	0.34	0.25	0.42	.000	59.26	93.25%
Social Presence	923	5	0.45	0.33	0.56	.000	20.18	80.17%
Student-teacher Relation	2213	7	0.47	0.37	0.57	.000	90.57	93.38%
Student-student Relation	2328	5	0.25	0.21	0.29	.000	5.59	32.76%

From this meta-analysis on social factors, the average effects of all social factors on student satisfaction are positive and the confidence intervals does not overlap with zero, thus the hypotheses are supported.

Among these factors, safe at school, social presence and student-teacher relation have moderate positive effect on student satisfaction (r=+0.34, r=+0.45 & r=+0.47) respectively. For safe at school, the effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 93.25%); the prediction interval shows that the next study result is likely to find an effect size between +0.25 and +0.42. For social presence, the effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 80.17%); the prediction interval shows that the next study result is likely to find an effect size between +0.33 and +0.56. For student-teacher relation, the effect sizes are not homogeneous and between-study variability is present in the data (I^2 = 93.38%); the prediction interval shows that the next study result is likely to find an effect size between +0.37 and +0.57.

Then, student-student relation has small positive effect on student satisfaction (r=+0.25). Its effect sizes are homogeneous and between-study variability is low in the data (I^2 = 32.76%); the prediction interval shows that the next study result is likely to find an effect size between +0.21 and +0.29.

Outcomes-related Factors Influencing Student Satisfaction in Higher Education

Table 7 Mean Effect Size, 95% Confidence Intervals, and Significance Level for the Outcomes-related Factors

Factors	N	k	r/g	95% CI		p	Q	I^2
				LL	UL			
Job Prospects	6250	5	0.50	0.29	0.67	.000	162.48	97.54%
Skills Developed	2656	5	0.39	0.25	0.52	.000	96.11	95.84%

For outcome-related factors, the effects of both job prospects and skills developed on student satisfaction are positive but the effect of job prospects is large (r=0.5) and the effect of skills developed is moderate (r=0.39) according to Cohen (1988). Their confidence intervals do not overlap with zero, thus the hypotheses are not rejected. For job prospects, the effect sizes are heterogeneous and between-study variability is present in the data ($I^2 = 97.54\%$); the prediction interval shows that the next study result is likely to find an effect size between +0.29 and +0.67. For skills developed, the effect sizes are heterogeneous and between-study variability is present in the data ($I^2 = 95.84\%$); the prediction interval shows that the next study result is likely to find an effect size between +0.25 and +0.52. Therefore, it can be concluded that job prospects and skills developed may influence student satisfaction in higher education.

Conclusion

Every university wants to retain their students and to have them perform well; therefore, it is important to consider the relationship between satisfaction and the predictor variables. The results of this meta-analysis identify possible predictors of student satisfaction that have a strong relationship with satisfaction, where interventions should be targeted.

In this study, the researcher analyzed the quantitative results of 91 studies of student satisfaction, covering 165234 university students. These studies included both undergraduate and graduate students, with the mean age range of 19 to 23 years, from over 60 universities in over 45 nations. The years of study ranged from 1998 to 2018, so reflecting 20 years of duration.

By reviewing the selected studies, about 148 factors are found as influencing factors on student satisfaction in higher education. Among them, factors with five or above studies were selected to include in data analysis. So, 24 factors were selected and categorized into five groups of factors (Personal Factors, Instructional Factors, University Factors, Social Factors and Outcomes-related Factors) to investigate how much effect they have on student satisfaction.

As the results, self-efficacy, motivation and college experience were the most influencing personal factors for student satisfaction. Then, courses, learning environment and teaching and instruction were the most influencing factors on student satisfaction among instructional factors. Among the university factors, service quality, cost and reputation had the highest influence on student satisfaction. Among the social factors, student-teacher relation and social presence were the most influencing factors. Finally, job prospects and skills developed were found as the most influencing outcomes-related factors for student satisfaction. In order for universities to trigger their students' satisfaction to the highest degree, the above-mentioned factors should be considered in implementing their university functions.

Overall this study has helped clarify the existing researches on student satisfaction in higher education. Future researches can develop satisfaction interventions and determine which predictors of satisfaction are most easily manipulated, resulting in the largest gains in satisfaction. At a minimum, this study has confirmed that student satisfaction is a terribly important variable to consider in higher education and has important implications for intervention planning to improve retention. Additionally, this study helps provide evidence about which theories of college student satisfaction are plausible and should be investigated further.

Acknowledgements

References

Astin, A. W., (1982). Minorities in American higher education. Sann Francisco: Jossey-Bass.

Astin, A. W. (1993). *What matters in college: Four critical years revisited.* San Francisco: Jossey-Bass.

Astin, A. W., (1999). Student Involvement: A Developmental Theory for Higher Education. Journal of College Student Development, 40(5).

Auerbach, S., (2009). Walking the walk: Portraits in leadership for family engagement in urban schools. The School Community Journal, 19(1).

Borenstein, M., Hedges, L. V., Higgins, J. P. T. & Rothstein, H. K. (2009). Fixed-Effect versus Random-Effects Models. Introduction to Meta-Analysis. John Wiley & Sons, Ltd. ISBN: 978-0-470-05724-7

Burgess, O., (2015). Cyborg teaching: The transferable benefits of teaching online for the face-to-face classroom. MERLOT Journal of Online Learning and Teaching, 11(1).

Cox, R. D. (2009). "It was just that I was afraid": Promoting success by addressing students' fear of failure. *Community College Review, 37*(1), 52–80. Sage Publications. http://dx.doi.org/10.1177/0091552109338390

Fletcher, A., 2016. Whole School Meaningful Student Involvement Survey. Soundout.

Higgins, J. P. T., Thompson, S. G., Deeks, J. J., & Altman, D. (2003). Measuring Inconsistency in Meta-Analyses. *BMJ (Clinical research ed.).* 327. 557-60.

Jang, H., Reeve, J., & Deci, E. L., (2010). Engaging students in learning activities: It is not autonomy support or structure but autonomy support and structure. Journal of Educational Psychology, 102(3).

Jensen, E., (2013). How poverty affects classroom engagement: Students from low-income households are more likely to struggle with engagement-for seven reasons. Educational Psychology, 102(3).

Lo, C. C. (2010). How student satisfaction factors affect perceived learning. *Journal of the Scholarship of Teaching and Learning, Vol. 10, No. 1.*

Phillips, L., (2015). Ten Ways for cultivating language and literacy learning through engagement with families and communities. Practically Primary, 20(1).

Reyes, M. R., Brackett, M. A., Rivers, S. E., White, M., & Salovey, P. (2012). Classroom emotional climate, student engagement, and academic achievement. Journal of Educational Psychology, 104(3).

Rhee, V. H., Suurmond, R., & Hak, T. (2015). User Manual for Meta-Essentials: Workbooks for Meta-Analysis. *Erasmus Research Institute of Management.* 10.2139/ssrn.3241355.

Sanchez-Meca, J., & Marin-Martinez, F. (2008). Confidence intervals for the overall effect size in random-effects meta-analysis. *Psychological Methods*, 13(1), 31-48. Retrieved from http://dx.doi.org/10.1037/1082-989X.13.1.31

Sanchez-Meca, J., & Marin-Martinez, F. (2010). Meta-analysis in Psychological Research. International Journal of Psychological Research, 3(1).

Suurmond, R., Rhee, V. H., & Hak, T. (2017). Introduction, comparison, and validation of Meta-Essentials: A free and simple tool for meta-analysis. *Research Synthesis Methods.* 8. 537-553. 10.1002/jrsm. 1260.

Sweeney, L. (2016) "A Predictive Model of Student Satisfaction," *Irish Journal of Academic Practice*: Vol. 5: Iss. 1, Article 8. Retrieved from http://arrow.dit.ie/ijap/vol5/iss1/8

Wang, C. W., & Neihart, M. (2015). How do supports from parents, teachers, and peers influence academic achievement of twice-exceptional students. Gifted Child Today, 38(3).

PROBLEMATIC INTERNET USE AND PSYCHOLOGICAL WELL-BEING OF PRE-SERVICE TEACHERS FROM SELECTED EDUCATION COLLEGES

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Abstract

The main purpose of this study was to investigate problematic internet use and psychological well-being of pre-service teachers from selected Education Colleges. A total of 600 pre-service teachers (300 males and 300 females) were selected from three Education Colleges by using stratified random sampling technique in this study. Problematic internet use was measured by questionnaire of Demetrovics, Szeredl and Rozsa (2008) and Cronbach's alpha was 0.741. Psychological well-being was measured by using the questionnaire of Carol D. Ryff (1989) and Cronbach's alpha was 0.843. Both questionnaires were answered on four-point Likert scale. According to the results, there were no significant differences in problematic internet use by gender and by grade. In psychological well-being, there was significant difference by gender at 0.01 level but no significant difference by grade. The female pre-service teachers feel more psychological well-being than male pre-service teachers. There were significant differences in both problematic internet use and psychological well-being of pre-service teachers by Education College. Education College 3 may have the most problems in using internet among Education Colleges and Education College 1 may feel the best psychological well-being among Education Colleges. It was found that problematic internet use and psychological well-being of pre-service teachers in this study were significantly and negatively correlated. 5% of variance in psychological well-being was predicted by problematic internet use of pre-service teachers. This may be expected to aid Education Colleges in understanding the degree of psychological well-being to which their pre-service teachers feel and how to reduce pre-service teachers' problematic internet use.

Keywords: Problematic, problematic internet use, well-being, psychological well-being.

Introduction

The Internet has become the most popular medium utilized by the general population, especially by children and adolescents. Adolescence is viewed as an important period for personal and professional development (Ahn, 2010). During this phase, adolescents experience many physical and psychological changes, including a sense of independence and freedom (Panicker & Sachdev, 2014). Some authors hold that forming meaningful social connections are pivotal to adolescent development (Reeve, et. al., 2004), which contribute to efficient social functioning during adolescence (Waldo, 2014; Bokhorst, Sumter & Westenberg, 2010). Gillen-O'Neel and Fuligni (2013) argued that having positive relationships with peers enhances adolescent well-being and encourages better learning opportunities.

Most research studies have found that internet plays an integral part of daily life for people of today, particularly in the age of adolescence (Thorsteinsson & Davey, 2014; Wallace, 2014; Tzavela, Karakitsou, et.al. 2017). Studies have shown different ways that adolescents utilize and engage in internet. Brown (2006) suggested that the choice of media individuals make is influenced by their character and the way they interact with the world; in turn, the way individuals interact with the media will be incorporated into their daily life, influence their behavior and views and even the development of their brain. Children and adolescents are more susceptible to trade off their real life activities with virtual reality ones. Young people are also more prone to use the Internet as a form of socialization without realizing the negative impact

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that may carry. Thus, when Internet use starts to take up a large portion of children's and adolescents' time, affects their mood, and jeopardizes academic and social function and performance; Internet usage may become a problem that may require intervention (as cited in Chang & Hung, 2012).

One of the pioneers in the field was the New York psychiatrist Ivan Goldberg. In 1995, he formulated a symptom list for what he called Internet Addiction Disorder. Based on this, an individual had to experience a minimum of three of the following symptoms over a period of twelve months: tolerance, withdrawal, lack of control, relapse, spending large amounts of time online, negative consequences and continued use despite negative consequences (Goldberg, 1996).

The term "Internet addiction" was changed to the less controversial "problematic Internet use" (PIU) by Shapira et al (2000). Problematic internet use is addictive behavior— excessive or poorly controlled preoccupations, urges, or behaviors regarding computer use and internet access that lead to impairment or distress. The problem is more common in adolescent males than females and is very often linked to playing online games. In severe cases, online activity takes over the person's life to the exclusion of all else. Thus, their improvement of life and psychological well-being can be damaged because of the extreme use of internet (as cited in Chang & Hung, 2012).

Psychological well-being refers to positive mental health (Edwards, 2005). Research has shown that psychological well-being is a diverse multidimensional concept (MacLeod & Moore, 2000; Ryff, 1989b; Wissing & Van Eeden, 2002), which develops through a combination of emotional regulation, personality characteristics; identity and life experience (Helson & Srivastava, 2001). Psychological well-being can increase with age, education, extraversion and consciousness and decreases with neuroticism (Keyes et al., 2002). However, when adolescents experience unpleasantness in relation to their peers, it results in maladaptive functioning (Newman, Lohman & Newman, 2007), which may have an adverse impact on the adolescents' present and future development (Shochet, Smith, Furlong & Homel, 2011).

When internet is used for communicating with exiting friends and family members, sending and receiving emails, searching for relevant information, researching as well as and for communicating with like-minded people with similar interests (McKenna & Bargh, 2000), it is associated with positive well-being (Kari, 2006), which can be further associated with positive growth. On the other hand, when an individual becomes dependent on the net for seeking true friendships, which are often regarded as weak and superficial (Knibbe & Luchies, 2013), it significantly hampers not only the well-being but also personal growth because such relations fail to provide feelings of warmth and companionship, in comparison to real life friendships (Green, et.al., 2005). Many adolescents engage in internet through social networking sites and instant messaging applications. It is believed that the stage of adolescence is a sensitive period where many changes occur psychologically, physically and behaviorally. Since, adolescents at this stage are in a process of building new social relationships, understanding their surrounding environment and seeking academic opportunities, focus of attention moves from parents and guardians to social relationships in context for seeking advice, solving problems, gaining knowledge, etc. (Eckenrode, 1991). Therefore, it is important that adolescents should choose the right company that matches their personality and psychological thinking, which will aid them in developing their potentials to the fullest and develop positive strategies to solve problems (as cited in Devika Pal, 2017).

Aim of the Study

The main aim of the study is to investigate problematic internet use and psychological well-being of pre-service teachers from selected Education Colleges.

Scope of the Study

This study is focus on the area of problematic internet use and psychological well-being of pre-service teachers from Meiktila, Pakokku and Pyay Education Colleges. Total of 600 pre-service teachers were from selected Education Colleges.

Definitions of Key Terms

Problematic refers to usage reflecting a specific cycle of innate dysfunction leading to Internet use that in turn exacerbates the dysfunction (Caplan, 2002; Davis, Flett, & Besser, 2002).

Problematic Internet Use (PIU) is employed here to characterize those maladaptive cognitions and behaviors involving Internet use that result in negative academic, professional, and social consequences (Caplan, 2002; Davis, Flett, & Besser, 2002).

Well-being is a dynamic concept that includes subjective, social and psychological dimensions as well as health related behaviors (Ryff, 1989).

Psychological Well-being has been defined as a state of happiness or contentment and is comprised of six core dimensions: autonomy, environmental mastery, personal growth, positive relations, purpose in life and self-acceptance (Ryff, 1989b).

Method

In this study, descriptive research design and quantitative survey method were used.

Sample

The total of 600 (male=300, female=300) pre-service teachers were selected as participants from three Education Colleges by using stratified random sampling technique.

Instrumentation

Problematic Internet Use Questionnaires (PIUQ). The questionnaire was modified by Demetrovics, Szeredl and Sandar (2008) from Internet Addiction Test (IAT) of Young (1998) and the purpose of it used to measure problematic internet use of people at any age. PIUQ consists of 18 items.

Psychological Well-being Scale (PWS). This scale was developed by Ryff, C. D. (1989). It used to measure psychological well-being. The total items were 42.

Participants will be asked to respond to each item on a four-point Likert scales ranging from strongly disagree (scored 1) to strongly agree (scored 4). The instruments used to in this study were translated from English version to Myanmar version.

After making the pilot study, the reliability analysis of the instruments was conducted by using the Statistical Package for the Social Science (SPSS). The internal consistency reliability coefficient (Cronbach's alpha) of pilot test was 0.706 for problematic internet use and 0.812 for psychological well-being. It indicates that the instruments can be identified as a reliable tool for this study.

Procedure

Firstly, researcher reviewed the related literature from several available books, theses, journals, dissertation, reports, handouts and internet sources. And then, problematic internet use and psychological well-being questionnaires were adapted and also translated to Myanmar version. In order to validate these instruments, experts' review was requested. Next, pilot study was conducted. And, the instruments were taken reliability according to pilot study results by using SPSS (20.00). After taking the validity and reliability of the instruments, the actual test was implemented at selected Education Colleges. After performing actual test, the collected data were analyzed and interpreted. In interpreting the actual test, the internal consistency reliability (Cronbach's alpha coefficient) was 0.741 for problematic internet use and 0.843 for psychological well-being. Finally, the necessary suggestions and recommendations for this study were discussed.

Data Analysis and Findings

After the instrument had been developed for the research and applied for the data collection, the problematic internet use and psychological well-being of pre-service teachers were investigated. Data were analyzed by using the Statistical Package for the Social Science (SPSS) software. Descriptive statistics, independent samples *t* test, One-way ANOVA, Person Product Moment correlation and simple linear regression were applied to discuss findings and results.

Descriptive Statistics for Problematic Internet Use of Pre-service Teachers

Pre-service teachers' problematic internet use scores were reported by means of descriptive statistics.

Table 1   Descriptive Statistics for Problematic Internet Use of Pre-service Teachers

Variable	*N*	Minimum	Maximum	Mean	Std. Deviation
Problematic internet use (Total)	600	19	73	43.28	6.00

Since the total mean score is lower than the theoretical mean score, there is a little problem concerning with the use of internet of the pre-service teachers.

Mean Comparison for Problematic Internet Use of Pre-service Teachers by Gender

The mean and standard deviations of males and females pre-service teachers were described in the Table 2.

Table 2 Descriptive Statistic for Problematic Internet Use of Pre-service Teachers by Gender

Variable	Gender	*N*	Mean	*SD*
Problematic Internet Use	Male	300	43.75	6.02
	Female	300	42.81	5.97

In order to determine whether these differences were significant or not, the independent samples *t* test was used. The results were mentioned in Table 3.

Table 3 The Result of Independent Samples *t* test for Problematic Internet Use by Gender

Variable	Gender	*N*	*t*	*df*	*p*	Mean Difference
Problematic Internet Use	Male	300	1.908	598	.057	.94
	Female	300				

Based on the result of independent samples *t* test, there was no significant difference in problematic internet use according to gender.

Mean Comparison for Problematic Internet Use of Pre-service Teachers by Grade

To find out mean difference in problematic internet use of pre-service teachers by grade, descriptive statistics was made. (see Table 4)

Table 4 Descriptive Statistic for Problematic Internet Use of Pre-service Teachers by Grade

Variable	Grade	*N*	Mean	*SD*
Problematic Internet Use	First Year	300	43.50	6.34
	Second Year	300	43.06	5.65

In order to determine whether these differences were significant or not, the independent samples *t* test was used. The results were mentioned in Table 5.

Table 5 The Result of Independent Samples *t* test for Problematic Internet Use by Grade

Variable	Grade	*N*	*t*	*df*	*p*	Mean Difference
Problematic Internet Use	First Year	300	.911	598	.363	.44
	Second Year	300				

Based on the result of independent samples *t* test, there was no significant difference in problematic internet use according to grade.

Mean Comparison for Problematic Internet Use of Pre-service Teachers by Education College

To be able to compare problematic internet use of pre-service teachers by Education Colleges, descriptive statistics was first used in this study. (see Table 6)

Table 6   Mean and Standard Deviation for Problematic Internet Use of Pre-service Teachers by Education College

Variable	Education College	*N*	Mean	*SD*
Problematic Internet Use	College 1	200	42.36	5.96
	College 2	200	43.27	6.24
	College 3	200	44.22	5.64
	Total	600	43.28	6.00

In order to reveal whether there was statistically significant difference in problematic internet use of pre-service teachers according to Education College, One-way Analysis of Variance (ANOVA) was worked out. The results of the analysis were displayed in Table 7.

**Table 7	The Results of ANOVA for Problematic Internet Use by Education College**

Variable		Sum of Squares	df	Mean Square	F	p
Problematic Internet Use	Between Groups	345.99	2	172.99	4.86**	.008
	Within Groups	21246.97	597	35.59		
	Total	21592.96	599			

Note: **. The mean difference is significant at the 0.01 level.

As above mentioned ANOVA result in Table 7, it was found that there was significant difference in problematic internet use among Education Colleges at 0.01 significant level.

To investigate more specifically how pre-service teachers' problematic internet use differed in relation to their Education College, Post Hoc Test was carried out by Tukey HSD method. The results were shown in Table 8.

**Table 8	The Results of Tukey HSD test of Multiple Comparison for Pre-service Teachers' Problematic Internet Use**

Variable	Education College (I)	Education College (J)	MD (I-J)	p
Problematic Internet Use	College 3	College 1	1.86**	.005
		College 2	.95	.253

Note: **. The mean difference is significant at the 0.01 level.

Post Hoc Tukey HSD test revealed that the mean difference between Education College 1 and 3 was 1.86 and it was significantly different at 0.01 level.

Descriptive Statistics for Psychological Well-being of Pre-service Teachers

In term of descriptive statistics, mean standard deviation, minimum and maximum scores of psychological well-being were calculated to analyze data. (see Table 9)

**Table 9	Descriptive Statistics for Psychological Well-being of Pre-service Teachers**

Variable	N	Minimum	Maximum	Mean	SD
Psychological well-being	600	73	153	122.41	11.57

Since the total mean score is higher than the theoretical mean score. So, psychological well-being of the pre-service teachers was satisfactory.

Mean Comparison for Psychological Well-being of Pre-service Teachers by Gender

The mean and standard deviations of males and females pre-service teachers were described in the Table 10.

**Table 10	Descriptive Statistic for Psychological Well-being of Pre-service Teachers by Gender**

Variable	Gender	N	Mean	SD
Psychological Well-being	Male	300	120.89	11.66
	Female	300	123.93	11.29

In order to determine whether these differences were significant or not, the independent samples *t* test was used. The results were mentioned in Table 11.

Table 11 The Result of Independent Samples *t* test for Psychological Well-being by Gender

Variable	Gender	N	t	df	p	Mean Difference
Psychological Well-being	Male	300	-3.249**	598	.001	.37
	Female	300				

Note: **. The mean difference is significant at the 0.01 level.

Based on the result of independent samples *t* test, there was significant difference in psychological well-being according to gender.

Mean Comparison for Psychological Well-being of Pre-service Teachers by Grade

To find out grade difference in psychological well-being of pre-service teachers, descriptive statistics was made.

Table 12 Descriptive Statistic for Psychological Well-being of Pre-service Teachers by Grade

Variable	Grade	N	Mean	SD
Psychological Well-being	First Year	300	122.17	11.57
	Second Year	300	122.65	11.58

In order to determine whether these differences were significant or not, the independent samples *t* test was used. The results were mentioned in Table 13.

Table 13 The Result of Independent Samples *t* test for Psychological Well-being by Grade

Variable	Grade	N	t	df	p	Mean Difference
Psychological Well-being	First Year	300	-.512	598	.609	-.48
	Second Year	300				

Based on the result of independent samples *t* test, there was no significant difference in psychological well-being according to grade.

Table 14 Mean and Standard Deviation for Psychological Well-being of Pre-service Teachers by Education College

Variable	Education College	N	Mean	SD
Psychological Well-being	College 1	200	123.88	11.37
	College 2	200	120.98	12.39
	College 3	200	122.38	10.76
	Total	600	122.41	11.57

In order to reveal whether there was statistically significant difference in psychological well-being of pre-service teachers according to Education College, One-way Analysis of Variance (ANOVA) was worked out. The results of the analysis were displayed in Table 15.

Table 15 The Results of ANOVA for Psychological Well-being of Pre-service Teachers by Education College

Variable		Sum of Squares	df	Mean Square	F	p
Psychological Well-being	Between Groups	841.33	2	420.67	3.17*	.043
	Within Groups	79267.63	597	132.76		
	Total	80108.96	599			

Note: *. The mean difference is significant at the 0.05 level.

As above mentioned ANOVA result in Table 15, it was found that there was significant difference in psychological well-being among Education Colleges at 0.05 significant level.

To investigate more specifically how pre-service teachers' psychological well-being differed in relation to their Education College, Post Hoc Test was carried out by Tukey HSD method. The results were shown in Table 16.

Table 16 The Results of Tukey HSD test of Multiple Comparison for Pre-service Teachers' Psychological Well-being

Variable	Education College (I)	Education College (J)	MD (I-J)	*p*
Psychological Well-being	College 1	College 2	2.90*	.032
		College 3	1.50	.395

Note: *. The mean difference is significant at the 0.05 level.

Post Hoc Tukey HSD test revealed that the mean difference between Education College 1 and 2 was 2.90 and it was significantly different at 0.05 level.

The Relationship between Problematic Internet Use and Psychological Well-being of Pre-service Teachers

In order to explore the relationship between problematic internet use and psychological well-being of pre-service teachers, the Pearson Product-Moment Correlation Coefficient was computed. The results were shown in Table 17.

Table 17 The Relationship between Problematic Internet Use and Psychological Well-being of Pre-service Teachers

Variable	Problematic Internet Use	Psychological Well-being
Problematic Internet Use	-	-.221**
Psychological Well-being	-.221**	-

Note: ** Correlation is significant at the 0.01 level (2-tailed).

According to the results, there was a negative correlation between problematic internet use and psychological well-being because the correlation coefficient was statistically significant at 0.01 level.

Results of Simple Linear Regression on Problematic Internet Use and Psychological Well-being of Pre-service Teachers

To examine how problematic internet use can predict psychological well-being of pre-service teachers, simple linear regression was calculated.

Table 18 Model Summary for Problematic Internet Use and Psychological Well-being

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.221[a]	.049	.047	11.288

a. **Dependent Variable: Psychological Well-being**

According to Table 18, the simple linear regression coefficient (R) was .221 and adjusted R square was .047. It can be concluded that 5% of psychological well-being can be predicted

from problematic internet use. To get more exact information, the results can be seen in the following Table 19.

Table 19 Results of Simple Linear Regression on Problematic Internet Use and Psychological Well-being

Model	Unstandardized Coefficient		Standardized Coefficient	*t*	Sig.
	B	**Std. Error**	**Beta**		
1 (constant)	140.836	3.356		41.960	.000
Problematic Internet Use	-.426	.077	-.221	-5.543	.000

From the Table 4.26, it was found that the predictor problematic internet use significantly predicted psychological well-being. Therefore, the model can be expressed as the following equation.

$$PWB = 140.836 - .426\ PIU$$

PIU = Problematic Internet Use, PWB = Psychological Well-being

Conclusion and Suggestion

According to the results of the descriptive analysis of the frequency distribution on problematic internet use questionnaire, the total mean score of problematic internet use was lower than the theoretical mean score of it. So, there is a little problem concerning with the use of internet of the pre-service teachers but it was satisfactory.

And there was no significant difference in pre-service teachers' problematic internet use by gender and grade. Thus, the result indicated that both males and females could be had problems in their internet use. And the problematic internet use was not concerned with the pre-service teachers' education level (i.e. grade) because they have chances to use internet equally and their education level are not so different. However, the present study found that pre-service teachers' problematic internet use differs according to Education Colleges. Post Hoc result specifically described that Education College 3 had more problem in using internet than Education College 1. It may be that the pre-service teachers from Education College 3 come from rural area where they cannot access to internet. When they reach the urban area (Education College 3) in which they can access to internet, they may use the internet without limit. Thus, pre-service teachers from Education College 3 need to care in their internet use and to guide to use internet beneficially.

In studying psychological well-being, according to the results of the descriptive analysis of the frequency distribution on psychological well-being questionnaire, the total mean score of psychological well-being was higher than the theoretical mean score of it. Thus the psychological well-being of all pre-service teachers was satisfactory.

Furthermore, the present study found that there was significant difference in psychological well-being between males and females. The female pre-service teachers feel better psychological well-being than male pre-service teachers. It may be that psychological well-being is the state of happiness and it is concerned with their freedom. It may also be that the male pre-service teachers cannot stay to adapt with the rules of Education Colleges and they may not fix with the surroundings of Education Colleges. However, there was no significant difference in

psychological well-being of pre-service teachers by grade. Thus, all pre-service teachers from Education Colleges feel psychological well-being equally. It may be that all activities of Education Colleges in which they have are similar and they have freedom and opportunities equally.

Moreover, the present study found that psychological well-being of pre-service teachers affected by Education Colleges. Education College 1 feels better psychological well-being than Education College 2 and 3. Thus, it can be said that pre-service teachers from Education College 1 had more familiar relationships with their peer and teachers in many activities. Besides, psychological well-being of pre-service teachers may affect by surroundings and physical appearance of Education Colleges.

Finally, significant negative correlation was found between problematic internet use and psychological well-being. Thus, if the pre-service teachers' problematic internet use was higher, their psychological well-being would be lower. The finding of the study attributes psychological well-being as a factor which effects on problematic internet use of pre-service teachers.

For the predictor of psychological well-being to problematic internet use, simple linear regression was executed continuously. The results showed that the simple linear regression correlation coefficient (R)= 0.221 and adjusted R square was 0.049. It can be concluded that 5% of psychological well-being of pre-service teachers can be predicted from problematic internet use.

Pre-service teachers spend a large proportion of their time in using internet. Therefore, to be high psychological well-being has become important in their live. Based on findings of this research, there are some suggestions for teachers, Education Colleges and pre-service teachers.

- Teachers should create closely relationship with pre-service teachers.

- Teachers should treat all pre-service teachers fairly.

- Teachers should cultivate positive attitudes that are to try to come close to pre-service teachers' ideals.

- Education Colleges should support many interesting things that can attract pre-service teachers to be happy in Education Colleges.

- Education Colleges should have many interesting activities.

   And then, pre-service teachers should be recommended in the following suggestions.

- The pre-service teachers should use internet systematically in their free time.

- The pre-service teachers should use internet to learn their profession.

- The pre-service teachers should understand the advantages and disadvantages of internet use.

- The pre-service teachers should avoid being internet addiction.

- The pre-service teachers should learn how to improve their psychological well-being.

Pre-service teachers' psychological well-being can be enhanced with proper guidance and providing opportunities to participate in Education Colleges' activities. Thus, it is recommended

that different training activities should be organized in Education Colleges to enhance pre-service teachers' psychological well-being in order to reduce problems in their internet use.

In order for pre-service teachers to achieve their life goals and reduce problematic internet use, it is important to be in a psychologically healthy condition. The results can aid Education Colleges in understanding the degree to which their pre-service teachers' psychological well-being and how to reduce their problematic internet use.

Acknowledgements

References

Ahn, J. (2011). The Effect of Social Network Sites on Adolescents' Social and Academic Development: Current Theories and Controversies. *Journal of the American society for information science and technology, 62* (8): 1435–1445. DOI: 10.1002/asi.21540

Bokhorst, C. L., Sumter, S. R. and Westenberg, P. M. (2010). Social support from parents, friends, classmates, and teachers in children and adolescents aged 9 to 18 years: Who is perceived as most supportive? *Social Development, 19*, 417–426. doi:10.1111/j.1467-9507.2009.00540.x

Caplan, S. E. (2002). Problematic Internet use and psychosocial well-being: development of a theory-based cognitive–behavioral measurement instrument. *Computers in Human Behavior*, *18*(5), 553–575.

Chang J P-C, Hung C-C (2012). Problematic internet use. In Rey JM (ed), *IACAPAP e-Textbook of Child and Adolescent Mental Health*. Geneva: International Association for Child and Adolescent Psychiatry and Allied Professions 2012.

Davis, R. A., Flett, G. L., & Besser, A. (2002). Validation of a new scale for measuring problematic internet use: Implications for pre-employment screening. *CyberPsychology & Behavior, 5*, 331-345.

doi:10.1089/109493102760275581.

Devika, P.(2017). *Relationship between problematic internet use and psychological well-being among adolescents in Sweden*. (Master Thesis, Lunds University). Retrieved September 28, 2018 from

https://www.google.com/search?q=Devika+Pal%27s+thesis&client=ucweb-b&channel=sb

Edwards, S. D., & Edwards, D.J. (2005). *A workshop on breathing methods in sport psychology*. Proceedings of the 11th World Congress of Sport Psychology, Sydney Australia, 15-19.

Gillen-O'Neel, C., & Fuligni, A. (2013). Longitudinal study of school belonging and academic motivation across high school. *Child Development*, *84*(2), 678–692. doi:10.1111/j.1467-8624.2012.01862.

Goldberg, I. (1996). Internet addiction disorder [Electronic mailing list message]. Retrieved October 27, 2018 from http://users.rider.edu/~suler/psycyber/supportgp.html

Helson, R., & Srivastava, S. (2001). Three paths of adult development: conservers, seekers, and achievers. *Journal of Personality and Social Psychology*, *80*, 995-1010. Retrieved October 7, 2018 from http://users.rider.edu/~suler/psycyber/supportgp.html

Keyes, C.L.M., Shmotkin, D., & Ryff, C.D. (2002). Optimizing well-being: the empirical encounter of two traditions. *Journal of Personality and Social Psychology*, *82*, 1007-1022.

MacLeod, A.K., & Moore, R. (2000). Positive thinking revisited: positive cognitions, well-being and mental health. *Clinical Psychology and Psychotherapy*, *7*, 1-10.

McKenna, K. Y. and Bargh, J. A. (2000). Plan 9 from cyberspace: The implications of the Internet for personality and social psychology. *Personality and social psychology review*, 4(1), 57-75.

Panicker, J., and Sachdev, R. (2014). Relations among loneliness, depression, anxiety, stress and problematic Internet use. *International Journal of Research in Applied Natural and Social Sciences, 2 (9), 1-10*

Reeve, J., Deci, E.L. and Ryan, R.M. (2004). Self-determination theory. A dialectical framework for under- standing sociocultural influences on student motivation. In D.M. McInerney and S. Van Etten (Eds.), *Research on sociocultural influences on motivation and learning: Big theories revisited* (vol. 4, pp. 31–59). Greenwich, CT: Information Age Press.

Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*(6), 1069-1081.

Ryff, C.D. (1989b). Happiness is everything, or is it. Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*, 1069 – 1081.

Shapira, N. A., Goldsmith, T. D., Keck, P., Khosla, U., & McElroy, S. (2000). Psychiatric features of individuals with problematic Internet use. *Journal of Affective Disorders, 66*, 283.

Thorsteinsson, E. B. and Davey, L. (2014). Adolescents' compulsive Internet use and depression: A longitudinal study. *Open Journal of Depression, 3*, 13–17. doi:10.4236/ojd.2014.31005

Tzavela, E. C., Karakitsou, C. Halapi, E. and Tsitsika, A. K. (2017). Adolescent igital profiles: A process- based typology of highly engaged internet users. *Computers in Human Behavior, 69, pp. 246-255.* doi.org/10.1016/j.chb.2016.11.032

Waldo, A.D. (2014). Correlates of Internet Addiction among Adolescents. *Psychology, 5,* 1999-2008. doi.org/ 10.4236/psych.2014.518203

Wallace, P. (2014). Internet addiction disorder and youth. *EMBO Reports, 15*, 12–16. doi:10.1002/embr.201338222

Wissing, M. P., & Van Eeden, C. (2002). Empirical clarification of the nature of psychological well-being. *South African Journal of Psychology*, *32*, 32-44.

THE EFFECT OF GAME ADDICTION ON AGGRESSIVE BEHAVIOUR AMONG UNIVERSITY STUDENTS IN SAGAING DISTRICT

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Abstract

The main purpose of this study is to investigate the effect of game addiction on aggressive behaviour among university students in Sagaing District. The quantitative research design and descriptive survey method were used in this study. A total of 554 university students from four universities were selected as participants by using simple random sampling technique. As research instruments, Game Addiction Scale (Lemmens, Valkenburg & Peter, 2009) and Aggression Questionnaire (Faris, Ishak & Ramli, 2016) were used to measure students' game addiction and aggressive behaviour. According to the result of descriptive statistics, it can be said that the students were moderately addicted to playing games. Next, *t* test indicated that there were significant differences in both overall game addiction and in subscales of game addiction between male and female students. Furthermore, significant difference was also found in total aggressive behaviour by gender in which females were significantly higher than male students ($t=-2.478$, $p<0.05$). Although there was no significant difference in overall game addiction by university, significant differences was found in total aggressive behaviour among game players. Moreover, Pearson Product Moment Correlation revealed that game addiction of university students was significantly correlated with their aggressive behaviour ($r = .342$, $p<0.001$). According to multiple regression analyses, it was revealed that game addiction was key predictor on aggressive behaviour. Therefore, it is hoped that this study may provide a lot of information to the teachers, parents and administrators concerning how the students can be addictive to playing games and the effect of students' game addiction on aggressive behaviour.

Key words: Game, addiction, game addiction, aggressive behaviour

Introduction

The games that children and youths used to play on the playgrounds and streets have been replaced in recent years by the online/offline games played in front of their personal computers and on their mobile phones. This changing culture is becoming widespread around the world and game playing has become extremely popular. Today, people are beginning to assume game playing as one of the type of sports. It is obvious in the evidence that game playing ("eSports") will be a medal sport at the upcoming South East Asian Games (SEA Games) that will be held in the Philippines in 2019.

Actually, proper game playing can offer many advantages to the players. However, when children and youth play the games excessively and uncontrollably, they become addicted to playing games. An addiction to game playing can cause a tremendous amount of consequences to the gamer. In one of the most dramatic stories of online game addiction, in 2005, a 28 year old South Korean man died not by committing suicide, but after playing the game Starcraft at an Internet café for 50 hours straight off. By all reports, the man had not slept properly and had eaten very little in that time. While no autopsy was performed, he was believed to have died from heart failure stemming from exhaustion (Young, 2009).

Today, game addiction is a worldwide phenomenon in every aspect. For example, games playing have become a serious public health concern in China. About 10% of China's more than 30 million internet gamers were said to be addicted (Young, 2009). The particular concern of game addiction is that it can increase the players' aggressive behaviour. According to Gentile and

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Anderson (2003), video games require an individual to be actively involved to progress through the mediums' content. That is, rather than simply consuming the media, individuals must dynamically negotiate within it to remain visually and auditory entertained. Due to this difference, video games are believed to hold a greater potential to instigate aggressive behaviour, at a greater magnitude. Moreover, Kim, Namkoong, Ku and Kim's (2008) research also suggested that game addiction is positively correlated with aggressive behaviour.

Nowadays, many educationists accept that EQ (emotional quotient) is more important that IQ (intellectual quotient) to be a successful and leader although both are fundamental. EQ stands for emotional ability to manage the emotional issues of one's life effectively and positively. Emotion is one sub-type of aggressive behaviour and enabling to control or not their emotional issues have an effect on their aggressive behaviour.

Therefore, in order to help university students who are the future leaders of the country, to become productive citizens, strategies that can help them to reduce their aggressive behaviour should be considered. And then, because of this study, parents, teachers and administrators can see and understand the causes and consequences of game addiction. Moreover, they may also know the root of increasing aggressive behaviour, the relationship between game addiction and aggressive behaviour and the effect of game addiction on aggressive behaviour. For the above reasons, the researcher selected to study game addiction and aggressive behaviour as key concepts because of their importance as mentioned above.

Purpose of the Study

The main aim of the study is to investigate the effect of game addiction on aggressive behaviour among university students in Sagaing District. The specific objectives of this study are as follows:

(1) To explore the game addiction and aggressive behaviour of university students in Sagaing District.

(2) To measure the differences in game addiction of university students by gender and university.

(3) To find out the differences in aggressive behaviour of university students who play games by gender and university.

(4) To examine the relationship between game addiction and aggressive behaviour of university students in Sagaing District.

(5) To explore the effect of game addiction on aggressive behaviour of university students in Sagaing District.

Design and Procedure

Sampling. The participants of this study were third year, fourth year and fifth year students attending in (2018-2019) Academic Year from four universities of Sagaing District. The number of participants was 554 students (279 males, 275 females). The sample was chosen by using simple random sampling technique.

Research Method. The design and method used in this study were quantitative research design and descriptive survey method.

Game Addiction Scale (GAS). The key instrument used to measure game addiction was Game Addiction Scale (GAS) developed by Lemmens, Valkenburg and Peter (2009). The scale for game addiction was composed of seven subscales and it consists of 21 items. The scales of items in the questionnaire were five point Likert-scales. The internal consistency was 0.903 for the whole scale.

Aggression Questionnaire. The key instrument used to measure aggressive behaviour was Aggression Questionnaire (AQ) developed by Faris, Ishak and Ramli (2016). The instrument used to measure aggressive behaviour was composed of four subscales and it consisted of 29 items. The scales of items in the questionnaire were also five point Likert-scales. The internal consistency for the whole scale was 0.850.

Data Collection. As the establishment of the rapport with the participants, it took a few seconds to explain the purpose and importance of their participation and assurance of confidentiality of their responses which would be used only for this research purpose. Then, the questionnaires were distributed and the participants were asked to complete all items in the questionnaires. On average, the participants spent about thirty minutes to complete all items. All of the participants' responses were gathered by survey method in December, 2018.

Data Analysis and Findings

An Analysis of Students' Game Addiction by GAS. In terms of descriptive statistics, mean and standard deviation of students' game addiction were presented in Table 1.

Table 1 Descriptive Statistics for Students' Game Addiction

Variable	Mean	Standard Deviation
Salience	6.89	2.73
Tolerance	7.46	2.63
Mood Modification	8.09	2.51
Relapse	6.71	2.64
Withdrawal	5.25	2.32
Conflict	6.85	2.67
Problem	7.34	2.60
Overall Game Addiction	48.6	14.24

As shown in Table 1, the mean and standard deviation of the students' overall game addiction were 48.6 and 14.24 respectively. Since the sample mean (48.6) is less than theoretical mean (63) in overall game addiction, it can be assumed that the students are moderately addicted to playing games.

Next, among the seven subscales, mean score of mood modification (8.09) is highest and that of withdrawal (5.25) is lowest. Hence, it can be interpreted that the students addicted to game playing because they want a buzz of excitement from playing games (mood modification). However, they don't feel negative emotions even if they don't play games (withdrawal).

Table 2 The Result of Independent Samples *t* test for Game Addiction by Gender

Variable	Gender	Mean	SD	*T*	*df*	*p*	MD
Overall Game Addiction	Male	52.37	14.48	6.301*	438	0.000	8.23
	Female	44.14	12s.61				

Note: *The mean difference is significant at 0.001 level.

Table 2 showed that there was significant difference between male and female students in game addiction. According to this result, male students are addicted to playing game mores than female students.

After comparing game addiction of students by gender, game addiction of students by university was calculated. The participants of current study were from four universities. To compare students' game addiction by university, descriptive statistics was first used in this study. Table 3 displayed mean and standard deviation for students' game addiction scores from four universities.

Table 3 Mean and Standard Deviation of Students' Game Addiction by University

Variable	University	N	Mean	SD
Overall Game Addiction	University 1	92	49.55	17.30
	University 2	114	46.69	14.57
	University 3	138	49.65	12.63
	University 4	96	48.42	12.70
	Total	440	48.60	14.243

According to Table 3, the mean scores of University 1, University 2, University 3 and University 4 were 49.55, 46.69, 49.65 and 48.42 respectively. Among them, the mean score of University 3 was the highest in game addiction (49.65). And, University 2 had the lowest mean score in game addiction (46.69).

In order to reveal the significant difference in students' game addiction according to University, One-way Analysis of Variance (ANOVA) was worked out. The result of the analysis was displayed in Table 4.

Table 4 The Results of ANOVA for Students' Game Addiction by University

Variable		Sum of Squares	*Df*	Mean Square	*F*	*p*
Overall Game Addiction	Between Groups	654.371	3	218.124		
	Within Groups	88407.620	436	202.770	1.076	.359
	Total	89061.991	439			

Table 4 indicated that there was no statistically significant difference in overall game addiction among four universities. It showed that there was no effect on students' game addiction by university. Thus, it can be concluded that frequency and duration of student's game playing do not differ by the location and type of university.

An Analysis of Students' Aggressive Behaviour by AQ. Aggressive behaviour of students was identified by using four subscales which includes physical aggression, verbal aggression, emotion and hostility. In terms of descriptive statistics, mean, standard deviation, and mean percentage of aggressive behaviour were calculated to analyze data. The results were described in Table 5.

Table 5 Descriptive Statistics for Students' Aggressive Behaviour

Subscales	Mean	SD	Mean Percentage
Physical	20.08	4.76	44.62%
Verbal	11.77	3.20	47.08%
Emotion	18.24	4.93	52.11%
Hostility	20.53	5.02	51.33%
Total (Aggressive Behaviour)	70.62	14.45	48.70%

Table 5 indicated that the mean score and standard deviation of total aggressive behaviour were 70.62 and 14.450 respectively. Since the total mean score (70.62) was lower than the theoretical mean (87) in total aggressive behaviour, it can be said that frequency of students' aggressive behaviour is very rare. According to above table, the mean score of the aggressive behaviour in emotion subscale was the highest (52.11%). Therefore, it can be interpreted students showed their aggressive behaviour by aiming specifically at an individual with the intention of hurting that person's feelings. And, the students had the lowest mean score in the physical subscale among the four subscales of aggressive behaviour because the mean score of it was 44.62%. Thus, it showed that commitment of students' physical aggressive behaviour is very rare. It can be interpreted that students don't use the act of lashing-out bodily with the intent to harm others who are motivated to avoid the harm.

In order to find out whether there was any significant difference in students' aggressive behaviour by gender, independent samples *t* test was conducted. The result was shown in Table 6.

Table 6 The Result of Independent Samples *t* test for Students' Aggressive Behavioiur by Gender

Variable	Gender	Mean	Std. Deviation	Mean Difference	*t*	*p*
Total Aggressive Behaviour	Male	69.39	14.83	-2.478	-2.024*	.043
	Female	71.87	13.97			

Note: *The mean difference is significant at the 0.05 level.

According to Table 6, the result of *t* test indicated that there was significant difference between male and female students in total aggressive behaviour. Thus, it can be concluded that female students possess more aggressive behaviour than male students.

Moreover, in order to know the differences in aggressive behaviour among gamers in terms of gender, the independent samples *t* test was used. The findings were stated in Table 7.

Table 7 The Result of Independent Samples *t* test for Aggressive Behaviour Among Game Players by Gender

Variable	Gender	N	Mean	SD	*t*	*df*	*p*	MD
Overall Game Addiction	Male	238	69.94	13.05	-1.440	438	.150	-1.861
	Female	202	71.80	14.02				

Table 7 indicated that a statistically significant difference was not found among gamers according to gender in total aggressive behaviour. It showed that both male and female students show equal aggressive behaviour during playing the games although aggressive behaviour of female students were higher than male students when they were compared among all participants (both video game players and non-video game players).

After comparing students' aggressive behavior by gender, aggressive behaviour of students by university was calculated. Table 8 displayed mean and standard deviation scores for students' aggressive behaviour from four universities.

Table 8 Mean and Standard Deviation for Game Players' Aggressive Behaviour by University

Variable	University	Mean	SD
Total Aggressive Behaviour	University 1	69.24	14.47
	University 2	67.20	13.21
	University 3	73.83	12.35
	University 4	72.20	13.54
	Total	70.80	13.52

According to Table 8, the mean scores of University 1, University 2, University 3 and University 4 were 69.24, 67.20, 73.83 and 72.20 respectively. University 3 had the highest mean score in aggressive behaviour (73.83). And University 2 possessed the lowest mean score in aggressive behaviour (67.20).

In order to reveal whether there was statistically significant difference in aggressive behaviour of students according to University, One-way Analysis of Variance (ANOVA) was worked out. The results of the analysis were displayed in Table 9.

Table 9 The Results of ANOVA for Game Players' Aggressive Behaviour by University

Variable		Sum of Squares	*df*	Mean Square	*F*	*p*
Total Aggressive Behaviour	Between Groups	3151.426	3	1050.475	5.941*	.001
	Within Groups	77090.164	436	176.812		
	Total	80241.591	439			

Note: *The mean difference is significant at the 0.01 level.

As above mentioned ANOVA result in Table 9, it was found that there was significant difference in total aggressive behaviour among university. It revealed that all the participants' aggressive behaviour differ by university.

To investigate more specifically how students' aggressive behaviour differed in relation to their university, Post Hoc Test was carried out by Tukey HSD method. The results were shown in Table 10.

Table 10 The Result of Tukey (HSD) Test of Multiple Comparison for Game Players' Aggressive Behaviour by University

Variable	University(I)	University(J)	MD (I-J)	*p*
Total Aggressive Behaviour	University 3	University 1	4.587	.052
		University 2	6.624*	.001
		University 4	1.628	.793

Note: *The mean difference is significant at the 0.01 level.

Post Hoc Tukey (HSD) Test revealed that the mean difference between University 3 and University 4 was 6.624 and it was significantly different at α=0.01 level. According to the result, students from University 3 expressed more aggressive behaviour than students from University 2.

Moreover, in order to explore the relationship between game addiction and aggressive behaviour of students, the Pearson Product-Moment Correlation Coefficient was computed. The results were shown in Table 11.

Table 11 Correlation Between Game Addiction and Aggressive Behaviour of University Students

Variables		Aggressive Behaviour
Game Addiction	Pearson Correlation	0.342*
	Sig. (2-tailed)	.000
	N	440

Note: *Correlation is significant at the 0.001 level.

According to the results, there was a moderate correlation between game addiction and aggressive behaviour ($r = .342$, $p<0.01$). Therefore, it was believed that game addiction of the students was positively correlated with aggressive behaviour of the students. This means that if the students play games more frequently, their aggressive behaviour would be higher.

Moreover, to examine how well game addiction can predict aggressive behaviour of university students, simple linear regression was calculated. By seeing the results of simple linear regression, the game addiction of university students significantly predicted to aggressive behaviour. To see vividly, the explanation was presented in the following Table 12.

Table 12 Model Summary for Game Addiction and Aggressive Behaviour

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.404[a]	.163	.149	12.469

a. Dependent Variable: Aggressive Behaviour

According to Table 12, the simple linear regression correlation coefficient (R)=0.404 and adjusted R square was 0.149. Therefore, it can be concluded that 15% of aggressive behaviour can be explained by game addiction. To get more exact information, the results can be seen in the following Table 13.

Table 13 Results of Simple Linear Regression on Game Addiction and Aggressive Behaviour

Model	Unstandardized Coefficient		Standardized Coefficient	t	p
	B	**Std. Error**	**Beta**		
1 (constant)	55.040	2.158		25.500	.000
Game Addiction	0.324	0.043	0.342	7.606	.000

From this Table 13, it was found that the predictor, game addiction, significantly predicted aggressive behaviour. Therefore, the model can be expressed as the following equation.

Aggressive Behaviour = 55.04 + 0.324 Game Addiction

It can be interpreted that if the students play games more frequently, the frequency of their aggressive behaviour will also increase.

In addition, to find out how well students' game addiction subscales predict their aggressive behaviour, simultaneously multiple regression was computed. A combination of seven subscales: salience, tolerance, mood modification, relapse, withdrawal, conflict and problem were expected to determine students' aggressive behaviour. The results were shown in Table 14.

Table 14   Multiple Regression Analysis for Subscales of Game Addiction and Aggressive Behaviour

Variable	Unstandardized Coefficient		Standardized Coefficient	t	p
	B	Std. Error	Beta		
Aggressive Behaviour (AB)	53.451	2.285		23.395**	.000
Predictor Variables					
Salience (S)	-.601	.348	-.121	-1.728	.085
Tolerance (T)	.270	.397	.052	.679	.497
Mood Modification (MM)	.605	.287	.112	2.109*	.036
Relapse (R)	-.274	.319	-.053	-.859	.391
Withdrawal (W)	.774	.353	.133	2.191*	.029
Conflict (C)	.281	.324	.056	.867	.387
Problems (P)	1.420	.344	.274	4.128**	.000

Among all subscales of game addiction, mood modification, withdrawal and problem were significant predictors of students' aggressive behaviour. But, others dimensions like salience, tolerance, relapse and conflict were not significant predictors of students' aggressive behaviour. Therefore, it can be interpreted that if students play games to get a buzz of excitement from playing games, if they feel unpleasant emotions and/or physical effects when game playing is suddenly reduced or discontinued and if they neglect important activities such as school, work and socializing because of excessive game playing, their aggressive behaviour will be increased. Then, the model equation can be defined as in the following equation.

AB = 53.451-0.601S+0.270T+0.605MM-0.274R+0.774W+0.281C+1.420P

Moreover, in order to show the effect of game addiction on the subscales of aggressive behaviour, the values of adjusted R^2 were presented in Figure 1.
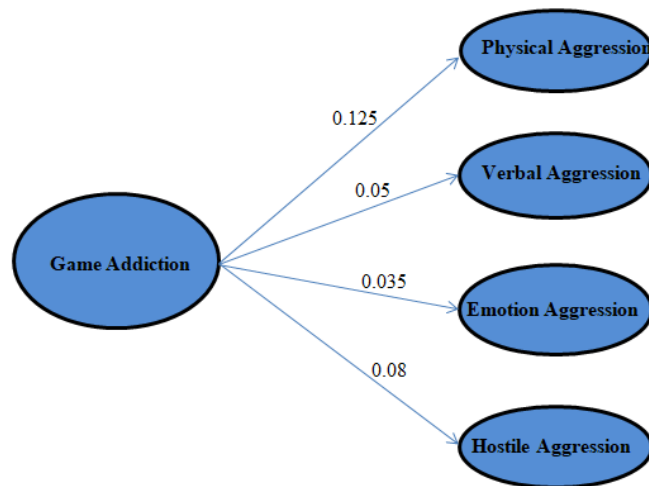
Figure 1 Predictive Powers of Game Addiction on Subscales of Aggressive Behaviour

As shown in Figure 1, game addiction can predict 12.5% (adjusted R^2 = 0.125) on physical aggressive behaviour. Moreover, game addiction can estimate 5% (adjusted R^2 = 0.05) on verbal aggressive behaviour. And then, 3.5% (adjusted R^2 = 0.035) of emotional aggressive behaviour can be explained by game addiction. Finally, the prediction of game addiction on hostile aggressive behaviour is 8% (adjusted R^2 = 0.08). Thus, it can be interpreted that prediction power of game addiction is highest on physical subscale and lowest on emotion subscale among four subscales of aggressive behaviour.

Discussion

Students' Game Addiction. The results from analysis of students' game addiction revealed that students are moderately addicted to playing games. The present study found that there was no significant difference in students' game addiction according to university. Thus, university do not concern with students' game addiction because their appetites to play the games come from their intrinsic motivation and not from the location and type of university. Next, the present study found that students' game addiction differs according to gender. Male students felt more addiction to playing games than female students. Hence, it can be concluded that male students have more probabilities than female students to be addictive to playing games.

Students' Aggressive Behaviour. Furthermore, significant difference was found in aggressive behaviour according to gender. Female students expressed more aggressive behaviour than male students. Specifically, female students were significantly different only in emotional aggressive behaviour (anger) subscale than male students among four subscales of aggressive behaviour. It may be because of the fact that the girls need emotional intimacy in a relationship than boys and this intimacy is often the reason why girls are able to hurt friends' feelings. However, no significance difference was found in aggressive behaviour according to gender when this behaviour is computed among only game players. Thus, it can be interpreted that both male and female students expressed same aggressive behaviour during playing the games. And then, students' aggressive behaviour was affected by university. Students from University 3 expressed more aggressive behaviour than university 1, 2 and 4. This suggests that students from university 3 had more difficulties in controlling their aggressive behaviour and felt dissatisfaction at their conditions and situations.

Relationship between Students' Game Addiction and Aggressive Behaviour: Significant positive correlation was found between students' game addiction and aggressive behaviour. Therefore, it can be said that the more frequently they play the games, the more increase in their aggressive behaviour.

Finally, for the predictors of game addiction to aggressive behaviour, multiple regression was executed continuously. The results showed that 27% of aggressive behaviour of university students can be predicted from only one aggressive game addiction variable (problem, $\beta = 0.274$) and 12% of aggressive behaviour of those students can be predicted from only three game addiction variables (salience, $\beta = -.121$), (mood modification, $\beta = .112$) and (withdrawal, $\beta = .133$) except other effects.

Conclusion

It can be witnessed that most adolescents are spending most of their times by playing video games. Therefore, game playing has become an important problem in nurturing youths to have successful lives since it may affect their academic achievement, social interaction and physical health. Therefore, parents and teachers need to consider and manage adolescents' game playing time. Now, it is suggested for reducing game addiction of students, who are encountering the challenges of today's technological age; the instructor should focus to reduce the level of students' game addiction.

According to the above reasons, the following suggestions are recommended for teachers and parents to reduce students' game addiction and aggressive behaviour.

1. Although students' video game playing should not be totally restricted, parents and teachers should guide them to make a balance between their game playing time and their important activities such as school works, social interaction and physical activities.

2. Parents and teachers should establish programs and activities such as social welfare club, sport club and so forth in order to substitute and reduce students' game playing time and should also encourage students to participate in these activities.

3. Parents, teachers and counselors should give emotional support, advice and strategies to the students to solve the problems than handling the situations with aggressive behaviour.

4. Students should understand that extremely game playing can be a barrier in their lives to possess successful lives in their educational and social careers and in achieving healthy life styles.

5. Students should manage their time more effectively to be able to make a balance between their game playing time and important works such as school works, social interactions and physical health.

6. To cope with their aggressive behaviour, students should also try to get advice from their teachers and parents by telling their social and emotional problems and frustration that they are encountering in their daily life activities.

To sum up, results of this study highlight a better understanding of the resources needed to solve the problems between students' game addiction and aggressive behaviour of students. With a better understanding of students' game addiction and aggressive behaviour, parents and teachers may have to take consideration to set limit concerning their children's game playing

time. Moreover, they may also need to consider types of games they should be selected that may have low effect on their children's aggressive behaviour in allowing them to play.

Acknowledgements

References

Young, K. (2009). Understanding online gaming addiction and treatment issues for adolescents. *American Journal of Family Therapy, 37,* 355-372.

Gentile, D., & Anderson, C. (2003). Violent Video Games: The Newest Media Violence Hazard. In D. Gentile (Ed.), *Media Violence and Children*. Westport, CT: Praeger.

Kim, E. J., Namkoong, K., Ku, T., & Kim, S. J. (2008). The relationship between online game addiction and aggression, self-control and narcissistic personality traits. *European Psychiatry 23 (2008),* 212-218.

PROSOCIAL MORAL REASONING AND PROSOCIAL BEHAVIOUR OF GRADE 10 STUDENTS IN TAMU TOWNSHIP

Ei Ei Mon[1], Hnin Nu Nu Hlaing[2]

Abstract

The main aim of this study is to explore the prosocial moral reasoning and prosocial behaviour of Grade 10 students in Tamu Township, Sagaing Region. Quantitative research design and descriptive survey method were taken in this study. Total of 636 (male = 301, female = 335) Grade 10 students were selected as participants from four high schools and two high schools (branch) by using simple random sampling technique. As research instruments, prosocial reasoning objective measure (PROM) and prosocial tendencies measure – revised (PTM - R) were adapted and applied. According to the descriptive statistics, the results showed that students' prosocial moral reasoning and prosocial behaviour were satisfactory. Again, independent samples *t* test showed that female students were better in prosocial moral reasoning than males, but no significant difference found in prosocial behaviour by gender. According to locality effect, independent sample *t* test results indicated that urban students were better in prosocial moral reasoning and prosocial behaviour than rural ones. Related to birth order position, ANOVA results indicated that first-born and last-born students were better in prosocial behaviour than only child, but no significant difference was found in prosocial moral reasoning. Moreover, students' prosocial moral reasoning was positively correlated with prosocial behaviour (r = .25, *p* < .01*)*. According to these findings, this study highlights the fact that prosocial moral reasoning may influence the improvement of students' prosocial behaviour.

Key words: prosocial moral reasoning, prosocial behaviour, moral reasoning

Introduction

Importance of the Study

Throughout history, promoting philosophical ideals of moral behaviour have been central concerns in human societies. Soon after people figured out how to write, they began writing about morality, law, and religion. Some people believe that morality originates from cultures and humans learn moral norms from their cultures. Also, in moral psychology, social cognitive theory assumed that learning from society, peers and parent forms morality (cited in Azimpour, Shehni-Yailagh, Esfandiyari, Abdollahi, & Eslamiyeh, 2017). Social learning theory approach also claims that human develop morality by learning rules of acceptable behaviour from their external environment (Strickland, 2001). Concepts of morality emerge very early in young children with an awareness of equality, fairness and rights. As with biological and cognitive development, many processes help to ensure that children become morally competent adults (Killen& Smetana, 2015).

In our contemporary world, people are facing a lot of challenges especially crimes, terrorist attacks, child and spouse abuse, etc., and these miserable may be due to lack of moral reasoning and low prosocial behaviour or lack of social support from the family, relatives, friends and even community. No one can predict what kind of problems will be faced in future years by the present generation of youth. Education in moral values can furnish a yardstick against which any future problems can be measured (cited in Khin Nyunt Nyunt Saw, 2016).

Schools can promote moral development through the climate of the classroom; the discipline used; the curriculum, including moral issues and service learning; opportunities for students to debate moral dilemmas; and school-based programs to decrease aggression (Bohlin, Durwin, & Reese-Weber, 2011). In Myanmar basic education schools, moral lesson periods have been given for a long time. There is no school in Myanmar that does not emphasize the motto

"Morale, Discipline and Wisdom". In order to improve the development of morale and discipline, the students of basic education schools in Myanmar are nurtured for patriotism, union spirit and willingness to abide by laws, regulations and disciplines (Ministry of Education, 2012).

As children around the world are growing up in more heterogeneous cultures than in the past, parents, teachers, and educators are struggling to determine how best to teach children about morality. They are experiencing discrimination as a result of their gender, ethnicity, religion and other categories. Schools are central to children's experiences of safety, freedom from victimization, and social exclusion. Students are to be taught Human Rights Education in order to reduce prejudice, discrimination and other undesirable behaviours. Ministry of Education in Myanmar (2012) has introduced Human Rights Education in basic education curriculum since 2004-2005 Academic Years.

In every nation, the role of education is vital in imbibing prosocial behaviour among the students to make them future responsible citizens of the society. When students perform prosocial acts, they will feel contented and satisfied and that will enhance their academic achievement as well. This study will also be supportive in some degree in contributing to the education of adolescents, particularly Grade 10 students in Tamu Township.

Aim and purposes of the study

The main aim is to explore prosocial moral reasoning and prosocial behaviour of Grade 10 students in Tamu Township.

According to specific objectives, the researcher set the following research questions:

1. Are there any significant differences in prosocial moral reasoning and prosocial behaviour by gender, locality of schools and birth order position?

2. Is there any significant relationship between prosocial moral reasoning and prosocial behaviour of students?

Definitions of Key Terms

Prosocial Moral Reasoning	:	the thinking that people display when deciding whether to help, share with, or comfort others when these actions could prove costly to themselves (Shaffer & Kipp, 2010)
Prosocial Behaviour	:	voluntary action that is intended to help or benefit another individual or group of individuals (Eisenberg & Mussen, 1989)
Moral Reasoning	:	The process of judging right and wrong and is regarded as the force behind moral action (Kohlberg, 1984)

Review of Related Literature

Theories of Moral Reasoning

Piaget (1932) proposed a two-stage theory of cognitive moral development. Kohlberg (1963), based on Piaget's idea, developed his own theory of moral reasoning, framing it in three levels, each of which has two stages (cited in Bohlin et al., 2011). Gilligan (1977) suggested care-oriented moral reasoning. Then, Eisenberg continued Gilligan's outlook with "prosocial moral reasoning" (Eisenberg, Carlo, Murphy, & Van Court, 1995). Eisenberg's theory of

prosocial moral reasoning is different from the cognitive-developmental perspectives of Piaget and Kohlberg due to its focus on positive justice (Lapsley, 2006). Although Eisenberg's levels refer to prosocial reasoning, many of the outcomes also include actions. She identified five levels of prosocial reasoning:

Level 1 Hedonistic or self-focused orientation,

Level 2 Needs orientation,

Level 3 Approval/interpersonal orientation,

Level 4 Self-reflective empathetic orientation and

Level 5 Internalized orientations (cited in Bohlin et al., 2011).

Eisenberg (1986) described that prosocial moral reasoning is different from the construct of prohibitive-oriented reasoning in that levels of prosocial moral reasoning are not viewed as hierarchical, integrated structures or as being universal and invariant in sequence.

Theoretical Background of Prosocial Behaviour

Attention to prosocial behaviour in psychology originated with McDougall (1908) who stated that the fundamental problem of social psychology is the moralization of the individual by the society into which he is born as a creature in which the non-moral and purely egoistic tendencies are so much stronger than any altruistic tendencies. Wispe (1972) defined prosocial behaviour as the opposite of antisocial behaviour, including aggressive behaviour (cited in Eisenberg, 1982). Bierhoff (2002) notes that the terms "helping behaviour", "prosocial behaviour", and "altruism" are frequently used interchangeably. However, they may be distinguished for analytic purposes.

This study is partly based on the theoretical conceptualizations of prosocial tendencies formulated by Carlo and Randall (2002). Six types of prosocial behaviour are –

a. **Altruistic** – voluntary helping motivated primarily by concern for the needs and welfare of another

b. **Compliant** – helping others in response to a verbal or non-verbal request

c. **Emotional** – an orientation towards helping others under emotionally evocative circumstances. Perceived emotional evocativeness might influence the observer's emotional responses.

d. **Public** – prosocial behaviour conducted in front of an audience are likely to be motivated, at least in part, by the desire to gain the approval and respect of others and enhance one's self-worth

e. **Anonymous** – helping performed without the knowledge of who helped, and

f. **Dire** – helping in crisis or emergency situations.

Methodology

Sampling

By simple random sampling technique, 636 Grade 10 students from three rural schools and three urban schools were investigated. The age ranked from 13 to 18. The chosen number of Grade 10 students from Tamu Township was presented in details in the following table.

Table 1 Distribution of Students in the Sample

No.	Schools	Types of Schools	Locality of Schools	Number of Students		Total
				Male	Female	
1	School 1	High School (Branch)	Urban	35	25	60
2	School 2	High School	Urban	60	91	151
3	School 3	High School (Branch)	Rural	33	46	79
4	School 4	High School	Rural	39	28	67
5	School 5	High School	Urban	108	109	217
6	School 6	High School	Rural	26	36	62
	Total			301	335	636

Research Method

> The quantitative research design and descriptive survey method were taken in this study. Questionnaires were used to elicit information through a descriptive survey.

Instrumentation

> In this study, the researcher used two instruments to investigate the Grade 10 students' prosocial moral reasoning and prosocial behaviour.

> Prosocial Moral Reasoning (PROM), developed by Carlo et al. (1992), was used to assess self-report of five subscales of prosocial moral reasoning of the students. Five stories were administered, each containing a conflict between a protagonist's needs and desires and those of others. The participants were asked to read each story and indicate whether he/she should or should not help the needy other or whether he/she was unsure what he/she should do. Participants then were asked to rate on a 4–point Likert scale (cited in Carlo et al., 2003). Cronbach's alpha coefficient value was 0.718.

> Prosocial Tendencies Measure (PTM) originally was developed to assess prosocial behaviours of college students by Carlo and Randall (2002). The PTM was modified to use with younger adolescents by Carlo et al., 2003. The four-point Likert scale was used. Negative items were reversely scored. Cronbach's alpha value was 0.629.

Procedure

> For this study, researcher referenced for the related literatures from many journals, theses and dissertations, and reports in education site as much as possible. Then, prosocial moral reasoning objective measure and prosocial tendencies measure – revised were adapted in Myanmar language. Then, editorial review of items by five experts in the field of educational psychology from Sagaing University of Education was done. Some items were repaired according to their suggestions. For pilot testing, 100 Grade 10 students were chosen from BEHS (2), Amarapura. Then, actual testing was started at selected schools in Tamu Township in November.

Data Analysis and Findings

Prosocial Moral Reasoning of Grade 10 Students

> Descriptive statistics for students' prosocial moral reasoning was shown in Table 2.

Table 2 Descriptive Statistics of Students' Prosocial Moral Reasoning

Variable	*N*	Minimum	Maximum	Mean	*SD*
Prosocial Moral Reasoning	636	1.67	2.16	1.867	.069

According to the above table, the mean and standard deviation for prosocial moral reasoning were 1.87 and .069; the minimum and maximum scores were 1.67 and 2.16. Based on descriptive analysis, 13.84 % were in the high group, 15.88 % were in the low group and 70.28 were in moderate group. Based on the results, levels of prosocial moral reasoning of students were in the range of acceptable condition.

Prosocial moral reasoning was classified by five subscales: hedonistic, needs, approval, stereotyped and internalized orientation. Descriptive analysis was conducted to reveal the mean and standard deviation of students' prosocial moral reasoning of each subscale. The results can be clearly seen in Table 3.

Table 3 Descriptive Statistics for Subscales of Prosocial Moral Reasoning

Variables	*N*	Minimum	Maximum	Mean	*SD*
Hedonistic	636	.07	.27	.17	.03
Needs	636	.14	.32	.21	.02
Approval	636	.07	.26	.18	.03
Stereotyped	636	.13	.29	.21	.02
Internalized	636	.15	.33	.22	.03

According to Table 3, the mean score of students' internalized prosocial moral reasoning is the highest and the mean score of students' hedonistic prosocial moral reasoning is the lowest. It can be interpreted that students' thoughts were based on internalized reasoning.

Prosocial Moral Reasoning of Grade 10 Students by Gender

First, descriptive statistics was conducted to examine whether gender differences exist in the mean scores of students' prosocial moral reasoning (see Table 4).

Table 4 Results of Independent Samples *t* test for Prosocial Moral Reasoning by Gender

Variable	Gender	*N*	Mean	*SD*	*t*	*df*	*p*	MD
Prosocial Moral	Male	301	1.86	.066	−2.867**	634	.004	−.02
Reasoning	Female	335	1.87	.071				

Note: **The mean difference is significant at 0.01 level.

According to Table 4, the result of *t* test indicated that there was significant difference between male and female students in prosocial moral reasoning.

Prosocial Moral Reasoning of Grade 10 Students by School Locality

To examine the local difference, independent sample *t* test statistics was computed. The results were mentioned in Table 5.

Table 5 Results of Independent Samples *t* test for Prosocial Moral Reasoning by School Locality

Variable	Locality	*N*	Mean	*SD*	*t*	*df*	*p*	MD
Prosocial Moral	Rural	208	1.85	.065	−3.311**	634	.001	−.02
Reasoning	Urban	428	1.87	.070				

Note. **The mean difference is significant at 0.01 level.

According to Table 5, significant difference was found by school locality.

Prosocial Moral Reasoning of Grade 10 Students by Birth Order Position

According to the obtained data, the birth order position of siblings was divided into four groups as only child, first-born, middle-born and last-born. To get more detailed information, one-way analysis of variance (ANOVA) was applied.

Table 6 Descriptive Statistics of Prosocial Moral Reasoning by Birth Order Position

Variable	Birth Order Position	*N*	Mean	*SD*
Prosocial Moral Reasoning	Only child	18	1.849	.066
	First-born	158	1.874	.073
	Middle-born	291	1.864	.067
	Last-born	169	1.866	.069

According to Table 6, the mean score of first-born child was the highest and that of only child was the lowest. In order to know more detailed, one-way ANOVA was conducted.

Table 7 ANOVA Results of Prosocial Moral Reasoning by Birth Order Position

Prosocial Moral Reasoning	Sum of Squares	*df*	Mean Square	*F*	*p*
Between Group	.017	3	.006	1.162	.324
Within Group	3.012	632	.005		
Total	3.029	635			

Significant difference was not found in students' prosocial moral reasoning by birth order position.

Prosocial behaviour of Grade 10 students

Descriptive analysis for students' prosocial behaviour was described in Table 8.

Table 8 Descriptive Statistics of Grade 10 Students' Prosocial Behaviour

Variable	No. of Items	Minimum	Maximum	Mean	Mean %	*SD*
Prosocial Behaviour	25	53	95	70.97	74.7	6.50

Table 8 showed that the mean and standard deviation were 70.97 and 6.5. Theoretical mean score was 62.5.The minimum and maximum score were 53 and 95. According to these results, prosocial behaviour of students was satisfactory.

Based on the descriptive analysis, 19.18 % students were in the high group, 15.88 % were in the low group and 69.94 were in moderate group. Then, it could be interpreted that the levels of prosocial behaviour of students were in the range of acceptable condition.

Descriptive statistics for the students' prosocial behaviour by its subscales were described in Table 9.

Table 9 Descriptive Statistics for Subscales of Prosocial Behaviour

Variables	No. of Items	Minimum	Maximum	Mean	Mean %	*SD*
Altruistic	6	8	23	14.31	59.63%	2.66
Complaint	2	2	8	5.94	74.25%	1.36
Emotional	5	9	20	16.15	80.75%	2.12
Public	4	5	16	11.25	70.31%	2.19
Anonymous	5	5	20	13.78	68.9%	3.04
Dire	3	5	12	9.54	79.5%	1.48

According to Table 9, the mean percent of students' emotional prosocial behaviour is the highest and that of students' altruistic prosocial behaviour is the lowest.

Prosocial Behaviour of Grade 10 Students by Gender

In order to find out the difference between male and female students in prosocial behaviour, the mean and standard deviation were calculated.

Table 10 Results of Independent Sample *t* test for Prosocial Behaviour by Gender

Variable	Gender	*N*	Mean	*SD*	*t*	*df*	*p*	MD
Prosocial Behaviour	Male	301	70.63	6.86	−1.269	605.89	.205	− .66
	Female	335	71.29	6.15				

It can be found that there was no significant difference between male and female students in their overall prosocial behaviour.

Prosocial Behaviour of Grade 10 Students by School Locality

In order to find out possible differences between rural and urban students' prosocial behaviour, independent samples *t* test was conducted. The result was in Table 11.

Table 11 Results of Independent Samples *t* test for Local Differences in Prosocial Behaviour

Variable	Locality	*N*	Mean	*SD*	*t*	*df*	*p*	MD
Prosocial Behaviour	Rural	208	69.58	6.87	−3.807***	634	.000	−2.07
	Urban	428	71.65	6.21				

Note: ***The mean difference is significant at 0.001 level.

It can be found that there was significant difference between male and female students in their prosocial behaviour ($p < .001$).

Prosocial Behaviour of Grade 10 Students by Birth Order Position

Table 12 Mean Comparison for Prosocial Behaviour by Birth Order Position

Variable	Birth Order Position	*N*	Mean	*SD*
Prosocial Behaviour	Only child	18	67.00	5.67
	First-born	158	71.62	6.39
	Middle-born	291	70.71	6.42
	Last-born	169	71.25	6.70

According to the descriptive analysis of prosocial behaviour by birth order position, first-born children had highest mean score and only child had the lowest mean score in prosocial behaviour. To get more detailed information, one-way ANOVA was conducted.

Table 13 ANOVA Results of Prosocial Behaviour by Birth Order Position

Prosocial Behaviour	Sum of Squares	*df*	Mean Square	*F*	*p*
Between Group	383.068	3	127.689	3.050*	.028
Within Group	26460.530	632	41.868		
Total	26843.597	635			

Note. *The mean difference is significant at 0.05 level.

According to the above table, significant difference ($p < .05$) was found in prosocial behaviour by birth order position. To know more detailed, Post Hoc Test was conducted.

Table 14 Result of Post Hoc Test in Prosocial Behaviour by Birth Order Position

Variable	Birth Order Position(I)	BirthOrder Position(J)	Mean Difference (I-J)	*p*
Prosocial Behaviour	Only child	First-born	-4.620[*]	.022
		Middle-born	-3.711	.086
		Last-born	-4.249[*]	.041

Note: *The mean difference is significant at 0.05 level.

According to the Post Hoc Test Result, significant differences were found between only child and students whose birth order was first and last.

Relationship Between Prosocial Moral Reasoning and Prosocial Behaviour

Pearson product-moment correlation coefficient was computed to investigate the relationship between prosocial moral reasoning and prosocial behaviour of students. Results of this analysis were mentioned in Table 15.

Table 15 Correlation Matrix between Prosocial Moral Reasoning and Prosocial Behaviour

Variables	Altruism	Complaint	Emotional	Public	Anonymous	Dire	PSB
Hedonistic	-.237[**]	-.259[**]	-.274[**]	.088[*]	-.101[*]	-.220[**]	-.308[**]
Needs	.191[**]	.120[**]	.132[**]	-.099[*]	.109[**]	.156[**]	.199[**]
Approval	-.207[**]	-.005	-.069	.172[**]	-.063	-.117[**]	-.106[**]
Stereotyped	.181[**]	.114[**]	.145[**]	-.099[*]	.052	.166[**]	.174[**]
Internalized	.193[**]	.109[**]	.164[**]	-.129[**]	.049	.113[**]	.160[**]
PWAS	.274[**]	.163[**]	.219[**]	-.166[**]	.093[*]	.196[**]	.250[**]

Note: *Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

According to Table 15, there was positive correlation between prosocial moral reasoning and prosocial behaviour. Hedonistic reasoning was related negatively to altruistic, complaint, emotional, anonymous, dire and total prosocial behaviours. Approval-oriented reasoning is negatively related to altruism, dire and total prosocial behaviours. Moreover, both hedonistic and approval-oriented reasoning were positively related to public prosocial behaviour.

Needs-oriented, stereotyped, internalized prosocial moral reasoning and PWAS were negatively related to public prosocial behaviour. Needs-oriented, stereotyped and internalized prosocial moral reasoning is positively related to all the other prosocial behaviours, except anonymous prosocial behaviour. In addition, PWAS is positively related to all types of prosocial behaviour.

It may be assumed that public prosocial behaviour is conducted in front of an audience by a desire to gain the approval and respect of others. That is why public prosocial behaviour was negatively correlated to most prosocial moral reasoning; namely need-oriented, stereotyped and internalized prosocial moral reasoning, including PWAS.

Conclusion, Discussion and Suggestions for Further Research

Summary of Major Findings and Conclusions

Descriptive analysis indicated that PROM Weighted Average Composite Score (PWAS) of students was 1.87 and standard deviation was .069. Categorizing students' levels into three groups, 13.84% high, 70.28% moderate and 15.88% were in low group respectively. On the other hand, the mean percent on prosocial tendencies measure of students was 70.97 and standard

deviation was 6.5. Categorizing the students' levels into three groups, 19.18% high, 64.94% moderate and 15.88% were in low group respectively. The results showed that most students in this study possessed moderate prosocial moral reasoning and moderate prosocial behaviour.

The result of independent samples *t* test indicated that there was significant difference in prosocial moral reasoning by gender. So, it was found that female students were significantly higher than male students in prosocial moral reasoning. This result is consistent with the findings of Siu, Shek and Lai (2012), Jaffee and Hyde (2000), and Caroli, Falanga and Sagone (2014). On the other hand, significant difference was not found in prosocial behaviour by gender. The results went along with the findings of Boice and Goldman (1981), Siu, Shek and Lai (2012), Lai, Sui and Shek (2015), Abdullahi and Kumar (2016), and Thura Aung (2018).

The result of independent samples *t* test indicated that there was significant difference in prosocial moral reasoning and prosocial behaviour by school locality. So, it could be interpreted that urban students had more prosocial moral reasoning and behaviour than rural students in this study. This finding contradicts the results of Ma, Pei and Jin (2015). These results for school locality differences may depend on the facts that urban students may possess high socio-economic status, and may get good parental support, adequate guidance from teachers, and have opportunity to use full-fledge libraries which are important resources for their cognitive development. These are possible causes of why urban students had better prosocial moral reasoning and prosocial behaviour than rural students.

In this study, the comparison of students' prosocial reasoning among birth order position was explored. Descriptive statistics pointed that the mean score of prosocial reasoning in first-born child was higher than those of students in the rest position. And then, one-way ANOVA result produced that there were no statistically significant differences in prosocial reasoning among different birth order position. On the other hand, there was significant difference in prosocial behaviour by birth order position. Then, Post Hoc test result was that first-born and last-born child's prosocial behaviour was better than only child's. This finding was not congruent with the Schwar's (2012) results that no significant difference was found between the birth order positions on prosocial tendencies measure.

According to the result of Pearson product-moment correlation, prosocial moral reasoning was positively correlated with prosocial behaviour of students. Altruistic prosocial behaviours were related negatively to hedonistic and approval oriented prosocial moral reasoning. Compliant, emotional and dire prosocial behaviours were related positively to needs-oriented, stereotyped and internalized reasoning. In contrast, public prosocial behaviours were positively related to hedonistic and approval-oriented reasoning. These results are in line with the findings of Carlo and Randall (2002).

Recommendations

During childhood, parents mediate children's contact with social institutions, monitor their contacts with peers, and control their participation in cultural practices. The powerful influence of parents on children makes the study of moral socialization in childhood less complex and perhaps less challenging, than the investigation of the factors affecting moral growth in adolescence (Hart & Carlo, 2005). Thus, parents should be role models for their children to socialize positive and desirable social behaviours.

Teachers play a vital role in observing how the children reason prosocially or morally within a classroom setting. For improving students' prosocial moral reasoning, teachers should create the opportunity for students to use library and to read stories of moral exemplars. Moreover, they should understand the behavioral problems of children and study about the ways to improve students' prosociality. So, the teachers need to endeavor to improve students' prosocial moral reasoning and prosocial behaviour in everyday situation. To do this, moral education subject should be taught as an extracurricular subject to improve prosocial moral reasoning and positive social behaviour.

To sum up, both people need different helps in their different aspects during their daily activities. Helping is behaviour what everyone wants. Therefore, both prosocial moral reasoning and prosocial behaviour are very important in teaching-learning process in the classroom. This study will contribute more or less to an important role in the area of social-emotional competence in the warm and friendly classrooms.

References

Abdullahi, I.A., & Kumar, P. (2016). Gender differences in prosocial behaviour. *International Journal of Indian Psychology. Vol.3, Issue 4*, No.56, pp.171-175.

Aronson, E., Wilson, T.D., & Akert, R.M. (2013). *Social Psychology*. (8th ed.). Pearson Education, Inc.

Azimpour, A., Shehni-Yailagh, M., Esfandiyari, F., Abdollahi, S., & Eslamiyeh, F. (2017). The linkage of intelligence, prosocial moral reasoning and moral identity among Iranian University Students. *International Journal of Psychology.* Vol.11, No.1, Winter & Springer. pp. 150-181. Retrieved October 20, 2018, from http://jlsb.science-line.com

Bierhoff, H.W. (2002). *Prosocial behaviour*. New York: Psychology Press. Retrieved October 10, 2018 from https://epdf.tips/download/prosocial-behaviour.html

Bohlin, L., Durwin, C.C., & Reese-Weber. (2011). EdPsych Modules. (2nd Ed.). McGraw Hill.

Boice, K., & Goldman, M. (1981). Helping behaviour as affected by type of request and identity of caller. *Journal of Social Psychology*, 115, 95-101.

Carlo, G., Eisenberg, N., and Knight, G. P. (1992). An objective measure of adolescents' prosocial/ moral reasoning. *J. Res. Adolesc.* 2: 331– 349.

Carlo, G., & Randall, B. A. (2002). The development of a measure of prosocial behaviors for late adolescents. *Journal of Youth and Adolescence*, *31*, 31-44. Retrieved July 30, 2018, from http:// digitalcommons. unl.edu/psychfacpub/70

Carlo, G., Hausmann, A., Christiansen, S., & Randall, B. A., (2003). Sociocognitive and Behavioral Correlates of a Measure of Prosocial Tendencies for Adolescents. *Journal of Early Adolescence,* 23(1), 107-134. Retrieved July 30, 2018, from http://digitalcommons.unl.edu/psychfacpub/4

Caroli, M. E. D., Falanga, R., & Sagone, E. (2014). Prosocial Behaviour and Moral Reasoning in Italian Adolescents and Young Adults. *Research in Psychology and Behavioural Sciences, Vol.2, No.2, 48-53* Retrieved October 18, 2018, from http://pubs.sciepub.com/rpbs/2/2/3

Crandell,T.L., Crandell, C.H., & Zanden, J.W.V. (2009). *Human Development.* (9th ed.). New York: McGraw Hill.

Eisenberg, N. (1982). The development of reasoning regarding prosocial behavior. In N. Eisenberg (Ed.), *The development of prosocial behavior.* (pp.219-249). New York: Academic Press.

Eisenberg, N. (1986). *Altruistic emotion, cognition and behavior*. Hillsdale, NJ: Lawrence Erlbaum Associates Inc.

Eisenberg, N., & Mussen, P. H. (1989). *The Roots of Prosocial Behavior in Children*. Cambridge: Cambridge University Press.

Eisenberg, N., Carlo, G., Murphy, B., & Van Court, P. (1995). Prosocial development in late adolescence: A longitudinal study. *Child Development*, *66*, 1179-1197. Retrieved October 19, 2018, from http://links.jstor.org

Epsy 3101. (2018). *Educational Psychology*. Department of Educational Psychology. University of Education, Sagaing, Myanmar.

Gilligan, C. (1977). In a different voice: Woman's conception of self and morality. *Harvard Educational Review*, 47, 481-517. Retrieved October 20, 2018, from http://facweb.northseattle.edu.

Hart, D., & Carlo, G. (2005). Moral Development in Adolescence. *Journal of Research on Adolescence, 15*(3), 223-233.

Jaffee, S., & Hyde, J. S. (2000). Gender differences in moral orientation: A meta-analysis. *Psychological Bulletin*, *126*, 703-726. Retrieved August 2, 2018, from http://doi.org/gkr

Kelty Mental Health Resource Centre.(2012). Behaviour problems in children and adolescents. Canada. Retrieved August 1, 2018, from http://keltymentalhealth.ca.pdf

Khin Nyunt Nyunt Saw. (2016). *An investigation into moral judgment of adolescents*. Unpublished doctoral dissertation. University of Education, Yangon.

Killen, M., & Smetana, J.G. (2015). Origins and development of morality. In M. E. Lamb (Ed.), *Handbook of child psychology and developmental science*, Vol. 3, (7th ed.) pp. 701-749. Editor-in-Chief, R. M. Lerner. NY: Wiley-Blackwell.

Lai F.H.Y., Siu A.M.H., & Shek D.T.L. (2015). Individual and social predictors of prosocial behavior among Chinese adolescents in Hong Kong. *Frontier in Pediatrics*. Retrieved November 1, 2018, from http://doi:10.3389/fped.2015.00039

Lapsley, D.K. (2006). Moral stage theory. In M.Killen & J.Smetana (Eds.), *Handbook of moral development*. Mahwah, NJ: Erlbaum.

Ma, Q., Pei, G., & Jin, J. (2015). *What Makes You Generous? The Influence of Rural and Urban Rearing on Social Discounting in China.* November 1, 2018, from http://doi:10.1371/journal.pone.0133078

Ministry of Education. (2012). *Education for All: Access to and Quality of Education in Myanmar.* Nay Pyi Taw, Myanmar.

Schwar, G., & Mahony, A. (2012). Birth Order Position and Prosocial Tendencies. *Journal of Psychology in Africa.* Retrieved September 28, 2018, from https://www.researchgate.net/publication/297689178

Shaffer, D.R., & Kipp, K. (2010). *Developmental Psychology: Childhood and Adolescence.* (8th ed.). Wadsworth. Canada.

Siu, A.M.H, Shek, D.T.L., & Lai, F.H.Y. (2012). Predictors of Prosocial Behavior among Chinese High School Students in Hong Kong. *The ScientificWorld Journal*. Retrieved November 1, 2018, from http://doi:10.1100/2012/489156

Strickland, B. (Ed.). (2001). *The Gale Encyclopedia of Psychology*. (2nd ed.).USA.

Thura Aung. (2018). *A study on emotional intelligence and prosocial behaviour of Grade 10 students in Minbu Township*. Unpublished master's thesis. University of Education, Sagaing.

GRATITUDE AND LIFE SATISFACTION OF UNIVERSITY STUDENTS

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Abstract

The main aim of this study was to investigate trait gratitude and life satisfaction of university students. This study was conducted with the specific objectives: investigating trait gratitude and life satisfaction of the students, comparing gender, grade and university differences in gratitude and life satisfaction of students; exploring the relationship between gratitude and life satisfaction and exploring the effect of gratitude on life satisfaction of the students. A total of 840 university students (Male=420, Female=420) from three selected Universities in Sagaing Township participated in this study. Descriptive research design and survey method were used. To examine trait gratitude of students, Gratitude, Resentment and Appreciation Test (GRAT short form, Watkins, Woodward, Stone and Kolts, 2003) was used and Multidimensional Students' Life Satisfaction Scale (MSLSS) developed by Huebner (2001) for life satisfaction of students was used in this study. According to the descriptive statistics, the results showed that the students' trait gratitude and life satisfaction were satisfactory. Then, independent sample *t* test showed that trait gratitude and life satisfaction of students were significantly different by gender. Females were higher in trait gratitude and life satisfaction than males. However, no significant difference was found in trait gratitude but there was significant difference in life satisfaction of students by grade. Again, the results of ANOVA and Turkey HSD showed that there was significant difference in the students' life satisfaction by University. Moreover, there was a significant positive relationship between trait gratitude and life satisfaction (r=.489). With the result of linear regression analysis, 24% of the variance in life satisfaction can be predicted from trait gratitude of students. Therefore, the results of this study revealed that trait gratitude of students can influence students' life satisfaction.

Keywords: Gratitude, Trait Gratitude, Life Satisfaction

Introduction

Gratitude may have arisen as an evolutionary adaptation from research on primates (Bonnie & de Waal, 2004). Gratitude increases people's trust in others but only toward people they don't know well already (Dunn & Schweitzer, 2005). Moreover, gratitude may have played an important role in human social evolution and may explain why feelings and expressions of gratitude are spread across different cultures and societies (McCullough, Kilpatrick, Emmons & Larson, 2001).

Gratitude could be considered as an adaptive psychological strategy by which human beings interpret their everyday experiences and at the same time receive its benefits (Salavada-Ferrer, 2017). As a positive experience, gratitude could change the negative effects of other occurrences in people's existence, leading to higher life satisfaction (Diener, 1984).

Expressing gratitude to people who have been kind to us validates their efforts and reinforces such behavior in the future. Then gratitude motivates us to extend kindness in response to those who have been kind to us but to others as well. Therefore, people who experience and express gratitude more tend to strengthen their existing relationships and form new supportive relationships (Bono & Emmons, 2012).

As such, gratitude is a positive characteristic that could be improved in schools (Seligman, Ernst, Gillham, Reivich & Linkin, 2009) by the collaborative work of teachers, school counselors, administrators, and other school staff, and as a part of the school culture. The beneficial effects of gratitude on a number of well-being outcomes such as high life satisfaction,

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positive affect, and physical health, and low depression have been reported in various studies (Emmons & McCullough, 2003).

Gratitude can be regarded as a personality trait in a form of moral emotion as trait gratitude as well as emotion for a beneficiary experience as state gratitude. Trait gratitude is "a generalized tendency to recognize and respond with grateful emotion to the roles of other people's benevolence in the positive experiences and outcomes that one obtains" (McCullough, Emmons & Tsang, 2002).

Wood, Froh and Geraghty (2010) developed the schematic theory to explain trait gratitude. First, they argued that grateful people have a cognitive lens that determines how they perceive the world. This lens might make them likely to perceive help as more costly, valuable, and altruistic than less grateful people and thus they place greater value on the helpful action of the helper.

Thomas and Watkins (2003) described three characteristic habits of individuals with a grateful trait. They suggested that grateful individuals tend to (i) experience a feeling of sufficiency, (ii) have an eye for the little things in life, and (iii) consciously appreciate other people in their lives. Overall, trait gratitude is viewed as a general tendency to recognize small to large benefits, to experience sufficiency, and to acknowledge anything in the world, both human and nonhuman, with grateful emotion and expression of this emotion which promotes personal well-being and the well-being of others.

Additionally, a number of authors have espoused a theoretical relationship between gratitude and well-being. In a very pragmatic way, this association seems logical. Experiencing gratitude, thankfulness, and appreciation tends to foster positive feelings, which in turn, contribute to ones' overall sense of well-being including life satisfaction (Sansone & Sansone, 2010). Puente-Diaz and Meixueiro (2016) found that gratitude positively predicted life satisfaction in the study of high school students.

Again, life satisfaction is the cognitive component of a larger construct, subjective well-being, and has been defined as a cognitive judgmental process and appraisal of one's quality of life (Diener, Emmons, Larsen & Griffin, 1985). It is one of three major indicators of well-being: life satisfaction, positive effect and negative effect (Diener, 1984). As society is seen to be the provider or the environment for well-being, individuals generally judge whether they are happy in that environment. In essence, life satisfaction is a subjective assessment of the quality of one's life (Diener, 1994). It is also considered to be an evaluation of one's daily experiences because everyday problems and stressors contribute to how an individual rates his or her satisfaction with life (McKnight, Huebner, & Suldo, 2002).

According to positive psychology, it goes far beyond the social practice of conveying a positive response to a kind act that led to some sort of a personal gain. It is more like a deeper appreciation for someone or something, which produces more long lasting positivity. The feeling of gratitude can uplift people's spirits and help them find some positive qualities in life during bad times. It can also improve their well-being (Mini, 2016). Gratitude has long been viewed as fundamental for both functional communities and personal well-being (Emmons & McCullough, 2003).Thus, while there are numerous constructs that fit under the positive psychology framework, the current study focused on gratitude, a positive emotion, and life satisfaction, positive experiences.

        According to the reasons mentioned above, the researchers studied trait gratitude and life satisfaction of University students from Sagaing Township. They may encounter challenges about their academic, social, emotional and personal problems with their environments. Again, since they are adolescence, it is a period of development for youth during which changes regarding life satisfaction may occur. Besides, they may face and solve the different problems in their respective environments along their lives. Thus they need to adapt with them in their life. To do like that, they need to have gratitude extrinsically and intrinsically along their lives. If they have gratitude, they will be more satisfied with the things they face in daily lives. Therefore, gratitude and life satisfaction are important positive outcomes for them. The greater gratitude they experience, the more satisfaction they get in their lives. If so, they will be satisfied in their lives with their intended goals. So this study will be helpful for them.

Aims of the Study

        The main aim of this study is to investigate gratitude and life satisfaction of students from Universities in Sagaing Township. The specific objectives of the study are;

  1. To observe trait gratitude of students by gender, grade and university,
  2. To explore life satisfaction of students by gender, grade and university,
  3. To find out the relationship between gratitude and life satisfaction of students and
  4. To explore the effect of gratitude on life satisfaction of students.

Definitions of Key Terms

Gratitude: Gratitude refers to an emotion which occurs after people receive aid which is perceived as costly, valuable, and altruistic (Wood, Maltby, Stewart, Linley & Joseph, 2008).

Trait Gratitude: Trait gratitude refers to a generalized tendency to recognize and respond with grateful emotion to the roles of other people's benevolence in the positive experiences and outcomes that one obtains (McCullough, Emmons & Tsang, 2002).

Life Satisfaction: Life satisfaction is as an appraisal of the positive things in one's life overall or within specific domains, such as satisfaction with one's family, school, and neighborhood (Diener, 1994).

Materials and Method

Participants

   The samples chosen for the present study consisted of 840 students of University from Sagaing Township in 2018-2019 academic year by using simple random sampling method from three Universities in Sagaing Township. Then, the number of participants included in this study was presented in the following table.

Table 1 Number of Students in Three Selected Universities in Sagaing Township

Universities	First Year		Second Year		Total
	Male	Female	Male	Female	
University (1)	70	70	70	70	280
University (2)	70	70	70	70	280
University (3)	70	70	70	70	280
Total	210	210	210	210	840

Method

The quantitative research design and the descriptive survey method were used in the present study. To investigate trait gratitude and life satisfaction of University students, descriptive statistics and inferential statistics were used.

Instrumentation

In this study, Gratitude, Resentment and Appreciation Test (GRAT short form) developed by Watkins, Woodward, Stone and Kolts (2003) was used to measure trait gratitude of students. The GRAT short form comprises of 16 items with three dimensions. These dimensions are Lack of Sense of Deprivation (6 items), Simple Appreciation (6 items) and Appreciation for Others (4 items).

In order to measure satisfaction across five domains of students, the Multidimensional Students' Life Satisfaction Scale (MSLSS) developed by Huebner (2001) was used. The MSLSS includes 40 items with five dimensions: Family (7 items), Friends (9 items), School (8 items), Living Environment (9 items) and Self (7 items). Responses to the items was based on a five-point Likert scale ranging from strongly disagree, disagree, undecided, agree and strongly agree. And then, the scoring was based on 1 (strongly disagree) to 5 (strongly agree). But, the reverse items were scored as 5 (strongly disagree) to 1 (strongly agree).

Findings

Trait Gratitude of Students in Each University

First, descriptive statistics was used to find out trait gratitude of first year and second year students. Thus, the results were presented in Table 2.

Table 2 Descriptive Statistics for Trait Gratitude of Students in Each University

Variable	Universities	*N*	Min	Max	Mean	*SD*
Gratitude	University 1	280	38	71	58.78	4.440
	University 2	280	33	74	60.64	4.800
	University 3	280	43	73	59.73	4.517

In Table 2, the mean scores for trait gratitude of students in all Universities were greater than the theoretical mean score (48). Therefore, it may be concluded that the trait gratitude of students in each University was satisfactory.

Comparison of Trait Gratitude of Students by Gender

In order to examine the differences in trait gratitude of University students significantly by gender, independent sample *t* test was conducted. The result was presented in Table 3.

Table 3 The Result of Independent Sample *t* test for Trait Gratitude of Students by Gender

Variable	Gender	*N*	Mean	SD	*t*	*df*	*p*
Gratitude	Male	420	58.95	4.724	- 4.800***	838	.000
	Female	420	60.47	4.443			

Note: ***The mean difference is significant at 0.001 level.

According to Table 3, female students were higher in trait gratitude than males (mean score of females > mean score of males). This similar result can be found in the studies of Froh, Kashdan, Ozimkowski and Miller (2009).

Comparison of Trait Gratitude of Students by Grade

Again, in order to find out the mean differences in trait gratitude of participants significantly by grade, independent sample *t* test was conducted. The result was presented in Table 4.

Table 4 The Result of Independent Sample *t* test for Trait Gratitude of Students by Grade

Variable	Grade	*N*	Mean	*SD*	*t*	*df*	*p*
Gratitude	First Year	420	60.03	4.488	1.964	838	.053
	Second Year	420	59.40	4.783			

Table 4 revealed the result that there was no significant difference in trait gratitude of students by grade (*p* > 0.05). The mean score for trait gratitude of first year and second year students were slightly different. This similar result can be found in the studies of Froh, Kashdan, Ozimkowski and Miller (2009).

Comparison of Trait Gratitude of Students by University

To examine whether University had influence on trait gratitude of students, one-way ANOVA was utilized. According to ANOVA results, there were significant differences in the trait gratitude of students according to University *F* (2, 837) = 11.558 at 0.001level (*p*=.000). In order to examine more detailed information of a particular group, Post-Hoc test was also conducted by Tukey HSD method.

Table 5 The Result of Tukey HSD for Trait Gratitude by University

Variable	(I)Uni	(J)Uni	Mean Difference (I-J)	*p*
Gratitude	University1	University2	-1.864***	.000
		University3	-.954*	.038
	University2	University1	1.864***	.000
		University3	.911*	.049
	University3	University1	.954*	.038
		University2	-.911*	.049

Note: *** The mean difference is significant at 0.001level.

     * The mean difference is significant at 0.05level.

According to Table 5, there were significant differences in trait gratitude between students in University (1) and in University (2) at 0.001 level. And then, significant differences were found in comparing trait gratitude between students in University (1) and in University (3) at 0.05 level. Again, there were significant differences in comparing trait gratitude between students in University (2) and in University (3) at 0.05level.

Life Satisfaction of Students in Each University

First, descriptive statistics was used to find out life satisfaction of first year and second year students. The results were presented in Table 6.

Table 6 Descriptive Statistics for Life Satisfaction of Students in Each University

Variable	Universities	*N*	Min	Max	Mean	*SD*
Life Satisfaction	University 1	280	109	183	151.16	13.345
	University 2	280	118	194	158.50	11.665
	University 3	280	97	181	151.05	13.482

In Table 6, the mean scores for life satisfaction of students in each University were greater than the theoretical mean score (120). Therefore, it may be said that life satisfaction of students in each University was satisfactory.

Comparison of Life Satisfaction of University Students by Gender

In order to test the mean differences in life satisfaction significantly by gender, independent sample *t* test was computed. The result was presented in Table 7.

Table 7 The Result of Independent Sample *t* test for Life Satisfaction of Students by Gender

Variable	Gender	*N*	Mean	*SD*	*t*	*df*	*p*
Life Satisfaction	Male	420	151.27	13.447	-5.088***	838	.000
	Female	420	155.87	12.772			

Note: ***The mean difference is significant at 0.001level.

According to table 7, there were significant differences in life satisfaction of University students by gender at 0.001level. Thus, it may be concluded that female students were higher in life satisfaction than male students. This result was similar to the result of Tariq, 2014 (female were greater life satisfaction than male).

Comparison of Life Satisfaction of Students by Grade

In order to examine the mean differences in life satisfaction of University students by grade, independent sample *t* test was computed. The result was presented in Table 9.

Table 8   The Result of Independent Sample *t* test for Life Satisfaction of Students by Grade

Variable	Grade	*N*	Mean	*SD*	*t*	*df*	*p*
Life Satisfaction	First Year	420	154.82	13.287	2.728**	838	.007
	Second Year	420	152.32	13.225			

Note: **The mean difference is significant at 0.01level.

According to table 8, the result revealed that there was significantly different in life satisfaction of University students by grade at 0.01level. It may be interpreted that first year students were higher in life satisfaction than second year students. Other studies revealed the same results (Hamarat, Thompson & Aysan, 2003; Diener, Suh, Lucas & Smith, 1999).

Comparison of Life Satisfaction of Students by University

To examine whether University had impact on gratitude of students, one-way ANOVA was utilized. According to ANOVA results, there were significant mean differences in the life satisfaction of students according to University $F(2,837) = 30.847$, $p > 0.001$. Post-Hoc test was also conducted by Tukey HSD method for more information of a particular group.

Table 9 The Result of Tukey HSD for Life Satisfaction by University

Variable	(I)Uni	(J)Uni	Mean Difference (I-J)	*p*
Life Satisfaction	University1	University2	-7.336***	.000
		University3	.111	.994
	University2	University1	7.336***	.000
		University3	7.446***	.000
	University3	University1	-.111	.994
		University2	-7.446***	.000

Note: *** The mean difference is significant at 0.001level.

According to Table 9, significant mean differences were found in comparing life satisfaction between students who attended in University (2) and those who attended in University (1) at 0.001level. Moreover, there were significant differences in life satisfaction between students who attended in University (2) and those who attended in University (3) at 0.001level. This result was similar with the result of Diener, Emmons, Larsen & Griffin (1985).

The Relationship between Gratitude and Life Satisfaction

In order to determine whether there was any relationship between gratitude and life satisfaction, Pearson product-moment correlation was conducted.

Table 10 Relationship between Gratitude and Life Satisfaction of University Students

Variable	Life Satisfaction
Gratitude	.489**

Note: **Correlation is significant at 0.01level (2-tailed).

According to Table 10, the result showed that there was a significant positive relationship between gratitude and life satisfaction at (r=.489, *p*<0.01) and moderate correlation. Watkins, Woodward, Stone and Kolts (2003) were found this similar result. Thus it may be interpreted that the higher the students' gratitude, the better their life satisfaction.

The Effect of Gratitude on Life Satisfaction of Students

In order to explore how well gratitude predicts life satisfaction of students and how many percent it predicts, a linear regression analysis was computed and model summary for gratitude was presented in Table 11.

Table 11 Model Summary for Gratitude

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.489^a	.239	.238	11.617

a. **Predictors: (Constant), Gratitude**

The linear regression analysis indicated that 24% of the life satisfaction of students can be predicted from gratitude. According to the results conducted by enter method; there was significant effect on life satisfaction by gratitude since they have positive correlations with each other. This result also supported the theory that gratitude has a significant effect on life satisfaction (Fredrickson, 2001). Then linear regression analysis was done to measure the life satisfaction by gratitude as in Table 12.

Table 12 The Result of Linear Regression Analysis of Gratitude as Predictor of Life Satisfaction

Model	Unstandardized Coefficient		Standardized Coefficient	t	p
	B	Std. error	Beta		
(Constant)	69.998	5.171		13.537	.000***
Gratitude	1.400	.086	.489	16.210	.000***

Note: ***Correlation is significant at 0.001level.

According to the above table, the resultant model of linear regression expression between gratitude and life satisfaction was presented in the following equation.

Note: LS = Life Satisfaction, G = Gratitude

$$LS = 70 + 1.4G$$

Discussion

There has been studied gratitude and life satisfaction by some psychologists a few years ago. Thus, the researchers studied it due to interest. Based on the findings from this study, the following discussions and recommendations in relation to gratitude and life satisfaction of University students in this study were presented.

Both trait gratitude and life satisfaction of students were satisfactory. Concerning about gender difference in trait gratitude, female students were significantly higher in trait gratitude than males. Males consider that expressing gratitude is evidence of their vulnerability and that by showing gratitude, they could be perceived as weaker and less masculine (Levant & Kopecky, 1995; Sun & Kong, 2013). So, male students should be encouraged to express their gratitude and showing gratitude is a good manner and so they should not consider it as their weakness.

Concerning about gender difference in life satisfaction, female students were significantly higher in life satisfaction than males. Males are more likely to stress their independence from others whereas females are more likely to emphasize their relatedness to others (Cross & Madson, 1997). Martin, Fabes, Hanish, Leonard and Dinella (2011) suggested that the more children believe they are similar to their own gender group, the more likely will they prefer same-gender partners because of the increased likelihood of enjoyment, satisfaction and mutuality that they believe will result from these interactions. Thus, male students should be allowed to identify their independence for their personal control to be satisfied with their life.

In examining the grade difference in trait gratitude of students, there were no significant differences in trait gratitude of students by grade. The participants in this study were first year and second year students and late adolescents. They were slightly different in age. So it may be that they were not different in trait gratitude. Froh, Emmons, Card, Bono and Wilson (2011) also indicated no differences in gratitude across middle and late adolescents.

Again, concerning about the grade difference in life satisfaction of students, first year students had greater life satisfaction than second year students. People who have positive experiences face these changes more intelligently and effectively and solve their daily life problems easily and hence experience great satisfaction (Tariq, 2014). It may be because first year students attended to University only in this semester so, everything they encounter in their environment (e.g. School, Self, Friends) is new for them. Moreover, for them, transition from high school to University is a challenging time to social upheaval and social circle is larger. Then they may think that they were very smart and be able to do themselves really. In other words, they were adapted and satisfied with new things experienced in their present environments. Therefore, it may be that first year students were more satisfied than second year students.

Next, concerning about the significant mean difference in trait gratitude of students by University, there were significant mean differences in comparing trait gratitude of students in three Universities. The students in University (2) were highest in trait gratitude among those in the three Universities. In University (2), there were many different kinds of national races derived from different kinds of cultures. Different cultural conditions may lead to different attributions for one's evaluation of life satisfaction (Al-Attiyah & Nasser, 2016). Thus, the culture has an influence on how individuals respond to being given something (Summer, 2018). Thus, cultural background should be considered one of the factors affecting gratitude.

Concerning about the significant mean differences in life satisfaction of students by University, there were significant mean differences in comparing life satisfaction between students in University (2) and in University (1); between students in University (2) and in

University (3). The students in University (2) were highest in life satisfaction among those in the three Universities. Students in environments where there are greater opportunities for individual control may experience greater life satisfaction (Al-Attiyah & Nasser, 2016). So, since University influences on students' life satisfaction, University should create environments where students can be received opportunities and satisfied with their environments.

Continuously, regarding the relationship between gratitude and life satisfaction, according to the result of this study, there was a significant positive relationship between trait gratitude and life satisfaction. Positive emotional experiences such as gratitude are positively related to life satisfaction (Kuppens, Realo & Diener, 2008). Therefore, people with tendency to be grateful reported greater life satisfaction (Fagley, 2012). Finally, in relation to the prediction life satisfaction from gratitude, the result showed that gratitude predicted life satisfaction significantly. Positive emotions such as gratitude are strong predictor of enhancing life satisfaction (Algoe, Haidt & Gable, 2008). Furthermore, some authors demonstrated the positive effect of gratitude on life satisfaction (Boehm, Lyubomirsky & Sheldon, 2011; Lyubomirsky & Layous, 2013). Thus, the more grateful people are, the more satisfied they will be in their lives.

Conclusion

Gratitude is a way for people to appreciate what they have instead of always reaching for something new in the hopes it will make them happier, thinking they cannot feel satisfied until every physical and material need is met (Mini, 2016). Living in competitive and consumerist society has made people self-centered. People focus on what they lack or what others have rather than being grateful for what they already have. And then it helps people refocus on what they have instead of what they lack.

The present study investigated that gratitude plays a causal role in the life satisfaction of University students in Sagaing Township. Moreover, gratitude is linked to life satisfaction and consequently it is necessary to adopt gratitude as an important habit and attitude (Layous & Lyubomirsky, 2014). So the present study has been demonstrated that gratitude could be a contribution to understand life satisfaction. University students in this study are adolescents, specifically late adolescents. University life is important for them because they experienced new challenges and difficulties along their University life. So they need to be satisfied themselves in their respective environments. To be like that, they need to have positive emotions such as gratitude in their lives. So they need to be able to solve them with gratitude which leads toward happy, comfortable and successful life. From then, they will be able to lead to the growth and development of citizens and country effectively and successfully. Thus, they should be taught to have grateful emotions. Furthermore, teaching human beings to be grateful may be a new strategy for life satisfaction, since gratitude is an important component of the good life (Watkins, Woodward, Stone & Kolts, 2003).

Acknowledgements

References

Al-Attiyah, A. & Nasser, R. (2016). Gender and age differences in life satisfaction within a sex-segregated society: sampling youth in Qatar, *International Journal of Adolescence and Youth,* 21:1, 84-95, DOI: 10.1080/02673843.2013.808158

Algoe, S. B. (2012). Find, remind, and bind: The functions of gratitude in everyday relationships. *Social and Personality Psychology Compass, 6*, 455-469. doi: 10.1111/j.1751-9004.2012.00439.x

Boehm, J. K., Lyubomirsky, S., & Sheldon, K. M. (2011). A longitudinal experimental study comparing the effectiveness of happiness enhancing strategies in Anglo Americans and Asian Americans. *Cognition & Emotion, 25*, 1263-1272. Retrieved November 7, 2018 from http://dx.doi.org/ 10.1080/02699931. 2010.541227

Bonnie, K. E., & de Waal, F. B. M. (2004). Primate Social Reciprocity and the Origin of Gratitude. In *The Psychology of Gratitude (Vol. 6*, pp. 213–229). Oxford University Press. Retrieved August 15, 2018 from https://doi.org/10.1093/acprof:oso/9780195150100.003.0011

Bono, G., Emmons, R. (2012). *Gratitude in Practice and the Practice of Gratitude*. DOI: 10.1002/ 9780470939338.ch29

Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin, 122*, 5–37. Doi: 10.1037//0033-2909.122.1.5

Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95*, 542–575. doi:10.1037/0033-2909.95.3.542

Diener, E. (1994). Measuring subjective well-being: progress and opportunities. *Social Indicators Research, 28*, 35-89. Retrieved January 6, 2019 from https://www.scrip.org> References Papers

Diener, E., Emmons, R., Larsen, R., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49, 71–75. Doi:10.1207/s15327752jpa4901-13

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of program. *Psychological bulletin, 125*, 276-302.

Dunn, J. R., & Schweitzer, M. E. (2005). Feeling and Believing: The Influence of Emotion on Trust. *Journal of Personality and Social Psychology*, *88*(5), 736–748. https://doi. org/10.1037/0022-3514.88.5.736

Emmons, R. A., McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, 84, 377–389 doi: 10.1037/0022-3514.84.2.377

Fagley, N.S. (2012). Appreciation uniquely predicts life satisfaction above demographics, the Big 5 personality factors, and gratitude. *Personality and Individual Differences, 53*, 59-63.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden and-build theory of positive emotions. *American Psychologist, 56*(3), 218-226. doi:10.1037/0003-066X.56.3.218

Froh, J. J., Emmons, R. A., Card, N. A., Bono, G., & Wilson, J. A. (2011). Gratitude and the reduced costs of materialism in adolescents. *Journal of Happiness Studies*, 12, 280-302. doi: 10.1007/s10902-010-9195-9

Froh, J. J., Kashdan, T. B., Ozimkowski, K. M., & Miller, N. (2009). Who benefits the most from a gratitude intervention in children and adolescents? Examining positive affect as a moderator. *The Journal of Positive Psychology*, 4, 408–422. doi:10.1080/174397609029 92464

Hamarat, E., Thompson, D., Aysan, F., Steele, D., Matheny, K & Simons, C. (2003). Age differences in coping resources and satisfaction with life among middle aged young old and oldest old adults. *The journal of genetic psychology*, 164(2), 360-367.

Huebner, E. (2001). An Introduction to the Multidimensional Students' Life Satisfaction Scale. *Social Indicators Research 60*(1): 115-122. DOI: 10.1023/A:1021252812882

Kuppens, P., Realo, A., & Diener, E. (2008). The role of positive and negative emotions in life satisfaction judgment across nations. *Journal of personality and Social Psychology*, 95(1). 66-75.

Layous, K., & Lyubomirsky, S. (2014). Benefits, Mechanisms, new directions for teaching gratitude to children. School Psychology Review, 43, 2, 153-159.

Levant, R. F., & Kopecky, G. (1995). Masculinity, reconstructed. New York: Dutton. Retrieved from, http://revistas.um.es/analesps

Lyubomirsky, S., & Layous, K. (2013). How do simple positive activities increase well-being? *Current directions in Psychological Science, 22*, 1, 57-62.

Martin, C. L., Fabes, R. A., Hanish, L., Leonard, S., & Dinella, L. M. (2011). Experienced and expected similarity to same-gender peers: Moving toward a comprehensive model of gender segregation. *Sex Roles, 65*, 421–434.

McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82, 112-127. doi: 10.1037/0022-3514.82.1.112

McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is gratitude a moral affect? *Psychological Bulletin*, 127, 249–266. doi: 10.1037/0033-2909.127.2.249

McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82, 112-127. doi: 10.1037/0022-3514.82.1.112

McCullough, M.E., Tsang, J., & Emmons, R.A. (2004). Gratitude in intermediate affective terrain: Links of grateful moods to individual differences and daily emotional experience. *Journal of Personality and Social Psychology*, 86, 295-309.

McKnight, C. G., Huebner, E. S., & Suldo, S. M. (2002). Relationships among stressful life events, temperament, problem behavior, and global life satisfaction in adolescents. *Psychology in the Schools, 39*, 677–687.

Mini, J. (2016). Gratitude: Concept, Benefits and Cultivation. *International Journal of Engineering Technology Science and Research* 3(5). Retrieved October 31, 2018 from www.ijetsr.com>images>short-pdf>1

Puente-Diaz & Meixueiro (2016). *An exploration of the relationships between gratitude, life satisfaction,and importance of helping others among a representative sample of the adult population of Mexico.* Cogent Psychology. https://dx.doi.org/ 10.1080/23311 908.2016.1160558

Salavada-Ferrer, C. (2017). *The relationship between gratitude and life satisfaction in a sample of Spanish university students: The moderation role of gender*. http://dx.doi.org/10.6018/analesps.33.1.226671

Sansone, R.A., Sansone, L.A. (2010). Gratitude and Well-Being. *Psychiatry* 7(11), 18-22. Retrieved January 2, 2019 from https://www.ncbi.nlm.nih.gov

Seligman, M., Ernst, R., Gillham, J., Reivich, K., & Linkin, M. (2009). Positive education: Positive psychology and classroom interventions. *Oxford Review of Education, 35,* 293–311.

Summer, A. (2018). *The Science of Gratitude*. Greater Good Science Center. greatergood.berkeley.edu Retrieved December 11, 2018 from https://www.templeton.org>2018/05

Sun, P., & Kong, F. (2013). Affective mediators of the influence of gratitude on Life satisfaction in late adolescence. *Social Indicators Research, 114*, 1361-1369.

Tariq, M. (2014). Life Satisfaction and Psychological Well-being among Young Adult Female University Students. *International Journal of Liberal Arts and Social Science 2(5).*

Thomas, M., & Watkins, P. (2003*). Measuring the grateful trait: development of revised GRAT*. Paper presented at the Annual Convention of the Western Psychological Association, Vancouver.

Waters, L. (2012). Predicting Job Satisfaction: Contributions of individual gratitude and institutionalized gratitude. *Psychology, 3*, 1174-1176.

Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. L. (2003). Gratitude and happiness: Development of a measure of gratitude, and relationships with subjective well-being. *Social Behavior and Personality*, *31* (5), 431-452. http://dx.doi.org/10.2224/sbp.2003.31.5.431

Wood, A. M., Froh, J. J., & Geraghty, A. W. A. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review, 30*(7*)*, 890-905. doi:10.1016/j.cpr.2010.03.005

Wood, A. M., Maltby, J., Stewart, N., Linley, P. A., & Joseph, S. (2008). A social-cognitive model of trait and state levels of gratitude. *Emotion, 8(2)*, 281-290. doi:10.1037/ 15283542 .8.2.281

A STUDY ON STRESS AND INTERNET ADDICTION OF MYANMAR UNIVERSITY STUDENTS

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Abstract

Using survey method, a total of 2612 university students were selected by multistage sampling technique. Instruments were Internet Addiction Test (IAT) developed by Young (1989) and Student Stress Inventory (SSI) developed by Mohamed Arip, Kamaruaman, Roslan, Ahmad and Rahman (2015). It was found that Myanmar university students' predominant time for internet usage is night and the most widely used social network is Facebook. Descriptive statistics showed that internet addiction prevalence of Myanmar university students is 28% and stress level is mind. The result of independent sample *t* test showed that internet addiction of Myanmar university students was significantly different by gender, living in dormitory and level of education. Correlation analysis showed that stress and internet addiction was significantly correlated in positive direction. The higher stress they experience, the more internet addiction they may encounter. Therefore, it is hoped that the current study will support to the Myanmar university learning environment by providing the basic information of some risk and protective factors influencing internet addiction prevalence.

Keywords: Stress, Internet Addiction, Academic Stress

Introduction

Internet is a massive computer-linked network system used to access and deliver information globally (Kraut, Patterson, Landmark, Kiesler, Mukophadhyay, & Scherlis, 1998).

Through internet, people got many opportunities, but on the other hand, many negative impacts of internet were also discovered. Among these negative impacts, the threat of internet over-using became a growing concern worldwide (Buchholz, 2009; Fackler, 2008; Janta, 2008; Khasod, 2007). In her study, Dr. Kimberly Young found that this excessive internet use created addicted behaviors on users. So, in 1996, Young introduced the term "addiction" for "internet technology" at the Annual Meeting of the American Psychological Association. Since then, scientific research on "internet addiction" has grown markedly.

According to Young (1996), internet addiction is "a failure of personal impulse control that does not involve external substances". By using pathological gambling as a model, she developed eight criteria for addictive internet use: (1) a pre-occupation with the internet, (2) the need to use the internet for increasing amounts of time, (3) unsuccessful efforts to stop using the internet, (4) mood change when attempting to stop or cut down internet usage, (5) staying online longer than intended, (6) threatening of significant relationships or opportunities due to excessive internet usage, (7) lying about internet use, and (8) using the internet as an escape from problems or seeking to relieve bad mood states.

In Myanmar, the number of internet users is significantly increasing day by day in recent years. Among them, above 80% of them were found to be social networking users (Chris Myers, 2013). Together with growing internet usage, excessive social media using made the public of Myanmar to be worried about internet addiction. However, there is little empirical research on the prevalence of internet addiction in Myanmar. So this research filled this need of internet addiction research in Myanmar.

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Globally, most of the internet addiction researches were conducted on "student groups" because students were found to be the vast majority of those with internet addictions (Lam, Peng, Mai, & Ing, 2009; Milani, Di Blasio, & Osualdella, 2009; Thomas & Martin, 2010; Zboralski, Orzechowska, Talarowska, Darmosz, Janiak, Janiak, & Gałecki, 2009). Among students, many studies found university/college students to be more high risk group for internet addiction (Young & Rogers, 1998; Kandell, 1998; Mafe & Blas, 2006; Nalwa & Anand, 2003; Niemz, Griffiths, & Banyard, 2005).

To know why they become more internet addicts than other age groups, there is an urgent need for educational researchers to find out associated factors of internet addiction tendency among university students.

Therefore, present study was conducted to examine stress, gender, living in dormitory and level of education as the related factors of internet addiction prevalence among Myanmar university students.

Objectives of the Research

The main aim of this study is to examine stress and internet addiction of Myanmar university students. The specific objectives were-

1. To examine stress and internet addiction prevalence of Myanmar university students
2. To investigate the differences in internet addiction of Myanmar university students by gender, living in dormitory and level of education
3. To explore the relationship between stress and internet addiction of Myanmar university students

Definitions of Key Terms

Internet Addiction: Internet addiction is "the overuse of the internet leading to impairment of an individual's psychological state (both mental and emotional), as well as their scholastic, occupational, and social interactions" (Beard & Wolf, 2001).

Stress: Stress is an uncertain reaction to external and internal factors that means a negative reaction to environmental stimuli (Pargman, 2006).

Materials and Method

Participants of the Study

By using multistage sampling procedure, 2612 (male = 989, female = 1623) university students in Myanmar were chosen. The mean age of respondents of present study was 18.18 years (*SD*=1.419), ranged from 16 to 26.5 years.

Design

In this study, quantitative approach and descriptive survey design was used.

Instrumentation

To collect the desired data for the present study, two standardized psychological tests were used.

To measure stress of Myanmar university students, Student Stress Inventory (SSI) developed by Mohamed Arip, Kamaruaman, Roslan, Ahmad and Rahman (2015) was used. SSI consisted of 40 negative items. It measures 4 subscales of stress: Physical Stress, Interpersonal Relationship Stress, Academic Stress and Environmental Stress. Those who get the score within

122-160 were classified as having severe stress, 81-121 as having moderate stress and those who get score 40-80 as having mild stress.

The Internet Addiction Test (IAT) developed by Young (1998) is composed of 20 items. Present study chose to use modified 6-point Likert scale. The cut-off scores differentiate the users who get the score (0-30) as normal internet users and score (31-49) as mild users, moderate (50-79) and severe internet addiction (80-100).

After translating these inventories to Myanmar version, an expert review was conducted for face and content validity by 14 experts in the field of Educational Psychology from Yangon University of Education and Sagaing University of Education. The necessary changes were done according to their suggestions. And then, pilot testing was conducted with 105 university students from Sagaing University of Education in order to determine the reliability of the instruments. The internal consistencies were 0.875 for Student Stress Inventory (SSI) and 0.892 for Internet Addiction Test (IAT). The administration process for all the inventories approximately took about 20 to 40 minutes.

Findings

In this section, finding of present study were discussed.

Table 1 Internet Usage Behavior among Myanmar University Students

Variables	Frequency	Percentage
Predominant Time for Internet Use		
Morning	17	0.65%
Afternoon	79	3.02%
Evening	223	8.54%
Night	2217	84.88%
Other	76	2.91%
Popularity of Social Network Account among Myanmar University Students		
Facebook	2449	**93.76%**
Google+	1371	**52.49%**
Viber	1233	**47.21%**
You Tube	1221	**46.75%**
Instagram	949	**36.33%**
Twitter	425	**16.27%**
Snapchat	251	**9.61%**
Line	206	**7.89%**
Skype	184	**7.04%**
WeChat	164	**6.28%**
WhatsApp	99	**3.79%**
QQ	51	**1.95%**
Wattpad	**5**	**0.19%**
Sina Weibo	**4**	**0.15%**

To examine stress of university students in Myanmar, descriptive statistics was used. Table 2 showed the results.

Table 2 Descriptive Statistics for Stress of University Students in Myanmar

Variable	Number of Student	Minimum	Maximum	Mean	*SD*
Stress	2612	40	137	68.68	14.69

According to Table 2, the minimum score for stress of university students in Myanmar was 40 and the maximum score was 137. Then, mean score and standard deviation of university students for stress were 68.68 and 14.69. In terms of score analysis and interpretation, SSI suggested those who obtained the score within 122-160 reflects having the severe stress, 81-121 reflects having the moderate stress and those who obtained score 40-80 reflects having mild stress. Mean score for stress of present study (68.68) was between 40 and 80 which reflect having mild stress.

The following table (Table 3) shows the prevalence of internet addiction among Myanmar university students.

Table 3 Prevalence of Internet Addiction among Myanmar University Students

Categories	Frequency	Percentage
Normal Internet Users (0-30)	864	33.08%
Mild Internet Addiction (31-49)	1028	39.36%
Moderate Internet Addiction (50-79)	670	25.65%
Severe Internet Addiction (80-100)	50	1.91%
Total	2612	100%

According to Table 3, it was found that, off the 2612 respondents who fully complete the survey, 720 (27.57%) university students met the criteria of Internet Addiction.

To find out gender difference in internet addiction of Myanmar university students by gender, independent sample *t* test was used. The result was shown in Table 4.

Table 4 Results of Independent Samples *t* test for Internet Addiction of Myanmar University Students by Gender

Variable	Gender	*N*	Mean	*SD*	*MD*	*t*	*df*	*p*
Internet Addiction	Male	989	42.29	17.396	4.758	6.801***	2610	0.000
	Female	1623	37.54	17.308				

Note: *** Significance at 0.001 Level.

In Table 4, it was found that the mean score of male university students (42.29) was greater than that of the female university students (37.54) in internet addiction with a mean difference (4.758). Significant difference in internet addiction of Myanmar university students by gender was found at 0.001 level (*t*=6.802, *p*=0.000). So, male university students in Myanmar were found to have higher probability of internet addiction than female ones.

To find out difference in internet addiction of Myanmar university students by live in dormitory, independent sample *t* test was used. The result was shown in Table 5.

Table 5 Results of Independent Samples *t* test for Internet Addiction of Myanmar University Students by Living in Dormitory

Variable	Living in Dormitory	*N*	Mean	*SD*	*MD*	*t*	*df*	*p*
Internet Addiction	Yes	1477	38.57	17.003	-1.786	-2.590*	2610	0.01
	No	1135	40.35	17.064				

Note: * Significance at 0.05 Level.

In Table 5, it was found that the mean score of university students who lived in dormitory (38.57) was lower than that of the university students who did not live in dormitory (40.35) in internet addiction with a mean difference (1.786). Significant difference in internet addiction of Myanmar university students by living in dormitory was found at 0.05 level (*t*=-2.590, *p*=0.01). Therefore, it can be concluded that Myanmar university students who did not live in dormitory had higher probability of internet addiction than those who lived in dormitory.

To find out difference in internet addiction of Myanmar university students by level of education, independent sample *t* test was used. The result was shown in Table 6.

Table 6 Results of Independent Samples *t* test for Internet Addiction of Myanmar University Students by Level of Education

Variable	Education	N	Mean	SD	MD	t	df	p
Internet Addiction	First Year	1324	40.88	17.825	3.127	4.585***	2610	0.000
	Third Year	1288	37.76	17.003				

Note: *** Significance at 0.001 Level.

In Table 6, it was found that the mean score of first year university students (40.88) was greater than that of the third year university students (37.76) in internet addiction with a mean difference (3.127). Significant difference in internet addiction of Myanmar university students by level of education was found at 0.001 level (*t*=4.585, *p*=0.000). So, it can be concluded that first year university students in Myanmar had higher probability of internet addiction than third year ones.

In order to explore the relationship between stress and internet addiction of university students in Myanmar, the Person Product-Moment Correlation was conducted. The result was shown in Table 7.

Table 7 Correlation Matrix between Stress and Internet Addiction

Variable	Stress	Internet Addiction
Stress	-	.360***
Internet Addiction	.360***	-

Note: *** Significance at 0.001 Level.

According to Table 7, it was found statistically significant positive correlation between stress and internet addiction (*r*=.360, *p*= 0.001). So, it can be concluded that the more stress students suffer, the higher the internet addiction level they may encounter.

Discussion and Conclusion

In this section, summary of findings, discussion and suggestions were discussed via specific objectives.

Stress of Myanmar University Students: To examine stress of university students in Myanmar, descriptive statistics was used. It was found that stress level of Myanmar university students was mild. Based on the findings of the present study, some suggestions were discussed for teachers and administrators to reduce their students' stress. Teachers and administrators should

- Help students to develop better study habits and time management skills in order to better cope with balancing their schedules between study, work, and leisure.

Internet Addiction Prevalence of Myanmar University Students: To examine internet addiction prevalence of Myanmar university students, descriptive statistics was used. It was found 27.57% of Myanmar university students met the criteria of Internet Addiction.

Based on the findings of the present study, some suggestions were discussed for students, teachers and administrators to prevent internet addiction prevalence among Myanmar university students. Students should

- Limit online time

- Try to lessen excessive social network usage

- Regulate sleeping pattern by escaping late night login

- Cope disturbing thoughts about life effectively, not to compensate these thoughts on internet.

Teachers and administrators should

- Encourage social activities and their interests
- Establish Guidance and Counseling Service which is administered by professionally qualified counselor for discussing their internet addiction disorder.

Difference in Internet Addiction by Gender: To analyze gender differences in internet addiction, independent sample *t* test was used and the result revealed that there was significant difference in internet addiction of Myanmar university students by gender. Male university students had higher probability of internet addiction than female ones.

Many previous studies also support the present result. They also found that males involved more in internet addiction than females (Chou et al., 2005; Shaw & Black, 2008; Li et al., 2010; Leung, 2007; Pinar et al., 2017).

This may be because male students tend to solve problems on their own and reluctant to communicate with others for help when facing life stress and negative events. So, males seem to more use the internet for mood management and social compensation. Moreover, in comparing female, online games may be more attractive to male and it may lead to more time suffering on internet.

Based on this finding, there are some suggestions for students to adapt gender difference in internet addiction. Male students should

- Talk to real friends than new relationships with fellow on-line users
- Control their excessive use of online games.

Difference in Internet Addiction by Living in Dormitory: To reveal differences in internet addiction of Myanmar university students by living in dormitory, independent sample *t* test was used and the result revealed that there was significant difference in internet addiction by living in dormitory. Students who are not living in dormitory were found to have higher probability of internet addiction than those who are living in dormitory.

The study of Comert, Ugras and Yukseloglu (2017) also supports the present result.

This may be because hostel-life seems to relief stress of Myanmar university students. Based on this finding, there are some suggestions for students who did not live in dormitory.

They should

- Connect real-world, not live alone at home

- Practice effective stress-coping strategies

Difference in Internet Addiction by Level of Education: To reveal differences in internet addiction of university students by level of education, independent sample *t* test was conducted and it was found that first year university students in Myanmar had greater probability of internet addiction than third year ones.

The study of Alzayyat et al. (2017) also supports the present result.

This may be because first year students seem to possess higher stress and be lower in stress-coping ability than older ones. Based on this finding, there are some suggestions for first year students. They should

- Cope their stress effectively, not to use flight coping

- Get professional help in coping stress if they needed.

Relationship between Stress and Internet Addiction: In order to explore the relationship between stress and internet addiction of university students in Myanmar, the Pearson Product-Moment Correlation was conducted. It was found statistically significant positive correlation between stress and internet addiction. The more stress students suffer, the higher internet addiction level they may encounter.

This finding was consistent with the findings of study conducted by Li et al., (2010).

This may be because, according to General Strain Theory by Agnew (1992), people seem to use one of three coping strategies: Cognitive coping, Behavioral coping and Emotional coping. Among these strategies, those who use emotional coping will not to solve or deny negative feelings, but only try to reduce them, for example by using online for increasing amount of time. So, based on the findings of the present study, to reduce stress and to prevent internet addiction, some suggestions were discussed for students, teachers and administrators. Students should

- Try to balance time between study and social activity

- Stay fit and healthy

- Keep better relationship with peers, teachers and family member

- Practice Mindfulness

- Seek the professional help to discuss their uncontrolled feeling.

Teachers and administrators should

- Practice their students' mindfulness

- Encourage to improve temperamental effortful control to weaken stress

- Provide students guidance and counseling unit as the part of management system so that students can came there to discuss issues affecting them.

In summary, present study found that higher stress, being male students, living in dormitory and having younger age were risk factors of internet addiction prevalence of Myanmar university students. Therefore, it is hoped that the current study will support to the Myanmar university learning environment by providing the basic information for the development of internet addiction prevention and intervention programs.

Acknowledgements

References

Agnew, R. (1992). Foundation for a General Strain Theory of Crime and Delinquency. *Crimnology*, Vol, 30 (1). 47-87.

Alzayyat, A., Al-Gammal, E., & Ahmad, M. M. (2015). Psychological Correlates of internet addiction among Jordanian university students. *JPsychosoc Nurs Ment Health Serv*. Vol. 53 (4), pp. 43-51.

Beard, K. W., & Wolf, E. M, (2001). Modification in the proposed diagnostic criteria for Internet addiction. *Cyber psychology Behavior*, Vol. 4, pp. 377-383.

Buchholz, L. (2009). Teen Internet addicts more likely to self-harm. Retrieved from http://abcnews.go.com/ US/wireStory?id=9245921

Chou, C., Condrol, L., & Belland, J. C. (2005). A review of the research on Internet addiction. *Educational Psychology Review,* Vol.17, pp. 187-195.

Chris, M. (2013, February 11). Online addictions: is Myanmar at risk? *Myanmar Times*, p-2.

Comert, I. T., Ugras, S., & Yukseloglu, E. H. (2017). Internet Addiction Affecting Factors of University Students in Turkey. *International Journal of Advanced Research*. Vol. 5(7), pp.1736-1742.

Fackler, M. (2008). In Korea, A boot camp cure for web obsession, The New York Times. Retrieved from http://www.nytimes.com/ 2007/ 11/18/technology/18rehab.html.

Janta, N. (2008). Online game: Happiness or dangerous, *Daily News.*

Kandell, J. J. (1998). Internet addiction on campus: The vulnerability of college students. *Cyberpsychology. Behavior,* Vol. 1(1), pp. 11–17.

Khaosod. (2007). Online game: bizarre, rape competition, Khaosod. Retrieved from http://cgap.icamtalk.com/ News/ show.php3? Category=&No=99

Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukopadhyay, T., & Scherlis, W. (1998). Internet paradox. A social technology that reduces social involvement and psychological well-being? *The American Psychologist,* vol. 53(9), pp.1017–1031.

Lam, L. T., Peng, Z. W., Mai, J. C., & Ing, J. (2009). Factors Associated with Internet Addiction among Adolescents. *Cyber psychology and Behavior,* Vol. 12 (5), pp. 551-555.

Leung, L., (2007). Stressful life events, motive for internet use and social support among digital kids. . *Cyberpsychology & behavior,* Vol. 10, pp. *204-214.*

Li, D., Zhang, W., Li, X., Zhen, S., & Wang, Y. (2010). Stressful life events and problematic internet use by adolescent females and males. A mediated moderation model. *Computers in Human Behavior*, vol. 26 (5), 1199-1207.

Mafe, C. R. & Blass, S. S (2006). Explaining Internet dependency: An exploratory study of future purchase intention of Sapanish Internet users. *Internet Research.* Vol. 16 (4), pp. 380-397.

Milani, L., Di Blasio, P., & Osualdella, D. (2009). Quality of interpersonal relationships and problematic Internet use in adolescence. *Cyberpsychology and Behavior,* Vol. 12(6), pp. 681-684.

Mohamed, Arip, M. A.S., D. N. Kamaruzaman., A., Roslan, A. Ahmad., & Abd Rahman, M. R. (2015). Development, Validity and Reliability of Student Stress Inventory (SSI). *The Social Sciences*, Vol (10), pp 1631-1638.

Nalwa, K., & Anand, A. P. (2003). Internet Addiction in Students: A Cause of Concern. *Cyberpsychology and Behavior*, Vol. 6 (6), pp. 653-656.

Niemz, K., Griffiths, M., & Banyard, P. (2005). Prevalence of pathological internet use among university students and correlations with self-esteem, the General Health Questionnaire (GHQ), and disinhibition. *Cyberpsychology and Behavior*, Vol. 8(6), pp. 562-570.

Pargman, D. (2006). *Managing Performance Stress Models and Methods*. Britain: Routledge, Taylor & Francis group.

Pinar, K (2017). Internet Addiction and Subjective Wellbing in University Students. Suleyman Demirel University, Turkey. *Journal of Positive Psychology & Wellbing,* 1(1), 34-41.

Shaw, M., & Black, D W. (2008). Internet Addoction: Definition, assessment, epidemiology, and clinicial management.

Thomas, N. J., & Martin, F. H. (2010). Video-arcade game, computer game and Internet activities of Australian students: Participation habits and prevalence of addiction. *Australian Journal of Psychology*, Vol. 62(2), pp. 59-66.

Young, K. S. (1996). Internet addiction: The emergence of a new clinical disorder. *Paper presented at the 104th annual meeting of the American Psychological Association.* Toronto, Canada.

Young, K. S. (1998). Internet Addiction: The emergence of a new clinical disorder. *Cyberpsychology & behaviour,* Vol. 1(3), pp. 237-244.

Zboralski, K., Orzechowska, A., Talarowska, M., Darmosz, A., Janiak, A., Janiak, M., & Gałecki, P. (2009). The prevalence of computer and Internet addiction among pupils. *Postepy Hig Med Dosw*, Vol. 2(63), pp. 8-12.

RESILIENCE, FORGIVENESS AND LIFE SATISFACTION OF PROSPECTIVE TEACHERS FROM SELECTED EDUCATION COLLEGES

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Abstract

The main aim of the study is to investigate the resilience, forgiveness and life satisfaction of prospective teachers from selected Education Colleges. Descriptive survey method was applied for this study. In this study, the samples were 782 prospective teachers (Male=377, Female=405) from four Education Colleges. Resilience Scale for adolescent (RSA) (Kaner & Bayrakli, 2010a, 2010b) was used to assess resilience of prospective teachers (Cronbach's Alpha = 0.839). Rye Forgiveness Scale (Rye, 1998) was used to assess forgiveness of prospective teachers (Cronbach's Alpha = 0.667). Multidimensional Students' life Satisfaction Scale (Huebner, 2001) was used to assess the life satisfaction of prospective teachers (Cronbach's Alpha =0.866). According to result, there was no significant difference in resilience by gender but significant difference by grade and colleges. It may be said that first year have more resilience than second year and EC 4 have more resilience than EC 1. In forgiveness, there was no significant difference by gender and college but significant difference by grade. There may be first year have more forgiveness than second year. There were significant differences in life satisfaction by grade and college but not by gender. There may be first year have more life satisfaction than second year and EC 4 have more life satisfaction than other Colleges. There were positive correlations between resilience and forgiveness (r = 0.345, p=.000), between resilience and life satisfaction (r=0.733, p=.000) and forgiveness and life satisfaction (r=0.288, p=.000).

Keyword: Resilience, Forgiveness, Life satisfaction.

Introduction

Importance of the Study

Students who are attending Educational institutions, they have been facing many different challenges unexpected. Some of these challenges might be relatively minor, while others are disastrous on a much larger scale. To overcome these challenges, they need to gain resilience. So students are social animals, they have to live in social network and they must meet many different people. Especially, Educational institutions' students must encounter many people who are from many different places. Therefore, they have many different habits and they have to communicate them. Some people treat each other in a good and right way but some in a bad wrong way. When encounter people who treat in wrong way, students need to gain forgiveness. If Educational institutions' students have resilience and forgiveness, they may pass their daily activities happily.

When people live in the world, they are trying to be satisfied in their lives. When they are trying, they must encounter and face many stressful life situations and many people who treat us in wrong ways. To pass these, they should have resilience and forgiveness to be satisfied in their lives.

For above these reasons, the researcher wants to study the resilience, forgiveness and life satisfaction of prospective teachers from selected Education Colleges.

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Aims of the Study

The main aim of this research is to study resilience, forgiveness and life satisfaction of prospective teachers from selected Education Colleges.

Specific objectives in this study are:

- to examine resilience, forgiveness and life satisfaction of the prospective teachers by gender, grade and colleges.
- to find out the intercorrelations between resilience, forgiveness and life satisfaction of prospective teachers.

Scope of the Study

This study is aimed at to study resilience, forgiveness and life satisfaction of prospective teachers from four Education Colleges. Four Education Colleges are: Mandalay Education College, Meikhtila Education College, Monywa Education College and Pakokku Education College.

Definition of Key Terms

In this research, the following definitions of the key terms are used.

1. **Resilience**: Resilience is the process of successfully adapting to stressful life situations with certain protective factors moderating the effects of adversity (Bernard, 1989; Masten & Reed, 2002; Werner and Smith, 1992; Wolin and Wolin, 1993). Also, "the active process of self-righting and growth" (Higgins, 1994).
2. **Forgiveness**: Forgiveness is a moral response to an injustice and a turning to the "good" in the face of this wrong doing; a merciful restraint from pursuing resentment or revenge when the wrongdoer's actions deserve such and rather the freely chosen giving of gifts of generosity and love when the wrongdoer does not deserve it (Enright & Fitzgibbons, 2002).
3. **Life Satisfaction**: Life satisfaction is the attainment of a desired end and fulfillment of essential conditions (Wolman, 1973).

Methodology

Sampling

The population used for this study includes 782 prospective teachers from four Education Colleges were selected to collect data for research. Randomly, prospective teachers were chosen from Education Colleges. The sampling students were categorized for making sure that the colleges (EC 1, EC 2, EC 3 and EC 4).

Method

Quantitative research method, survey method and descriptive research design were used to investigate resilience, forgiveness and life satisfaction of prospective teachers from selected Education Colleges.

Instrumentation

In this study, resilience Scale for adolescent (RSA) (Scoloveno, 2017) used to assess resilience of prospective teachers from selected Education Colleges and Rye Forgiveness Scale

(Worthington et al., 2015) used to assess forgiveness of prospective teachers from selected Education Colleges. Questionnaire of multidimensional students' life satisfaction scale developed by Huebener (2001) was used to measure prospective teachers' life satisfaction from selected Education Colleges. The Crobach's Alpha for Resilience for Adolescent was 0.839 and that of Rye Forgiveness Scale and Multidimensional Students' Life Satisfaction Scale was 0.667 and 0.866.

Firstly, the questionnaires was planned to investigate resilience, forgiveness and life satisfaction of prospective teachers from selected Education Colleges. After planning the questionnaire, it was distributed to the experts from Sagaing University of Education in order to get validation. The answers of resilience, forgiveness and life satisfaction questionnaire are coded on four-point likert scale ("strongly disagree", "disagree", "agree" and "strongly agree"). In assigning the response of each item, the numerical values 1, 2, 3 and 4 were used in the case of positive statements. The scoring was reversed in the case of negative statements.

Data Collection

First, the researcher was requested permission from the Head of the Department of Educational Psychology in order to collect the data for the research. After getting the permission, the questionnaires were distributed to the prospective teachers from selected Education Colleges. During administering the questionnaires, the researcher explained students how to response the questionnaires and to ask questions if they were unclear to answer. After completion, the papers were collected back, scored and analyzed.

Data Analysis

After collecting the data, the Statistical Package for the Social Science (SPSS) version 20 was used to analyze the quantitative data. Descriptive statistics was used to find out the mean, standard deviation, maximum, minimum scores for prospective teachers' resilience, forgiveness and life satisfaction. Then, the independent sample t test was used to explore whether there was a significant difference in sense of resilience, forgiveness and life satisfaction between genders and grades. One Way Analysis of Variances (ANOVA) was computed to study whether there were significant differences in resilience, forgiveness and life satisfaction of prospective teachers by different colleges. The intercorrelations was computed to explore the relationships among resilience, forgiveness and life satisfaction.

Data Analysis and Findings

The main purpose of this study was to study the resilience, forgiveness and life satisfaction of prospective teachers from selected Education Colleges and to investigate the resilience, forgiveness and life satisfaction of prospective teachers from selected Education Colleges by gender, grade and colleges. Then the relationship between resilience and forgiveness, the relationship between resilience and life satisfaction and the relationship between forgiveness and life satisfaction explored. The findings and results presented in this chapter.

Descriptive Statistics for Resilience of Prospective Teachers

Table 1 Descriptive Statistics for Resilience of Prospective Teachers

Variable	N	Minimum	Maximum	Mean	SD
Resilience	782	34	88	70.17	7.138

Table 1 revealed that the observed mean score was 70.17 and the standard deviation was 7.138. The theoretical mean score was 55. The observed mean score was higher than the theoretical mean score. Therefore, it may be assumed that the resilience of prospective teachers from Education Colleges was satisfied.

Table 2 Mean and Standard Deviation of Prospective Teachers by Gender

Variable	Gender	N	Mean	SD
Resilience	Male	377	70.12	7.338
	Female	405	70.22	6.954

Table 2 showed that there was slightly difference in the mean scores of resilience by gender. In order to study whether there was a significant difference in resilience between male and female students, the data were analyzed by using independent sample *t* test.

Table 3 The Result of Independent Samples *t* test for Resilience by Gender

Variable	Gender	Mean	SD	*t*	*df*	*p*
Resilience	Male	70.12	7.338	-0.186	780	0.852
	Female	70.22	6.954			

The result showed that there was no significant difference between males and females in resilience (p=0.852). This result is not consistent with the finding of Akbar et al. In order to know whether subscales of resilience were significantly different according to grade, the data was analyzed by using independent sample *t* test.

Table 4 Mean and Standard Deviation of Prospective Teachers' Resilience by Grade

Variable	Grade	N	Mean	SD
Resilience	First year	397	71.46	7.078
	Second year	384	68.81	6.923

Table 4 showed that there were slight differences in the mean scores of resilience by grade. In order to study whether there was a significant difference in resilience between first year and second year students, independent sample *t* test was computed.

Table 5 The Result of Independent Samples *t* test for Resilience by Grade

Variable	Grade	Mean	SD	*t*	*df*	*p*
Resilience	First Year	71.46	7.078	5.290**	779	.000
	Second Year	68.81	6.923			

Note: ** The mean difference is significant at the 0.01 level.

The result showed that there was significant difference between first year prospective teachers and second year prospective teachers (p<.01). The mean of first year prospective teachers was a little more than second year prospective teachers. It may be interpreted that first year had a little high resilience than second year. This result is not consistent with the finding of Aboalshamal et al. Then, the independent sample *t* test was computed again to know whether subscales were significant.

The Result of One-way ANOVA on Resilience of Prospective Teachers by Colleges

To be able to compare prospective teachers' resilience by colleges, descriptive statistics was used in this study. The mean and standard deviation for prospective teachers' resilience by Colleges score were displayed.

Table 6 Means and Standard Deviations for Prospective Teachers by Colleges

Variable	College	N	Mean	SD
Resilience	Students From EC 1	197	68.89	8.087
	Students From EC 2	197	69.87	7.467
	Students From EC 3	195	70.48	5.752
	Students From EC 4	193	71.49	6.819

According to Table 6, the mean scores of prospective teachers were different by Colleges. EC 4 had the highest mean score (71.47) and EC 1 had the lowest mean score (68.89) on resilience. In order to know whether there were significant difference in prospective teachers' resilience by colleges, one way ANOVA was computed. The results of analysis were displayed.

Table 7 The Result of ANOVA for Prospective Teachers' Resilience by Colleges

Resilience	Sum of Squares	*df*	Mean Square	*F*	*p*
Between Groups	694.113	3	231.371	4.604**	.003
Within Groups	39094.234	778	50.250		
Total	39788.348	781			

Note: ** The mean difference is significant at the 0.01 level.

According to ANOVA result, it was found that there was significant difference in prospective teachers' resilience by colleges ($p<.01$). It revealed that prospective teachers differ in resilience by colleges. To investigate more specifically, how prospective teachers' resilience differs in relation to their colleges, the Game Howell was carried out.

Table 8 The Result of Games-Howell Test for Multiple Comparisons for Prospective Teachers' Resilience by Colleges

Variable	College (I)	College (J)	MD (I-J)	*p*
Resilience	Students From EC 1	Students From EC 2	-0.985	.592
		Students From EC 3	-1.589	.114
		Students From EC 4	-2.599**	.004

Note: ** The mean difference is significant at the 0.01 level.

Table 8 revealed that the mean difference between EC 1 and EC 4 was -2.599 and it was significant ($p<.01$). Therefore, it may be assumed that EC 4 had high resilience than EC 1.

The Descriptive Statistics for Forgiveness of Prospective Teachers

Table 9 Descriptive Statistics for Forgiveness of Prospective Teachers

Variable	N	Minimum	Maximum	Mean	SD
Forgiveness	782	24	56	41.02	4.536

The descriptive statistics for forgiveness of prospective teachers was shown in Table 9; the observed mean of the total sample was (41.02) and the standard deviation was (4.536). The theoretical mean score was (37.5). The observed mean score was a little higher than the theoretical mean score. Therefore, the forgiveness of prospective teachers was slightly satisfied.

Table 10 Mean and Standard Deviation of Prospective Teachers' Forgiveness by Gender

Variable	Gender	N	Mean	SD
Forgiveness	Male	377	40.86	4.494
	Female	405	41.17	4.576

Table 10 showed that there was slightly difference in the mean scores of forgiveness by gender. In order to study whether there was a significant difference in forgiveness between male and female students, independent sample *t* test was analyzed.

Table 11 The Result of Independent Sample *t* test for Prospective Teachers' Forgiveness by Gender

Variable	Gender	Mean	SD	*t*	*df*	*p*
Forgiveness	Male	40.86	4.494	-0.958	780	0.339
	Female	41.17	4.576			

This result showed that there was no significant difference between male and female in forgiveness (p=0.339). This result is not consistent with the finding of Miller, Worthington and McDaniel, 2008. In order to know whether subscales were significant according to gender, the independent sample *t* test was computed.

Table 12 Mean and Standard Deviation of Prospective Teachers' Forgiveness by Grade

Variable	Grade	N	Mean	SD
Forgiveness	First year	397	41.61	4.499
	Second year	384	40.41	4.504

Table 12 showed that there was slightly difference in the mean scores of forgiveness by grade. In order to study whether there was a significant difference in forgiveness between first year prospective teachers and second year prospective teachers, independent sample *t* test was computed.

Table 13 The Result of Independent Samples *t* Test for Prospective Teachers' Forgiveness by Grade

Variable	Grade	Mean	SD	*t*	*df*	*p*
Forgiveness	First Year	41.61	4.499	3.719**	779	.000
	Second Year	40.41	4.504			

Note: ** The mean difference is significant at the 0.01 level.

The result showed that there was significant difference at (p<.01) between first year prospective teachers and second year prospective teachers in forgiveness. The mean of the second year was a little low than the first year. It may be said that first year had a little high forgiveness than second year. This result is not consistent with the result of Enright, Santos and Al-Mabuk (1989).

The Result of One Way ANOVA on Forgiveness of Prospective Teachers by Colleges

Table 14   Means and Standard Deviations for Prospective Teachers' Forgiveness by Colleges

Variable	College	N	Mean	SD
Forgiveness	Students From EC 1	197	40.98	4.685
	Students From EC 2	197	40.69	4.613
	Students From EC 3	195	41.26	4.755
	Students From EC 4	193	41.16	4.066

EC 3 had the highest mean score (41.26) and EC 2 had the lowest mean score (40.69) in prospective teachers' forgiveness. In order to know whether there were significant difference in prospective teachers' forgiveness by their colleges, one way ANOVA was computed.

Table 15 The Result of ANOVA for Prospective Teachers' Forgiveness by Colleges

Forgiveness	Sum of Squares	*df*	Mean Square	*F*	*p*
Between groups	36.837	3	12.279	.596	.618
Within Groups	16032.748	778	20.608		
Total	16069.586	781			

This result revealed that there was no significant difference in prospective teachers' forgiveness by colleges. To study whether subscales were significant, one way ANOVA was also computed.

The Descriptive Statistics for Sense of Life Satisfaction of the Prospective Teachers

Table 16 Descriptive Statistics for Life Satisfaction of Prospective Teachers

Variable	N	Minimum	Maximum	Mean	SD
Life Satisfaction	782	59	157	124.26	11.171

The descriptive statistics for life satisfaction of prospective teachers was shown in Table 16; the mean of the total sample was 124.26 and the standard deviation was 11.171. The theoretical mean score was 100. The observed mean score was higher than the theoretical mean score. Therefore, the prospective teachers from Education Colleges were slightly satisfied in their lives.

Table 17 Mean and Standard Deviation of Students' Life Satisfaction by Gender

Variable	Gender	N	Mean	SD
Life Satisfaction	Male	377	123.77	11.361
	Female	405	124.71	10.987

Table 17 showed that there was slightly difference in the mean scores of life satisfaction by gender. In order to study whether there was a significant difference in life satisfaction between male and female prospective teachers, independent sample *t* test was computed.

Table 18   The Result of Independent Samples *t* test for prospective Teachers' Life Satisfaction by Gender

Variable	Gender	Mean	SD	*t*	*df*	*p*
Life Satisfaction	Male	123.77	11.361	-1.175	780	.240
	Female	124.71	10.987			

This table revealed that there was no significant difference in life satisfaction by gender. This result is not consistent with the result of Akbar et al.

Table 19 Mean and Standard Deviation of Students' Life Satisfaction by Grade

Variable	Grade	N	Mean	SD
Life Satisfaction	First Year	397	126.62	10.807
	Second Year	384	121.80	11.036

Table 19 showed that there was slightly difference in the mean scores of life satisfaction by grade. In order to study whether there was a significant difference in life satisfaction between first year and second year, independent sample *t* test was computed.

Table 20 The Result of Independent Samples *t* test for Students' Life Satisfaction by Grade

Variable	Grade	Mean	SD	*t*	*df*	*p*
Life satisfaction	First Year	126.62	10.807	6.17**	779	.000
	Second Year	121.80	11.036			

Note: ** The mean difference is significant at the 0.01 level.

The result showed that there was significant difference between first year and second year prospective teachers in life satisfaction ($p<0.01$). The mean of first year was a little more than second year. It may be said that first year prospective teachers had a little high life satisfaction than second year. This result is not consistent with the result of Aboalshamal et al.

The Result of One Way ANOVA on Sense of Life Satisfaction of Students by Colleges

Table 21 Means and Standard Deviations for Prospective Teachers' Life Satisfaction by Colleges

Variable	College	N	Mean	SD
Life Satisfaction	Students From EC 1	197	123.45	12.783
	Students From EC 2	197	122.91	11.514
	Students From EC 3	195	123.95	9.236
	Students From EC 4	193	126.79	10.5

According to Table 21, the mean scores of prospective teachers' life satisfaction were different by colleges. EC 4 had the highest mean score in life satisfaction (24.75). In addition, EC 1 had the lowest mean score in life satisfaction (24.21). In order to know whether there were significant differences in prospective teachers' life satisfaction by colleges, one-way ANOVA was used. The results of analysis were displayed.

Table 22 The Result of ANOVA for Prospective Teachers' Life Satisfaction by Colleges

Life satisfaction	Sum of Squares	df	Mean Square	F	p
Between Groups	1741.960	3	580.653	4.719**	.003
Within Groups	95726.823	778	123.042		
Total	97468.783	781			

Note: ** The mean difference is significant at the 0.01 level.

   According to ANOVA result, it was found that there was significant difference in prospective teachers' life satisfaction by colleges ($p<0.01$). It revealed that students differ in life satisfaction by colleges. To investigate more specifically how students' life satisfaction differs in relation to their colleges, the Game Howell test was carried out.

Table 23 The Result of Games-Howell Test for Multiple Comparisons for Prospective Teachers' Life Satisfaction by Colleges

Variable	College (I)	College (J)	MD (I-J)	p
Life Satisfaction	Students From EC 4	Students From EC 1	3.341*	.026
		Students From EC 2	3.879**	.003
		Students From EC 3	2.839*	.025

Note: * The mean difference is significant at the 0.05 level
   ** The mean difference is significant at the 0.01 level.

   Table 23 revealed that the mean difference between EC 4 and EC 1 was 3.341 and it was significant difference ($p <.05$). The mean difference between EC 4 and EC 2 was 3.879 and the mean difference between EC 4 and EC 3 was 2.839. Therefore, they were significant ($p <.05$, $p<.01$). Therefore, EC 1, 2 and 3 were low satisfied than EC 4. However, there were no significant differences in other colleges. Then, to explore significant difference in prospective teachers' life satisfaction in different subscales, one way analysis of variance (ANOVA) was conducted.

Results of Intercorrelations among Resilience, Forgiveness and Life Satisfaction of Prospective Teachers

Table 24 Means, Standard Deviations and Intercorrelations for Resilience, Forgiveness and Life Satisfaction of Prospective Teachers

Variable	Mean	SD	Life Satisfaction	Resilience	Forgiveness
Life Satisfaction	124.26	11.171	-	.733**	.288**
Resilience	70.17	7.138	-	-	.345**
Forgiveness	41.02	4.536	-	-	-

Note: **The correlation is significant at .01 level.

   The result indicated that the correlation matrix of prospective teachers' resilience and forgiveness was ($r = 0.345$) at $p = .000$. Therefore, it was believed that there was a positive relationship between resilience and forgiveness. It is consistent with the findings of Mauren A. Anderson (2006).

The result revealed that there was a positive relationship between resilience and life satisfaction ($r = 0.733$) and the correlation was significant ($p = .000$). This result is consistent with the result of Akbar et al**.**

The result indicated that there was appositive correlation between forgiveness and life satisfaction of prospective teachers ($r = 0.288$) and the correlation was significant at $p = .000$. This result is consistent with the findings of McCullough et al. (2001).

The result revealed that the correlation between the variables were significant ($p<.01$). In order to examine how well resilience and forgiveness can predict life satisfaction of prospective teachers, simple linear regression was calculated.

Conclusion of Findings

The main purpose of this research is to study the resilience, forgiveness and life satisfaction of prospective teachers from selected Education Colleges. Moreover, gender differences, grade differences, college differences, the relationship between resilience and forgiveness, the relationship between resilience and life satisfaction and the relationship between forgiveness and life satisfaction were examined. Finally, regression analysis was conducted to predict life satisfaction of prospective teachers from resilience and forgiveness. The number of 782 prospective teachers from selected Education Colleges was used.

The descriptive statistics analysis revealed that the average value of mean score of prospective teachers' resilience, forgiveness and life satisfaction. The mean score of resilience was 70.17, the mean score of forgiveness was 41.02, and the mean score of life satisfaction was 124.36. The mean scores were higher than the theoretical mean scores. Therefore, prospective teachers' resilience, forgiveness and life satisfaction were slightly satisfied.

According to *t* test result, there was no significant difference between males and females in resilience. This result is not consistent with the finding of Akbar et al. it may be said that prospective teachers from Education Colleges have equal chance and equal opportunities and have the same activities.

In grade differences, *t* test was also computed. According to result, there was significant difference between first year prospective teachers and second year prospective teachers. The mean of first year prospective teachers was a little more than second year prospective teachers. It may be interpreted that first year had a little high resilience than second year. This result is not consistent with the finding of Aboalshamal et al.

It may be said that the first year prospective teachers meet the new environment, many new people, and many new challenges. They have the sense to injury the many new things. Therefore, they may be high resilience in all subscales.

The result of ANOVA indicated that the resilience of prospective teachers differ by colleges. From the Post Hoc test, it could be interpreted that EC 4 had higher resilience than EC 1. It may be said that EC 1 and EC 4 can have different geographical background and prospective teachers from EC 4 come from the remote.

For forgiveness, *t* test result indicated that there was no significant difference by gender. This result is not consistent with the finding of Miller, Worthington and McDaniel, 2008. Prospective teachers do not differ by gender in all subscales. It may be said that forgiveness may not depend on gender but depend on spiritual intelligence.

However, prospective teachers differ in forgiveness by grade and first year prospective teachers had high forgiveness than second year prospective teachers. This result is not consistent with the result of Enright, Santos and Al-Mabuk, 1989. It may be said that first year prospective teachers may not communicate with all people that they deal with and they meet everything that is new for them.

According to ANOVA result, prospective teachers do not differ in forgiveness by colleges. It may be said that forgiveness cannot rely on the place that they live and stay.

According to *t* test result of life satisfaction, male and female do not differ in life satisfaction. This result is not consistent with the result of Akbar et al. it may be said that prospective teachers from Education Colleges have equal chance, activities and rules.

Then grade differences by *t* test, first year prospective teachers had high satisfaction than second year prospective teachers. This result is not consistent with the result of Aboalshamal et al.

There may be said that first year prospective teachers may meet new friends, new school and new living environment and everything attract them to inquiry and they may be interested in everything and they want to meet new challenges and they may try the best to stand in the best place for their new things. Therefore, they have high satisfaction than second year prospective teachers.

The ANOVA result revealed that prospective teachers differ in life satisfaction by Colleges. EC 4 had the highest mean score in life satisfaction than other Colleges. This may be their geographical background where they come.

In order to expose the correlations among variables in this study, correlation matrix was applied. This matrix indicated that there was a positive relationship between resilience and forgiveness. It is consistent with the findings of Mauren A. Anderson (2006). Moreover, there was a positive relationship between resilience and life satisfaction. This result is consistent with the result of Akbar et al**.** There was also positive correlation between forgiveness and life satisfaction of prospective teachers. This result is consistent with the findings of McCullough et al. (2001). In addition, the inter-correlations for subscales of these variables were significantly correlated with each other.

Suggestion

To gain life satisfaction of these participants, they are needed to train to have resilience and forgiveness.

To improve resilience, teachers should encourage them to cope with the stressful life situation, to control emotion, to become optimistic person, to have a sense of humor to develop strong personal connection, to embrace change etc…

To gain attitude of forgiveness, cultivate them to have positive attitude towards others, to reduce the feeling and thoughts to revenge the offender, to have religious sense and to give compassion, love and kind to offender.

Acknowledgements

References

Benard, B. (Jan. 1989). Protective factor research: What we can learn from resilient children. *Illinois Prevention Forum, 9,* (2),

Enright, R. D., & Fitzgbbons, R. P. (2002). Helping clients forgive: An empirical guide for resolving anger and restoring hope. Washington, DC: American Psychological Association.

Higgins, G. (1994). *Resilient adults: Overcoming a crucial past.* San Francisco: Josey Bass.

Higgins, G. 0. (1994). *Resilient adults: Overcoming a cruelpast.* San Francisco, CA: Jossey-Bass.

Huebner, S (2001); Manual for the Multidimensional Students' Life Satisfaction Scale. Retrieved July 15, 2018 from https://ww2.cas.edu/psyc/sites/default/files/directory files/huebslssmanual 0.pdf.

Masten, A. S., & Reed, M. J. (2002). Resilience in development. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 74-88). London: Oxford University Press.

Scoloveno. R (2017). Measures of Resilience and an Evaluation of the Resilience Scale (RS) Retrieved August 20, 2018 from http://www.omicsonline.org/open-access/measures-of-resilience-and-an-evaluation-of-the-resilience-scale-rs-1522-4821-1000380.pdf.

Wolin, S. J., & Wolin, S. (1993). *The resilient self: How survivors of troubled families rise above adversity.* New York: Villard Books.

Wolman, (1973). Definitions of Life Satisfaction Psychology Essay Retrieved August 12, 2018 from https://www.ukessays.com/essays/psychology/definition-of-life-satisfaction-psychology-essay.php.

Worthington et al. (2015). Measures of Forgiveness Retrieved August 16, 2018 from http://dx.doi.org/ 10.106/ B978~0~12~386915~9.00017~

AN INVESTIGATION INTO GENERAL SELF – EFFICACY AND SOCIAL SKILL OF GRADE 9 STUDENT IN KALAY TOWNSHIP

Khin Khin Thant[1] and Hay Mar Oo[2]

Abstract

This study was conducted to investigate general self- efficacy and social skills of Grade 9 students in Kalay Township, Sagaing Region. The sample of the present study was 704 Grade 9 student (282 males and 4 Children & Adolescents and Social Skills Questionnaire (Student From) were used in this study. In the present study, general self – efficacy of Grade 9 students from Kalay Township was moderate level. And, female students were higher in academic self-efficacy than male students and students over 15 year old were higher than those under 15years old in emotional self –efficacy. And also, students from combination 1 were higher than students from combination 7 in academic self – efficacy. Next one way ANOVA results showed that there was significant difference in academic self – efficacy , social self-efficacy , emotional self- efficacy and general self-efficacy by schools. According to descriptive statistics, Grader 9 students from Kalay Township were moderate in social skills. Moreover, female students were significantly higher in cooperation, empathy and social skills than male students. The results of test showed that there was no significant difference by age in social skills. Students from combinations 1 were significantly higher than students from combination 7 in cooperation, self – control and social skills. One way ANOVA results revealed that there was significant difference in cooperation, empathy, self – control and social skills by schools. According to Pearson correlation, general self – efficacy and students race were positively correlated with social skills ($r =.586$, $p < 0.001$ and $r=.181$, $p < 0.001$) respectively. Finally, it was found that 34.3% of variance in social skills was predicted from academic self-efficacy, social self – efficacy, emotional self –efficacy using multiple regression analysis. The researcher concluded that general self – efficacy factors could influence students` social  skills , thus , teachers and parents should train students` particular level of general self – efficacy and social skill to enhance more and by using several strategies.

Introduction

A major goal of education is to equip children with the knowledge, skill and self-belief to be confident and informed citizens- who continue to see themselves as learner beyound graduation. To this end, the educational planning and practices must be focused on strong theories that contribute to all round development of children. It is very important for children to develop both academically as well as socially.

The quality of life of school children may be influenced by social and individual resources such as social support and self – efficacy. Increasing self-efficacy may improve children's beliefs in their ability to stand up for themselves and to attention their goals in school. In order to develop the social skills of children, one factor at shouldn`t be left behind is self-efficacy. The more self- efficacious one is, the more successfully one can endure the demands of living (Bandura 1986).

Objectives of the Research

Aim of the Study

The main aim of the study is to investigate the general self-efficacy and social skills of high school students in Kalay Township.

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The specific objectives of the study are:

1. To study the general self –efficacy and social skills of high school students by gender,

2. To observe the general self –efficacy and social skills of high school students by age,

3. To observe the general self-efficacy and social skill of high school students by subject combination,

4. To examine the general self –efficacy and social skills of high school students by school,

5. To investigate the general self – efficacy and social skills of high school students by demographic variable and

6. To explore relationship between general self-efficacy and social skill of high school students.

Research Questions

1. Is there any significant difference in the general self-efficacy and social between male and female students?
2. Is there any significant difference in the general self- efficacy and social skills by age?
3. Is there any significant difference in the general self-efficacy and social skills by subject combination?
4. Is there any significant difference in the general self-efficacy and social skills among four high school?
5. Is there any significant relationship of the general self-efficacy and social skill with demographic variables?
6. Is there any significant relationship between general self – efficacy and social skills?

Scope of the Study

A total of 704 Grade 9 students were participated as a sample. The participants were randomly selected from four high schools in Kalay Township. Students' general self-efficacy was measured using Self-Efficacy Questionnaire for Children and Adolescents (SEQ-C & A). Social Skills Questionnaire (Student Form) was used to assess students' social skills.

Definitions of the Key Terms

Self-Efficacy

Self-efficacy is defined as an individual's level of confidence in and beliefs about his or her capabilities to successfully carry out courses of action, perform given behaviors, accomplish given tasks and attain desired performance outcomes (Bandura, 1977).

General Self-Efficacy

General self-efficacy is a measure of an individual's beliefs in whether problems or barriers can be confronted and addressed with a successful outcome (Muris, 2001).

Academic Self-Efficacy

Academic self-efficacy is a student's belief in their ability to succeed in tasks, courses, or other academic activities (Bandura, 1987).

Social Self-Efficacy

Social self-efficacy is an individual's confidence in his or her ability to engage in the social interactional tasks necessary to initiate and maintain interpersonal relationships. (Smith & Betz, 2000).

Emotional Self-Efficacy

Emotional self-efficacy is defined as the perceived ability to cope with negative emotions (Muris, 2001).

Social Skills

Social skills are defined as socially acceptable behaviors that enable a person to interact effectively with others and avoid socially unacceptable responses from others (Gresham and Elliott, 1993).

Importance of the Study

Adolescents need all round development in their physical, mental, emotional and social aspects to face changes and challenges of this critical period. Educational programming must help to improve their beliefs about their capability to succeed in their endeavors. Similarly, providing students with social skills will improve interaction and promote their success in today` world. Thus, knowledge about general self-efficacy and social skill must be very useful for educators and teachers.

Studies exploring the general self-efficacy are still needed for Myanmar students. There are very rare researches examining social skills of Myanmar students. Therefore, investigating general self-efficacy and social skill of students would contribute to the benefits of education to a certain extent.

Review of Related Literature

Nature of Social Skills

Social skill are skill necessary in all aspects of life. When one talk, play interact and work with others, these skills are the connections among people (Johnson, Johnos & Holubec, 1991, as cited in danielle, 2010) Vygotsky`s social development theory suggests that social interaction is critical in the development of cognition. He states that higher functioning originates between individuals.

Socially acceptable learned behaviors enable an individual to interact effectively with others and to avoid or escape negative social interactions with others (Gresham & Elliott, 1990). Social skills are distinguished from social competence, in that social skills represent behaviors that must be learned and performed and social competence represents judgment of those behaviors by others (Gresham, 2002).

Four Components of Social Skills

Social skill could be categorized into four components: cooperation, assertion, empathy and self – control (Greshan & Elliot, 1990).

Cooperation: involves behaviors such a helping others, sharing materials and complying with rules and directions.

Assertion: describes initiating behaviors such as asking others for information, introducing oneself and responding to the actions of others such as peer pressure or insults.

Empathy: is behavior that shows concern and respect for others` feeling and viewpoints. Being responsive to the need of others, supporting, encouraging or assisting as necessary and seeking to understand other points of view are empathetic behaviors.

`**Self – Control:** is identified as behaviors that emerge in conflict situations such as responding appropriately to teasing and in nonconflict situations that require taking turns and compromising.

Foundation of Self-efficacy: Social Cognitive Theory

With the publication of *Social Foundations of thought and Action: A Social cognitive Theory in 1986.* Albert Bandura proposed a theory of human functioning that emphasizes the role of self- beliefs. In this social cognitive perspective, individuals are viewed as self – organizing, proactive, self – reflecting, and self- regulating rather than as reactive organisms shaped by environmental fore's or driven by concealed inner impulse. Social cognitive theory explains psychosocial functioning in terms of triadic reciprocal causation (Bandura, 1986).

The triad consists of behavior, cognitive and other personal factors and the external environment (Bandura, 1986; Wood & Bandura, 1989).
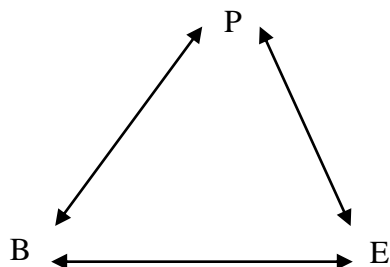
The Elements of the Triad Work in a Reciprocal and Bi-Directional Fashion (Bandura, 1986).

Self-Efficacy Theory

The construct of self-efficacy introduced by bandura (1977), refers to a person`s conviction in his or her own capacity to perform successfully a behavior leading to a specific outcome. Bandura differentiated between self-efficacy and outcome expectancy, the former is a belief about one`s competence, the latter is a belief about one`s environment. He stated that self-efficacy is independent of outcome expectancy. The theory introduces the idea that the perception of efficacy is influenced by four factors: mastery experience, vicarious experience, verbal persuasion and somatic and emotional state (Bandura, 1994, 1997; pajares, 2002, as cited in Brown, Malouff, & Schutte, 2005).

Three Components of General Self-Efficacy

Academic Self-Efficacy

Academic self- efficacy is a student`s belief in their ability to succeed in tasks, courses, or other academic activities (Bandura, 1987). In Education self-efficacy is a key contributing factor to learners' success because self-efficacy influences the choices learners make and the courses of action they pursue (Pajares, 2002).

Social self- Efficacy

Social self-efficacy is the belief of an individual in their ability to initiate social contact and develop new friendships. It is commonly applied in domains such as adult social interaction, counseling for college students, health psychology, and social interaction among students study in abroad (Fan et al., 2010; Hagedoorn & Molleman, 2006; Lin & Betz, 2009; Wei et al., 2005).

Emotional Self – Efficacy

Emotional self-efficacy is defined as the perceived ability to cope with negative emotions. (Muris, 2001). Emotional self-efficacy is a person's belief in his or her ability to understand and use emotional information (Bandura, 1997).

Methodology

Sample of the Study

Participant of the study were 704 Grade 9 students. Participants were randomly selected from four basic Education High School in Kalay Township. Random sampling technique was used in this study. Our of them, 282 were males and422 are females.

Moreover, the participants were different in subject combinations, 339 students were specialized in combination-7 (Biology) and 365 students were in combination -1 (Economics).

Instrument for the Study
Self-Efficacy Questionnaire for Children & Adolescents (SEQ –C&A)

Self-efficacy Questionnaire for Children & Adolescents (SEQ – C& A) was developed by muris (2001) to measure general self–efficacy. It was a measure of an individual `s belief in whether problems or barriers can be confronted and addressed with a successful outcome. Student respondents assigned a value to each self-efficacy item using a four points Likert Scale (Not at all true, hardly true, moderately true and Exactly true). The Self – Efficacy Questionnaire included 24 items; 8 items for academic self-efficacy, 8items for social self-efficacy and 8 items for emotional self-efficacy.

Social Skills Questionnaire (student from)

Social skills Questionnaire (Student from) was developed by Gresham and Elliot (1990) and originally included 39 items. After the pilot study, an item irrelevant to our culture was excluded by the suggestions of experts. So, Social skills Questionnaire included 38 items; 9 items for cooperation, 9 items for assertion, 10 items for empathy and 10 items for self- control. Student respondents assigned a value to each social skill item using a four point Likert Scale (Strongly Disagree, Disagree, Agree and Strongly Agree).

Findings

Data for General self-Efficacy of Grade 9 students were collected by using Self-Efficacy Questionnaire. The following (Table) showed descriptive statistics of general self-efficacy.

Table 1 Descriptive Statistics of General Self-Efficacy for Grade 9 Students

Variables	N	Minimum	Maximum	Mean	SD
Academic Self- Efficacy	704	11	32	24.14	4.184
Social Self-Efficacy	704	14	32	24.07	3.651
Emotional Self-Efficacy	704	11	32	23.36	3.981
General Self-Efficacy	704	39	96	71.57	9.477

Table 4.1 showed that the mean score of the student's ASE Academic Self- Efficacy was highest. It was interpreted that the students had a belief to accomplish their academic activities. The mean score of Social Self-Efficacy was the second and was assumed that they could accurately perform in a social situation. However, the mean score of Emotional Self-Efficacy was the lowest and was regarded that they tended to be weak in coping negative emotions. The mean standard deviation of general self-efficacy for the whole sample were 71.57 and 9.477. It could be interpreted that grade 9 students form Kalay Township were moderate in general self-efficacy. (Moderate level = between 60 and 80).

Table 2 Descriptive Statistics of General Self-Efficacy for Grade 9 Student by Gender

Variables	Gender	N	Mean	SD
Academic Self-Efficacy	Male	282	23.29	4.016
	Female	422	24.70	4.204
Social Self-Efficacy	Male	282	24.21	3.591
	Female	422	3.98	3.692
Emotional Self-Efficacy	Male	282	23.28	3.873
	Female	422	23.41	4.056
General Self-Efficacy	Male	282	70.79	9.158
	Female	422	72.09	9.660

Table 2 showed the mean score of female students was higher than that of male students in academic self-efficacy, emotional self-efficacy and general self-efficacy. However, the mean score of male students was higher in social self-efficacy than that of female students.

To get more detailed information whether there was an actual difference in general self-efficacy and its subscales of Grade 9 students by gender, the independent sample t test was conducted.

Table 3 Result of Independent Sample i test for General Self-Efficacy by Gender

Variables	Gender	Mean	t	df	P
Academic Self-Efficacy	Male	23.29	-4.422***	702	.000
	Female	24.70			
Social Self-Efficacy	Male	24.21	.812	702	.417
	Female	23.98			
Emotional Self-Efficacy	Male	23.28	-.428	702	.699
	Female	23.41			
General Self-efficacy	Male	70.79	-1.797	702	.073
	Female	72.09			

Note: *** $p < 0.001$

According to Table 3, the result of independent sample t test showed that there was no significant difference in general self-efficacy of Grade 9 students between male and female. So, the girls and boys in Grade 9 possessed almost equal in general self-efficacy. Similarly, there was no significant difference between male and female in social and emotional self-efficacy. However, there was a significant difference in academic self-efficacy of Grade 9 students between male and female at 0.001 level. It meant that female students from Kalay Township were higher than male students in academic self-efficacy.

Table 4 Descriptive Statistics of General Self-Efficacy for Grade 9 Students by Age

Variables	Age	N	Mean	SD
Academic Self-Efficacy	<15	390	24.18	4.322
	<15	314	24.08	4.012
Social Self-Efficacy	<15	390	23.95	3.787
	<15	314	24.22	3.474
Emotional Self-Efficacy	<15	390	23.01	4.047
	<15	314	23.80	3.859
General Self-efficacy	<15	390	71.14	9.599
	<15	314	72.11	9.311

According to Table 4, 15 and over 15 years old students were higher mean value than under 15 years old students in social self-efficacy, emotional self-efficacy and general self-efficacy. Differently, under 15 years old students were higher mean score in academic self-efficacy than that of 15 and over 15 years old students.

Table 5 Result of Independent Sample *t* test for General Self –Efficacy by Age

Variables	Age	Mean	t	df	p
Academic Self-Efficacy	<15	24.18	.305	702	.761
	≥15	24.08			
Social Self-Efficacy	<15	23.95	-.961	702	.337
	≥15	24.22			
Emotional Self-Efficacy	<15	23.01	-2.644	702	.008
	≥15	23.80			
General Self-efficacy	<15	71.14	-1.342	702	.180
	≥15	72.11			

Note: ** $P < 0.01$

According to table 5, the result of independent sample t test showed that was no significant difference in academic self-efficacy, social self-efficacy and general self- efficacy by age. However, there was significant difference in emotional self-efficacy of Grade 9 students by age at 0.01 level. It was interpreted that 15 and over 15 years old students were higher than under 15 years old students in emotional self-efficacy.

Table 6 Descriptive Statistics of General Self-Efficacy for Grade 9 Students by Subject Combination

Variables	Combination	N	Mean	SD
Academic Self-Efficacy	C-7(Bio)	339	23.72	4.422
	C-1(Eco)	365	24.52	3.917
Social Self-Efficacy	C-7(Bio)	339	24.15	3.750
	C-1(Eco)	365	24.00	3.560
Emotional Self-Efficacy	C-7(Bio)	339	23.24	4.035
	C-1(Eco)	365	23.47	3.933
General Self-Efficacy	C-7(Bio)	339	71.12	9.877
	C-1(Eco)	365	71.99	9.082

According to table 6, students in combination 1 were higher mean value than students in combination 7 in academic self-efficacy, emotional self-efficacy and general self-efficacy. Differently, students in combination 7 were higher mean score in social self-efficacy than that of students in combination 1.

Table 7 Result of Independent Sample *t* test for General Self-efficacy by Subject Combination

Variables	Combination	Mean	*t*	D*f*	*p*	MD
Academic Self-Efficacy	C-7 (Bio)	23.72	-2.538*	702	.011	-.798
	C-1 (Eco)	24.52				
Social Self-Efficacy	C-7 (Bio)	24.15	.525	702	.599	.145
	C-1 (Eco)	24.00				
Emotional Self-Efficacy	C-7 (Bio)	23.24	-.754	702	.451	-.226
	C-1 (Eco)	23.47				
General Self-Efficacy	C-7(Bio)	71.12	-1.231	702	.219	-.879
	C-1(Eco)	71.99				

Note: * $p < 0.05$

According to Table 7, there was no significant difference in general self-efficacy by subject combination. The result of independent sample *t* test revealed that there was significant difference in academic self-efficacy of Grade 9 students by subject combination at 0.05level. It was interpreted that academic self-efficacy of Grade 9 students in combination 1 was higher than that of students in combination 7.

Table 8 Descriptive Statistics of General Self-Efficacy for Grade 9 Students by Schools

Variables		School 1	School 2	School 3	School 4
Academic Self-Efficacy	Mean	24.65	24.22	22.00	24.69
	SD	4.008	4.374	4.076	3.760
Social Self-Efficacy	Mean	24.27	24.18	23.07	24.33
	SD	3.630	3.772	3.824	3.124
Emotional Self-Efficacy	Mean	23.11	24.23	22.44	23.35
	SD	3.991	3.973	3.775	3.912
General Self-Efficacy	Mean	72.03	72.62	67.50	72.37
	SD	8.856	10.244	9.397	8.787

According to Table 8, general self-efficacy of students from school (2) had the highest and that of students from school (3) had the lowest. The students from school (4) had the highest and those from school (3) had the lowest in academic and social self-efficacy. Differently, emotional self-efficacy of students from school (2) was the highest that of students from school (3) was the lowest.

In older to find out these differences in detail, one-way ANOVA was conducted and the result showed that there was significant difference in general self-efficacy and its subscales of students among different schools at 0.001 level, So, it could be said that general self-efficacy of Grade 9 students in Kalay Township was influenced by schools.

Post Hoc test revealed that three was significant difference in general self-efficacy among school. General self-efficacy of students from school (3) was significantly lower than that of students from school (1) and school (2) at 0.001 level, but from school (4) at 0.01level. Academic self-efficacy of students from school (3) was significantly lower than that of students from school (1), school (2) and school (4) at 0.001 level. Social self-efficacy of students school (1) was significantly higher than that to students from school (3) at 0.005level. Next emotional self-efficacy of students from school (2) was significantly higher than that of students from school (1) at 0.05level and from school (3) at 0.01level. Obviously, these were shown in Table 10.

Table 9 Result of Post Hoc Test for General Self-Efficacy by School

Variables	(I) School Name	(J)School Name	Mean Difference (I-J)	P
Academic Self-Efficacy	School (3)	School (1)	-2.647***	.000
		School (2)	-2.216***	.000
		School (3)	-2.690***	.000
Social Self-Efficacy	School (1)	School (3)	1.203*	0.19
Emotional Self-efficacy	School (2)	School (1)	1.118*	0.11
		School (3)	1.793**	0.01
General Self-Efficacy	School (3)	School (1)	-4.525***	.000
		School (2)	-5.118***	.000
		School (4)	-4.865**	.001

Note: *$p < 0.05$,** $p < 0.01$, *** $p < 0.001$*

Data for Social Skills of Grade 9 student were collected by using Social Skills Questionnaire (Student From). The following (Table 10) Showed descriptive statistics of social skills.

Table 10 Descriptive Statistics of Social Skills for Grade 9 Students

Variables	N	Minimum	Maximum	Mean%	SD
Assertion	704	36	100	71.80	9.437
Cooperation	704	36	100	78.50	9.689
Empathy	704	40	100	82.46	8.765
Self-Control	704	35	100	75.53	10.281
Social Skills	704	46	100	77.17	7.347

Since the number of items included in each subscale of social skills questionnaire were not the same, the mean scores were to the corresponding mean percentages. According to Table 11, the mean percentage and standard deviation of social skills for the whole sample were 77.17 and 7.347. It could be interpreted that social skills of Grade 9 students from Kalay Township was moderate level.

Table 11 Descriptive Statistics of Social Skills for Grade 9 Students by Gender

Variables	Gender	N	Mean %	SD
Assertion	Male	282	72.21	9.572
	Female	422	71.52	9.346
Cooperation	Male	282	76.79	10.304
	Female	422	79.63	9.091
Empathy	Male	282	80.90	9.452
	Female	422	83.50	8.120
Self-Control	Male	282	75.14	10.456
	Female	422	75.79	12.167
Social Skills	Male	282	76.35	12.016
	Female	422	77.72	10.496

According to Table 11, the mean parentage of female students was higher than that of male students in cooperation, empathy, self-control and social skills. Differently, the mean percentage of male students was higher in assertion than that of female students.

Table 12 Result of Independent Sample *t* test for Social Skills by Gender

Variables	Gender	Mean%	*t*	*df*	*P*
Assertion	Male	72.21	.957	702	.339
	Female	71.52			
Cooperation	Male	76.79	-3.850***	702	.000
	Female	79.63			
Empathy	Male	80.90	-3.904***	702	.000
	Female	83.50			
Self-Control	Male	75.14	-.817	702	.414
	Female	75.14			
Social skills	Male	76.35	-2.422**	702	.016
	Female	77.72			

Note: ** $p < 0.01$, *** $p < 0.001$

The result of independent sample *t* test showed that there was significant difference in social skills of students by gender at 0.05 level. In cooperation, male students were significantly different from that of female students at 0.001level. It was supposed that female students preferred to cooperate than male students. Similarly, there was a significant difference in empathy of students by gender at 0.001 level. It could be said that female students felt more empathetic than male students. Therefore, social skills of Grade 9 students were influenced by gender. It meant that females were better in social skills than males.

Table 13 Descriptive Statistics for social Skills of Grade 9 Students but Age

Variables	Age	N	Mean %	SD
Assertion	<15	390	71.32	9.142
	≥15	314	72.39	9.772
Cooperation	<15	390	78.08	9.552
	≥15	314	79.01	9.847
Empathy	<15	390	82.67	8.847
	≥15	314	82.20	8.465
Self-Control	<15	390	75.13	10.151
	≥15	314	76.02	10.436
Social Skills	<15	390	76.91	10.796
	≥15	314	77.49	11.612

According to Table 13, the mean parentage of 15 and over 15years old students was higher than that of under 15 years old students in assertion, cooperation, self-control and social skills. Differently, the mean percentage of under 15 years of under 15 years old students was higher in empathy than that of 15 and over 15 years old students.

Table 14 Result of Independent Sample *t* test for Social Skills by Age

Variables	Age	Mean%	*t*	*df*	*P*
Assertion	<15	71.32	-1.500	702	.134
	≥15	72.39			
Cooperation	<15	78.08	-1.257	702	.209
	≥15	79.01			
Empathy	<15	82.67	.706	702	.481
	≥15	82.20			
Self-Control	<15	75.13	-1.135	702	.257
	≥15	76.02			
Social Skills	<15	76.91	-1.045	702	.296
	≥15	77.49			

According to Table 14, there was no significant difference in social skills and its subscales of the students by age.

Table 15 Descriptive Statistic of Social Skills for Grade 9 Students by Subject Combination

Variables	Combination	N	Mean%	SD
Assertion	C-7 (Bio)	339	71.35	9.369
	C-1 (Eco)	365	72.21	9.494
Cooperation	C-7 (Bio)	339	77.28	9.136
	C-1 (Eco)	365	79.63	10.057
Empathy	C-7 (Bio)	339	82.21	8.742
	C-1 (Eco)	365	82.68	8.793
Self-Control	C-7 (Bio)	339	74.33	10.380
	C-1 (Eco)	365	76.64	10.075
Social Skills	C-7 (Bio)	339	76.40	10.822
	C-1 (Eco)	365	77.89	11.386

According to Table 15, the mean percentage of students in combination 1 had higher than that of students in combination 7 for social skills and its subscales.

Table 16 Result of Independent Sample *t* test of Social Skills by Subject Combination

Variables	Combination	Mean %	t	df	P
Assertion	C-7 (Bio)	71.35	-1.199	702	.231
	C-1 (Eco)	72.21			
Cooperation	C-7 (Bio)	77.28	-3.236**	702	.001
	C-1 (Eco)	79.63			
Empathy	C-7 (Bio)	82.21	-.714	702	.475
	C-1 (Eco)	82.68			
Self-Control	C-7 (Bio)	74.33	-3.002***	702	.003
	C-7 (Eco)	76.64			
Social Skills	C-7 (Bio)	76.40	-2.704**	702	.007
	C-1 (Eco)	77.89			

Note :** *P<0.01*

The result of independent sample *t* test revealed that three was significant difference in cooperation, self-control and social skills of students by subject combination at 0.01 level. It was interpreted that students in combination 1 were better than students in combination 7 in cooperation, self –control and social skills.

Table 17 Descriptive Statistics of Social Skills for Grade 9 students by school

Variables		School 1	School 2	School 3	School 4
Assertion	Mean %	72.10	71.13	71.32	72.69
	SD	9.674	9.975	8.822	8.169
Cooperation	Mean %	78.52	79.48	75.56	79.56
	SD	9.966	9.045	9.966	9.297
Empathy	Mean %	83.39	82.06	78.48	84.63
	SD	8.810	8.578	8.937	7.457
Self-Control	Mean %	76.11	76.76	70.02	77.13
	SD	10.862	9.265	9.044	9.894
Social Skills	Mean %	77.65	77.47	73.87	78.63
	SD	7.338	7.416	7.112	6.559

According to Tables 17, mean percentage of students from school (4) had the highest and that students school (3) had the lowest in cooperation, empathy, self-control and social skills. But in assertion, mean percentage of students from school (4) was the highest and that of students from school (2) was the lowest.

In order to find out these differences in detail, one-way ANOVA was conducted and the result showed that there was significant difference in social skills of students among different schools at 0.001 level. Moreover, there was significant difference in cooperation, empathy and self-control by schools. However, there was no significant difference in assertion of the students by schools (See Table 18).

Table 18 ANOVA Result of Social Skill for Grade 9 Students by Schools

Variables		Sum of Squares	*df*	Mean Square	F	P
Assertion	Between Groups	219.657	3	73.219	.822	.482
	Within Groups	62383	700	89.120		
	Total	62603.641	703			
Cooperation	Between Groups	1213.242	3	404.414	4.370**	.005
	Within Groups	64781.734	700	92.545		
	Total	65994.976	703			
Empathy	Between Groups	247.338	3	809.113	10.980***	.000
	Within Groups	51583.884	700	73.691		
	Total	54011.222	703			
Self-Control	Between Groups	3838.624	3	1279.541	12.710***	.000
	Within Groups	70470.529	700	100.672		
	Total	74309.153	703			
Social Skills	Between Groups	1443.692	3	481.31	9.227***	.000
	Within Groups	36506.343	700	52.152		
	Total	37950.035	703			

Note: **p<0.01***p<0.001

Tables 19   Result of Post Hoc Test for Social Skill of Grade 9 Students by School Tukey HSD

Variable	(10School Name)	(J)School Name	Mean Difference	*P*
Cooperation	School(3)	School(1)	-2.963*	.034
		School(2)	-3.925**	.004
		School(4)	-4.000*	0.16
Empathy	School(3)	School(1)	-4.915***	.000
		School(2)	-3.584**	.003
		School(4)	-6.149***	.000
Self-Control	School(3)	School(1)	-6.085***	.000
		School(2)	-6.735***	.000
		School(4)	-7.101***	.000
Social Skills	School(3)	School(1)	-3.781***	.000
		School(2)	-3.600***	.000
		School(4)	-4.759***	.000

Note:*P<0.05,**P<0.01,***p<0.001

Post Hoc test revealed that there was significant difference in social skills among schools. Cooperation of students from school (3) was significantly lower than that of students from school (1) and school (4) at. 0.05 level and from school (2 at / 0.01 level. Next, empathy of school (4) at 0.001 level and from school (2) at 0.01 level. Similarly, self-control and social skills of students from school (3) was significantly lower than that of students from schools (1), school (2) and school (4) at 0.00 level.

Table 20 Pearson correlation for General Self-Efficacy and Social Skill with Demographic Variables

Variables	Mother's Education	Students' Race	General Self-Efficacy	Social Skills
Father's Education	.579**	-.050	-.005	-.026
Mother's Education	1	-.029	.032	.03
Student' Race		1	.054	.181***
General Self-Efficacy			1	.586***

***Correlation is significant at 0.001 level.

Table 20 showed that there was a significant relationship between general self-efficacy and social skills at 0.001 level. The relationship between general self-efficacy and social skills was significant at 0.001 level. It could be interpreted that greater general self-efficacy the students possess, the better social skills they would have. Furthermore, subscales of general self-efficacy were significantly correlated with social skills. Therefore, in order to investigate the predictive power for subscales of general self-efficacy to social skills of Grade 9 students, multiple regression analysis was conducted.

Table 21 Multiple Regression Analysis Summary for Predictors of Subscales of General Self-Efficacy and Social Skills

Variable	B	Beta	*t*	T	R^2	Adjusted R^2	*F*
(Constant SS	67.548		25.782	.588[a]	.345	.343	123.105***
ASE	.739	.277***	7.873	R^2=34.3%			
SSE	.807	.264***	7.012	SS=67.548+0.739ASE+0.807SSE			
ESE	.534	.190***	5.096	+0.534ESE			

SS=Social Skills, ASE=Academic Self-Efficacy, SSE=Social Self-Efficacy,ESE=Emotional Self-Efficacy

The result of multiple regression analysis indicated that academic self-efficacy, social self-efficacy and emotional self-efficacy made a significant predicative contribution to students' social skills (F(3,700)=123.105, p<0.001). The adjusted R^2 was .343. This indicated that 34.3% of variance in social skills was explained by academic self-efficacy, social self-efficacy and emotional self-efficacy. Therefore, it can be concluded that the higher the academic self-efficacy, social self-efficacy and emotional self-efficacy, the better social skills of the students.

Discussion and Recommendation

For adolescents, social skills are very important for effective adjustment and proper development of personality. Bandura (1997); Caprara et al., (2003) found that social skills and health may be improved by increasing self-efficacy. So, the parents and teachers should help the students in order to develop general self-efficacy in them.

According to the National Association of School Psychologists (NASP, 2010) there are some ways that adults can enhance self-efficacy in adolescents. They include;

1. Challenge negative thoughts. Parents and teachers can teach children to identify and challenge negative thought that undermine their beliefs in their abilities to master a task. Then, replace the negative thoughts with a positive, truthful idea.

2. Teach goal setting. Teaching children how to set realistic goals and strategies for persisting in achieving those goals when they encounter obstacles help them to Experience greater mastery in life.

3. Notice, analyse and celebrate successes. Self-efficacy can be increased by teaching children to identify successes and to accurately assess their contribution.

4. Use process praise. Emphasizing effort and strategy helps children focus their attention on variables they can to accurately assess their contribution.

5. Provide opportunities for mastery experiences. Given children opportunities to control their environments. Creating opportunities for children to make decisions, use and practice their skills and try different paths to achieve their goals will help build self-efficacy.

6. Be honest and realistic. When a child fails or has a setback, don`t pretend it didn`t happen. It is better to acknowledge the struggle and identify specific strengths he might use next time.

Moreover, there are three important supportive factors in developing students` social skills.

- The most important in the social skills development of young students is the family. Parents are the important facilitator in the development of adolescents` social skills.

- Teachers, school principals and school environment play crucial role in students` social skills development.

- Community performs as the third source in the progress of students` social skills.

- As the role of mass media such as television, movies, video games and internet can greatly affect in the lives of youngsters, the community need to be aware to protect today`s youngsters from the saturation of violence media that inappropriate for students and be harmful in their social development.

- Identification of intervention strategies and practices that promote social skill can help increase the likelihood of positive outcome for adolescents and reduce the occurrence of negative outcomes.

Need for Future Research

- Further research need to conduct not just only Grade 9 students as participants but also the middle school students, all level of high school students and university students.

- The future researchers should conduct the study with larger sample size from different states and regions to be more generalized, reliable and valid.

- It is necessary to measure students` social skills in detail by using teacher from and parent from of social skills questionnaire.

- .It further needed to examine the effect of parental involvement and parenting styles in the development of students` social skills.

- The impact of school safety environment and classroom teaching strategy; society, the role of mass media and family economic status on adolescents` social development should also be studied.
- Next, studying the effectiveness of social skill training programs and intervention strategies that are offered to children who do not have appropriate social skills and who are deficit in social skills should be carried out as long- term studies.
- Longitudinal research and qualitative approaches should be conducted to explore the importance of general self- efficacy and social skills for Myanmar students from elementary level to university level in their life – long learning.

Reference

Bandura, A. (1977). self-efficacy: towards a unifying of behavioral change. *Psychological Review,* 84 (2), 191-215.

Bandura, A. (1977). Social learning theory. Englewood Cliffs, N.J: Prentice-Hall, p.22.

Bandura, A. (1978). The self-system in reciprocal determinism. *American Psychologist,* 33, 344-358.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist,* 37 (20.

Bandura, A (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1989). Human agency agency in social cognitive theory. *American psychologist,* 44, 1175-1184.

Bandura, A. (1994). Self-efficacy. In V. S. Ramachudran (Ed), *Encyclopedia of human behavior,* 4, 71-81. New York: Academic press.

Bandura, A. (1997). *Self – efficacy: The exercise of control.* New York: Freeman.

Bandura, A. (2001). Social cognitive theory: An agentive perspective. *Annual Review of psychology,* 52, 126.

Bandura, A. (2002). Social cognitive theory in cultural context. *Journal of Applied Psychology: An international Review,* 51, 269-290.

Denielle, M. (2010) Connecting social skills and cooperative learning. *Education and Human Development Master`s Theses* 74. etrieved November 28,2016, from http://digitalcommons.brockport.edu/cgi/ viewcontent. cgi%3Farticle%3D1073%26context53dehd thes & sa-U&ved

Elliots, S. N.; Sheridan, S. M.; & Gresham, F. M (1989). Assessing and treating social skills deficits: S case study for the scientist- practitioner. *Educational psychology papers and pubications,*36.

Gresham, F. M (2002). Best practices in social skills training. In A. Thomas, & J. Grimes (Eds).*Best practices in school psychology* (4th ed) Vols. 1-2, 1029-1040.

Gresham, F M., & Elliot, S. N (2008). Social skills improvement system rating scales manual. Pearson, Inc.:MN

Gresham, F . M., & Elliot, S. N (1984). Assessment and classification of children`s social skills: Areview of Methods an issues. *School psychology Review,* 13, 292-301.

Gresham, F. M., & Elliot , S. N. (1990). *Social skills rating scales manual.* Circle Pines, MN: American Guidance Service.

Johnson.D.,Johnson, R.(1990). Social skills for successful group work. *Educational Leadership,* 47(4), 29. RetievedNovember25,2016   fromhttps://search.ebsohot.com.ezproxy2.dra.ke.brockport.edu :2048

Johnson, D., Johnson., R., & Holubec, E. (1998). Cooperation in the classroom. Edina, Minnesota: Interaction Book Company.

Muris, C.(2001) *General self=efficacy* Retrieved November 2, 2016 from http:// scholar. google. com/ scholar? start=20&q=general+self+efficacy+by+Muris,C,2001&hl=en&as

Pajares(2002). *Overview of social cognitive theory and of self-efficacy.* Retrieved November 7, 2016 from http://www.emory.edu/EDUCATION/mfp/eff.html

Wai Wai Lwin (2015). *An investigation into Relationship among mental health,-self-efficacy and achievement of high school students.* Unpublushed Med Thesis, Myanmar: Yangon University of Education.

Wint   zaw Htet (2016). *An investigation into general self-efficacy, learned resourcefulness and depression of monatic school students in Mogok and Pyin Oo Lwin Township.* Unpublished Med thesis, Myanmar Sagaing University of Education.

Wood, R., Bandura A. (1989). Social cognitive theory of organizational management. Academy of Management Review, 14 (3), 361-384.

A STUDY ON SELF-ESTEEM OF PRE-SERVICE TEACHERS FROM MANDALAY EDUCATION COLLEGE

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Abstract

The main aim of this study was to investigate the self-esteem of pre-service teachers from Mandalay Education College. Moreover, the present study was to find out the differences of their self-esteem among demographic characteristics (gender and grade).The study adopted a survey research design and employed with a quantitative method. To explore the present problems, 120 pre-service teachers (male = 60, female = 60) from Mandalay Education College were selected by using random sampling technique as the participants of the study. In this study, Sorensen Self-Esteem Questionnaire constructed by Marilyn J Sorensen (2006) was used as instrument. Then, the collected data was analyzed by using descriptive statistics and independent samples *t* test. The descriptive statistics revealed that the self-esteem of pre-service teachers from Mandalay Education College was moderate. The *t* test results showed that there was no significant difference in self-esteem of pre-service teachers with respect to gender and grade. So the results of this study would help the teachers to educate their pupils and to cultivate their pupils to become a good citizen for our country in future.

Keywords: Self-esteem, Global self-esteem, Pre-service teachers

Introduction

Importance of the Study

Human beings live with different important characteristics. One of the main characteristics of human beings is the view they have of themselves technically referred to as self-esteem. Self-esteem has recently become a hot topic for research in education and language teaching and refers to the image and view people have of themselves. The assessment and evaluation of a person's emotion concerning his worth is self-esteem. Self-esteem is considered as an evaluative component of the self-concept (Purkey, 1970) through which people evaluate themselves based on the feedback from others. Marsh (1990) who believes in academic achievement contends that self-esteem is an important factor in social construct and psychological view (Habibzade & Hashemi, 2004).

Self-esteem is the negative or positive attitude that individuals have of themselves (Rosenberg 1979). The study of self-esteem has persisted for at least 40 years because many are convinced that high self-esteem produces salutary outcomes and low self-esteem is at the root of personal and social problems. While researchers provide a dim portrait of people with low self-esteem (Baumeister 1993; Leary and MacDonald 2003; Rosenberg and Owens 2001), the positive outcomes associated with high self-esteem should not be overstated; it may have a dark side as evidenced in aggressive tendencies (Baumeister, Smart, & Boden 1996) and narcissism (Campbell, Rudich, and Sedikides 2002). Although high self-esteem may not always be beneficial, evidence that individuals hold themselves in high esteem across the globe may be an instance of a more general tendency to maintain and enhance positive information about who one is, relative to negative information (Sedikides, Gaertner, and Vevea 2005; cited in Stets & Burke, 2014).

Everyone, at some point or another, is uncertain about themselves, lacks self-confidence, doubts their abilities, or thinks negatively of themselves. Self-esteem usually refers to how we

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view and think about ourselves and the value that we place on ourselves as a person. Low self-esteem is having a generally negative overall opinion of oneself, judging or evaluating oneself negatively, and placing a general negative value on oneself as a person. Low self-esteem can also have an impact on many aspects of a person's life. It can affect a person's performance at work or at school (cited in Saulsman & Nathan, 2005).

Individuals with high self-esteem have positive perceptions about their self. They are more capable and feel mentally healthier as compare to those who have poor and low self-esteem. Individual's self-evaluation is based on their own perceptions about their own self and opinion of others also play important role [21]. It was explored that people have their own ways for interpreting their achievement and failures [22]. People who have high level of self-esteem perceive things more positively and they rationalized things as compared to those people who have low self-esteem [23](cited in Bibi et al., 2016).

Self-esteem continues to be one of the most commonly researched concepts in social psychology (Baumeister 1993; Mruk 1995; Wells & Marwell 1976; Wylie 1979). The focus on selfesteem has largely been due to the association of high self-esteem with a number of positive outcomes for the individual and for society as a whole (Baumeister 1993; Smelser 1989). Moreover, the belief is widespread that raising an individual's selfesteem (especially that of a child or adolescent) would be beneficial for both the individual and society as a whole. Self-esteem refers most generally to an individual's overall positive evaluation of the self (Gecas 1982; Rosenberg 1990; Rosenberg et al. 1995). It is composed of two distinct dimensions, competence and worth (Gecas 1982; Gecas & Schwalbe 1983). The competence dimension (efficacy-based self-esteem) refers to the degree to which people see themselves as capable and efficacious. The worth dimension (worth-based self-esteem) refers to the degree to which individuals feel they are persons of value (cited in Cast & Burke, 2002).

Bernard et al. (1996) found high correlations among self-esteem, self-efficacy, ego strength, hardiness, optimism and maladjustment and all of these constructs were significantly related to health and success (cited in Baumeister et al., 2003). Self-esteem is an individual's sense of his or her value or worth or the extent to which a person value, approves of, appreciates, prizes or likes himself or herself (Blascovich & Tomaka, 1991). Moreover, Dublin: Gill & Macmillan (1993) state that self-esteem is the key to a child's future. So, self-esteem is essential for adolescents, especially University and College students, in order to face their academic challenges, lead to low self-esteem, withdrawal and behavior problems.

Aims of the Study

The main aim of the study is to investigate self-esteem of pre-service teachers from Mandalay Education College. The specific objectives are as follows:

- To examine the difference in the self-esteem of pre-service teachers by gender.
- To study the difference in the self-esteem of pre-service teachers by grade.

Definitions of Key Terms

Self-Esteem is defined as a personal self-satisfaction and his sense of being valuable (Bandura & Adams, 2002).

Global self-esteem refers to a personality variable that represents the way people generally feel about themselves (e.g., Coopersmith, 1965; Crocker & Park, 2004; Crocker & Wolfe, 2001).

Pre-service Teachers are defined as those students who participated in pre-service training or education, a course or program of study which student teachers complete before they begin teaching. (Richards & Schmidt, 2002) (cited in Aye Chan Zaw, 2018).

Method

In this research, descriptive survey design and quantitative approach were used.

Sample

A total of 120 pre-service teachers (male =60, female =60) were randomly selected from Mandalay Education College.

Instrumentation

In this study, Sorensen Self-Esteem Questionnaire constructed by Sorensen (2006) was used as an instrument. Its Cronbach's alpha value was .875.

Data Collection

In this study, a total of 120 (male= 60, female=60) first year and second year pre-service teachers from Mandalay Education College were selected for the study in the second week of August, 2018.

Data Analysis

After adapting and developing Sorensen's Self-esteem Questionnaire, data analyses were computed by using Statistical Package for Social Sciences (SPSS) software version 20.0. Descriptive statistics were used to calculate mean, mean percent, standard deviation, frequency, maximum scores of self-esteem of pre-service teachers from Mandalay Education College. And then, independent samples *t* test analysis was used to determine whether there were significant differences in self-esteem of Pre-service teachers by gender and grade.

Findings

Descriptive Statistics for Self-esteem of Pre-service Teachers

By using descriptive statistics, data were analyzed to investigate self-esteem of pre-service teachers.

Table 1 Descriptive Statistics for Self-esteem of Pre-service Teachers

Variable	N	Minimum	Maximum	Mean	SD
Self-esteem	120	73	148	110.52	13.625

According to the Table 1, pre-service teachers' mean score of self-esteem was 110.52 and the standard deviation was 13.625. The minimum and maximum scores of pre-service teachers' self-esteem were 73 and 148 respectively. So, it can be seen that participants' self-esteem was satisfactory because the mean score (110.52) was almost equal to the theoretical mean (110).

Figure 1 indicated that the frequency distribution of pre-service teachers' self-esteem scores.
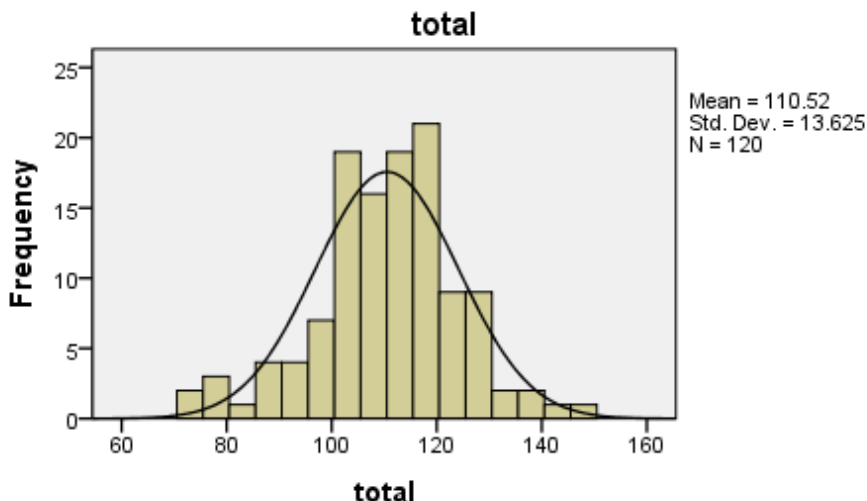
Figure 1 Frequency Distribution of Mean Score of Self-esteem

Figure 1 showed that the largest number of pre-service teachers had self-esteem scores in the range (between 110 and 120). Similarly, small numbers of pre-service teachers had very low and very high scores. The bars in the histogram from a curve that was quite similar to the normal, bell shaped curve. Thus, the frequency distribution of the self-esteem was said to be approximately normal.

Comparison of Self-esteem by Gender

In this study, the sample consisted of 120 pre-service teachers, 60 males and 60 females. Descriptive statistics were firstly conducted to find out mean and standard deviations for self-esteem by gender. The results were presented in Table 2.

Table 2   Mean and Standard Deviation of Self-esteem of Pre-service Teachers by Gender

Variable	Gender	N	Mean	SD
Self-esteem	Male	60	109.38	12.634
	Female	60	111.65	14.566
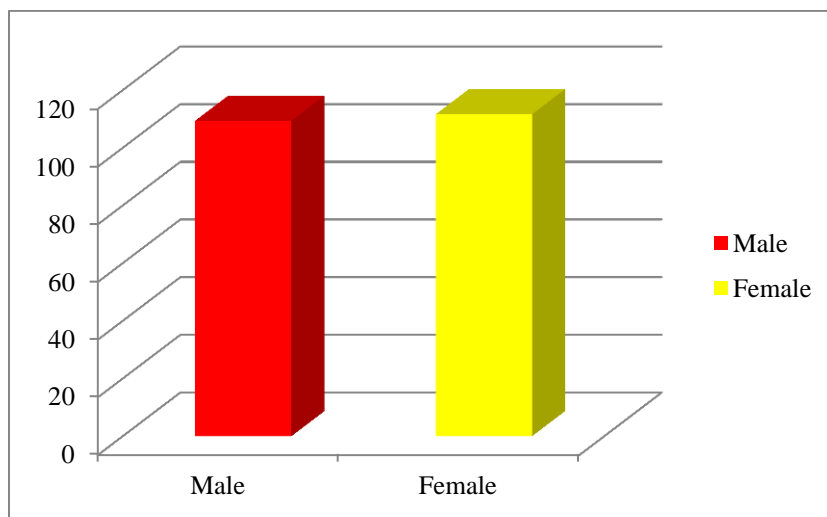
Figure 2 Mean Comparison of Self-esteem by Gender

Table 2 and Figure 2 revealed that the mean scores of female pre-service teachers (111.65) were higher than that of male pre-service teachers (109.38) in self-esteem. In order to examine whether these differences were statistically significant or not, the independent samples *t* test was conducted.

Table 3 Result of Independent Samples *t* test on Pre-Service Teachers' Self-Esteem by Gender

Variable	*t*	*df*	*p*
Self-esteem	-.911	118	.364

According to the result of the *t* test, there was no significant difference in self-esteem of pre-service teachers by gender. So, they need to do activities that they enjoy, spend time with positive, supportive people and try to do regular exercise, eat healthily and get enough sleep.

Comparison of Pre-Service Teachers' Self-Esteem by Grade

Descriptive statistics was first used to find out the differences in self-esteem between the first year and second year. Table 3 and figure 3 showed the comparison of self-esteem between first year and second year pre-service teachers.

Table 4 Mean and Standard Deviation of Self-Esteem by Grade

Variable	Grade	N	Mean	SD
Self-esteem	First Year	60	108.70	11.674
	Second Year	60	112.33	15.212

According to Table 4, it was found that second year pre-service teachers' mean score of self-esteem (112.33) was higher than that of first year pre-service teachers (108.70) in self-esteem.
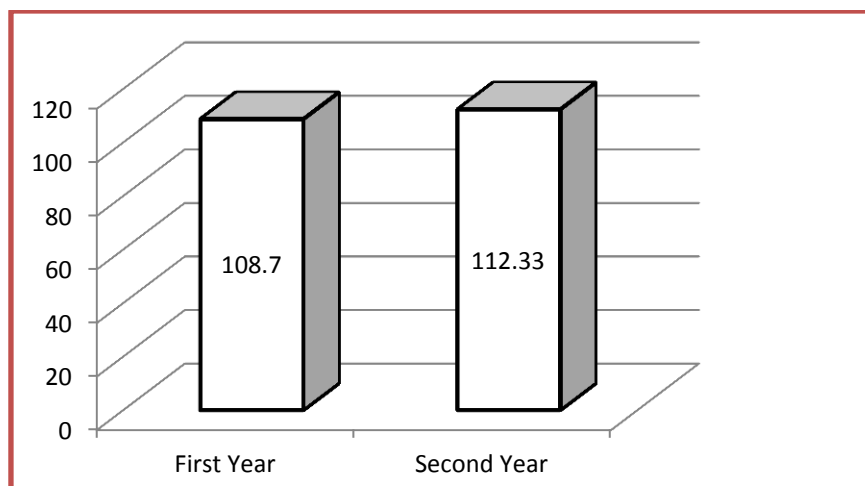
Figure 3 Mean Comparison of Self-Esteem by Grade

To be exact statistically, the independent sample *t* test was used to explore whether these differences were significant or not.

Table 5 Result of Independent Sample *t* test for Self-Esteem by Grade

Variable	*t*	*df*	*p*
Self-esteem	-1.468	118	.145

The result for the independent sample *t* test in Table 5 showed that there was no significant difference in self-esteem by Grade. Thus, it may be said that the self-esteem between first year and second year pre-service teachers does not significantly differ in this study.

Discussions

The present study was mainly designed to investigate the self-esteem of pre-service teachers from Mandalay Education College. To explore the difference in self-esteem of pre-service teachers by gender and by grade were specific objectives of this research. Sorensen Self-Esteem Questionnaire constructed by Marilyn J Sorensen (2006) was used as the research instrument for the study. According to the results of data analysis, summary of findings, conclusion and suggestions would be discussed simultaneously as follows:

Self-esteem of Participants: First, descriptive analysis was applied and the result showed that pre-service teachers' mean score of self-esteem was 110.52 and standard deviation was 13.625. The largest number of pre-service teachers had self-esteem scores in the range (between 110 and 120). Similarly, small number of pre-service teachers had very low and very high scores. The results indicated that pre-service teachers' self-esteem in the research study was satisfactory. This study is consistent with the result of Arguelles (2014) in which almost half of the codependents are with moderately low self-esteem.

Gender Differences in Self-esteem: To explore gender difference in self-esteem, *t* test was used and the result revealed that there was no statistically significant difference between males and females with regard to their self-esteem. The female's mean score of self-esteem was slightly higher than the male's score. It could be concluded that they all get the same treatment under the control of their teachers and parents. This result agrees with the study carried out by Alissa Maitino (2009) who found that there was no gender difference in academic self-esteem of the pre-service teachers. Similarly, a study by Swanson & Hoskyn (1998) stated that there were no significant differences between boys and girls in the incidence of learning disability. Moreover, Jain et al., (2014) conducted a study using mixed method research design and the results of their study showed that there was no gender difference among males and females on self-esteem.

Differences in Self-esteem of Pre-service Teachers by Grade: To investigate the difference in self-esteem of the pre-service teachers by Grade (first year and second year), *t* test was performed and the result showed that second year pre-service teachers had higher self-esteem than first year pre-service teachers. The result for the independent sample *t* test showed that there wasn't significant difference in self-esteem by Grade (p=0.145). Thus, it may be said that the self-esteem between first year and second year pre-service teachers does not significantly differ in this study. It could be concluded that first year and second year pre-service teachers are given the same opportunities and equal chances in only one environment.

Conclusion

Nowadays, the modern world becomes developed in every sectors, technology and aspects in society. The more developed the world, the more challenges it can face in everything such as economic, social, political, cultural, racial and environmental challenges. To face and solve them, everyone must have high self-esteem as well as adequate social and emotional skills. Hence, the youths must be cultivated and trained to possess high self-esteem, social competences and emotional skills since their childhood. The people with high self-esteem can possess competences to cope with the basic challenges of life and a stable sense of personal worthiness.

Moreover, a high self-esteem person can set goals and strive to reach them and he can have a positive attitude toward life. So, he can get not only facilitate interpersonal interactions but also good jobs or occupations which are one of the aims of education. According to these facts, the people who have high self-esteem can be more successful in everywhere than low self-esteem people.

In current study, first and second year pre-service teachers have been selected as the targeted sample. They are the youths with the age of adolescent. Adolescence is the time occurring biological, psychological and cognitive changes. Relationship with peers and parents change too. If they are the persons with high self-esteem, it will become beneficial outcomes, such as good mental health, improved academic performance, and success in relationships as adults. However, if they are the persons with low self-esteem, it will become negative outcomes such as psychological problems, underachievement in academic performance and failures in relationship. Therefore, the life of adolescents is crucial to have high self-esteem.

The research found that most of pre-service teachers had good self-esteem. Thus, pre-service teachers who have low self-esteem should be trained to enhance self-esteem and should provide them with opportunities for success. The teachers, the principals and the parents are the most responsible persons for their pupils and children to have high self-esteem. In order to improve self-esteem, the following suggestions can be considered.

1. Parents, teachers and other significant adults do not deliberately nor intentionally block the emergence of the self of children.

2. Parents and care workers can only bring children/ teenagers to the same level of maturity and level of self-expression they have reached themselves.

3. The future of society lies not with children, but with adults, because in order to survive, children cleverly adapt to the vulnerabilities (repressions) of significant adults; otherwise they would be in great emotional peril.

4. Children and teenagers are not out to make life difficult for parents/teachers and others; the intention of their challenging responses is to bring attention to how difficult life is for them.

5. Each young person needs a unique response to their challenging responses.

6. The frequency, intensity and endurance in the present and over time of protective responses are important determinants of a person's current level of self-esteem.

Moreover, according to Murphy (2003), there are some suggestions to build up the child's self-esteem. The children need to

1. Do activities that they enjoy.

2. Spend time with positive, supportive people.

3. Be helpful and considerate to others.

4. Try not to compare themselves to other people.

5. Try to do regular exercise, eat healthily and get enough sleep.

6. Be assertive – don't let people treat them with a lack of respect.

7. Use self-help books and websites to develop helpful skills, like assertiveness or mindfulness.

8. Learn to challenge their negative beliefs.

9. Acknowledge their positive qualities and things they are good at.

10. Get into the habit of thinking and saying positive things about themselves.

(cited in Murphy, 2013).

The role self-esteem plays when people confront negative events, such as failure in the classroom or interpersonal rejection. These types of events lead low self-esteem people (but not high self-esteem people) to believe.

Education is the core to build a developed country. Thus, education needs to qualify in accordance with international levels. Nowadays, the pre-service teachers are the youths who will shape our country. So, they need not only to become educated persons but also to improve self-esteem. To conclude, more studies should be done on the concept concerning self-esteem to motivate pre-service teachers for educating their students, the leaders for the future.

Acknowledgements

References

Abraham, K. D. (2010). A Study on the Self-Esteem and Social Relations of Adolescents with Learning Disability. Centre of Research Christ University, Bangalore. Retrieved 21st July, 2018 from http://repository. christuniversity.in/1857/1/thesis_deepu_abraham.pdf

Aye Chan Zaw, (2018). An Investigation into Spirituality and Personality of Pre-Service Teachers from Universities of Education in Myanmar. Unpublished Master's thesis. Department of Educational Psychology, Sagaing University of Education. Myanmar. Retrieved on 21st July, 2018.

Baumeister, Roy F., et al. (2003). "Does High Self-Esteem Cause Better Performance, Interpersonal Success, Happiness, or Healthier Lifestyles?", *Psychological Science in the Public Interest*, vol. *4* (1), pages 1–44. Retrieved July 25, 2018 from http://assets.csom.umn.edu/assets/71496.pdf

Bibi S, Saqlain S, Mussawar B (2016) Relationship between Emotional Intelligence and Self Esteem among Pakistani University Students. J Psychol Psychother 6: 279. doi: 10.4172/2161-0487.1000279. Retrieved July 2, 2018 from https://www.omicsonline.org/open-access/relationship-between-emotional-intelligence-and-self-esteem-among-pakistani-university-students-2161-0487-1000279. php? aid=78649

Bosson, J. & Swann, W.B., Jr. (2009). Self-esteem: Nature, origins, and consequences. In R. Hoyle & M. Leary (Eds.), Handbook of individual differences in social behavior (pp. 527-546). New York: Guilford. Retrieved July 29, 2018 from https://labs.la.utexas.edu/swann/files/2016/10/ BossonSwann SEchapter 2009.pdf

Brown, J. D., & Marshall, M.A. (2006).The three faces of self-esteem. In M. Kernis (Ed.), Self-esteem: Issues and answers (pp. 4-9). New York: Psychology Press. Retrieved July 28 from https://faculty. washington. edu/jdb/448/448articles/kernis.pdf

Cast, A.D., & Burke, P.J. (2002). A Theory of Self-Esteem. Article in Social Forces March 2002 DOI:10.1353/sof.2002.0003. Retrieved July 27, 2018 from https://www.researchgate.net/ publication/ 236761671

Gosling, S. D.,(2016).Age and Gender Differences in Self-Esteem—A Cross-Cultural Window Journal of Personality and Social Psychology, 2016, Vol. 111, No. 3, 396–410 © 2015 American Psychological Association 0022-3514/16/$12.00. Retrieved July 27, 2018 from https://www.apa.org/pubs/ journals / releases/psp-pspp0000078.pdf

Humphreys T. *Self-esteem*, the key to your child's future. Dublin: Gill & Macmillan, 1993.Retrieved 21st July, 2018 from www.healthpromotionagency.org.uk.

Joshi, S., & Srivastava, R. (2009). Self-esteem and Academic Achievement of Adolescents. © Journal of the Indian Academy of Applied Psychology October 2009, Vol. 35, Special Issue, 33-39. Retrieved July 30, 2018 from http://medind.nic.in/jak/t09/s1/jakt09s1p33.pdf

Lim, L., Saulsman, L., & Nathan, P. (2005). Improving Self-Esteem. Perth, Western Australia: Center for Clincal Interventions. Retrieved 21st July, 2018 from http://www.cci.health.wa.gov.au/~/ media/CCI/ Consumer%20Modules/Improving%20Self-Esteem/Improving%20Self-Esteem%20-%2001%20-%20What%20is%20Low%20Self-Esteem.pdf

Mikkonen, J. (2005). The Myth of Self-Esteem. Retrieved July 3, 2018 from http://mikkonen.kapsi.fi/archive/Self-Esteem-Albert_Ellis-PDF.pdf

Murphy, B. (2013). How to Increase Your Self-Esteem. Published by Mind 2013 © Mind 2013 To be revised 2016 ISBN 978-1-906759-76-6. Mind (National Association for Mental Health) 15-19 Broadway London E15 4BQ. Retrieved July 3, 2018 from https://www.mind.org.uk/media/715750/how-to-increase-your-self-esteem-2013.pdf

Sorensen, M. J. (2006). Sorensen Self-Esteem Test. Adapted from her book," Breaking the Chain of Low Self-Esteem". Retrieved July 2, 2018 from https://www.researchgate.net/profile/ Subhash_Basu3/post/ Can_anyone_recommend_a_questionnaire_to_assess_selfesteem_in_intellectual_disabilities_children/ attachment/59d6274d79197b807798597a/AS%3A325297053421569%401454568269378/download/S orensen_Self-Esteem_Test.pdf

Stets, J. E., & Burke, P. J. (2014). Self-Esteem and Identities. Sociological Perspectives 2014, Vol.5 7(4)4 09-433 © The Author(s) 2014 Reprints and permissions: sagepub.com/journals Permissions. nav DOI: 10.1177/0731121414536141. Retrieved July 25, 2018 from http://journals.sagepub. com/doi /abs/ 10.1177/0731121414536141

Sveningsson, E. (2012).The Relation between Peer Social Status and Self-esteem in Middle Childhood. Retrieved July 29, 2018 from http://lup.lub.lu.se/student-papers/record/3437755/file/3437767.pdf

Tafarodi, R.W., & Swann, W.B. Jr. (2001).Two- Dimensional Self-Esteem: Theory and Measurement. Personality and Individual Differences 31 (2001) 653-673. University of Texas at Austin, Austin, TX 78712, USA. Retrieved July 29, 2018 from https://fr.scribd.com/document/382795209/tafarodi2001

Zade, M. H. & Hashemi, A. (2014). Self-esteem, willingness to communicate, and Oral production:The case study of Iranian intermediate EFL Students. International Journal of Language and Linguistics 2014; 2(4): 290-294 doi: 10.11648/j.ijll.20140204.17. Retrieved July 29, 2018 from (http://www. Science publishing group.com/j/ijll)

ATTITUDE SCALE FOR STUDENT TEACHERS TOWARDS TEACHING PROFESSION

Ohmmar Win[1], Khin Hnin Nwe[2]

Abstract

The aim of the study is to develop the attitude scale for student teachers towards teaching profession. Moreover, it is intended to examine the attitude of student teachers towards teaching profession by gender and subject stream. The participants were selected by using simple random sampling technique. Descriptive research design and quantitative survey method were used. A total of 210 first year student teachers (105 males and 105 females) from Sagaing University of Education participated. In the section of data analysis, confirmatory factor analysis, item analysis, descriptive statistics, independent sample *t* test, one-way ANOVA and Post Hoc multiple comparison test were used. The newly constructed scale consists of 27 items with 18 positive and 9 negative items. Reliability coefficient of Cronbach's alpha (.819) was established using internal consistency method. Content validity and criterion related validity was also established. Concurrent validity was found to be (.505). Based on the results, attitude towards teaching profession of student teachers was satisfactory. In addition, attitude towards teaching profession of male student teachers was not significant difference from that of female student teachers. By subject stream, there was a significant difference in attitude towards teaching profession ($p<.001$). Attitude towards teaching profession of arts student teachers were highest, that of science student teachers were second and that of arts-science students were lowest. The present study contributed both for the developing of attitude scale for student teachers towards teaching profession and examining the attitude of student teachers. It is also hoped that the finding of this scale would enable the investigators to make suggestions towards improving the student teachers' perception towards their profession.

Keywords: Attitude, Attitude Scale, Teaching, Profession, Teaching Profession

Introduction

Teacher's professional competence as well as personal characteristics and attitude regarding the profession plays an important role in their success. For the professional development of teachers the studies of attitude help them very crucial. Positive and favorable attitudes not only make individuals to perform his work in a better manner but also make satisfying and rewarding to them. Unfavorable attitude on the other hand makes individual tired, boring and unacceptable individuals.

What type of attitude, favorable or unfavorable, positive or negative does on possesses towards an objects, idea or person is a thing of investigation. Its objective assessment needs a type of measurement that can help people to determine to some extent in a reliable and accurate way the nature of one's attitude towards a given object, idea or person.

From the psychological point of view, the teachers' attitude is one of the most influential factors in teaching profession. Evans (1965) stated that "Attitudes are playing a major role in human life as a motive for conduct in the various aspects of this life". This highlighted the importance of attitude in connection between individuals in a society where attitudes help the individual in social adjustment. Attitudes can be regarded as the most significant indicator of success in the profession towards that one's attitude is developed. Without adoring his or her profession, one may not perform it productively (Terzi & Tezci, 2010).

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Moreover, attitude scales attempt to determine what an individual believes, perceives or feels. Attitudes can be measured toward self, others, and a variety of other activities, institutions, and situations. An attitude scale is a crude measuring device, consisting of a number of statements to which the respondent must express his or her degree of agreement or disagreement. Depending on the respondent's endorsement of each statement, a particular score is rendered. The total score which is calculated by adding up the scores for each item, places the respondent on a continuum from least favorable to most favorable.

There are many standardized attitude scales towards teaching profession. Some of the items including these standardized attitude scales are inconsistent with the nature of Myanmar. Therefore, it needs to construct the standardized attitude scales for student teachers towards teaching profession. This study can support in examining and shaping the attitude of student teachers. In addition, through the findings of this study, pre-service teacher training programmers can know the differences of student teachers' attitude towards teaching profession and can support their student teachers to become strong positive perception on their teaching profession.

Purpose of the Study

The main purpose of this study is to develop an attitude scale towards teaching profession.

Scope of the Study

This study is intended to develop an attitude scale for student teachers towards teaching profession. A total of 210 first year student teachers were selected from Sagaing University of Education. This scope was limited within 2018-2019 Academic Year.

Definitions of Key Terms

Attitude	:	An individual's positive or negative emotional tendency towards people, objects, events, and ideas (Papanastasiou, 2002, cited in Tok, 2012).
Attitude Scale	:	An attitude scale is a special type of questionnaire designed to produce scores indicating the intensity and direction (for or against) of a person's feelings about an object or event (Sharma, 2016).
Teaching	:	Teaching is the imparting knowledge from one person to another and guiding of someone to behave in a particular manner (Nwachi, 1991, cited in Jekayinfa, 2002).
Profession	:	Profession is an occupation that claims the exclusive technical competence and which also adheres to the service ideals and allows ethics of professional conduct (Obdi, 1975, cited in Jekayinfa, 2002)
Teaching Profession	:	Teaching profession is concerned with job security and social prestige, molding the young minds, getting appreciation from others, solving problems of the students (Srinivasun & Ambedkar, 2015)

Review of Related Literature

Theories of Attitude

According to Ajzen and Fishbein (1980), Theory of Reasoned Action (TRA) posits that individual behaviour is driven by behavioural intentions where behavioural intentions are a function of an individual's attitude toward the behaviour and subjective norms surrounding performance of the behaviour.

Attitude towards the behaviour is defined as the individual's positive or negative feelings about performing behaviour. It is determined through and assessment of one's beliefs regarding the consequences arising from a behaviour and evaluation of the desirability of these consequences. Formally, overall attitude can be assessed as the sum of the individual consequence and desirability assessments for all expected consequences of the behaviour.

Subjective norm is defined as an individual's perception of whether people important to the individual think the behaviour should be performed. The contribution of the opinion of any given reference is weighted by the motivation that an individual has to comply with the wishes of that referent. Hence, overall subjective norm can be expressed as the sum of the individual perception and motivation assessments for all relevant referents.

Theory of Reasoned Action suggests that a person's behaviour is determined by his/ her intension to perform the behaviour and that this intention is, in turn, a function of his/her attitude toward the behaviour and his/ her subjective norm. The best predictor of behaviour is intention. Intention is the cognitive representation of a person's readiness to perform a given behavior, and it is considered to be the immediate antecedent of behaviour. This intention is determined by three things: their attitude toward the specific behavior, their subjective norms and their perceived behavioural control.

The Three-Component Model Attitude

Three component model states that beliefs, feelings and behaviour towards an object can influence attitudes towards it, and that these attitudes can influence attitude can reciprocally influence the beliefs, feelings and behaviours.

In other words, any particular attitude affects these three components and / or is affected by them. This example illustrate the three-component model of attitude structure, which states that beliefs, feelings and behaviours form three distinct types of psychological information that are closely tied to attitudes. This model predicts that:
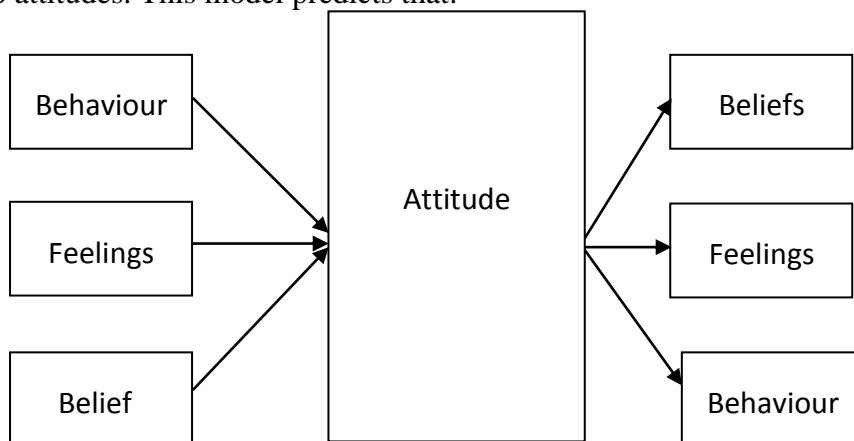
Figure 2.2   Three-component Model of Attitude

Source: from Ajzen (1991)

Professional Attitude

Professional attitude of a teacher is the demonstration of his/her likes or dislikes feelings, emotions or behavior towards teaching and learning practices in the realm of education. Research has proved that teachers with positive attitude perform better in teaching and learning. They are more cooperative and dedicated in the dispensation of their duties as teachers. Professional attitude of teachers plays a fundamental role in shaping the behaviors of teachers (Carr, 1990, cited in Ahmad et al., 2013).

According to Baxter (1989, cited in Ahmad et al., 2013) teachers with positive attitude have stable emotions and feelings. They demonstrate affection, patience, sincerity and care while interacting with teachers, parents or school staff. They do not work in isolation. Such teachers work in collaboration and they have high self-esteem. Students do not hesitate to meet them as they are accessible to everyone openly.

Positive professional attitude helps teachers develop the ability to establish shared environment where everyone is able to contribute. Be it a student, a teacher or parent. They have a decent and complete control on the teaching and learning environment and monitor it effectively (Bean, 1996, cited in Ahmad et al., 2013).

Teachers largely depend upon their personal characteristics and dispositions. Both seem to be highly interlinked, as the teaching profession requires certain dominant behaviors which show his intellect, desire to excel, extended professionalism and continuum, in service growth for a good teacher and teachings as a life concern (Baver et al., 1995, cited in Thilakan, 2012).This is a profession, which exalts service above the personal gains.

Professional Attitude Scale for Teachers

A quick and convenient measure of attitudes that could be used with large groups has led to the development of attitude scales. Attitude scales also provide everyone with one means of obtaining and assessment of the degree of affect that individuals may associate with some psychological object. A well-constructed attitude scale consists of a number of items or statements. An individual responds to these statements by indicating his/her agreement or disagreement with that statement. Although many limitations of attitude scale have surfaced, however, until more precise measures are developed, the attitudes scale or opinionnaire remains the best devices for the purpose of measuring attitudes and beliefs and therefore are widely used in the fields of Education and Psychology. They determine the direction and intensity of a person's feelings for or against some belief or practice. They are also used to survey the attitude of a large number of individuals.

Method and Procedure

Sample of the Study

In order to obtain the required data, the sample of student teachers to be tested was selected from Sagaing University of Education. The participants were 210 first year student teachers.

Research Method

The student teachers participated in this study were selected by using simple random sampling method. Descriptive research design and quantitative survey method were used in this study.

Instrumentation of Attitude Scale towards Teaching Profession

In this study, the questionnaire on teaching attitude towards teaching developed by Mishra (1999), the questionnaire on attitude towards teaching developed by Musa and Bichi (2015) and the attitude scale towards teaching profession (ASTTP) developed by Kulsum (2008) were adapted and applied to measure the attitude of student teachers towards teaching profession. Out of these questionnaires, 100 items were used.

In this study, the attitude scale towards teaching profession is divided into five subscales as follows:

(1) General Perceptions on Teaching Profession
(2) Satisfaction on Teaching Profession
(3) Value on Teaching Profession
(4) Qualification of Teaching Profession
(5) Motivation of Teaching Profession

All the items were translated into Myanmar version. Before conducting expert review, there were 100 items in the whole scale and 20 items in each subscale. Four-point Likert scale was used ranging from 1 (strongly disagree) to 4 (strongly agree) and vice versa for negative items. Expert review was conducted for face validity and content validity by experts from the fields of Educational Psychology.

Items were revised according to the valuable advices of the experts and then irrelevant and overlapped items were removed. Seventy five items were constructed for preliminary test (15 items in each subscale).

Preliminary Test Administration of Attitude Scale towards Teaching Profession

In order to check whether the items were appropriate for student teachers, preliminary testing was conducted with 50 student teachers (first year) from Sagaing University of Education. The internal consistency (Cronbach's Alpha) of the whole scale was .897. So, it was evident that Attitude Scale towards Teaching Profession has high reliability to measure the student teachers' attitude towards teaching profession.

Data Collection Procedure

After pilot testing, the Attitude Scale towards Teaching Profession developed by the researcher (75 items) and one already standardized Attitude Scale towards Teaching Profession developed by Renthlei and Malsawni (2015) (22 items) were administered to 210 first year student teachers from Sagaing University of Education.

Data Analysis

In this study, confirmatory factor analysis, item analysis and Pearson product moment correlation coefficient was employed to construct the new Attitude Scale towards Teaching Profession. The descriptive statistics was used to investigate the attitude of student teachers towards teaching profession. The quantitative data were analyzed by the independent sample *t* test, One-way ANOVA and Post Hoc Test by using Tukey HSD.

Data Analysis and Findings

The Confirmatory Factor Analysis for Attitude Scale towards Teaching Profession

In order to establish the five factors structure of Attitude towards Teaching Profession such as General Perceptions on Teaching Profession, Satisfaction on Teaching Profession, Value on Teaching Profession, Qualifications of Teaching Profession and Motivation of Teaching Profession, confirmatory factor analysis was used.

In this study, the Kaiser-Meyer-Olkin Mearsure of Sampling Adequacy was .800. It was above the recommended value of 0.7 that is indicating that there were enough items for each factor. And Bartlett's Test of Sphericity was significant ($p<$ .000); this means that the variables are correlated highly enough to provide a reasonable basis for factor analysis. The five factors also have eigenvalues (a measure of explained variance) greater than 1.0, which is a common criterion for a factor to be useful.

Throughout this analysis process, items with initial value of less than 0.2 without loading were discarded. After doing several steps, 5 items out of 75 items were eliminated because they had no loadings with any other factor. By taking out 70 items, the communalities were all above 0.2; it indicated that the relation between each item and other items is satisfactory.

According to the result, it was verified that 14 items were grouped into factor 1 and it was defined General Perceptions on Teaching Profession. In the second factor, this factor was named as Satisfaction on Teaching Profession and it has 6 items. In the third factor, this factor was assigned as Value on Teaching Profession and it includes 17 items. In the fourth factor, this factor was marked as Qualifications of Teaching Profession and it consists of 24 items. In the fifth factor, this factor was named as Motivation of Teaching Profession and it has 9 items.

Item Analysing for the Attitude Scale towards Teaching Profession

According to Item Analysis, 43 items were removed from the Attitude Scale towards Teaching Profession. Finally 27 items were selected for the new Attitude Scale toward Teaching Profession. The item numbers for positive and negative statements are 18 and 9 respectively.

Establishment of Reliability and Validity

The reliability coefficient of the newly constructed Attitude Scale towards Teaching Profession (Cronbach's alpha) is .819. It was above the recommended value of .7 that is indicating that the present scale is high reliable.

For the establishment of validity, expert review was conducted for face validity and content validity by experts in the field of Educational Psychology. Moreover, confirmatory factor analysis was used for construct validity. In addition, criterion related validity was also established. This was done by computing the correlation coefficient between the newly constructed scale and one already standardized Attitude Scale towards Teaching Profession developed by Renthlei and Malsawmi (2015). This way, the scale was validated by means of concurrent validity by employing the product moment correlation. A coefficient of correlation between these two scales was found to be .505 which is regarded as acceptable concurrent evidence.

The following is the recently created attitude scale towards teaching profession constructed by the researcher:

Instructions: Below is a list of statements aimed to study the attitude of teachers towards teaching profession. Please put a tick mark (√) on any one of the five boxes given on the right side of each statement. If you strongly agree, put a tick mark below SA, if you agree, put a tick mark below A, if you disagree, put a tick mark under D and if you strongly disagree, put a tick mark under SD. Please respond to every item. There is no time limit but you have to respond as quickly as possible. Your frank and sincere answers will be very much appreciated.

	Statements	SA	A	D	SD
1.	Most people prefer teaching to other profession.				
2.	Teachers enter into teaching profession because it is available.				
3.	Teaching helps in strengthening the desire to learn.				
4.	Teachers find little satisfaction in their work.				
5.	I would enjoy being a teacher.				
6.	I hate teaching because there is nothing creative in it.				
7.	I had to choose a profession again, I would prefer becoming a teacher.				
8.	Teachers' welfare are always overlooked by government.				
9.	I think that teaching makes more pressure in comparison with other jobs.				
10.	Teacher promotion system is adequate.				
11.	Teaching is a respected profession like Medicine and Law.				
12.	I prefer to do any other job than to teach after my graduation.				
13.	Teaching profession is enjoyable.				
14.	Teachers have low social value.				
15.	I would like to work as a teacher even under difficult conditions.				
16.	Teaching will be a secure job.				
17.	Others told me that teaching is not a good career choice.				
18.	Trained teachers are more confident than untrained ones in solving students' problems.				
19.	Teaching skill is highly technical.				
20.	I have the qualities of a good teacher.				
21.	Teaching profession offers free time for teachers.				
22.	I think teaching is a suitable profession for me.				
23.	I thought it had a job guarantee.				
24.	No occupation is better than teaching.				
25.	I was not accepted to my first-choice career.				
26.	Teaching will offer a steady career path.				
27.	A teaching job will allow me to choose where I wish to live.				

Table 1 Descriptive Statistics of Attitude towards Teaching Profession

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Attitude towards Teaching Profession	210	50	98	79.17	7.852

Table 1 showed that the mean score of student teachers' attitude towards teaching profession was 79.17 and standard deviation was 7.852. According to the results, it can be interpreted that the student teachers' attitude towards teaching profession was satisfactory because the sample mean score was greater than the theoretical mean score (67.5).

Independent sample *t* test was conducted to compare the differences in attitude towards teaching profession among male and female student teachers. The result of *t* test which showed the comparison of attitude towards teaching profession between male and female was shown in Table 2.

Table 2 Comparison of Attitude towards Teaching Profession by Gender

Variable	Gender	*N*	Mean	*SD*	*t*	*df*	*p*
Attitude towards Teaching Profession	Male	105	78.25	7.831	-1.704	208	.090
	Female	105	80.09	7.802			

According to Table 2, the result of *t* test indicated that there was no significant difference between male and female student teachers in attitude towards teaching profession.

Table 3 Descriptive Statistics of Attitude towards Teaching Profession by Subject Stream

Variable	Subject Stream	*N*	Min	Max	Mean	*SD*
Attitude towards Teaching Profession	Science	70	50	94	77.80	7.136
	Arts-Science	70	53	94	77.27	7.327
	Arts	70	55	98	82.43	8.113

In Table 3, it was found that the mean and standard deviation of attitude of student teachers who took the combination of science were 77.80 and 7.163, those of student teachers who took the combination of arts-science were 77.27 and 7.327, and those of student teachers who took the combination of arts were 82.43 and 8.113 respectively for attitude towards teaching profession of student teachers.

To explore the differences in attitude towards teaching profession among subject stream (Science, Arts-Science and Arts) of student teachers, one-way analysis of variance (ANOVA) was used. These results were shown in Table 4.

Table 4 ANOVA Results for Attitude towards Teaching Profession by Subject Stream

Attitude towards Teaching Profession	Sum of Squares	*df*	Mean Squares	*F*	*p*
Between Groups	1126.981	2	563.490	9.920***	.000
Within Groups	11758.186	207	56.803		
Total	12885.167	209			

***p<0.001

Table 4 showed that there were significant differences in attitude towards teaching profession of student teachers among subject stream. It was significant at 0.001 levels. To get the specific information about differences in attitude towards teaching profession of student teachers among subject stream, Post-Hoc test was conducted by Tukey HSD method. The results of Post-Hoc test were shown in Table 5.

Table 5   Results of Tukey HSD Test for Attitude towards Teaching Profession of Student Teachers by Subject Stream

Variable	(I)Subject Stream	(J)Subject Stream	Mean Difference	p
Attitude towards Teaching Profession	Science	Arts-Science	.529	.910
		Arts	-4.629***	.001
	Arts-Science	Science	-.529	.910
		Arts	-5.157***	.000
	Arts	Science	4.629***	.001
		Arts-Science	5.157***	.000

***$p < 0.001$

Based on the results of the Post Hoc Test by using Tukey HSD, it can be concluded that the attitude of student teachers who took the combination of science was no significant difference from that of student teachers who took the combination of arts-science. And there was significant difference between the attitude of student teachers who took the combination of arts and that of student teachers who took the combination of science, the attitude of student teachers who took the combination of arts and that of student teachers who took the combination of arts-science at 0.001 level.

Conclusion

There are many standardized attitude scales towards teaching profession. But, there has not been an attitude scale for student teachers towards teaching profession constructed in Sagaing University of Education. It is greatly hoped that the present study would be utilized to understand the student teachers' attitude and that measures would be taken to make improvements whatever necessary.

In this study, the researcher constructed the new attitude scale for student teachers towards teaching profession including 27 items. According to the data analysis and findings, attitude towards teaching profession of student teachers were satisfactory. In addition, attitude towards teaching profession of male student teachers was not significant difference from that of female student teachers. By subject stream, there was significant difference in attitude towards teaching profession. Attitude towards teaching profession of student teachers who took the combination of arts were highest, that of student teachers who took the combination of science were second and that of student teachers who took the combination of arts-science were lowest.

Although the results supported the objectives of the study, there were a few limitations of this study need to be recognized. Firstly, the sample size is not sufficient to represent the whole student teachers from all universities of education. Because the participants in this study were only 210 student teachers from Sagaing University of Education, their result may be inconsistent and a large sample may produce different result. This may be one of the limitations. Because of the time allocation, the researcher could not modify and revise the discard items.

In conclusion, it is expected that this study can help to examine the attitude of student teachers towards teaching profession and offer them some useful programs, which will illuminate them about what they should or should not do in their future classes. Determining some factors effecting trainees to choose the teaching as a profession, level of their positive or negative attitudes will highlight teacher education programs. Finally, it is necessary that teacher training programs need to provide student teachers with knowledge and experiences, and teacher trainers should aim to help trainees be independent individuals, demonstrate positive attitudes, and encourage them to be creative and take responsibility for their development.

References

Ahmad, I., Said, H., Zeb. A., Sihatullah., & Rehman, K. U. (2013). Effects of professional attitude of teachers on their teaching performance: Case of government secondary school teachers in Malakand Region, Khyber Pakhtunkhwa, Pakistan. *Journal of Educational and Social Research*, 3(1), 25-31. Retrieved August 20, 2018, from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.6 60.9783 & rep =rep 1& type=pdf

Ajzen, I. & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.

Ajzen, I. (1991). *The Theory of Planned behavior*. Organizational Behavior and Human Decision Processes, 50(2), 179-211.

Akinduyo, T. E. (2014). Teaching Profession in Nigeria; Issues, Problems and Prospects. *International Journal of Scientific and Research Publications*, 4 (11), 1-3. Retrieved October 14, 2018, from http://www.ijsrp.org/research-paper-1114/ijsrp-p3527.pdf

Akomolafe. (2003) Relationship Between Fathers Occupational status and their children's, Occupational Preference. Journal of Research in Counseling Psychology 9,127?131.

Allport, G. W. (1935). Attitudes, In C. Murchison (Ed.), Handbook of Social Psychology. Worester, MA: Clark University Press. Retrieved Nov: 17. 2018, from http://psychology. ucsd.edu/people/ profiles/ anderson Chapters/FullRefs2015.pdf

Ambrose, P. *A study on emotional intelligence, teaching competence and attitude towards teaching profession of B.Ed students in terms of their locus of control*. Unpublished Ph.D. Thesis, Manonmaniam Sundaranar University, Tamil Nadu, India. Retrieved October 20, 2018, from   http://hdl.handle.net/10603/72809

Bala, J. (2013) *Attitude towards teaching profession in relation to adjustment of senior secondary school teachers*. Unpublished M.Phil. Thesis, Himachal Pradesh University. Retrieved August 24, 2018, from http://hdl.handle.net/10603/14783

Balasubramanian, N. (2012). Likert Technique of Attitude Scale Construction in Nursing Research. *Asian Journal. Nursing Education*. And Research 2(2): April-June 2012.

Brooks, G.P. (2014) Test Analysis Program (version 14.7.4).

Dabas, N. (2011). *A study of teacher effectiveness among elementary school teachers of Haryana in relation to their attitude towards teaching and self-concept*. Unpublished Ph.D. Thesis, MaharshiDayanand University, Tohtak. Retrieved October 11, 2018, from http://hdl.handle.net/10603/7871

Dhaliwal, J. K. (2012). *Attitude of woman teachers towards teaching profession as related to values self-actualization job satisfaction and burnout*. Unpublished Ph.D. Thesis, Panjab University, Chandigarh. Retrieved October 25, 2018, from http://hdl.handle.net/10603/80482

Ikeotuoye, A, Olufeagba B. and Gambari F. (1990). Career Guidance: A vocational Approach for Schools. Zaria: Hudaltuda Publication.

Ipaye, T. (1986). Educational and Vocational Guidance: Concepts and Approaches. Ife: University Press.

Khan, F., Nadeem, N. A., & Basu, S. (2013). Professional attitude: A study of secondary teachers. *Journal of Education Research and Behavioral Sciences*, 2(8), 119-125. Retrieved November 5, 2018, from http://apexjournal.org/jerbs/archive/2013/Aug/fulltext/Khan%20et%20al.pdf

Krecic, M.J., & Grmek, M.I. (2005). The reasons students choose teaching professions. *Educational Studies,* 31(3), 265-274. doi:10.1080/03055690500236449

Krishnappa, N. (2013). *A study of job satisfaction in relation to organizational climate and attitude towards teaching profession of secondary school teachers*. Unpublished Ph.D. Thesis. Karnatak University, Dharwad. Retrieved September 3, 2018, from http://hdl.handle.net/10603/26685

Kulsum, U. (2001). Bangalore Teachers Attitude Scale, National Psychological corporation, New Delhi (2001).

Kumar, A. (2013). Attitude towards teaching profession in relation to adjustment among senior secondary school teachers. *International journal of science and research*, 4(4), 830-833. Retrieved November 10, 2018, from http://www.ijsr.net/archive/v4i4/SUB153131.pdf

LingKeeHtang. (2017). Pre-service Teachers' Attitudes Towards Teaching Profession in Myanmar. *Journal of Education and Practice* ISSN 2222-1735 (Paper) ISSN 2222-288X (Online) Vol. 8, No. 20, 2017

Mishra, G. (1977). A study of the attitudes of teachers working in Government aided conventional Sanskrit Vidyalayas of Varanasi towards teaching profession.

Newa, D.R. (2007).*Teacher effectiveness in relation to work satisfaction media utilization and attitude towards the use of information and communication technology among secondary school teachers of Nepal*. Unpublished Ph.D. Thesis, Panjab University, Chandigarh. Retrieved September 6, 2018, from http://hdl.handle.net/10603/80762

Nirav, S. (2002).What are the important characteristics of a profession? Retrieved October 2,2018, from http://www.preservearticles.com/ 2012011220561/ what-are-the-important-characteristics-of-a-profession.html`

Parvathi, S. U. (2012) *Metacognition, teaching competency and attitude towards teaching profession of prospective mathematics teachers*. Unpublished Ph.D. Thesis, V.O.C College of Education, Tamil Nadu, India. Retrieved September 22, 2018, fromhttp://hdl.handle.net/10603/26779

Puri, S. (2008) *Study of teacher effectiveness of teacher educators in relation to cognitive and non-cognitive variables*. Unpublished Ph.D. Thesis, Punjab University, Chandigarh. Retrieved November17, 2018, from http://hdl.handle.net/10603/81464

Pushpam, A. M. L. (1997) *Attitude towards teaching profession and job satisfaction of women teachers Coimbatore*. Unpublished Ph.D. Thesis, Bharathiar University. Retrieved December 2, 2018, from http://hdl.handle. net/10603/101204

Reed, H. C., Drijver, P., & Kirschner, P. A. (2009). Effects of Attitude and Behaviors Learning Mathematics with Computer Tools. In Hc. Reed, Attitudes, Behaviors and Math Tool Use, pp- 1- 53 Retrieved Nov: 12, 2018, from http://www.eric.ed.gov/?id=EJ877995

Renthlei. L. & Malsawmi, H. (2015). Construction of an Attitude Scale towards Teaching Profession: A Study among Secondary School Teachers in Mizoram. International Journal of Arts, Humanities and Management Studies Volume 01, No. 4, April 2015.

Saini, S. (1998) *Self-esteem of student teachers as related to their personality, creativity and attitude towards teaching profession*. Unpublished Ph.D. Thesis, Panjab University Chandigarh. Retrieved October 12, 2018, from http://hdl.handle.net/10603/80821

Sharma, H. (2016). Attitude Scale. Department of Education, M. D. U. Gunjan Verna, Ph.D-704.

Sodhi, B. (2010). *Teacher effectiveness of secondary school teachers of Punjab in relation to school organizational climate*. Unpublished Ph.D. Thesis, Punjabi University, Patiala. Retrieved October 23, 2018, from http://hdl.handle.net/10603/4491

Tezci. E., & Terzi, A. R. (2010). An examination on the attitudes towards teaching profession of the students of secondary school branch teacher training programs. *Journal of New World Science Academic*, 5(2), 367-388.

Thilakan, S. (2012) *A study of attitude and work commitment of teachers towards teaching profession*. Unpublished Ph.D. Thesis, ShriJagdish Prasad Jhabarmal Tibrewala University. Retrieved October 5, 2018, from http://hdl.handle.net/10603/10584

Yadetie, W.A. (2013). *The Assessment of Teacher Trainees Attitude towards Teaching Profession:* (The Case of Teacher Trainees in Oromia Teachers College of Education). Education 2013, 3(6):375-384 DOI: 10.5923/j.edu.20130306.13.

CRITICAL THINKING SKILLS AND INFORMATION LITERACY OF STUDENTS FROM UNIVERSITIES IN SAGAING DISTRICT

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Abstract

The main purpose of this study was to investigate the critical thinking skills and information literacy of students from universities in Sagaing District. Descriptive survey method and quantitative research design were used in this study. The specific objectives were to explore the differences between critical thinking skills and information literacy of students by gender, grade, age, and university and to investigate the relationship between critical thinking skills and information literacy of students. A total of 941 students (male = 475 and female = 466) were selected as the participants of this study through simple random sampling technique. To measure students' critical thinking skills and information literacy, Critical Thinking Skills Questionnaire (Orszag, 2015) and Information Literacy Survey Instrument (Kovalik, Yutzey, & Piazza, 2013) were used respectively. Each of these items was on the four-point Likert type. The quantitative data were analyzed by descriptive statistics, independent sample *t* test, one-way ANOVA, Pearson product-moment correlation and linear regression analysis. According to the result, critical thinking skills of male students were better than that of female students. And then, it was found that there were no significant differences in students' critical thinking skills by grade, age and university. Similarly, it was found that there were no significant differences in students' information literacy by gender, grade and age. Then, ANOVA result reported that there was significant difference in students' information literacy by university. University 3 was statistically significant difference from University 1 and University 4 and then, University 5 was significant difference from University 1 in information literacy. Finally, there was statistically significant positive correlation in critical thinking skills and information literacy of students (r=.505, *p*<.01). Moreover, the regression analysis result indicated that the critical thinking skills could explain 25% of information literacy.

Key words: Critical Thinking, Critical Thinking Skills, Information Literacy

Introduction

The more the world becomes modern, the more complicated it becomes and together with social and psychological disorders, it becomes more complicated. In today's world where information and technology is changing so rapidly, all societies try to educate their citizens as individuals who are inquisitive, questioning, critical and creative, can think critically, and communicate effectively and have the capacity and knowledge to solve problems rightly. Qian (2007) pointed out that education plays an important role in the advancement of a society and therefore, a good education prepares an individual for adulthood and life, and brings welfare and success to a nation. In this context, education aims to equip individuals throughout the different stages of education, where most of the time individuals learn how they should behave, as well as how to manage problems with effective problem-solving and critical thinking skills. Therefore, possessing higher level skills such as critical thinking skills is very important for students to live successfully and happily in global era.

Both in educational theory and practice, there is an increased emphasis on the importance of teaching 21st century skills to university students all over the world. One of these skills is critical thinking, which is believed by many to be a primary goal of higher education (Flores, Matkin, Burbach, Quinn, & Harding, 2012).Slameto (2014) reported that critical thinking is a cognitive activity related to the use of reason. Learn to think critically means using mental processes, such as attention, categorizing, selection, and assess/decide. Critical thinking skills

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give the right direction to think and work, and assist in determining the relationship with the other with something more accurate. Developing critical thinking skills is an integration of several development skills: observation, look at the information from various perspectives, analysis, reasoning, judgment, decision making, and persuasion. So, the better development of these skills, the more we can address complex problems with satisfactory results.

Critical thinking involves the capability of approaching information in an active, evaluative and creative way. Swapna and Biradar (2017) stated that people who think critically and consistently attempt to live rationally, reasonably, and empathically. Educational institutions have experimented with several strategies to help foster critical thinking, as a means to enhance information evaluation and information literacy among students. Therefore, critical thinking skills are intertwined with information literacy.

Sasikala and Dhanraju (2010) expressed that information literacy plays a prominent role in the knowledge based society: especially effective use of IT based services and collaborative learning in the various levels of the educational system. So, information literacy is a necessary skill that is utilitarian in every aspect of a person's life. For students, information literacy would lead to independent and student-centric learning, rather than dependence on the teacher to provide answers to questions or problems that they encounter. This in turn creates a greater responsibility towards their own learning, which would help them to become dynamic learners and thinkers who are creative, analytical and efficient instead of mere regurgitators of facts. Therefore, information literacy helps the learners to become independent and life-long learners.

By Saglam, Cankaya, Ucer and Cetin (2017), developments in information technologies have important impacts on education and considerably change teaching methods, programs, learning areas, and roles of teachers and students. The concepts of information literacy and critical thinking are two important concepts of today's information and technology age closely related to each other and sometimes used interchangeably. For the future of a society, it is of great importance for individuals to have information literacy and critical thinking skills; therefore, all societies invest efforts to impart these skills to their citizens through education.Therefore,students, especially the leaders of the nation in future should possess the critical thinking skills and information literacy to accommodate with the rapidly changing society and to solve the situations and problems rightly that arise in their environment.

Purpose of the Study

The main aim of the study was to examine the critical thinking skills and information literacy of students from universities in Sagaing District during 2018-2019 academic year.

The specific objectives were as follows:

1. To examine the differences in critical thinking skills of students by gender, grade, age and university,
2. To find out the differences in information literacy of studentsby gender, grade, age and university,
3. To investigate the relationship between critical thinking skills and information literacy of students.

Literature Review

The foundation of critical thinking is based on the teaching practices and visions of ancient Greek philosopher, Socrates since 2,500 years ago. The concept of critical thinking, with

its application in the educational discourse, found its very roots in the Socratic teaching practice of "deep questioning" which aimed at seeking evidence, closely examining reasons and assumptions, analyzing concepts and investigating applications of ideas. Founding his teaching ideas on the action of questioning, Socrates provided two of the main principles of modern theories of learning: the dialogic, interactive nature of the teaching process and the critical and independent evaluation capability as the main goal of reasoning skills (Vezzosi, 2004).

In the later part of the 20th century, definitions of critical thinking converged of educators from two separate disciplines- philosophy and psychology (Gibson, 1995). Many philosophical definitions of critical thinking tend to be based on or related to the concept of informal logic, while psychological definitions are most often based of theories of cognition or neuroscience (cited in Schroeder, 2012).

One of the most comprehensive multidisciplinary researches that tried to identify critical thinking skills was conducted by Facione in 1990. Facione used the Delphi Method and formulated to create a clear and accurate conceptualization of critical thinking. Altogether six core skills were identified in the study: interpretation, analysis, evaluation, inference, explanation, and self-regulation (Facione, 2013).

Information literacy (IL) is an essential skill for functioning in today's knowledge society. The term information literacy was first used by Paul Zurkowski, the President of Information Industry Association in 1974. According to him, information literate peoples were those who trained in the application of information resource in their work. They have learned techniques and skills for utilizing the wide range of information tools as well as primary sources in molding information solutions to their problems (cited in Swapna & Birader, 2017).

Many researchers, education professionals and organizations have developed information literacy models through research and evaluation.Among them,information literacy model that was used in the study was developed by Carol C. Kuhlthau, Professor of Library and Information Science at Rutgers University in New Jersey in 1988. It is a six stage model; initiation, selection, exploration, focus formulation, collection and presentation with the three realms of experience; the affective (feelings) the cognitive (thoughts) and the physical (actions) common to each stage(cited in Swapna & Birader, 2017).

Methodology

The main purpose of this study was to investigate the critical thinking skills and information literacy of students from universities in Sagaing District. In this study, quantitative approach, descriptive research design and questionnaire survey method were used. By using simple random sampling techniques, 941 students (475 males and 466 females) from second year and fourth year were selected in this study.

To study critical thinking skills and information literacy of students, Critical Thinking Skills Questionnaire and Information Literacy Survey Instrument were used. The instrument for critical thinking skills was adopted from Orszag (2015) consisting of 23 items with six main skills. The instrument for information literacy was adopted from Kovalik, Yutzey, and Piazza (2013) comprising 28 items. Each of these items was on the four-point Likert type (1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly Agree). All of the items were positively stated.

To know the reliability of the instruments, pilot testing was conducted with 50 students in Sagaing University of Education who are not included in this research study. After piloting, items were analyzed to test the reliability of critical thinking skills and information literacy. The internal consistency reliability coefficient (Cronbach's alpha) of critical thinking skills and information literacy were .824 and .761.

The actual data collection was done with 941 students in December. The results were analyzed by descriptive statistics, independent sample *t* test, one-way ANOVA and Pearson product-moment correlation and linear regression analysis.

Data Analysis and Findings

The Descriptions of Critical Thinking Skills of Students

In order to examine the critical thinking skills of students, descriptive statistics was used. The results were shown in Table 1.

Table 1 Descriptive Statistics for Critical Thinking Skills of Students

Variable	*N*	Mean	*SD*	Maximum	Minimum
Critical Thinking Skills	941	64.64	6.76	88	37

Table 1 showed that the observed mean score of students' critical thinking skills (64.64) was higher than theoretical mean score (57.5) and the standard deviation was 6.76. So, the result of students' critical thinking skills was satisfied.

To be clearer, the participants in this study were classified into three groups such as high, average, low. Based on the descriptive analysis of critical thinking skills, students with scores above (+1) standard deviation from sample mean were identified as the high group and students with scores below (-1) standard deviation from the sample mean were considered as low group. And then, students with scores between (+1) and (-1) standard deviation were identified as the average group. 11% of students were fallen in high group, 77% were average group and 12% of students were low group. The frequency and percentage of students in different level groups were shown in Table 2.

Table 2 Frequency and Percentage of Students' Critical Thinking Skills in Different Level Groups

Variable	Low Group (Below 58)	Average Group (Between 58 and 72)	High Group (Above 72)	Total
Critical Thinking Skills	110 (12%)	727 (77%)	104 (11%)	941 (100%)

According to Table 2, it was concluded that the results of the test answered by students were satisfied.

Subscales of Critical Thinking Skills

Critical thinking skills of students were measured by six subscales; interpretation, analysis, evaluation, inference, explanation, and self-regulation. According to descriptive statistics, the results were mentioned in Table 3.

Table 3 Descriptive Statistics for Students' Critical Thinking Skills Scores by Each Subscale

Subscales	No. of Items	*N*	Minimum	Maximum	Mean	Mean %	*SD*
Interpretation	6	941	9	24	16.63	69.29%	2.16
Analysis	3	941	3	12	8.40	70%	1.38
Evaluation	3	941	4	12	8.26	68.83%	1.35
Inference	4	941	7	16	11.26	70.38%	1.54
Explanation	3	941	4	12	8.75	72.92%	1.31
Self-regulation	4	941	5	16	11.35	70.94%	1.56

According to the descriptive statistics, explanation had the highest mean percent and evaluation had the lowest mean percent among these six subscales of critical thinking skills. Thus, the students in this study possessed more explanation subscale than other subscales.

In order to examine the difference in critical thinking skills of students by gender, descriptive statistics was used. The results were shown in Table 4.

Table 4 Descriptive Statistics for Critical Thinking Skills of Students by Gender

Variable	Gender	*N*	Mean	*SD*
Critical Thinking Skills	Male	475	65.29	7.25
	Female	466	63.97	6.16

According to Table 4, it was found that the mean scores of male students (65.29) were slightly greater than that of the female students (63.97). Therefore, it can be concluded that male students were better than female students in critical thinking skills.

Moreover, to be more specific, the independent sample *t* test was used to examine whether the differences in critical thinking skills by gender were significant or not. The results were shown in Table 5.

Table 5 Results of Independent Sample *t* test for Critical Thinking Skills of Students by Gender

Variable	*t*	*df*	*p*	*MD*
Critical Thinking Skills	2.994	939	.003**	1.32

** The mean difference is significant at 0.01 level.

Table 5 showed that there was significant difference in critical thinking skills by gender ($t=2.994$ and $p<.01$).

And then, the differences for each subscale of critical thinking skills of students were shown in Table 6.

Table 6 Descriptive Statistics and Results of Independent Sample *t* test for the Subscales of Critical Thinking Skills by Gender

Variables	Gender	*N*	Mean	*SD*	*t*	*df*	*p*
Interpretation	Male	475	16.88	2.32	3.555	939	.000***
	Female	466	16.38	1.96			
Analysis	Male	475	8.44	1.48	.931	939	.352

Variables	Gender	*N*	Mean	*SD*	*t*	*df*	*p*
	Female	466	8.35	1.27			
Evaluation	Male	475	8.36	1.42	2.318	939	.021*
	Female	466	8.15	1.26			
Inference	Male	475	11.45	1.64	3.829	939	.000***
	Female	466	11.06	1.41			
Explanation	Male	475	8.78	1.34	.825	939	.410
	Female	466	8.71	1.29			
Self-regulation	Male	475	11.39	1.61	.748	939	.455
	Female	466	11.31	1.52			

*The mean difference is significant at .05 level.

*** The mean difference is significant at .001 level.

In accordance with Table 6, it was found that there were significant differences between males and females in interpretation subscale ($t=3.555$, $p<.001$) and inference subscale ($t=3.829$, $p<.001$) and evaluation subscale ($t=2.318$, $p<.05$). It was indicated that male students were better than female students in interpretation, evaluation and inference. But, it was found that there were no significant differences between males and females in analysis, explanation and self-regulation subscales($p>.05$).

In order to examine the difference in critical thinking skills of students by grade, descriptive statistics was used. The results were shown in Table 7.

Table 7 Descriptive Statistics of Critical Thinking Skills of Students by Grade

Variable	Grade	*N*	Mean	*SD*
Critical Thinking Skills	Second Year	473	64.80	6.62
	Fourth Year	468	64.47	6.90

According to Table 7, the mean scores of second year were slightly different the mean scores of fourth year in critical thinking skills.To observe clearly whether these differences of critical thinking skills of students in terms of their grade were statistically significant or not, the independent sample *t* test was conducted and the results were shown in Table 8.

Table 8 Results of Independent Sample *t* test for Critical Thinking Skills of Students by Grade

Variable	*t*	*df*	*p*	*MD*
Critical Thinking Skills	.746	939	.456	.33

According to the result, there was no significant difference in critical thinking skills of students with respect to grade ($t=.746$, $p>.05$).

In order to examine the difference in critical thinking skills of students by age, descriptive statistics was used. The results were shown in Table 9.

Table 9 Descriptive Statistics of Critical Thinking Skills of Students by Age

Variable	Age	*N*	Mean	*SD*
Critical Thinking Skills	17-19 yrs	415	64.78	6.84
	Above 19 yrs	526	64.52	6.70

According to the Table 9, the mean scores of 17-19 years were slightly higher than the mean scores of above 19 years for critical thinking skills. To make sure these differences, the independent sample *t* test was used and the results were mentioned in Table 10.

Table 10   Results of Independent Sample *t* test for Critical Thinking Skills of Students by Age

Variable	*t*	*df*	*p*	*MD*
Critical Thinking Skills	.577	939	.564	.26

As shown in Table 10, it was found that there was no significant difference by their age concerning with the critical thinking skills ($t=.577$, $p>.05$).

In order to examine the difference in critical thinking skills of students by university, descriptive statistics was used. The results were shown in Table 11.

Table 11   Descriptive Statistics of Critical Thinking Skills of Students by University

Variable	University	*N*	Mean	*SD*	Minimum	Maximum
Critical Thinking Skills	University 1	199	65.12	6.71	37	85
	University 2	192	63.76	7.41	41	88
	University 3	199	64.59	5.69	50	85
	University 4	157	65.41	7.37	50	88
	University 5	194	64.44	6.58	44	81
	Total	941	64.64	6.76	37	88

In accordance with Table 11, the mean scores of students from University 4 were higher than that of students from other universities. It can be concluded that the students from University 4 may be better than the students from others in critical thinking skills.

In order to investigate whether these differences were statistically significant or not, ANOVA was calculated and the results were showed in Table 12.

Table 12   ANOVA Result of Critical Thinking Skills of Students by University

Variable	Sum of Squares		*df*	Mean Square	*F*	*p*
Critical Thinking Skills	Between Group	294.409	4	73.602	1.615	.168
	Within Group	42663.020	936	45.580		
	Total	42957.428	940			

According to Table 12, the obtained value $F(4,936) = 1.615$, $p>.05$ for critical thinking skills was not significantly different according to university.

The Descriptions of Information Literacy of Students

In order to examine the information literacy of students, descriptive statistics was used. The results were shown in Table 13.

Table 13   Descriptive Statistics for Information Literacy of Students

Variable	*N*	Mean	*SD*	Maximum	Minimum
Information Literacy	941	78.39	7.24	103	45

Table 13 showed that the observed mean score of students' information literacy (78.39) was higher than the theoretical mean score (70) and the standard deviation was 7.24. So, the result of students' information literacy was satisfied.

To be clearer, the participants in this study were classified into three groups such as high, average, low. Based on the descriptive analysis of information literacy, students with scores above (+1) standard deviation from sample mean were identified as the high group and students with scores below (-1) standard deviation from the sample mean were considered as low group. And then, students with scores between (+1) and (-1) standard deviation were identified as the average group. 14% of students were fallen in high group, 74% were average group and 12% of students were low group. The frequency and percentage of students in different level groups were shown in Table 14.

Table 14 Frequency and Percentage of Students' Information Literacy in Different Level Groups

Variable	Low Group (Below 71)	Average Group (Between 71 and 85)	High Group (Above 85)	Total
Information Literacy	112 (12%)	698 (74%)	131 (14%)	941 (100%)

According to Table 14, it was concluded that the results of the test answered by students were satisfied.

To examine the difference in information literacy of students by gender, descriptive statistics was used. The results were shown in Table 15.

Table 15   Descriptive Statistics of Information Literacy of Students by Gender

Variable	Gender	*N*	**Mean**	*SD*
Information Literacy	Male	475	78.77	7.69
	Female	466	78.00	6.74

According to Table 15, it was found that the mean scores of male students (78.77) were slightly greater than that of the female students (78.00). Moreover, to be more specific, the independent sample *t* test was used to examine whether the differences in information literacy by gender were significant or not. The results were shown in Table 16.

Table 16 Results of Independent Sample *t* test for Information Literacy by Gender

Variable	*t*	*df*	*p*	*MD*
Information Literacy	1.642	939	.101	.77

According to Table 16, there was no significant difference in information literacy by gender ($t=1.642$, $p>.05$). So, it indicated fair and balanced gender sensitivity.

To examine the difference in information literacy of students by grade, descriptive statistics was conducted and the results were presented in Table 17.

Table 17 Descriptive Statistics of Information Literacy of Students by Grade

Variable	Grade	*N*	**Mean**	*SD*
Information Literacy	Second Year	473	78.80	7.06
	Fourth Year	468	77.97	7.41

According to Table 17, the mean scores of second year were slightly different the mean scores of fourth year in information literacy. To observe clearly whether these differences of

information literacy of students in terms of their grade were statistically significant or not, the independent sample *t* test was conducted and the results were shown in Table 18.

Table 18 Results of Independent Sample *t* test for Information Literacy by Grade

Variable	*t*	*df*	*p*	*MD*
Information Literacy	1.749	939	.081	.83

The results in Table 18 showed that there was no significant difference in information literacy of students with respect to grade (*t*=1.749, *p*>.05).

To examine the difference in information literacy of students by age, descriptive statistics was conducted and the results were presented in Table 19.

Table 19 Descriptive Statistics of Information Literacy of Students by Age

Variable	Age	*N*	Mean	*SD*
Information Literacy	17-19 yrs	415	78.66	6.99
	Above 19 yrs	526	78.18	7.44

According to the Table 19, the mean scores of 17-19 years were slightly higher than the mean scores of above 19 years in information literacy. To make sure these differences, the independent sample *t* test was used and the results were mentioned in Table 20.

Table 20 Results of Independent Sample *t* test for Information Literacy by Age

Variable	*t*	*df*	*p*	*MD*
Information Literacy	1.012	939	.312	.48

As shown in Table 20, it was found that there was no significant difference by their age concerning with the information literacy (*t*=1.012, *p*>.05).

To examine the difference in information literacy of students by university, descriptive statistics was used. The results were shown in Table 21.

Table 21 Descriptive Statistics of Information Literacy of Students by University

Variable	University	*N*	Mean	*SD*	Minimum	Maximum
Information Literacy	University 1	199	76.74	6.26	58	101
	University 2	192	78.80	8.65	45	102
	University 3	199	79.71	5.47	59	95
	University 4	157	77.20	7.96	61	103
	University 5	194	79.27	7.26	62	99
	Total	941	8.39	7.24	45	103

According to Table 21, students from University 3 had the highest mean scores and the least standard deviation in information literacy among students from University 1, University 2, University 4 and University 5. So, it can be assumed that students from university 3 were better than others in information literacy.

In order to investigate whether these differences were statistically significant or not, ANOVA was calculated and the results were showed in Table 22.

Table 22 ANOVA Result of Information Literacy of Students by University

Variable	Sum of Squares		df	Mean Square	F	p
Information Literacy	Between Group	1296.082	4	324.021	6.317	.000***
	Within Group	48011.563	936	52.294		
	Total	49307.645	940			

*** The mean difference is significant at .001 level.

As above mentioned ANOVA results, the obtained value $F(4,936) = 6.317$, $p<.001$ for information literacy was significantly different according to university at .001 level.

In order to fully interpret these results, the Post Hoc Test was calculated in terms of Game-Howell method about the significant difference by university.

Table 23 Result of Post Hoc Test for Information Literacy of Students by University

Variable	University Type (I)	University Type (J)	Mean Difference (I-J)	p
Information Literacy	University 3	University 1	2.975***	.000
		University 2	.911	.728
		University 4	2.510**	.008
		University 5	.440	.961
	University 5	University 1	2.535**	.002

** The mean difference is significant at .01 level.
*** The mean difference is significant at .001 level.

In accordance with Table 25, it was found that University 3 was significantly different from University 1 ($p<.001$) and University 4 ($p<.01$). University 5 was also significantly different from University 1 ($p<.01$). But, University 2 was not significantly different with other Universities. So, students from University 2 may be the same in information literacy with others.

Correlation Between Critical Thinking Skills for Each Subscale and Information Literacy

To investigate the relationship between critical thinking skills for each subscale and information literacy of students, Pearson product-moment correlation was calculated.

Table 24 Correlation of Critical Thinking Skills for Each Subscale and Information Literacy

Variables	CTS	In	As	Ev	Ie	Ex	SR	IL
Critical Thinking Skills	-	.807**	.705**	.733**	.772**	.653**	.643**	.505**
Interpretation		-	.487**	.524**	.510**	.490**	.309**	.433**
Analysis			-	.405**	.515**	.270**	.408**	.286**
Evaluation				-	.480**	.447**	.374**	.366**
Inference					-	.405**	.439**	.381**
Explanation						-	.284**	.401**
Self-regulation							-	.304**
Information Literacy								-

** Correlation is significant at the 0.01 level (2-tailed).

Table 24 showed that all of the variables were significantly correlated. Thus, there was statistically significant positive correlation in critical thinking skills and information literacy (r=.505, *p*<.01). In other words, it can be said that students who had high critical thinking skills were likely to have high information literacy according to Cohen (1988).

In order to investigate how well critical thinking skills predicts information literacy of students and how many percent it predicts, linear regression analysis was computed as shown in Table 25 and then model summary was presented in Table 26.

Table 25 Result of Regression Coefficient for Critical Thinking Skills and Information Literacy

Model	Unstandardized Coefficient		Standardized Coefficient	*t*	*p*
	B	**Std. Error**	**Beta**		
Constant	43.414	1.961	.505	22.137	.000
Critical Thinking Skills	.541	.030		17.931	.000

Dependent Variable: information literacy

According to result, the identified equation to understand relationship was;

IL = 43.414+.541CTS

Note: IL = information literacy

CTS = critical thinking skills

Table 26 Model Summary for Critical Thinking Skills and Information Literacy

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate
1	.505	.255	.254	6.254

Predictors: (Constant), critical thinking skills

The result indicated that the adjusted R squared value was .254. Thus, it indicated that 25% of the variance in information literacy was explained by critical thinking skills according to Cohen (1988).

Discussions and Recommendations

The primary purpose of this study was to examine the critical thinking skills and information literacy of students from Universities in Sagaing District. According to the data obtained from the scores of both critical thinking skills and information literacy, theresults indicated that critical thinking skills and information literacy of students were satisfactory in the present study.

Firstly, according to the *t* test result, it was reported that the critical thinking skills between male students and female students were statistically significant differences and critical thinking skills of male students were better than that of female students. This result may be possible because females use critical thinking skills and solve problems as much as males but in a style that is less confrontational and direct (Dow & Wood, 2006). Besides, this may be due to some physiological differences and physiological differences but largely through the effect of nurture. And, there was significantly different between males and females in interpretation subscale. This may be possible because males are more interested in abstract aspects than females. Next, there was significantly different between males and females in evaluation

subscale. This may be possible because males are able to think clearly and make decisions based on reasons rather than emotions. Moreover, there was significantly different between males and females in inference subscale. This may be possible because males are better in inquiry and cognition than females. So, male students are better than in critical thinking skills than female students in this study because of the above reasons.

Then, the *t* test result of information literacy indicated that there was no significant difference in students' information literacy by gender. This may be possible because college and university students in Myanmar have equal opportunities and facilities for searching related information when the teachers made them assign concerning with their projects and assignments. In Myanmar, students are not limited for using library by gender. So, these situations seem to make females be equal in information literacy in comparing with males.

Secondly, the result of the *t* test showed that there was no significant difference between second year students and fourth year students in critical thinking skills. This may be possible because class level does not affect on university students' critical thinking skills because of teaching methods and strategies (Gulveren, 2007 cited in Aktas & Unlu, 2013). And, it can be assumed that students have the same background knowledge and experiences to address the issues. So, this situation seems to make second year students be equal in critical thinking skills in comparing with fourth year students.

Then, the *t* test result of information literacy indicated that there was no significant difference in students' information literacy by grade. This may be possible because students gain equal access to find the related information. They may easily search the related information by using the search engines (e.g Google) with the mobile technological advances and library. So, these situations seem to make second year students be equal in information literacy in comparing with fourth year students.

Thirdly, the *t* test result reported that there were no significant differences in critical thinking skills and information literacy of students by age. It may be possible because habits are fully developed during this age range (18-25) (Anafo & Filson, 2014) and during this period, they have the high-quality surrounding to nurture good habits and skills and they receive the same facilities and opportunities from their campus. So, these situations seem to make 17-19 years students be equal in critical thinking skills and information literacy in comparing with above 19 years students.

Fourthly, according to ANOVA result, there was no statistically significant difference in critical thinking skills of students by university. It may be possible because of students' university life and background knowledge, and teaching methods. In addition to these situations, university is the best place where the new generations can obtain experiences and knowledge from communications (peers and teachers) and they can gain more access to share the different ideas from diverse cultures and races. And, they get advices and guidance from teachers and colleagues to determine whether the issues are true or false in their environment. So, these situations seem to make students be equal in critical thinking skills by university.

Then, ANOVA result of information literacy reported that there was statistically significant difference in information literacy by university. University 3 was statistically significant difference from University 1 and University 4 in information literacy. It may be possible because universities obtain the financial support and facilities from the country. So, the university life of students is not much different by facilities. But, the quality of students may be

different based on the use of facilities very effectively and the guidance and support of librarians. Students from University 3 must be trained to obey the strict disciplines and must carry out many extracurricular activities. And, they spend their leisure time by reading in library and playing sports because they are mostly a little opportunity to go outside. So, these situations seem to make students be different in information literacy by university.

And, there was significant difference between University 5 and University 1 in information literacy. According to the schedule of students from University 5, they must enter the library room once a week. And, they receive help and guidance from teachers and librarians to search the desired information and they sometimes report the overview of the literature they read to their teachers. So, they have possessed information literacy since first year. So, these situations seem to make students in University 5 be different in information literacy in comparing with students in University 1.

According to the above findings, in order to improve critical thinking skills and information literacy of students, the following recommendations were made.

- Teachers should use questioning method concerning with the lessons in their classroom daily to enhance student critical thinking skills and then, should foster problem-based learning, active and inquiry-based experiments, and constructive approach to become critical thinkers.

- Teachers and administrators should undertake open-ended discussions for students based on the real-world problems and should provide students the opportunity to work in a collaborative and cooperative group setting.

- Lecturers should integrate academic assignments based on information literacy into the teaching and learning process.

- The librarians in the university library should assist students to search for information technologically and systematically.

- Mutual collaboration should be undertaken between teachers and librarians to cultivate requisite information literacy skills for students.

Critical thinking skills and information literacy are closely related to each other and are two of the most important concepts of this technology age. So, teachers and administrators should contribute to students with the right directions to improve critical thinking skills and information literacy. By this way, students will achieve success in their education and can live successfully in their life.

Acknowledgements

References

Aktas, G. S., &Unlu, M. (2013).Critical thinking skills of teacher candidates of elementary mathematics.*Procedia Social and Behavioral Sciences*, 93 (2013), 831-835.

Anafo, P., &Filson, C. (2014).Promoting information literacy among undergraduate students of Ashesi University College.*Library Philosophy and Practice (e-journal).* 1032.

Dow, B.J., & Wood, J.T. (2006).*The Sage handbook of gender and communication*. Thousand Oaks, CA: Sage.

Facione, P. A. (2013). *Critical thinking: what it is and why it counts*. Retrieved from http://www.insightassessment.com/CT-Resources/Critical-Thinking-What-It-Isand-Why-It-Counts

Flores, K. L., Matkin, G. S., Burbach, M. E, Quinn, C. E., & Harding, H., (2012). Deficient critical thinking skills among college graduates: implications for leadership. *Educational Philosophy and Theory*, 44(2), 212-230.

Qian, L. (2007). Critical thinking and educational ideal.*US-China Education Review*, 4(1).

Saglam, A. C., Cankaya, I., Ucer, H., & Cetin, M. (2017).The effect of information literacy on teachers' critical thinking disposition.*Journal of Education and Learning*, 6(3).

Sasikala, C. &Dhanraju, V. (2010). Assessment of information literacy skills among the science students of Andhra University; A survey. *Library Philosophy and Practice (e-journal)*. Retrieved July 26, 2018, fromhttp://digitalcommons.unl.edu/libphi/prac/.518

Schroeder, R. (2012). Merging critical thinking and information literacy outcomes- making meaning or making strategic partnership? *Library Faculty Publications and Presentations, PDXScholar,* Portland State University. Retrieved October 4, 2018, from https://core.ac.uk/download/pdf/37771510.pdf

Slameto (2014).Developing critical thinking skills through school teacher training "Training and Developing Personnel" model and their determinants of success.*International Journal of Information and Education Technology*, 4(2).

Swapna, G. &Biradar, B. S. (2017).Information literacy model for higher education institutions in India.*International Journal of Digital Library Services*, 7(3), 31-50. Retrieved July 27, 2018, from www.ijodls.in

Vezzosi, M. (2004).*Critical thinking and reflective practice.The role of information literacy.*MA/MSc Information Studies, University of Northumbria, Newcastle. Retrieved September 8, 2018, from dspace-unipr.cineca.it/bitstream/1889/91/2/BP 100 Vezzosi.pdf

LOGICAL-MATHEMATICAL INTELLIGENCE AND MATHEMATICS ACHIEVEMENT OF GRADE 9 STUDENTS IN SALIN TOWNSHIP

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Abstract

The aim of this study was to investigate the logical-mathematical intelligence and mathematics achievement of Grade 9 students in Salin Township, Magway Region. A total of 700 Grade 9 students (350 males and 350 females) from Salin Township in 2018- 2019 Academic Years were randomly selected. The descriptive research design and quantitative survey method were taken. Logical-mathematical Intelligence was measured by using Logical-mathematical Intelligence Questionnaire based on Multiple Intelligences Developmental Assessment Scales (MIDAS) developed by Shearer, C.B (1994). This questionnaire consists of 15 items (Cronbach's Alpha = 0.589) with four factors. Mathematics Achievement test was constructed by researcher through item analysis process to examine the Mathematics achievement of Grade 9 students. In the data analysis, the descriptive statistics, independent sample *t* test, One-way ANOVA, Pearson Product-moment Correlation and Simultaneous Multiple Regression were utilized in this research. The result of independent sample *t* test by gender showed that there was no significant difference in logical-mathematical intelligence but there was significant difference in mathematics achievement which showed that the female students were better than male students. And, the result of independent sample *t* test by school locality, which showed that the urban students had better performance than the rural students in logical-mathematical intelligence and mathematics achievement. The result of ANOVA showed that there were significant differences among father education level and mother education level in logical-mathematical intelligence. But, there were no significant differences among father education level and mother education level in mathematics achievement. The result of Pearson product-moment correlation showed that logical-mathematical intelligence was significant positively correlated with mathematics achievement. Besides, logical-mathematical intelligence can significantly predict mathematics achievement in accordance with the result of regression analysis.

Keywords: *Logical-mathematical Intelligence, Mathematics Achievement, Item Analysis*

Introduction

In Today's Knowledge Age, Education is the most powerful weapon to change the world. It can be said that if there is no education regarded as the greatest constructive force in empowering people in their productive work, there will be no any progress or development anywhere. So, school period is the most sensitive period of people lives; hence, it is important to identify and improve their intelligent level which are one of the most essential key factors in learning environments that effect and shape through their long lives in accordance with the rapidly changing age.

Intelligence is one of the main pillars of well-built education for lives. The word "Intelligence" derives from the Latin verb "intelligere" which derives from inter-legere meaning to "pick out" or discern. Different psychologists defined "intelligence" from various points of view. David Wechler (1944) tries to provide somewhat comprehensive definition "intelligence" is the aggregate or global capacity of an individual to act purposefully, to think rationally, and to deal effectively with his environment (cited in Mangal, 2002). Howard Gardner (1983) defined

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intelligence broadly as "the capacity to solve problems or to create products that are valued within one or more cultural setting" (cited in Brualdi, 1996).

Theory of Gardner's Multiple Intelligence provides a more holistic and natural profile of human potential (cited in Gangadevi, 2014). The Theory of Multiple Intelligence was developed in 1983 by an American psychologist, Dr. Howard Gardner, Professor of Education at Harvard University.

According to Gardner, each individual has these intelligences: (1) Verbal/Linguistic Intelligence, (2) Logical/Mathematical Intelligence, (3) Spatial/Visual Intelligence, (4) Bodily/ Kinesthetic Intelligence, (5) Musical Intelligence, (6) Interpersonal Intelligence, (7) Intrapersonal Intelligence, (8) Naturalist Intelligence and (9) Existential Intelligence.

Howard Gardner identified Logical-mathematical as one of the "intelligences" that people have (cited in Moursund, 2004). Logical-mathematical intelligence consists of the capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically. Gardner (1993) says it entails the ability to detect patterns, reason deductively and think logically (cited in Alviarez, 2015). Logical-mathematical intelligence is the ability to use abstraction, logics, and reasoning such as deductive and inductive in problem-solving, handling of objects scientifically, thinking concretely about those objects and formally of relations without objects, then showing the implications of an event (cited in Gudder, 2013).

Mathematics is becoming important in our increasingly technological world. Mathematics is the branch of science concerned with number, quantity, and space, as abstract concepts. And, mathematics also plays a vital role as mathematics is a backbone of the students to achieve and developed the skill in reasoning and thinking level. But, all over the global, mathematics has been viewed as a challenging subject by a significant portion of learners. Science the beginning of recorded history, mathematics discovery has been at the forefront of every civilized society, and in even the most complex a society, the more complex the mathematics needs (cited in Kalsia, 2017).

In the present educational system, more and more importance is given to the achievement of students in their academic and related activities. The educationalists believes that study of mathematics helps in the mental and intellectual development, disciplines, simplicity, accuracy, certain and verification of results, originality and reasoning. Mathematics achievement refers to not only to obtaining excellent marks in the greater level final examination but it also refers to the attainment of the mathematical ability and skills. Children's poor performance and maths avoidance has remained a significant challenge for the education community since several decades. There are numerous personal and environmental factors that can influence students' achievement in mathematics (cited in Kalsia, 2017).

So, there is a need to study logical-mathematical intelligence and mathematics achievement of Grade 9 students in Myanmar. Students need supporting them to boost their mathematics achievement. I hope that to boost mathematics achievement, need to higher logical-mathematical intelligence.

Research Questions

1. Are there any significant differences in logical-mathematical intelligence and mathematics achievement by gender?
2. Are there any significant differences in logical-mathematical intelligence and mathematics achievement by school locality?

3. Are there any significant differences in logical-mathematical intelligence and mathematics achievement by father education?

4. Are there any significant differences in logical-mathematical intelligence and mathematics achievement by mother education?

5. Is there any significant relationship between logical-mathematical intelligence and mathematics achievement?

Scope of the Study

This research study was geographically limited to Grade 9 Students at 2018-2019 Academic Years in Salin Township, Magway Region. In this study, researcher will use Multiple Intelligence Developmental Assessment Scales (MIDAS) to investigate logical- mathematical intelligence which consists of four factors: Strategy Games, Everyday Skill with Math, Everyday Problem Solving and School Math, which is developed by Shearer,

C.B. (1994) including qualitative review by subject experts. For assessing the students' mathematics achievement, mathematics achievement test based on Grade 9 Mathematics Textbook was developed by the researcher.

Definition of Key Terms

Intelligence: The capacity to solve problems or to create products that are valued within one or more cultural setting (Gardner, 1983).

Logical-mathematical Intelligence: The ability to think conceptually and abstractly, and capacity to discern logical and numerical patterns (Gardner, 1983).

Achievement: Achievement is defined as a product which can be measured by means of achievement tests. (Van den Aardweg, 1988)

Mathematics Achievement: Mathematical achievement refers to understanding of mathematical concepts, application of knowledge to new situations and logical reasoning as involved in interpretation of data, interpretation of missing links, etc (Kulkarni 1970).

Review of Related Literature

Intelligence as a concept has been understood in different ways by different psychologists and has, therefore, a wide variety of definitions. Throndike (1914) defined intelligence as "the power of good responses from the point of view of truth or fact". Terman (1921) stated as "an individual is intelligent in the proportion that he is able to carry on abstract thinking". Jean Piaget (1952) mentioned that "intelligence is the ability to adapt to one's surroundings".

Gardner (1983) defined logical-mathematical intelligence as the ability to think conceptually and abstractly, and capacity to discern logical and numerical patterns. Armstrong (1994) defined logical-mathematical intelligence is the capacity to use numbers effectively (e.g., as a mathematician, tax accountant, or statistician) and to reason well (e.g., as a scientist, computer programmer, or logician). This intelligence includes sensitivity to logical patterns and relationships, statements and propositions (if- then, cause-effect), functions, and other related abstractions. The kinds of processes used in the service of logical-mathematical intelligence include categorization, classification, inference, generalization, calculation, and hypothesis testing (cited in Armstrong, 2008).

Logical-mathematical intelligence can be trained and worked without having to be good at math. This training can help the students to do more effectively in many activities of daily living. The thinking that underlies logical reasoning, for example, determining in a sequence the missing elements and the relationships between them, can help the students solve everyday problems from a different perspective (cited in Rodriquez, 2017).

Mathematics Achievement

The world today, which leans more and more heavily on science and technology, demands more and more mathematical knowledge on the part of more and more people and the world of tomorrow will make still greater demands on a person to be 'well educated' in the technological society of today, and as such he or she should have some degree of mathematical literacy. Mathematics provides language to sciences and is imperative for thought, logical reasoning and progress. It releases the mind and also gives individuals an appraisal of the intellectual abilities by pointing towards course of improvement. It is the basis of all sciences and technology and therefore of all human endeavors. Mathematics is a subject which provides basis directly or indirectly to almost all subjects. A bank of mathematical brain would help the rational and scientific growth of any society. All scientific education is based on mathematics. Its neglect means to remain ignorant about all the advancements. The knowledge of mathematics is indispensable for a wide variety of professions. No other subject has larger application than mathematics. It is the most significant instrument for understanding and exploring our scientific, economic and social world. In every field of human endeavor the importance of mathematics cannot be underestimated. Because of the wide importance of mathematics and the way in which it is advancing at an amazing rate, it has a persistent influence on our everyday lives and contributes to the wealth of the country (cited in Kaur, 2017).

Educators and parents have long considered the role gender plays in the development of attitude toward mathematics and in mathematics achievement. Gender, socioeconomic status, and parents' educational level are various demographic factors which have been predictors of math achievement.

Recent studies in mathematics achievement highlight the importance of the classroom, teacher and school as factors affecting performance in the subject. Most the differences in student achievement in the United States and Australia were due to compositional and organizational factors, not so much on teacher factor. Hill and Rowe (1998) affirmed that teachers have major effect on student achievement. Teachers' quality contributes a lot in the effectiveness of the school hence quality instruction produces high achievement. Demographic factors such as gender, parents' educational attainment and socioeconomic status are also found to be factors in students' achievement (cited in Andaya, 2014).

Curriculum, instructional strategies, math teacher competency, school context, and facilities are other significant factors in teaching and learning mathematics. The mathematics curriculum contains specific subject matter and instructional design principles to enable students to develop logical and mathematical skills needed to understand fundamental mathematical concepts. Designing an instruction based on a curriculum that is in harmony with instructional design can scaffold students learning and promote their achievement in mathematics. Instructional strategies and methods are important for the achievement of the students. School safety and facilities, temperature of the class, features of the school buildings and crowdedness

of school were also reported in influence the achievement of students. These results point out that attention should be given to school context and facilities to improve the math achievement of students (cited in Andaya, 2014).

Role of Item Analysis

Item represents the test. All the things of a test depend on items. The importance of item analysis is given below:

1. There can be little doubt that item analysis is a vitally important operation in the development of a new test and one that should invariably be carried out unless special circumstances.
2. Both the validity and reliability of any test depend ultimately on the characteristics of its items. High reliability and validity can be built into a test in advance through item analysis.
3. Test can be improved through the selection, substitution or revision of items.
4. Item analysis makes it possible to shorten a test and at the same time to increase its validity and reliability.

There are some reasons why item analysis should be conducted. By doing item analysis,

- It indicates which items are difficult, easy or moderate.
- It indicates the ability of the item to discriminate between inferior and superior students.
- It indicates why a particular item in the test has not functioned effectively so that it can be modified.
- It indicates effectiveness of destructors in multiple choice items.

Methodology

Sampling

The participants were used for this research from Grade 9 students in Salin Township at 2018-2019 Academic Years.

Table 1 Number of Students from School locality in Salin Township

School	Number of Students		
	Male	**Female**	**Total**
Rural	175	175	350
Urban	175	175	350

Research Design and Method

Descriptive research design and quantitative survey method were used in the present study.

Instrumentation

Logical-mathematical Intelligence Questionnaire

Logical-mathematical Intelligence Questionnaire that based on Multiple Intelligences Developmental Assessment Scales (MIDAS) developed by Shearer, C.B (1994) was adapted to Myanmar Version to examine the logical-mathematical intelligence of students. This

questionnaire consists of 15 items with four factors; Strategy Game which consists of 4 items, Everyday Skill with Math which consists of 5 items, Everyday Problem Solving which consists of 3 items and School Math which consists of 3 items. This is a 4 point Liket scale questionnaire from 1(strongly disagree) to 4 (strongly agree). The Cronbach's alpha reliability coefficient of the logical-mathematical intelligence was .589, which indicating that the instrument can be considered as a reliable tool to be used for the purpose of this study.

Mathematics Achievement Test

In this study, mathematics achievement test was constructed under the direction and guidance of experts in educational test and measurement field, experts in methodology and experts in mathematics departments with the reference of Grade 9 Mathematics Text Book. The type of test items is multiple choice items with four alternatives.

First, nine chapters from the content of Grade 9 Mathematics (1) Text Book and three chapters from the content of Grade 9 Mathematics (2) Text Book were selected and multiple-choice (MC) were constructed systematically according to the rules of construction. Second, constructed the table of specifications, and then expert review was conducted for face validity and content validity by 6 experts in the Department of Mathematics (SUOE), Department of Mathematics (SGU), Department of Mathematics (YUOE), Department of Methodology (YUOE) and Senior Assistant Teacher in No (2) B.E.H.S Sagaing.

Then, revisions in wording and length of items were made according to supervision and editorial review of these experts. And then, mathematics achievement test was administered to 70 students from No. (2) B.E.H.S, Sagaing for pilot testing. After administering, item analysis was done by using Test Analysis Program (TAP). The result can be seen in Table 2.

Table 2 Result of Item Analysis in Pilot Testing

No.	DI	DP	No.	DI	DP	No.	DI	DP
Item 1	0.80	0.50	Item 21	0.40	0.53	Item 41	0.23	0.06
Item 2	0.14	0.10	Item 22	0.43	0.91	Item 42	0.39	-0.12
Item 3	0.64	0.63	Item 23	0.31	0.34	Item 43	0.27	0.43
Item 4	0.70	0.35	Item 24	0.69	0.22	Item 44	0.37	0.44
Item 5	0.83	0.22	Item 25	0.69	0.36	Item 45	0.01	0.00
Item 6	0.44	0.82	Item 26	0.53	0.68	Item 46	0.57	0.26
Item 7	0.31	0.58	Item 27	0.64	0.73	Item 47	0.40	0.35
Item 8	0.59	0.59	Item 28	0.59	0.26	Item 48	0.71	0.08
Item 9	0.60	0.77	Item 29	0.46	0.77	Item 49	0.60	0.36
Item 10	0.50	0.86	Item 30	0.49	0.58	Item 50	0.33	0.02
Item 11	0.60	0.45	Item 31	0.40	0.35	Item 51	0.31	-0.04
Item 12	0.56	0.77	Item 32	0.44	0.82	Item 52	0.56	0.49
Item 13	0.56	0.77	Item33	0.44	0.58	Item 53	0.33	0.34
Item 14	0.66	0.64	Item 34	0.10	-0.09	Item 54	0.31	0.58
Item 15	0.59	0.59	Item 35	0.37	0.30	Item 55	0.61	0.26
Item 16	0.37	0.39	Item 36	0.36	0.48	Item 56	0.46	0.16
Item 17	0.56	0.63	Item 37	0.60	0.17	Item 57	0.03	0.48
Item 18	0.70	0.50	Item 38	0.40	0.21	Item 58	0.50	0.49
Item 19	0.49	0.82	Item 39	0.29	0.02	Item 59	0.13	-0.13
Item 20	0.53	0.44	Item 40	0.01	0.00	Item 60	0.41	0.63

According to item analysis, there were 13 items (2,34,37,39,40,41,42,45,48,50,51,57, 59) that were eliminated from the test by using the range of Tesring (2006). And then, the remaining 47 items were used as the mathematics achievement of Grade 9 students in main testing. To confirm the reliability of this test, the internal consistency (Cronbach's alpha) was computed and it was 0.901. After administering the main testing, item analysis was done. The result can be seen in Table 3.

Table 3 Result of Item Analysis in Main Testing

No.	DI	DP	No.	DI	DP	No.	DI	DP
Item 1	0.98	0.00	Item 21	0.51	0.65	Item 41	0.77	0.45
Item 2	0.76	0.36	Item 22	0.55	0.63	Item 42	0.61	0.56
Item 3	0.79	0.33	Item 23	0.81	0.35	Item 43	0.33	0.41
Item 4	0.88	0.27	Item 24	0.85	0.37	Item 44	0.72	0.50
Item 5	0.71	0.45	Item 25	0.70	0.60	Item 45	0.54	0.42
Item 6	0.49	0.51	Item 26	0.78	0.46	Item 46	0.65	0.59
Item 7	0.75	0.50	Item 27	0.69	0.55	Item 47	0.59	0.81
Item 8	0.84	0.39	Item 28	0.67	0.66			
Item 9	0.85	0.40	Item 29	0.65	0.55			
Item 10	0.88	0.30	Item 30	0.69	0.51			
Item 11	0.63	0.71	Item 31	0.61	0.74			
Item 12	0.79	0.36	Item 32	0.47	0.57			
Item 13	0.82	0.42	Item 33	0.59	0.63			
Item 14	0.76	0.53	Item 34	0.61	0.50			
Item 15	0.60	0.46	Item 35	0.66	0.58			
Item 16	0.80	0.35	Item 36	0.71	0.62			
Item 17	0.77	0.47	Item 37	0.71	0.61			
Item 18	0.70	0.56	Item 38	0.68	0.57			
Item 19	0.56	0.47	Item 39	0.58	0.71			
Item 20	0.65	0.65	Item 40	0.90	0.22			

According to item analysis, 17 items (1,2,3,4,8,9,10,12,13,14,16,17, 23, 24,26,40,41) were removed for the test by the rules of Tshering (2006). According to Tshering (2006), the rules for interpreting difficulty and discrimination index are described in Table 4.

Table 4 Suggested Rules for Difficulty Index and Discrimination Power

Difficulty Index	Discrimination Power	Item Evaluation
$0.5 < DI < 0.6$	DP 0.4	Good
$0.25 < DI < 0.75$	0.3 DP 0.39	Use with confidence
$DI = 0.25$ (or) $DI = 0.75$	0.2 DP 0.29	Revision-needed
$DI < 0.25$ (or) $DI > 0.75$	$DP < 0.2$	Do not use (reject)

After item analyzing, good and acceptable (30) items were chosen for this study. Thus, the mathematics achievement test can be regarded as it is highly reliable for use as the instrument.

Data Analysis and Findings

Mean Comparison of Logical-mathematical Intelligence by Gender Independent sample *t* test was conducted to compare the differences in logical- mathematical intelligence among male and female students. The result of *t* test was shown in Table 5.

Table 5 Results of Independent Sample t test for Logical-mathematical Intelligence by Gender

Variable	Gender	N	Mean	SD	*t*	*df*	*p*
Logical-mathematical Intelligence	Male	350	37.94	8.178	.392	698	.695
	Female	350	37.71	7.408			

According to Table 5, there was no significant difference in logical-mathematical intelligence by gender (*t* = 0.392, *p* = 0.695). Visual presentation for mean comparison of logical-mathematical intelligence by gender could be seen in Figure 1.
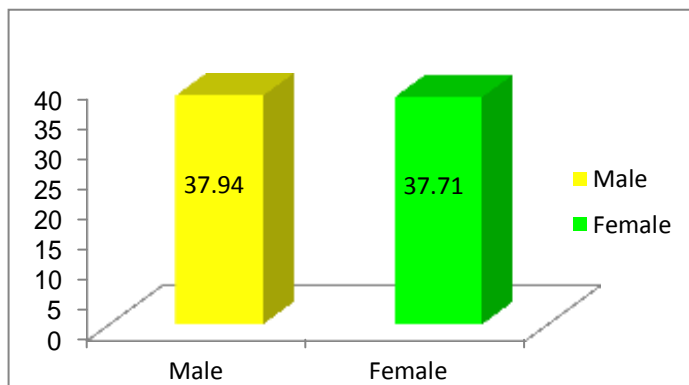
Figure 1 Mean Comparison of Logical-mathematical Intelligence by Gender

Furthermore, independent sample *t*-test was conducted to examine mean comparison on factors of Grade 9 student's logical-mathematical intelligence by gender. These results were shown in Table 6.

Table 6 Results of Independent Sample t test for Logical-mathematical Intelligence Factors by Gender

Factors	Gender	N	Mean	SD	t	df	p
Strategy Games	Male	350	10.01	2.495	7.535***	698	.000
	Female	350	8.70	2.092			
Everyday Skill with Math	Male	350	12.20	3.042	-1.272	698	.204
	Female	350	12.48	2.778			
Everyday Problem Solving	Male	350	8.04	2.160	-1.500	698	.134
	Female	350	8.28	2.123			
School Math	Male	350	7.69	2.241	-3.445**	698	.001
	Female	350	8.25	2.032			

**p 0.01, ***p 0.001

As presented in this table, male students were significantly higher than female students in strategy games at 0.001 level (*t*=7.535, *p*=0.000). But, female students were significantly higher than male students in School Math at 0.01 level (*t*=-3.4455, *p*=0.001). However, there was no significant difference in other factors.

The mean difference on factors of logical-mathematical intelligence between male and female students were compared in the following Figure 2.
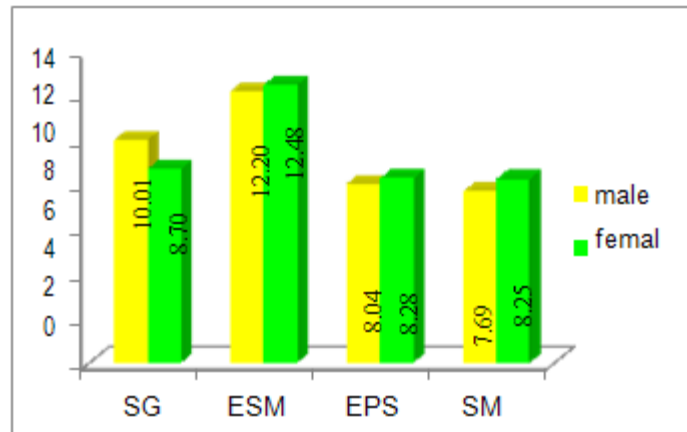
Figure 2 Mean Comparison of Logical-mathematical Intelligence Factors by Gender

Mean Comparison of Logical-Mathematical Intelligence by School Locality

In order to find out whether there was any significant difference in logical- mathematical intelligence by school locality, independent sample *t* test was conducted. The result was shown in Table 7.

Table 7 Result of Independent Sample t test for Logical-mathematical Intelligence by School Locality

Variable	School	N	Mean	SD	t	df	p
Logical-mathematical Intelligence	Rural	350	36.51	8.536	-4.516***	698	.000
	Urban	350	39.13	6.742			

***p 0.001

According to Table 7, students who lived in urban were significantly higher than those who lived in rural in logical-mathematical intelligence at 0.001 level. To be clear, visual presentation was described in Figure 3.
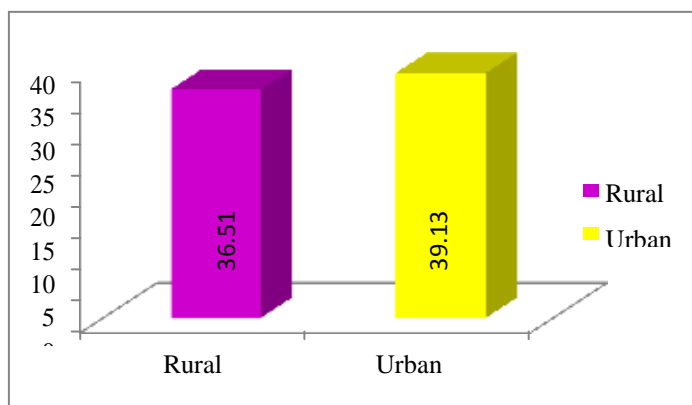
Figure 3 Mean Comparison of Logical-mathematical Intelligence by School Locality

To make more detailed investigation, the mean differences on all factors of logical- mathematical intelligence between rural and urban were examined see in Table 8.

Table 8 Results of Independent Sample t test for Logical-mathematical Intelligence Factors by School Locality

Factors	Gender	N	Mean	SD	t	df	p
Strategy Games	Rural	350	8.91	2.405	-5.063***	698	.000
	Urban	350	9.81	2.296			
veryday Skill with Math	Rural	350	11.90	3.059	-4.011***	698	.000
	Urban	350	12.77	2.696			
Everyday Problem Solving	Rural	350	7.96	2.329	-2.496*	698	.013
	Urban	350	8.36	1.923			
School Math	Rural	350	7.74	2.390	-2.766*	698	.006
	Urban	350	8.19	1.870			

*p 0.05, ***p 0.001

Table 8 showed that the students who lived in Urban were significantly higher than those who lived in Rural in Strategy Games and Everyday Skill with Math at 0.001 level. And, Everyday Problem Solving and School Math, students who lived in Urban were significantly higher than students who lived in Rural at 0.05 level. To be clear, the mean differences on all factors of logical-mathematical intelligence between rural and urban were compared with the chart see in Figure 4.
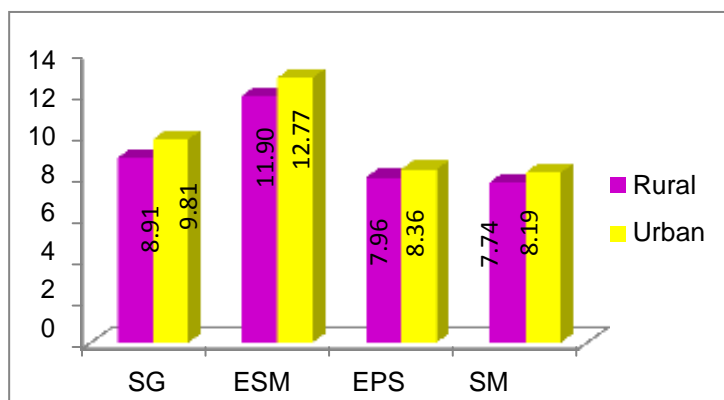
Figure 4 Mean Comparison of Factors on Logical-mathematical Intelligence by School Locality

The Differences in Logical-mathematical Intelligence among Father Education

To explore the differences in logical-mathematical intelligence among father education, one-way analysis of variance (ANOVA) was used. These results were shown in Table 9.

Table 9 Results of ANOVA for Logical-mathematical Intelligence by Father Education

Logical-mathematical Intelligence	Sum of Squares	df	Mean Squares	F	p
Between Groups	1383.879	3	461.293	7.808***	.000
Within Groups	41116.800	696	59.076		
Total	42500.679	699			

***p 0.001

Table 9 showed that there were significant differences in logical-mathematical intelligence of students among father education at 0.001 level. To get the specific information,

Post-Hoc test was conducted by Tukey HSD method. The results of Post- Hoc test were shown in Table 10.

Table 10 Results of Tukey HSD Test for Logical-mathematical Intelligence by Father Education

Variable	(I) Father Education	(J) Father Education	Mean Difference (I-J)	p
Logical-mathematical Intelligence	Primary	Middle	-1.909*	.034
		High	-3.567***	.000
		Graduated	-4.243**	.003
	Middle	Primary	1.909*	.034
		High	-1.658	.142
		Graduated	-2.335	.185
	High	Primary	3.567***	.000
		Middle	1.658	.142
		Graduated	-.676	.949
	Graduated	Primary	4.243**	.003
		Middle	2.335	.185
		High	.676	.949

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

According to Table 10, it was observed that the mean score of the logical- mathematical intelligence of Father Education in Middle, High and Graduated were significantly higher than that of Primary at 0.05, 0.01 and 0.001 level respectively. But, there was no significant difference in between High and Middle, between Graduated and Middle and between Graduated and High. Therefore, it can be interpreted that there was significant difference in logical-mathematical intelligence by Father Education.

The Differences in Logical-mathematical Intelligence among Mother Education

To investigate whether there were significant differences in logical-mathematical intelligence by mother education or not, one-way ANOVA was conducted. These results were shown in Table 11.

Table 11 Results of ANOVA for Logical-mathematical Intelligence by Mother Education

Logical-mathematical Intelligence	Sum of Squares	df	Mean Squares	F	p
Between Groups	968.667	3	322.889	5.411**	.001
Within Groups	41532.012	696	59.672		
Total	42500.679	699			

**$p < 0.01$

According to the ANOVA result in Table 11, there was significant difference among mother education on logical-mathematical intelligence. To be clearer, Post-Hoc test was conducted by Tukey HSD method. These results were shown in Table 12.

Table 12   Results of Tukey HSD Test for Logical-mathematical Intelligence by Mother Education

Variable	(I) Mother Education	(J) Mother Education	Mean Difference (I-J)	*p*
Logical-mathematical Intelligence	Primary	Middle	-1.125	.325
		High	-3.321**	.001
		Graduated	-2.664	.109
	Middle	Primary	1.125	.325
		High	-2.196	.065
		Graduated	-1.539	.559
	High	Primary	3.321**	.001
		Middle	2.196	.065
		Graduated	.657	.960
	Graduated	Primary	2.664	.109
		Middle	1.539	.559
		High	-.657	.960

**p < 0.01

According to Table 12, there was only significant difference in Mother Education between High and Primary at 0.01 level. But there was no significant difference in others.

Mean Comparison of Mathematics Achievement by Gender

To examine whether there was significant difference in mathematics achievement by gender or not, descriptive statistics was conducted. The result was shown in Table 13.

Table 13 Result of Independent Sample t test for Mathematics Achievement by Gender

Variable	Gender	*N*	Mean	*SD*	*t*	*df*	*p*
Mathematics Achievement	Male	350	16.88	6.635	-3.812***	698	.000
	Female	350	18.85	7.003			

***p < 0.001

Table 13 showed that the female students were significantly higher than the male students in mathematics achievement at 0.001 level. To be clear, visual presentation of mean comparison of mathematics achievement by gender could be seen in Figure 5.
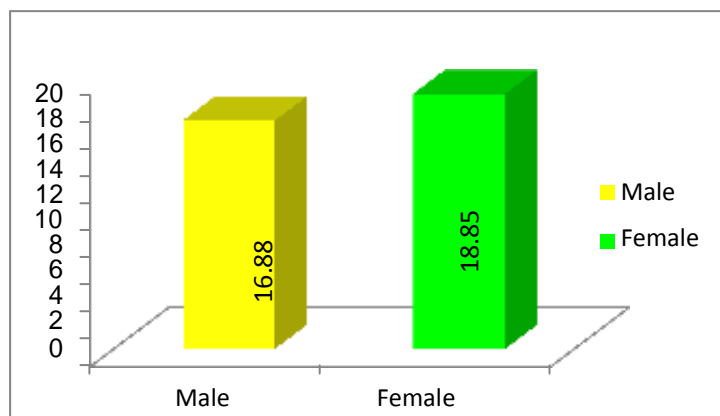
Figure 5 Mean Comparison of Mathematics Achievement by Gender

Mean Comparison of Mathematics Achievement by School Locality

To examine whether there was any significant difference in mathematics achievement by school locality, independent sample *t* test was conducted.

Table 14 Result of Independent Sample *t* test for Mathematics Achievement by School Locality

Variable	Gender	*N*	Mean	*SD*	*t*	*df*	*p*
Mathematics Achievement	Male	350	16.88	6.635	-3.812***	698	.000
	Female	350	18.85	7.003			

***$p < 0.001$

Table 14 indicated that the students in urban schools were significantly higher than that of rural schools at 0.001 level. That is why the differences of some factors such as socio-economic status, received previous knowledge, practice of thinking, environmental condition and so on exist between urban and rural school students. To be clear, visual presentation could be seen in Figure 6.
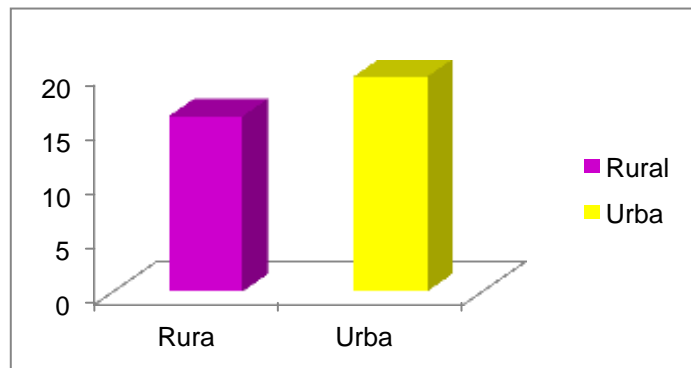
Figure 6 Mean Comparison of Mathematics Achievement by School Locality

The Differences in Mathematics Achievement among Father Education

To explore the differences in mathematics achievement among father education, one- way analysis of variance (ANOVA) was used. These results were shown in Table 15.

Table 15 Results of ANOVA for Mathematics Achievement by Father Education

Mathematics Achievement	Sum of Squares	*df*	Mean Squares	*F*	*p*
Between Groups	192.284	3	64.095	1.353	.256
Within Groups	32964.551	696	47.363		
Total	33156.834	699			

***p 0.001

Table 15 showed that there were no significant differences in mathematics achievement of students among Father Education.

The Differences in Mathematics Achievement among Mother Education

To investigate whether there were significant differences in mathematics achievement by Mother Education or not, one-way ANOVA was conducted. These results were shown in Table 16.

Table 16 Results of ANOVA for Mathematics Achievement by Mother Education

Mathematics Achievement	Sum of Squares	df	Mean Squares	F	p
Between Groups	229.947	3	76.649	1.620	.183
Within Groups	32926.887	696	47.309		
Total	33156.834	699			

$**p < 0.01$

According to the ANOVA result in Table 16, there were no significant differences among Mother Education on mathematics achievement.

Relationship between Logical-mathematical Intelligence and Mathematics Achievement of Grade 9 Students

In order to investigate the relationship between logical-mathematical intelligence and mathematics achievement of Grade 9 students, Pearson Product Moment Correlation coefficient was calculated. The result was shown in Table 17.

Table 17 Relationship between Logical-mathematical Intelligence and Mathematics Achievement

Variables	Correlation	Logical-mathematical Intelligence	Mathematics Achievement
Logical-mathematical Intelligence	Pearson Correlation	1	.460**
	Sig. (2-tailed)		.000
	N	700	700
Mathematics Achievement	Pearson Correlation	.460**	1
	Sig. (2-tailed)	.000	
	N	700	700

Note: ** Correlation is significant at the 0.01 level (2-tailed).

By the result of Table 17, there was a statistically significant positive relationship between four factors of logical-mathematical intelligence and mathematics achievement.

So, it can be interpreted that increase in logical-mathematical intelligence indicates that increase in mathematics achievement.

Conclusions, Discussions and Suggestions

The mean scores of male students were slightly higher than female students in logical- mathematical intelligence but according to the result of *t* test, there was no significant difference in the logical-mathematical intelligence by gender. This result agreed the previous research conducted by Shahzada, G. *et al.* (2014) that there was no significant difference among the Iranian males and females with respect to the types of intelligences they use. This result is also agreed with the study of Barnard & Olivarez (2007) showed that there were no significant differences in estimates of school valued intelligence as a total score composite of logical-mathematical and linguistic intelligences. This result may be possible because of the girls have the opportunities to keep abreast of the boys and the girl think more specifically before they do and act more systematically than the boys.

And, the result of mean comparison for logical-mathematical intelligence of Grade 9 students by school locality revealed that there were significant difference between students who lived in urban and those of rural. According to the result, urban students are higher than rural students in logical-mathematical intelligence. Therefore, it may be interpreted that the students from urban students had better performance than the students from rural in logical-mathematical concept problems.

According to research finding, there were significantly differences in logical-mathematical intelligence of Grade 9 students among Father Education. And, there was only significant difference in Mother Education between High and Primary at 0.01 level. But there was no significant difference in others. It may be possible that father and mother can be guided the students to improve the logical-mathematical intelligence by using several ways.

The result of this study mentioned that there was significant difference between the male and female students in mathematics achievement, and female students were better than the male students. This may be because of the facts that although the male students are bright in natural, most of female students concentrate more on the study than the male students and then the females students always ask for the suggestions from the teacher. Moreover, it may be due to the differences of attention and their own efforts on the study by gender. This result agreed with the research by Farooq, *et at*., (2011) that female students perform better than the male in mathematics subjects. The result also agreed the study of Lynn Shirley Freeguard (2014) who occurred that mathematics achievement of female students had better than that of male students. And, Endsley (1984), Wohlgehager (1992) Wang (2001) and Ganihar & Wajiha (2009) found that girls achieved significantly higher score in mathematics than that of boys.

By the effect of locality, the result of *t*-test showed that there was significant difference in mathematics achievement of students. The urban school students performed better than the rural school students on mathematics achievement in this study. This may be possible that some factors such as socio-economic status, received previous knowledge, practice of thinking, environmental condition, supporting form the family and so on exist between urban and rural school students. It is consistent the Rangappa (1993), Well (1996) and Singh & Singh (2007) studies, they found that urban students are better than rural students in mathematics achievement.

The correlation of this study showed that there was a significant positive correlation between logical-mathematical intelligence and mathematics achievement of Grade 9 students. And, the concept of mathematics achievement was mostly correlated only with the factors of school math in logical-mathematical intelligence. The result agreed with the study of Mohammad Niroo (2012) that there exists a significant relationship between the mathematical intelligence and students' mathematical functioning (cited in Niroo. 2012). This result also agreed that Siti, *et at*., (2013), he found in his study a significant positive correlation between logical-mathematical intelligence and academic achievement of the students.

Limitations of the Study

This study may have some limitations. Firstly, this study is limited by a sample size and it focused only on the selected students in one township (Salin Township, Magway Region). Therefore, the results of this study could not be generalized to the students in other townships of Magway Division, other regions and states of the country. Secondly, this study only determined the effect of Grade 9 students' logical-mathematical intelligence on their mathematics

achievement. So, the results might not be explained to the importance of logical-mathematical intelligence for other grades of state school students, for the grades of private schools students and also for the university students. Thirdly, the data in this study was cross-sectional and not longitudinal. Thus, these results may be change from time to time.

Suggestions for Further Research

According to the limitations of the study, the present study is conducted only in the Salin Township of Magway Region. Therefore, the results of this study are applied only to this township. Therefore, the future research should conduct in other Townships, Regions and States as the students in other places might have different logical- mathematical intelligence and mathematics achievement. So, it is necessary to future research to study the effect of logical-mathematical intelligence on the mathematics achievement in other Townships, Regions and States. The sample of the present study only comprised of the Grade 9 students in Salin Township. Thus, the future research should consider the students in different grade level in state schools and also should take into account the university students in different education level.

Moreover, future research should conduct as the qualitative study, using interview method, classroom observation or case study to study the students' logical-mathematical intelligence and mathematics achievement during academic year. And then, researches such as the relationship between logical-mathematical intelligence and science achievement should also be conducted because this intelligence is dominant in the fields of science and mathematics. Logical-mathematical intelligence plays an important role not only in students' future success but also in their future profession. Many researches about logical-mathematical intelligence are needed to conduct in Myanmar. It is needed to conduct more studies concerning the ways and activities to improve logical- mathematical intelligence and mathematics achievement.

In brief, by studying and learning about students' logical-mathematical intelligence and mathematics achievement, teachers can help their students to improve their logical- mathematical intelligence. Improving their logical-mathematical intelligence can create effective learners and subsequently can develop conducive learning environment. Hence, these studies truly contribute the field of educational psychology, especially educational guidance and measurement. Moreover, it can provide the educational system in Myanmar.

Acknowledgement

References

Alviarez, L. et al., (2015). Implication and applications of multiple intelligences theory in second language education: A review. *Sky Journal of Educational Research Vol. 3(1), pp.016-023.*

Andaya, O. J. F. (2014). Factorsthat affect mathematics achievement of students of Philippine normal university – Isabela campus, *International Refereed Research Journal, Vol.-V, Issue-4, October. 2014(83).*

Armstrong, T. (2008). Multiple Intelligences in the Classroom, 3rd Edition. 76-79.

Retrieved December 6, 2018 from https://www.google.com/url?sa=t&source=web&cd=40&ved=0ahUKEwjIiu2el9zWA hCFp48KHeYGAn84HhAWCDIwCQ&url=https%3A%2F%2Ferwinwidiyatmoko.fil es.wordpress.com%2F2012%2F08%2Fmuliple-intelligence-in-the-classroom.pdf&usg=AOvVaw3VLR

Barnard, L. & Olivarez, A. (2007). Self-estimates of multiple, g factor and school-valued intelligences. *North American Journal of Psychology, 9 (3), 5.1-510.*

Brualdi Timmins, A. C. (1996). Multiple intelligences: Gardner's theory. Practical Assessment, Research & Evaluation, 5(10). Available online: http://PAREonline.net/getvn.asp?v=5&n=10.

Farooq, M.S.et al., (2011). Factors Affecting Students' Quality of Academic Performance: A Case of Secondary School Level. *Journal of Quality and Technology Management, Volume VII, Issue II, December, 2011, Page 01 - 14*

Freeguard, L. S. (2014). Relationship between Visual Perceptual Skill and Mathematics Achievement. University of South Africa, Africa. Retrieved on October 2, 2018 from http://uir.unisa. ac.za/bitstream/ jandle/ 10500/14118/dissertation-freeguard-1s.pdf

Gangadevi, S. (2014). Multiple intelligence based curriculum to enhance inclusive education to bring out human potential. *International Journal of Advanced Research (2014), Volume 2, Issue 8, 619-626.*

Gardner, H. (1983). Theory of multiple intelligence. Retrieved July 8, 2018 from http://www.en.m. wikipedia. org/wiki/Theory-of-multiple-intelligences

Gudder, S. (2013). Mathematical Intelligence. Retrieved January 5, 2019 from https://www. Raisesavvykids. com/ education/learning-style-skill-development/logical-mathematical-learner

Kalsia, P. (2017). Mathematical Achievement of Senior Secondary School Students in Relation to Academic Anxiety. *American International Journal of Research in Humanities, Arts and Social Sciences,* 18(2), March-May 2017, pp. 128-132. Retrieved November 21, 2018 from http://iasir.net/ AIJRHASSpaper/ AIJRHASS 17- 240.pdf

Kaur, K. (2017). A study of achievement in mathematics of ninth class adolescents with regard to gender and type of school. *International Journal of Advanced Education and Research; Vol 2; Issue 3; May 2017; Page No. 243-245.* Retrieved December 15, 2018 from http://www.alleducationjournal. com/ download/ 287/2-3-50-811.pdf

Kulkarni,S,S. (1970). All India Survey of Achievement in Mathematics. Indian Educational Review,30(1), 1-20 Retrieve November 20, 2018 from http://www.google.com/ url?sa=t&source=web&rct= j&url=http://iasir.net/AIJRHASSpapers/AIJHASS17-240.pdf&ved=2ahUKEwickM-NuNvgAh UZTI8 KHV-GCvkQFjAAegQIBBAB&usg=AOvVaw3n2zmxLdvwnROfHOa8eg2L

Mangal, S.K. (2002). Advanced Educational Psychology, Second Edition.

SELF-COMPASSION AND EMOTIONAL REGULATION OF PRE-SERVICE TEACHERS

Htay Htay Sint[1], Khin Hnin Nwe[2], Aye Aye Aung[3]

Abstract

The purpose of this study was to investigate self-compassion and emotional regulation of pre-service teachers in Sagaing University of Education. Quantitative approach was used in this study. A total of 900 pre-service teachers in Sagaing University of Education were used as the sample by using stratified random sampling technique. Self-compassion Scale (SCS) developed by Neff (2003) which consists of 26 items was used to measure the pre-service teachers' self-compassion. It consists of six subscales. And Cognitive Emotion Regulation Questionnaire (CERQ) developed by Garnefski et al., (2001) which consists of 36 items was used to measure emotional regulation of pre-service teachers. It consists of nine subscales. Then, the data were analyzed by using descriptive statistics, Pearson's product moment correlation, t test, ANOVA and simple linear regression. The results revealed that significant differences were found by gender in both self-compassion and emotional regulation. In self-compassion, males had higher level of self-compassion than females did. In emotional regulation, females had higher level of emotional regulation than males did. The ANOVA result revealed that significant difference was found by grade in self-compassion. By seeing the result, fourth year had the highest level of self-compassion, followed by the fifth year and third year. But no significant difference was found by grade in emotional regulation. According to number of siblings, no significant differences were found in both self-compassion and emotional regulation. After that, there were no significant differences by parents' education level in both self-compassion and emotional regulation. After that, the Pearson Product-Moment Correlation result revealed that a positively significant relationship ($r=.511^{**}$) was found between self-compassion and emotional regulation. Finally, it can be concluded that pre-service teachers' self-compassion could influence their emotional regulation. Thus, to be good self-compassion and emotional regulation of pre-service teachers who will become leaders of society, meditation practice and exposure to Buddhist teachings are essential for pre-service teachers.

Keywords: compassion, self-compassion, emotion, emotional regulation

Introduction

University students experience higher levels of psychological distress than the general population, which consequently identifies this population as high-risk for mental health problems (Keel &Pidgeon, 2017). Adolescents believe that their experiences are unique and that others can't possibly understand what they're going through. If adolescents don't succeed in evaluating themselves positively, the inadvertent result may be an increase in negative evaluations of the self. A more effective intervention, therefore, may be to encourage adolescents to counter directly the age-related tendencies that work against self-compassion, by teaching adolescents to be kind and understanding toward themselves, to realize that most teens go through similar problems, and to try to maintain a more balanced awareness of their emotional experiences (Neff, 2003 a).

The construct of self-compassion has emerged in Western psychological and health literatures over the last fifteen years. The roots of this construct lie in Buddhist psychology and philosophy (Neff, 2003 a). Self-compassion has been defined as "being touched by and open to

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one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness"(Neff, 2003).

Neff et al. (2005) suggested that emotional regulation is a defining characteristic of self-compassion. By giving compassion to oneself, one provides the emotional safety needed to see the self clearly without fear of self-condemnation, allowing the individual to more accurately perceive and rectify maladaptive patterns of thought, feeling and behavior.

There is evidence to suggest that self-compassion positively impacts psychological health by promoting adaptive emotion regulation in times of stress. Self-compassion defuses negative emotional patterns by promoting non-judgmental awareness of one's emotions and orienting oneself to respond to stressful events in a way that is self-supportive. Emotional regulation is defined as an internal process whereby individuals' manipulate their emotional intensity and arousal to cope effectively with stressful stimuli (Neff, 2003a).

So, pre-service teachers' self-compassion and emotional regulation are interdependent, and both are important for all-round development of students. The investigating of self-compassion and emotional regulation of pre-service teachers is necessary and also essential for the psychological development of citizens in all countries. Also, in Myanmar, studying the effect of self-compassion and emotional regulation of pre-service teachers is an inevitable matter for now.

Aim of the Study

The main aim of this study is to investigate self-compassion and emotional regulation of pre-service teachers.

Research Methodology

Descriptive research design and quantitative survey method were used to investigate self-compassion and emotional regulation of pre-service teachers in Sagaing University of Education.

Sample of the Study

The total number of participants was 900 pre-service teachers (450 males, 450 females) during the academic year of 2018-2019 in Sagaing University of Education (see Table 1).

No.	Grade	Male	Female	Total
1.	Third Year	150	150	300
2.	Fourth Year	150	150	300
3.	Fifth Year	150	150	300
	Total	450	450	900

Instrumentation

In this study, Self-compassion Scale (SCS) developed by Neff (2003b) was adapted and used to examine self-compassion of pre-service teachers. Self-compassion originally included 26 items and three sub components self-kindness (five items), common humanity (four items) and mindfulness (four items). Furthermore, the respective counterparts of these sub components are measured, namely self-judgment (five items), isolation (four items) and over-identification (four items). Among them, 13 items were negatively worded items. The instrument is a 4-point

Likert scale ranging from strongly disagree =1 to strongly agree =4 for positive items and vice versa for negative items.

Emotional regulation was measured by using the Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski et al., 2001). The CERQ is a 36-item questionnaire, consisting of nine conceptually distinct subscales, self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing and other-blame. Each subscale has 4 items. The CERQ subscales can be used to calculate overall scores for maladaptive (self-blame, other-blame, rumination, catastrophizing) and adaptive (putting into perspective, positive reappraisal, acceptance and refocus on planning). Items are measured on a 4-point Likert scale ranging from strongly disagree =1 to strongly agree =4 for adaptive items and vice versa for maladaptive items. Then, the pilot study was done with a sample of 75 third year BEd students in Sagaing University of Education in order to check whether the wording of statements had clarity and was relevant to fifth year students or not. The whole scales of Self-compassion and emotional regulation indicated satisfactory internal consistency with 0.721 and 0.719 respectively. Therefore, these two instruments can be considered as a reliable instrument for the study.

Procedure

The related literature for this study was gathered in many sources such as library, journals, magazines, theses and internet. As a next step, instruments for the study were prepared and assessed by five experts in the field of Educational Psychology. After getting permission from the authority concerned, pilot study was made to validate the research instruments. After making pilot testing, the questionnaire was edited. And then, data collection procedure was begun to assess self-compassion and emotional regulation of pre-service teachers. Finally, the collected data was analyzed, the interpretation of the findings was made and the conclusion was drawn.

Data Analysis and Findings

Findings for Self-compassion of Pre-service Teachers

To know more clearly according to gender, the independent sample *t*test was conducted.

Table 2 The Result of Independent Sample *t*test for Self-compassion by Gender

Variable	Gender	Mean	N	*t*	*df*	*p*	MD
Self-compassion	Male	69.68	450	2.417[*]	898	.02	1.00
	Female	68.68	450				

[*]. The mean difference is significant at the 0.05 level.

According to the result, there was statistically significant difference in self-compassion of pre-service teachers by gender at 0.05 level. This finding is consistent with the past research findings (Azevedo & Matos, 2015; Souza & Hutz, 2016; Feher, 2016) in which that males had higher levels self-compassion than females did. But, this finding is contrary to that of Neff, 2003b ; Iskender, 2009; Bluth and Bluton, 2015; Eker and Kaya, 2018, who reported no significant differences in self-compassion between males and females. Moreover, this result is opposite with the finding of earlier study conducted by Zaw Myo Htet (2017) and May Zun Win (2017) in which self-compassion did not influence by gender. Thus, it can be said that pre-service teachers' self-compassion in Sagaing University of Education was influenced by gender.

It may be due to the fact females report more negative life events. Azeve do and Matos (2015) stated that females are more critical and punitive of themselves, over-identify more with their feelings/thoughts and show a greater tendency to relate their experience to an inadequacy of their self. And then, females were more likely than men to engage in self-judgment, to feel isolated when confronted with painful situations, and to be more over-identified and less mindful of their negative emotions and females were not less likely than males to be kind and gentle to themselves or to see their experiences as part of common humanity (Neff, 2003, cited in Petrocchi et al., 2013).

To obtain more detailed information on grade, one way analysis of variance (ANOVA) was conducted.

Table 3 ANOVA Result for Self-compassion of Pre-service Teachers by Grade

Variable		Sum of Squares	*df*	Mean Square	*F*	*p*
Self-compassion	Between Groups	439.48	2	219.74	5.736**	.003
	Within Groups	34359.91	897	38.31		
	Total	34799.38	899			

**. The mean difference is significant at the 0.01 level.

ANOVA result showed that there was statistically significant difference in pre-service teachers' self-compassion among grade.

Again, to find which grade had the highest difference, Post Hoc Test was executed by Tukey HSD method.

Table 4 The Result of Post-Hoc Test using Tukey HSD for Self-compassion of Pre-service Teachers by Grade

Variable	Grade (I)	Grade (J)	Mean Difference(I-J)	*p*
Self-compassion	Third Year	Fourth Year	-1.600*	.005
		Fifth Year	-.273	.851
	Fourth Year	Third Year	1.600*	.005
		Fifth Year	1.327*	.024
	Fifth Year	Third Year	.273	.851
		Fourth Year	-1.327*	.024

*.The mean difference is significant at the 0.05 level.

Post Hoc Tukey (HSD) Test explored that the mean difference between third year and fourth year was -1.600 and it was statistically significant difference at p<.05. And then, the mean difference between fourth year and fifth year was 1.327 and it was statistically significant difference at p<.05. By seeing the results, third year had the lowest level of self-compassion, followed by the fifth year and fourth year. A possible explanation for this might be that most participants are college of education and they encounter transitional time before they had formed new strong friendships. Moreover, they move away from their old friends and families and face academic examination performance, anxiety and stressful events. And then, fourth year had the highest level of self- compassion, followed by the fifth year and third year. So, this might be due to the fact that fifth year had to face with the stressful events as they encounter projects, lessons and had to try for getting the qualified and credit. This finding was contrary to that of Bluth and

Bluton (2015) mentioned that no significant differences in self-compassion between high-school males and middle-school males.

Next, to obtain more detailed information on the differences of self-compassion in terms of number of siblings, one way analysis of variance (ANOVA) was conducted.

Table 5 ANOVA Result for Self-compassion of Pre-service Teachers by Number of Siblings

Variable		Sum of Squares	df	Mean Square	F	p
Self-compassion	Between Groups	112.495	4	28.124		
	Within Groups	34686.887	895	38.756		
	Total	34799.382	899		.726	.58

The result indicated that there were no significant differences in pre-service teachers' self-compassion by number of siblings. This finding is congruent with the past research (Eker & Kaya, 2018). From that point, it can be obviously identified that number of siblings did not effect on pre-service teachers' self-compassion. However, it was found that the mean scores of self-compassion of pre-service teachers with five siblings and above had the highest among the other number of siblings. According to Thanyalak (2017), this might be due to the fact that their siblings were the members of their families and could help them when they had to deal with difficulties in life by giving them some advices, the information and the social support.

To obtain more detailed information on father's education level, one way analysis of variance (ANOVA) was conducted.

Table 6 ANOVA Result for Self-compassion of Pre-service Teachers by Father's Education Level

Variable		Sum of Squares	df	Mean Square	F	p
Self-compassion	Between Groups	120.72	3	40.241		
	Within Groups	34678.66	896	38.704		
	Total	34799.38	899		1.04	.374

ANOVA result showed that there were no significant differences in self-compassion with respect to father's education level. This finding was agreed with the result of May Zun Win (2017). It can be assumed that self-compassion of pre-service teachers did not depend on father's education level.

To obtain more detail information for self-compassion by mother's education level, one way analysis of variance (ANOVA) was conducted.

Table 7 ANOVA Result for Self-compassion of Pre-service Teachers by Mother's Education Level

Variable		Sum of Squares	df	Mean Square	F	p
Self-compassion	Between Groups	131.548	3	43.849		
	Within Groups	34667.83	896	38.692		
	Total	34799.38	899		1.13	.34

The result indicated that there were no significant differences in self-compassion by mother's education level. This finding was agreed with the result of May Zun Win (2017). Therefore, it can be said that mother's education level did not effect on pre- service teachers' self-compassion.

4.2 Findings for Emotional Regulation of Pre-service Teachers

To know more clearly, the independent sample *t* test was conducted.

Table 8 The Result of Independent Sample *t* test for Emotional Regulation by Gender

Variable	Gender	Mean	N	*t*	*df*	*p*	MD
Self-compassion	Male	101.19	450	-2.56**	899	.01	-1.12
	Female	102.30	450				

**. The mean difference is significant at the .01 level.

According to the result, there was statistically significant difference in emotional regulation of pre-service teachers by gender at 0.01 level. It can be interpreted that females had higher levels of emotional regulation than males. This finding is consistent with the past research (Martin & Dahlen, 2005) . However, this finding is contrary with the previous research findings (Yokus et al., 2013: Esmaeilinasab et al., 2016). This might be due to the fact that females are constrained by their traditional norms and regulations. Therefore, they don't have the chance to freely open their emotions in their satisfactory ways. This is why, females can regualte their emotions and can adjust to normal than males.

To obtain more detailed information on grade, one way analysis of variance (ANOVA) was conducted.

Table 9 ANOVA Result for Emotional Regulation of Pre-service Teachers by Grade

Variable		Sum of Squares	*df*	Mean Square	*F*	*p*
Emotional Regulation	Between Groups	152.28	2	76.138	1.79	.167
	Within Groups	38093.47	897	42.47		
	Total	38245.75	899			

ANOVA result indicated that there was no statistically significant difference in pre- service teachers' emotional regulation among grade. It can be assumed that pre-service teachers' emotional regulation do not depend on grade. This finding is contrary to that of Yokus et al., (2013) which mentioned that there was a statistically significant difference in emotional regulation with respect to grade. A possible explanation for this might be that they were about the same age, the same University life and the same professional goal.

In order to know clearly in terms of number of siblings, one way analysis of variance (ANOVA) was investigated.

Table 10 ANOVA Result for Emotional Regulation of Pre-service Teachers According to Number of Siblings

Variable		Sum of Squares	*df*	Mean Square	*F*	*p*
Emotional Regulation	Between Groups	68.349	4	17.087	.401	.808
	Within Groups	38177.397	895	42.656		
	Total	38245.746	899			

ANOVA result showed that there was no statistically significant difference in pre- service teachers' emotional regulation according to number of siblings. Yokus et al., (2013) found that in catastrophizing sub-dimension, pre-service music teachers' emotional regulation showed a difference at the level of .05 and statistically significant difference was no found in terms of other dimensions.

To obtain more detailed information on father's education level, one way analysis of variance (ANOVA) was conducted.

Table 11 ANOVA Result for Emotional Regulation of Pre-service Teachers by Father's Education Level

Variable		Sum of Squares	df	Mean Square	F	p
Emotional Regulation	Between Groups	322.77	3	107.591		
	Within Groups	37922.97	896	42.325		
	Total	38245.75	899		2.542	.06

ANOVA result revealed that there was no statistically significant difference in pre-service teachers' emotional regulation according to father's education level.

To obtain more detail information for emotional regulation by mother's education level, one way analysis of variance (ANOVA) was conducted.

Table 12 ANOVA Result for Emotional Regulation of Pre-service Teachers by Mother's Education Level

Variable		Sum of Squares	df	Mean Square	F	p
Emotional	Between Groups	76.721	3	25.574	.60	.615
Regulation	Within Groups	38169.03	896	42.599		
	Total	38245.75	899			

The result indicated that there were no significant differences in emotional regulation by mother's education level. Therefore, it can be said that mother's education level did not effect on pre-service teachers' emotional regulation.

4.3 The Relationship Between Self-compassion and Emotional Regulation of Pre- service Teachers

The correlations among self-compassion variables and emotional regulation were expressed in Table 13.

Table 13 Correlations for Self-compassion Variables and Emotional Regulation (N=900)

Variable	Emotional Regulation Total
Self-kindness	.283[**]
Self-judgment	.254[**]
Common humanity	.350[**]
Isolation	.283[**]
Mindfulness	.396[**]
Over-identification	.287[**]
Emotional Regulation Total	1

[**]. Correlation is significant at the 0.01 level (2-tailed).
[*]. Correlation is significant at the 0.05 level (2-tailed).

Table 13 showed that emotional regulation was significantly correlated in moderate positive relationships with common humanity (r = .350, *p*< .01) and mindfulness (r = .396, *p*< .01). Then, emotional regulation was significantly correlated in low positive relationships with self-kindness (r = .283, *p*<.01), with self-judgment (r =.254, *p*< .01), with isolation (r = .283, *p*< .01), and with over-identification (r = .287, *p*< .01). The sub components of self-compassion were significantly correlated with emotional regulation.

The Pearson product-moment correlation coefficients were conducted to examine the relationship between self-compassion and emotional regulation of pre-service teachers. And then, the results were shown in Table 14.

Table 14 Relationship between Self-compassion and Emotional Regulation of Pre- service Teachers

	Emotional Regulation
Self-compassion	.511**

** Correlation is significant at the 0.01 level (2-tailed).

According to the results, there was a high association between self-compassion and emotional regulation because the correlation coefficient was statistically significant (r = 0.511, *p*<0.01). A significant positive relationship was found between self-compassion and emotional regulation, where higher scores of self-compassion were associated with higher scores of emotional regulation. This finding is congruent with the past research (Keel &Pidgeon, 2017).

Table 15 Result of Linear Regression on Self-compassion and Emotional Regulation

Model	Unstandardized Coefficients		Standardized Coefficients	*t*	*p*
	B	**Std. Error**	**Beta**		
(Constant)	64.70	2.09		30.97	.00
SCTotal	.54	.03	.511	17.81	.00

a. Dependent Variable: Emotional Regulation

From this Table 15, it was found that the predictor self-compassion significantly predicted emotional regulation. Therefore, the model can be described as the following equation.

$$ER = 64.698 + 0.54\ SC$$

Where,

ER = Emotional Regulation and

SC = Self-compassion.

Table 16   The Model Summary for Components of Self-compassion and Emotional Regulation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.511^{a}	.261	.260	5.610

a.Predictors: (Constant), SK, SJ, CH, IS, MF, OV.

The standardized beta coefficient indicated that self-compassion variables significantly predicted emotional regulation. The multiple coefficient (**R**) = .55 and the adjusted **R** square was

.30. Based on the result, 26 % of emotional regulation could be predicted on self-compassion. Therefore, it can be interpreted that the higher self- compassion pre-service teachers have, the more they possess better emotional regulation.

Discussion and Recommendation

Meditation practice andexposure to Buddhist teachings might be a useful means of achieving greater mental health for women (and men) who are suffering from a lack of self-compassion. According to Neff (2003b), a more effective intervention may be to encourage adolescents to counter directly the age-related tendencies that work against self-compassion, by teaching adolescents to be kind and understanding toward themselves, to realize that most teens go throughsimilar problems, and to try to maintain a more balanced awareness of their emotional experiences.

In a study of self-compassion in classroom settings, for instance, we found that self- compassion was positively associated with mastery goals for learning and negatively associated with performance goals (Neff, 2009).

According to Neff and Germer (2013), the MSC program effectively teaches individuals how to become more compassionate toward themselves. The more MSC participants practiced formal meditation, the more they increased their self-compassion levels. By wrapping emotional pain in the warm embrace of self-compassion, suffering is ameliorated and wellbeing is enhanced, allowing for healthier functioning in daily life.

Moreover, teaching co-curricular subjects such as physical education, industrial arts/ domestic science, agriculture, fine arts and music make students mindful and then this performance looks like meditation.

Limitations

This sample is not necessarily representative to all pre-service teachers in Myanmar. Although the cross-sectional design of this study does not allow us to draw conclusions about causal associations, the results of our model suggest this association.

Suggestions for Future Research

There are a number of interventions that exist to foster self-compassion, such as Mindful Self-Compassion, and Compassion Focused Therapy. The use of self-compassion as a mental health intervention should be explored in future research. Furthermore, given the impact of self-compassion on emotion regulation, future research is warranted in examining these relations in other psychological disorders that are associated with difficulty in emotion regulation.

References

Azevedo, A. & Matos, A.P. (2015).Psychological flexibility and self-compassion; Contributions of gender and its association with adolescent depression.95-109. https:// estudogeral.sib. ucpt/ bitstream/ 1036/ 47293/1/ Psychological%20 Flexibility %20 abd 20% sekf-compassion.

Bluth, K., & Blanton, P.W. (2015).The influence of self-compassion on emotional well-being among early and older adolescent males and females. *The Journal of Positive Psychology*, 10, 3, 219-230. https://doi.org/10.1080/17439760.2014.936967.

Eker, H., & Kaya, M. (2018). Examining University students' self-compassion and compassionate love levels in terms of perceived parental attitudes. *Journal of Education and Training Studies*, Vol. 6, No. 11. doi:10.11114/jets.v6i11.3407.
                 https;// doi.org/ 10.11114/ jets.v6i11.3407.

Esmaeilinasab, M., Khoshk, A. A., & Makhmali, A. (2016). Emotion regulation and life satisfaction in University students: Gender differences. *International Conference on Education and Educational Psychology*, 798-809.

Feher, A. (2016). *The influence of self-compassion, compassionate for others, and emotional intelligence on conflict resolutions strategies* (Thesis, University of Western Ontario) Retrived August 5, 2018 from https:// ir. lib. Uwo .ca /etd / 3865.

Garnefski, N., Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and emotional problems. *Personality and Individual Differences* , 1311-1327.

Iskender, M. (2009). The relationship between self-compassion, self-efficacy, and control belief about learning in Turkish University students. *Social Behaviour and Personality* , 37, (5), 711-720. doi 10.2224/ sbp. 2009. 5. 711.

Keel, C., & Pidgeon, A. (2017). Mediating role of self-compassion, emotional regulation on the relationship between, and psychological distress. *Journal of Basic And Applied Research*, 107-113.

Martin, R. C., &Dahlen, E. R. (2005).Cognitive emotion regulation in the prediction of depression, anxiety, stress and anger.*Personality and Individual Differences*, 39, 1249–1260.

May Zun Win. (2017). *A study on self-compassion and hostility of Grade 9 students in Shwebo township.* Unpublished master's thesis.Sagaing University of Education: Myanmar.

Neff, K. (2003a). Self-compassion: An alternative conceptualization of a healthy attitude toward one self. *Self and Identity*, 85-101.doi: 10.1080/1529886039012863.

Neff, K. (2003b). The development and validation of a scale to measure self-compassion.*Self and Identity, 2(3),* 223–250. https://doi.org/10.1080/15298860309027.

Neff, K. D., Hsieh, Y., & Dejitterat, K. (2005). Self-compassion, achievement goals, and coping with academic failure. *Self and Identity*, 4, 263-287.

Neff, K. D. (2009). Self-compassion. In M. R. Leary & R. H Hoyle, *Handbook of Individual Differences in Social Behaviour* (pp. 561-573). New York: Guilford Press.

Neff, K. D. (2009). The role of self-compassion in development: A healthier way to relate to oneself. *Human development* , 52: 211-214.

Neff, K. D, & Germer, C. K. (2013). A pilot study and randomized controlled trail of the mindful self- compassion program. *Journal of Clinical Psychology*, Vol.69 (1), 28-44.DOI: 10.1002/jclp.21923.

Petrochi, N. (2013). Dimensionality of self-compassion: translation and construct validatioon pf the self- compassion scale in an Italian sample. *Journal of Mental Health*, 1-6.

Souza, L. K., & Hutz, C. S. (2016). Self-compassion in relation to self-esteem, self-efficacy and demographical aspects. *Paideia Preto*, Vol. 26, No. 64, 181-188. doi: 10.1590/1982-43272664201604.

Thanyalak, B. (2017). *Self-compassion, psychological resilience and social media use in Thai and British higher education students.* (Doctoral Thesis,Northumbria) Retrieved November, 27, 2018. from htttp;//nrl.northumbria.ac.uk/36142/1/boonlue.thanyalak.phd.pdf.

Leahy, B. W. (2017). *Building self-compassion in adolescents through a mindfulness program.* (Thesis, University of Calagary). Retrieved October, 19, 2018. From https://prism.ucalagary.ca/ bitstream/ 11023/3585/ 1/ ucalagary-2017-wienhold-leahy-bernita.pdf.

Yokus, T., & Yokus, H. (2013). The analysis of cognitive emotion regulation skills of pre-service music teachers in terms of different variables. *International Journal of New Trends in Arts, Sports & Science Education*, Vol 2. No 27-36.

Zaw Myo Htet. (2017). *A study on mindfulness and self-compassion among Grade 9 students in Yesagyo township.* Unpublished master's thesis.Sagaing University of Education: Myanmar.

FAMILY RELATIONS AND PERSONALITY TRAITS OF PRE-SERVICE TEACHERS FROM SELECTED EDUCATION COLLEGES

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Abstract

The primary aim of this study was to examine family relations and personality traits of pre-service teachers from selected Education Colleges. Moreover, the present study was to find out the differences of the family relations and personality traits of pre-service teachers among demographic characteristics (gender and family type). The study adopted a survey research design and employed with a quantitative method. The participants in this study were 796 (male= 383, female =413) pre-service teachers from selected Education Colleges. As the instrument, Inventory of Family Relations (IFR) with 24 items which is developed by Hudson (1982) and Five Factor Model of Personality with 48 items which was developed by Dr. Tom Buchanan (2001). After that, the data were analyzed by using descriptive statistics, independent sample *t* test and ANOVA test. According to the descriptive statistics, pre-service teachers from selected Education Colleges had satisfactory family relations. The result of independent samples *t* test showed that there was a significant difference in family relations by gender. In personality, there were significant differences in emotional stability and agreeableness by gender. Furthermore, the result of ANOVA showed that there was a significant difference in family relations by family type. In personality traits, there were significant differences in conscientiousness and agreeableness by family type. The Pearson Product-Moment Correlation result revealed that there were positively significant relationships between family relations and personality traits of openness to experience, extroversion, conscientiousness, emotional stability and agreeableness. Therefore, it could be interpreted that the more the pre-service teachers got the family relations, the better they possessed the favorable personality traits.

Keywords: Family Relations, Personality Traits

Introduction

Importance of the Study

Jangaiah and Sabu (2011) suggested if a country wants to have quality educations, it must have quality teachers. Teacher's place in society is of vital important, he acts as the point of the transmission of intellectual tradition and technical skill from generation to generation and helps to keep the lamp of civilization burning. The entire program of emotional integration through education depends upon the teacher community. Teachers have to play their duty and role in setting ideal examples of emotional integration through their personal behavior, ways of thinking and doing things. Thus, teachers must have good personality traits not only for their profession but also for the nation.

Quality teachers possessed positive personality characteristics and interpersonal skills (Getzels & Jackson, 1963, cited in Arif et al., 2012). Thus, the teacher training programs need to produce pre-service teachers with having sound personality. When the teachers are training them, they must need to know the background knowledge of the pre-service teachers which affecting the personality. There is saying, "If you want to teach John Latin, you must know both John and Latin". Crow and Crow (1965) described that home is the primary societal unit. Family relationships play an important role in an individual's life pattern from early childhood through adulthood. Much of an individual's personality patterning originates at home. Not only does the child inherit certain family potentialities, but during his developing years, his attitudes, beliefs, ideals and overt behavior reflects the influences on him of home experiences.

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Based on the above reasons, this study aimed to investigate family relations and personality traits of pre-service teachers from selected Education Colleges. By knowing the family relations and personality traits of pre-services teachers, the teachers can understand pre-service teachers' family relations and personality strengths and weakness and can give the most appropriate guidelines for their pre-service teachers. Moreover, teachers can choose the suitable teaching methods by their personality types. Finally, this study will help the teachers, parents, administrators, curriculum planners and policy makers to coordinate in an effective way so that pre-service teachers can have sound personality traits after completing their formal education.

Objectives of the Study

1. To find out whether family relations of pre-service teachers differ according to gender and family type.
2. To find out whether personality traits of pre-service teachers differ according to gender and family type.
3. To find out whether there are relationship between family relations and personality traits of pre-service teachers.

Definitions of the Key Terms

Family Relations : Family Relations defined as behavioral, psychological, and social relations among various members of the nuclear family and the extended family (U.S National Library of Medicine, 2019).

Personality Traits : Personality traits refer to enduring patterns of thought, emotion, and behavior that are not likely to change over time and explain people's behavior across diffeirent situations (Costa& McCrae, 1989).

Literature Review

Bronfenbrenner's Bioecological Theory: The bioecological model is distinguished from the earlier ecological model in several ways. In Bronfenbrenner's ecological model (Bronfenbrenner, 1986), a child's experience is embedded within four levels of the environment: the microsystem, the mesosystem, the exosystem, and the macrosystem. The microsystem contains the processes (interactions and activities) that promote or inhibit development. The mesosystem includes processes occurring between two or more microsystems containing the developing person. The exosystem contains the processes occurring between two or more environments, one of which does not include the developing person. Lastly, the macrosystem is the overall cultural milieu that contains the microsystem, the mesosystem, and the exosystem. Bronfenbrenner (1979) referred to the ecological environment as a set of nested structures. In the bioecological model, Bronfenbrenner (1986) added a fifth level of environment, that is, the chronosystem. The chronosystem refers the time dimension involved in unfolding developmental processes.

Five-Factor Model of Personality: A "trait" is a temporally stable, cross-situational individual difference. Presently, the most popular approach for studying personality traits are two important models with five factors, Costa and Mc Crae's Five Factor Model, and Goldberg's Big Five). The Five-Factor Model represents the factors as extraversion, openness, agreeableness conscientiousness and neuroticism. The Big Five model replaces "neuroticism" with "emotional stability", and names the "openness" factor "intelligence". The Big Five are based upon factor analysis of the entire trait-descriptive adjective in a natural language, as collected from a dictionary. The Big Five are meant to provide a comprehensive description of phenotypic

personality traits. The Big Five model is a descriptive taxonomy that attempts to organize and quantify traits, which make up the foundation of trait theory.

Methodology

Participants

Table 1 Number of Pre-Service Teachers Showing by Grade, Gender, and Education Colleges

No	Education College	Grade	Gender		Total
			Male	Female	
1.	Monywa Education College	First Year	90	110	200
2.	Magway Education College	First Year	118	94	212
3.	Myitkyina Education College	First Year	79	96	175
4.	Meiktila Education College	First Year	94	115	209
	Total		**383**	**413**	**796**

Instrumentation

Inventory of Family Relations (IFR): To measure the intra-familial environment as perceived by students, the Inventory of Family Relations (IFR) was used. This index was originally developed by Hudsen (1982). It comprises of 24 items. It uses five point Likert type scales to solicit students' responses.

Five-Factor Model of Personality Inventory: In order to determine the personality traits of pre-service teachers, Five Factor Personality Inventory developed by Dr. Tom Buchanan (2001) was used. It consists of 48 items. It uses four point likert scales.

Data Analysis and Findings

The Descriptive Statistics for Family Relations of Pre-Service Teachers

Table 2 Descriptive Statistics for Family Relations of Pre-Service Teachers

Variable	*N*	Minimum	Maximum	Mean	*SD*
Family Relations	796	58	120	103.17	10.321

Table 2 showed that the maximum, minimum and mean scores of pre-service teachers in family relations were 120, 58 and 103.17. According to the result, observed mean score of pre-service teacher's family relations (103.17) was higher than the theoretical mean (72). Therefore, the pre-service teachers from selected Education College had satisfactory family relations.

Comparison of Pre-Service Teachers' Family Relations by Gender

Descriptive analysis revealed the different means and standard deviations for family relations of pre-service teachers with respect to gender.

Table 3 Mean Comparison and Results of Independent Samples *t* Test for Comparing Pre-Service Teachers' Family Relations by Gender

Variable	Gender	*N*	Mean	*SD*	*T*	*df*	*p*	*MD*
Family Relations	Male	383	101.18	11.393	-5.290***	794	.000	-3.840
	Female	413	105.03	8.833				

Note. ***The mean difference was significant at the 0.001level.

According to the Table 3 showed that the mean score of female pre-service teachers' family relations was a bit higher than that of male pre-service teachers' family relations.

According to the result of *t* test, there was a significant difference in family relations of pre-service teachers by gender at 0.001 level.

It was consistent with the research of Sanson, Smart and Oberklaid (2000) that the gender differences of parent-child relationship differ from time to time during their first 15 years of life. According to their study, females had more difficulties in parent-child relationship during the age of 5 to 7 years; however, it gradually decreases to the age of 15 years. On the contrary, males' difficulty in parent-child relationship gradually increases throughout their first 15 years of life. According to the research of Thandar Aye (2017) found that female had higher perceived parental nurturing than males. Therefore, females had more bonds on their families than males. Moreover, most of the girls are willing to live with their families happily. Therefore, it can be concluded that the female pre-service teachers may be better in family relations than male pre-service teachers.

Comparison of Pre-Service Teachers' Family Relations by Family Type

Family type classified into three groups. They were nuclear family, joint or extended family and single parent family. Nuclear family system was used to define a family group consisting of father, mother, and their children. Joint or extended family system comprised of father, mother and children, one or more grandparents, an Aunt, an Uncle and even some cousin, live together within the same houses (Parveen, 2007). Single parent family was understood by the general public as a synonym of families in which a lone parent lives with a child (children) or in which a lone grandparent lives with a grandchild (grandchildren).

Table 4   Mean Comparison of Pre-Service Teachers' Family Relations by Family Type

Variable	Family Type	*N*	Mean	*SD*
Family Relations	Single parent Family	136	101.66	10.532
	Nuclear Family	567	103.75	10.309
	Extended Family	93	101.75	9.736
	Total	**796**	**103.16**	**10.312**

According to Table 4, the mean score of the pre-service teacher's family types was slightly different from each other. The mean score of family relations of pre-service teachers from nuclear family was the highest and the mean score of family relations of pre-service teachers from single parent family was the lowest among all family types.

In order to compare the family relations of pre-service teachers by their family type, One-Way analysis of Variance (ANOVA) was used. The result of ANOVA was presented in Table 5.

Table 5 ANOVA Result of Pre-Service Teachers' Family Relations by Family Type

Family Type	Sum of Squares	*df*	Mean Square	*F*	*p*
Between Groups	686.547	2	343.274	3.246*	0.039
Within Groups	83852.190	793	105.740		
Total	84538.737	795			

Note. *The mean difference was significant at the 0.05 level.

The result of Table 4.4 indicated that there were significant differences in family relations of pre-service teachers by their family type at the 0.05 level. To compare family relations of pre-service teachers by family type, the post-hoc analysis was conducted. Tukey results can be seen in Table 6.

Table 6 Results of Tukey HSD of Pre-Service Teachers' Family Relations by Family Type

Variable	Family Type(I)	Family Type(J)	Mean Difference(I-J)	*p*
Family Relations	Single Parent Family	Nuclear Family	-2.088	.085
		Extended Family	-.091	.998
		Single Parent Family	2.088	.085
	Nuclear Family	Extended Family	1.997	.193

According to the finding as shown in Table 4.5, there were no significant differences in family relations of pre-service teachers among their family types. Therefore, the family relations of pre-service teachers from selected Education Colleges had no significant differences according to their family types. It may be the fact that whatever family type might be, the family members can build good family relations with their love and affection, empathy, care, mutual respect and understanding to one another in their families. Therefore, it can be interpreted that the family relations of pre-service teachers may not depend on their family type.

Descriptive Statistics for the Personality Traits of Pre-Service Teachers

Personality traits consisted of five dimensions; openness to experience, extroversion, conscientiousness, emotional stability and agreeableness. In order to compare the mean scores of pre-service teacher's personality traits, the descriptive statistics was conducted. Descriptive analysis revealed the differences in means and standard deviations for personality traits of pre-service teachers (see Table 7).

Table 7 Mean Comparison for Personality Traits of Pre-Service Teachers

Dimension	No. of item	Minimum	Maximum	Mean	Mean%	*SD*
Openness to Experience	8	14	32	24.48	77%	2.740
Extroversion	10	12	38	25.95	65%	3.266
Conscientiousness	10	16	40	29.85	75%	3.625
Emotional Stability	10	13	39	27.68	69%	3.856
Agreeableness	10	21	40	31.95	80%	3.561

In Table 7, the mean scores of personality traits of pre-service teachers were a little different from each other. The mean percent of openness to experience, extroversion, conscientiousness, emotional stability and agreeableness was 77%, 65%, 75%, 69% and 80%. Among them, the mean percent of agreeableness was the highest. Therefore, all the pre-service teachers from selected Education Colleges had got the highest in agreeableness characters such as being considerate, generous, helpful, cooperative, friendly, and so on.

Comparison for Personality Traits of Pre-Service Teachers by Gender

Descriptive statistics was conducted to compare personality traits of pre-service teachers by gender.

Table 8   Mean Comparison and Result of Independent Sample *t* Test for Personality Traits of Pre-Service teachers by Gender

Personality Traits	Gender	*N*	Mean	*SD*	*t*	*df*	*p*	*MD*
Openness to Experience	Male	383	24.52	2.790	.432	794	.666	.084
	Female	413	24.44	2.696				
Extroversion	Male	383	25.81	3.229	-1.189	794	.235	-.276
	Female	413	26.08	3.299				
Conscientiousness	Male	383	29.70	3.955	-1.046	794	.296	-.271
	Female	413	29.98	3.288				
Emotional Stability	Male	383	28.02	3.748	2.374*	794	.018	.648
	Female	413	27.37	3.933				
Agreeableness	Male	383	31.53	3.772	-3.200**	794	.001	-.806
	Female	413	32.34	3.298				

Note. **The mean difference was significant at the 0.01 level.
Note. *The mean difference was significant at the 0.05 level.

When the personality traits of pre-service teachers were compared with respect to gender, the male pre-service teachers had slightly higher mean scores in openness to experience and emotional stability than female pre-service teachers while female pre-service teachers had slightly higher mean scores in extroversion, conscientiousness and agreeableness than male pre-service teachers.

According to the result of *t* test, there were significant differences in emotional stability at the 0.05 level and in agreeableness at the 0.01 level according to gender. In this way, male pre-service teachers were higher in emotional stability than female pre-service teachers.

It was contract with Parveen (2007) and Hsu Hsu Win (2017) that there was no significant difference between male and female in emotional stability. It was consistent with the previous researchers of and Arif et al., (2012), Ei Ei Mar (2016) and Aye Chan Zaw (2018) that females indicated of anxiety than males. Therefore, it can be interpreted that the female pre-service teachers may possess low in emotional stability. On the other hand, female pre-service teachers were higher in agreeableness than male pre-service teachers. It may be due to the fact that the almost of females had got the spirit of mothers like kind-hearted, warm, helpful, cooperative, generous and friendly and so on. Feingold (1994) found that women were more nurturing, tender-minded, and altruistic than men. Moreover, Feingold (1994) found that woman invested themselves in the development and maintenance of positive enduring personal relationships and endorse them to a greater extent than men. Therefore, it can be interpreted that the female pre-service teachers may possess higher in agreeableness characters than male pre-service teachers.

Moreover, On the other hand, female pre-service teachers were greater in agreeableness than male pre-service teachers. But, there were no significant differences in openness to experience, extroversion and conscientiousness of the pre-service teachers by gender. It was consistent with the research of Suri (1973) and Saraswat (1964) who found very few differences on all the personality factors, between males and females. It may be due to the fact that openness

to experience, extroversion and conscientiousness depend on innate abilities, environment and individual differences of the pre-service teachers. Therefore, it can be said that gender may not concerned on openness to experience, extroversion and conscientiousness of the pre-service teachers.

Comparison for Personality Traits of Pre-Service Teachers by Family Type

The personality traits of pre-service teachers were also compared according to their family type. By using descriptive analyses, the means and standard deviations of the personality traits of pre-service teachers with regard to their family type were displayed in Table 9.

Table 9 Mean Comparison for Personality Traits of Pre-Service Teachers by Family Type

Personality Traits	Family Type	*N*	Mean	Minimum	Maximum
Openness to Experience	Single parent	136	24.43	20	32
	Nuclear	567	24.53	14	32
	Extended	93	24.26	17	31
Extroversion	Single parent	136	25.64	16	35
	Nuclear	567	25.96	12	38
	Extended	93	26.33	19	33
Conscientiousness	Single parent	136	29.84	22	39
	Nuclear	567	30.03	19	40
	Extended	93	28.74	16	39
Emotional Stability	Single parent	136	27.33	13	37
	Nuclear	567	27.88	16	39
	Extended	93	26.98	20	33
Agreeableness	Single parent	136	32.08	21	40
	Nuclear	567	32.09	22	40
	Extended	93	30.88	21	40

According to the results of Table 9, there were mean differences in personality traits of pre-service teachers according to family type. However, the pre-service teachers from nuclear family got the highest mean score in openness to experience, conscientiousness, emotional stability and agreeableness. Moreover, the pre-service teachers form extended family got the highest mean score in extroversion.

To observe clearly the significant differences in personality traits among pre-service teachers' family type, One Way Analysis of Variance (ANOVA) was conducted again.

Table 10 ANOVA Results for Personality Traits among Pre-Service Teachers' Family Type

Personality Traits		Sum of Squares	*df*	Mean Square	*F*	*P*
Openness	Between Groups	6.239	3	3.120	.415	.661
	Within Groups	5964.397	792	7.521		
	Total	5970.637	795			

Personality Traits		Sum of Squares	df	Mean Square	F	P
Extroversion	Between Groups	26.831	2	13.416	1.258	.285
	Within Groups	8455.159	793	10.662		
	Total	8481.990	795			
Conscientiousness	Between Groups	132.198	2	66.099	5.083**	.006
	Within Groups	10311.796	793	13.004		
	Total	10443.994	795			
Emotional Stability	Between Groups	84.640	2	42.320	2.859	.058
	Within Groups	11736.670	793	14.800		
	Total	11821.310	795			
Agreeableness	Between Groups	119.562	2	59.781	4.759**	.009
	Within Groups	9962.222	793	12.563		
	Total	10081.784	795			

Note. **The mean difference was significant at the 0.01 level.

According to the ANOVA results, significant differences among pre-service teacher's family type were found in conscientiousness at the 0.01 level and in agreeableness at the 0.01 level. On the other hand, there were no significant differences in openness to experience, extroversion and emotional stability of pre-service teachers according to their family type.

To obtain more detailed information about this, post hoc test was executed by Tukey HSD method in conscientiousness and agreeableness.

Table 11 Results of Tukey HSD for Pre-Service Teachers' Personality Traits by Family Type in Conscientiousness and Agreeableness

Personality Traits	Family Type (I)	Family Type (J)	Mean Difference (I-J)	P
Conscientiousness	Nuclear	Extended	1.286**	.004
Agreeableness	Extended Family	Nuclear Family	-1.199*	.032
		Single Parent Family	-1.208**	.007

Note. *The mean difference was significant at the 0.05 level.
Note. **The mean difference was significant at the 0.01 level.

The result of post hoc test showed that the pre-service teachers from nuclear family possessed more conscientiousness than pre-service teachers from the extended family. Moreover, the pre-service teachers from extended family possessed less tendencies in agreeableness than the pre-service teachers form nuclear and single parent family.

Roberts (2013) found that nuclear families offer a much more stable environment for children with compare to single parent, extended or any other new age style of family unit. When

both parents are a part of child's life, it is easier to discipline them and learn the important values of life. Such children suffer from fewer behavioral problems and respond to authority appropriately. Therefore, the pre- service teachers from nuclear family may possess more conscientiousness than those from the extended family.

Moreover, the pre-service teachers from extended family were less in agreeableness than the pre-service teachers form nuclear and single parent families. It may be the fact that the extended family comprised multiple generations living together under the same roof. By growing up with an extended family, pre-service teachers can have difficulties in adjustment within the family. Therefore, the pre-service teachers from extended family possess less tendencies in agreeableness character than those from the nuclear and single parent families.

Relationship between Family Relations and Personality Traits of Pre-Service Teachers

In order to explore the relationship between family relations and personality traits of pre-service teachers, the Pearson Product-Moment Coefficient was calculated. The results of inter-correlations were displayed in Table 12.

Table 12 Inter-Correlation for Family Relations and Personality Traits of Pre-Service Teachers

	Family Relations	O	E	C	EM	A
Family Relations	-	-	-	-	-	-
O	.210**	-	-	-	-	-
E	.088*	.310**	-	-	-	-
C	.313**	.527**	.238**	-	-	-
EM	.275**	.351**	.346**	.464**	-	-
A	.332**	.531**	.265**	.561**	.380**	-

Note.* Correlation was significant at the 0.05 level (2-tailed).
Note. **, Correlation was significant at the 0.01 level (2-tailed).
O= Openness to experience, E= Extroversion, C= Conscientiousness, EM= Emotional Stability, A= Agreeableness

According to Table 12, personality traits of pre-service teacher were significant positive relationship to family relations. Here, the inter-correlation for family relations and openness to experience of pre-service teachers was .210 at the 0.01 level. The inter-correlation for family relations and extroversion of pre-service teachers was .088 at the 0.05 level. The inter-correlation for family relations and conscientiousness of pre-service teachers was .313 at the 0.01 level. The inter-correlation for family relations and emotional stability of pre-service teachers was .351 at the 0.01 level. The inter-correlation for family relations and agreeableness of pre-service teachers was .531 at the 0.01 level. Among them, extroversion was the lowest correlation with the family relations. However, agreeableness was the highest correlation with the family relations. Therefore, the pre-service teachers who had high in family relations tend to be more helpful, kind, and cooperative in their daily activities. It could be concluded that the more they got the family relations, the better they possessed personality traits.

Conclusion

By investigating the family relations and personality traits of pre-service teachers from selected Education Colleges, there are many advantages for the teachers, parents and administrators to implement their pre-service teachers to be good citizens not only their

profession but also the nation. The benefits of the study of family relations and personality traits of pre-service teachers were the followings.

1. The teachers can realize the fact that the family relations are positively related to personality traits of the pre-service teachers.

2. The teachers can know the family relations of the pre-service teachers and can give them suitable guidelines to be good interpersonal relationships with their family members.

3. The teachers can understand strengths and weakness of the personality traits of pre-service teachers and can modify their behaviors in a desirable way.

4. Teachers can plan suitable teaching methods by pre-service teacher's personality types.

5. The pre-service teachers will possess sound personality traits after the formal education.

Acknowledgements

References

Arif, M. I., Tahira, S. S., & Akhter, M. (2012).Personality and *teaching*: An investigation into prospective teachers' personality. *International Journal of Humanities and Social Science,* Vol. 2 No. 17. Retrieved August 19, 2018 from https://p dfs.semanticschyolar,org /a1a3/b69e8bn482911598df7 66359d 365542 6302c. ppdf.

Aye Chan Zaw (2018). *An investigation into spirituality and personality of pre- teachers from Universities of Education in Myanmar*. Unpublished Master's thesis. Sagaing University of Education, Myanmar.

Bossard, J. H. S. (1954.). The sociology of child development. New York: Harper.

Bronfenbrenner, U. (1979). The ecology of human development*: Experiments by nature and design.* Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. (1986). Recent advances in research on the ecology of human development. In E. K. Silbereisen & G. Rudinger (Eds.), *Development as action in context: Problem behavior and normal youth development* (pp. 286-309). New York: Springer-Verlag.

Buchanan, T. (2001). Implementing a Five-Factor Personality Inventory for use on the Internet. Retrieved October 7, 2018 from https://pdfs.semanticscholar.org/f010a2376dof9a6b95f696a20683393aad754.pdf

Costa, P.T., Jr., & McCrae, P.P. (1992). Revised NEO personality inventory (NEO-PI_R) and NEO five factor inventory (NEO-FFI) professional manual. Odessa, FK: *Psychological Assessment Resources*, Inc.

Crow D. Lester & Crow Alice. (1965). Adolescent development and adjustment. McGraw-Hill Book Company NewYark. Retrieved September 13, 2018 from http://catalog.hathitrust.org/Record/00430928

Ei Ei Mar (2016). *The Relationship between personality and career interests of Grade 10 students in Yamethin Township*. Unpulblished Master's thesis. Sagaing University of Education, Myanmar. Retrieved August 18, 2018.

Feingold, A. (1994). Gender differences in personality: A meta-analysis. *Psychological Bulletin*,Vol,116. No.3, 429-456. Retrieved September 12, 2018 from http://www.cin.ufpe.br/ssj/ Gender% 20differences% %20in% 20Personality%20A%20Meta-pdf.

Hsu Hsu Win (2017). *A study on the personality traits of grades 9 students from selected schools in Myanmar Township.* Unpublished Master's thesis. Sagaing University of Education, Myanmar. Retrieved August 18, 2018.

Hudson, w.w. (1982). Index of family relations. Retrieved September 15, 2018 from http:// www. walmyr. com/ PDFs/ IFRSAMPLE.pdf

Jangaianh, C. & Sabu, S. (2011). Teacher education. A handbook for teacher educations. New Delhi: S.B. Nangaia. Retrieved August 24, 2018.

Parveen, A. (2007). Effect of home environment on personality and academic achievement of students of Grade 12 in Rawalpindi Division. Retrieved August 1, 2018 from http://citeseerx.ist.psu. Edu/viewdoc/ download?Doi=10.1.1.474.1140&reptype=pdf.

Prior, M., Sanson, A., Smart, D., & Oberklaid, F. (2000). Pathways from infancy to adolescence*: Australian temperament project 1983–2000.* Melbourne: Australian Institute of Family Studies.

Roberts, C. H. (2013). Children in nuclear families: Stronger, smarter, better? Retrieved January 15, 2019 from https://www.securetee.com/parenting-style/children-in-nuclear-families-stronger-smarter-better/

Suri, S. P. (1973). Differential personality traits in intellectually superior, average and below average students, Unpublished Thesis, PhD (Education.Kurukshetra University).

Thandar Aye, (2017). *A study on family environment and life satisfaction of student teachers from Loikaw Education College*. Unpublished Master's thesis. Sagaing University of Education, Myanmar.

U.S National Library of Medicine, (2019). Definition of family relations. Retrieved from January 13, 2019 from https://www.defintions.net/definition/family+relations

PARTICIPATION IN EXTRACURRICULAR ACTIVITIES AND SOCIAL SKILLS OF PRE-SERVICE TEACHERS FROM EDUCATION COLLEGES

Khin Cho Lin[1], OhmmarWin[2]

Abstract

The main purpose of this study is to investigate participation in extracurricular activities and social skills of pre-service teachers from selected Education Colleges. Descriptive Survey method and quantitative approach were used. The Education colleges and pre-service teachers were selected by using simple random sampling technique. A total of 788 pre-service teachers (394 males and 394 females) from selected Education Colleges participated. As research instruments, the questionnaire of Examining the breadth and depth of extracurricular activity participation developed by Denault and Poulin (2009) and the questionnaire of social skills developed by Carmen Paz Tapia-Gutierrez and S[1]ixtoCubo-Delgado (2015) were used. In data analyses, descriptive statistics, independent samples t test, one-way ANOVA, Post Hoc Test (Tukey HSD, Games Howell) and Pearson Product Moment Correlation technique were used. According to the results, the levels of participation in extracurricular activities and social skills were satisfactory. And then, the present study indicated that there were gender, education level and college differences between participation in extracurricular activities of pre-service teachers. The participation in extracurricular activities of male pre-service teachers was higher than that of female pre-service teachers. And then, the mean score of participation in extracurricular activities for second year pre-service teachers was highest in this study and there was significant difference between first year and second year. Participation in extracurricular activities of pre-service teachers from College 1 was significant difference from College 3. In social skills of pre-service teachers, there were no significant differences by gender, education level and college. Moreover, based on the results, participation in extracurricular activities of pre-service teachers was found a significant and positive correlation with their social skills (r=.298, p<.01).

Keywords: Social Skills, Extracurricular Activities, Pre-Service Teachers

Introduction

The lives of many youths are substantially enriched by their participation in organized extracurricular activities, which are defined broadly to include adult-sanctioned organized activities that youths do outside of the classroom, whether or not they are school sponsored (cited in Tom, et al, 2002). Extracurricular activities can strengthen the interaction between the students and at the same time promoting integration between the races as well as nurturing decencies, independencies, hardwork, disciplined and obedient to the law which develops the students into becoming a useful citizen (Wee Eng Hoe, 1994) (cited in Ahmad, 2016). Therefore, extracurricular activities are capable to improve social skills among students which will also help them in the future career prospects.

According to Gresham & Elliot (1990), social skills may be defined as socially acceptable learned behaviors that enable a person to interact with others in ways that elicit positive responses and assist in avoiding negative responses. Children with social skills deficit are at risk for social-emotional difficulties and poor academic performances (Parker and Asher, 1987). Specifically, to be successful in school, students need to learn not only academic content, but also how to acquire academic content through classroom discourse, room discourse involves interaction with teachers and peers, and is based on a procedural knowledge of social participation structure (Sung, 2009).

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Extracurricular activities are closely linked with the balance development of mental and spiritual, physical and as well as socials among students. It is also capable in building social skills such as communication, leadership, thinking, interpersonal, cooperation. With the implementation of extracurricular activities, individuals who are highly skilled can be produced and can become a holistic human capital and competitive at the international level.

Purpose of the Study

The main purpose of the study isto investigate the participation in extracurricular activities and social skills of pre-service teachers from Education Colleges.

Definitions of the Key Terms

Social Skills	: Social skills are characterized by a set of behaviors displayed by individuals in an interpersonal context in which they express feelings, attitudes, desires, opinions or rights adequately for the situations, respecting the same behaviors in others (Caballo, 1986).
Extracurricular Activities	:'Extracurricular activities' refers to any activities that take place outside of the regular (compulsory) school curriculum. "The activities are voluntary, and students do not receive grades for academic credit for them" (Holloway, 2000).
Pre-service Teachers	: The students who participated in pre-service training or education, a course or program of study which student teachers complete before they begin teaching (Richards and Schmidt, 2002).

Review of Related Literature

Different activities, in which students participate, both inside and outside the school itself, are among the multiple situations or agents that can have effect on performance. In the USA, extracurricular activities have been associated with an improved education level, more competences that are interpersonal, higher aspirations and a better attention level. Increased critical thinking and personal and social maturity, higher motivation and benefits that serve to bridge school activities with those performed outside the academic setting (Noam, Biancarosa & Dechausay, 2003), (cited in Annu, S., &Sunita, M., 2015)

Such involvement in extracurricular activities helps young people discover and share talents, develop character and competence and often provide the added benefit of close relationships with caring, principled adults outside the home. There are specific benefits that may result through participation in extracurricular activities. Youth who are involved in organizations are more likely to show leadership abilities and are more likely to become leaders, compared to non- participants.

Involvement in such activities had a positive influence on self-esteem and community service. The key points that will be made in this claim of fact are that students involved in extracurricular activities receive better grades than those who are not involved in extracurricular activities. In addition, activities improve the overall student. Therefore, they help students to receive better grades by teaching them character building lessons, teaching them lifelong skills, saving some at risk students who would possibly drop out of school, and helping students develop social skills.

The process of acquiring social skills continues as children participate in different interactions that reinforce positive social behaviors (cited in Brook, 2013). Children also become aware of their undesirable social behaviors when they are given corrective feedback from other children. When children fail to acquire and enact effective social skills with other children, they are viewed as socially incompetent by their peers and they are at risk for social isolation (cited in Brook, 2013). This isolation further restricts opportunities to practice important skills that can enhance social development. The classroom is one such environment children must learn to navigate. Successful learning requires students to interact closely with teachers and peers. In addition to their general importance for daily interaction, social skills can have a big impact on a child's ability to succeed in an academic setting. The classroom becomes both a training ground for development of social skills andan arena in which those skills are put to use.

Social skills are skills every person needs to possess in order to relate to others. Developing these skills starts at an early age. Social competence, defined as the ability to initiate and maintain satisfying relationships, should be developed by age seven. Skills that children should acquire include, but are not limited to, discussing, compromising, negotiating, stating feelings and desires, articulating preferences, articulating reasons for making good choices or decisions, cooperating, turn taking, asserting themselves, empathizing with others, and gaining access to and interacting with their peers (Knight & Hughes, 1995)(cited in Slimmer, n.d). It is highly recommended that all children be introduced to each of these skills throughout their early educational years.

Methodology

This study examined participation in extracurricular activities and social skills of pre-service teachers from selected Education Colleges.

Sampling

A total of 788 pre-service teachers (394 males and 394 females) were selected from three Education Colleges.

Instrumentation

In this study, questionnaire of Examining the breadth and depth of extracurricular activity participation (Denault and Poulin, 2009) and that of social skills developed by Carmen Paz Tapia-Gutierrez and SixtoCubo-Delgado (2015) were used to measure the participation in extracurricular activities and social skills of pre-service teachers. Questionnaire of social skills was grouped into five categories; solidarity and empathic skills (11 items), conversational skills (11 items), self- assertion skills (6 items), collaboration skills (8 items) and conflict resolution skills (5 items). The questionnaire of Examining the breadth and depth of extracurricular activity participation consists of 14 items. So, the total is 55 items. This questionnaire was revised and modified by the researcher.

Procedure

The current study explored the participation in extracurricular activities and social skills of pre-service teachers from selected Education Colleges. The study was conducted with two instruments. Respondents used 4 point Likert scale to rate each statement in both questionnaires. After collecting the required data, data analysis was conducted.

Data Analysis and Findings

To study the participation in extracurricular activities of pre-service teachers, descriptive statistics was used. The results for 788 participants were presented in Table 1. As shown in Table 1, the result is satisfactory because total mean score is 20.02. This means that the pre-service teachers are interested in extracurricular activities.

Table 1 Descriptive Statistics for Participation in Extracurricular Activities of Pre-service Teachers

Variable	N	No. of items	Min	Max	Mean	Std. Deviation
Participation in Extracurricular Activities	788	14	2	42	20.02	7.746

The Subscales of Participation in Extracurricular Activities

Participation in Extracurricular Activities was divided into two subscales. They were individual activities and group activities. Descriptive analysis revealed means and standard deviations for two subscales of participation in extracurricular activities.

Table 2 Mean Comparison for the Subscales of Pre-service Teachers' Participation in Extracurricular Activities

Subscales	N	No. of items	Min	Max	Mean	Std. Deviation
Individual Activities	788	7	0	21	7.52	4.347
Group Activities	788	7	0	21	12.51	4.377

Table 2 showed that the number of participants, number of items, minimum, maximum, mean and standard deviation of participation in extracurricular activities. It can be found that the mean score of group activities was higher than that of individual activities. So, it can be concluded that pre-service teachers participate more in group activities.

Comparison of Participation in Extracurricular Activities by Gender

To know participation level in extracurricular activities between male and female, descriptive analysis was conducted.

Table 3 Descriptive Statistics for Pre-service Teachers' Participation in Extracurricular Activities by Gender

Variable	Gender	N	Mean	Std. Deviation	Mean Difference
Participation in Extracurricular Activities	Male	394	21.15	8.102	2.25
	Female	394	18.90	7.207	

The mean scores and standard deviations are reported in Table 3. The total mean score of participation in extracurricular activities for male pre-service teachers exceeds 2.25 than that of female pre-service teachers. It means that participation level in extracurricular activities of male pre-service teachers were higher than that of female pre-service teachers.

To examine whether these differences were significant or not, the independent sample *t* test was conducted. The results of *t* test were described in Table 4.

Table 4 The Result of Independent Sample t test for Pre-service Teachers' Participation in Extracurricular Activities by Gender

Variable	Gender	N	*t*	*df*	*p*	Mean Difference
Participation in Extracurricular Activities	Male	394	4.13***	786	.000	2.25
	Female	394				

*Note:*** The mean difference is significant at 0.001 level.

According to Table 4, the result of *t* test indicated that there was significant difference between male and female pre-service teachers in participation in extracurricular activities.

Moreover, descriptive analysis was conducted to compare participation level in extracurricular activities by different subscales of male and female pre-service teachers. The means, standard deviations and mean differences of participation in extracurricular activities between male and female pre-service teachers for each subscale were displayed in Table 5.

Table 5 Descriptive Statistics for Pre-service Teachers' Participation in Extracurricular Activities by Gender in Each Subscale

Subscales	Gender	N	Mean	Std. Deviation	Mean Difference
Individual Activities	Male	394	8.09	4.626	1.15
	Female	394	6.94	3.973	
Group Activities	Male	394	13.06	4.477	1.11
	Female	394	11.95	4.208	

And then, to examine whether these differences were significant or not, the independent sample *t* test was conducted.

Table 6   The Result of Independent Sample t test for Pre-service Teachers' Participation in Extracurricular Activities by Gender in Each Subscale

Subscales	Gender	N	*t*	*df*	*p*	Mean Difference
Individual Activities	Male	394	3.742***	786	.000	1.15
	Female	394				
Group Activities	Male	394	3.575***	786	.000	1.11
	Female	394				

Note: ***The mean difference is significant at 0.001 level.

According to the result of *t* test in Table 6, the gender differences occurred in all subscales at 0.001 levels. So, there were significant differences in both subscales. Therefore, it can be interpreted that male pre-service teachers exceeds in both subscales than female pre-service teachers.

Comparison of Participation in Extracurricular Activities by Education Level

To examine the effect of the education level, a mean comparison of participation in extracurricular activitieswas conducted. In this part, there were 262 pre-service teachers from first year, 263 pre-service teachers from second year and 263 pre-service teachers from PPTT. It was found that the mean score of participation in extracurricular activities of second year pre-service teachers was highest (in Table 7). It can be concluded that second year pre-service teachers more participate in extracurricular activities than other selected education levels.

Table 7 Descriptive Statistics for Pre-service Teachers' Participation in Extracurricular Activities by Education Level

Variable	Education Level	N	Mean	Std. Deviation
Participation in Extracurricular Activities	1st Year	262	19.02	7.875
	2nd Year	263	20.89	7.949
	PPTT	263	20.17	7.311

According to the results of Table 7, it was found that the mean scores of participation in extracurricular activities first year, second year and post graduated pre-service teachers were 19.02, 20.89 and 20.17 and their standard deviations were 7.875, 7.949 and 7.311 respectively. And then, the mean score of participation in extracurricular activities for second year pre-service teachers was highest in this study. The researcher investigated whether there were significant differences in participation in extracurricular activities among three education levels. Therefore, one-way ANOVA was used to examine the differences among three education levels. It was found that there were significant differences among three education levels concerning the participation in extracurricular activities, ($F = 3.924$, $p = 0.020$).

Table 8 ANOVA Results for Pre-service Teachers' Participation Extracurricular Activities by Education Level

Variables	Sum of Squares	df	Mean Square	F	p
Between Groups	467.386	2	233.693		
Within Groups	46747.156	785	59.551	3.924*	.020
Total	47214.542	787			

Note: *The mean difference is significant at 0.05 level.

For making mean comparisons among three education levels, Games-Howell was again employed by using Post-Hoc Test method and pre-service teachers' participation level in extracurricular activities was interpreted by using multiple comparison method (see in Table 9).

Table 9 The Result of Post Hoc Test for Pre-service Teachers' Participation in Extracurricular Activities by Education Level

(I) Education Level	(J) Education Level	Mean Difference	p
1st Year	2nd Year	-1.871*	.019
	PPTT	-1.152	.192
2nd Year	1st Year	1.871*	.019
	PPTT	.719	.527
PPTT	1st Year	1.152	.192
	2nd Year	-.719	.527

Note: *The mean difference is significant at 0.05 level.

Based on the results of the Post Hoc Test by using Games-Howell method, it can be concluded that the participation in extracurricular activities of first year pre-service teachers was significant difference from participation in extracurricular activities of second year pre-service teachers. And there was no significant difference between second year and PPTT. It was also found that second year pre-service teachers was most participate in extracurricular activities in all selected education levels.

Comparison of Pre-service Teachers' Participation Extracurricular Activitiesby Colleges

In order to know pre-service teachers' participation in extracurricular activities among selected colleges, descriptive statistics was made.

Table 10 Descriptive Statistics for Pre-service Teachers' Participation Extracurricular Activities by Colleges

Variable	Colleges	N	Mean	Std. Deviation
Participation in Extracurricular Activities	College 1	261	19.04	8.258
	College 2	261	19.92	7.402
	College 3	266	21.09	7.444

The mean scores of participation in extracurricular activities in selected colleges are 19.04, 19.92 and 21.09. As mentioned in Table 10, the mean score of college 3 was higher than any other colleges in participation in extracurricular activities. Therefore, the pre-service teachers from college 3 were most interested in extracurricular activities. The pre-service teachers from college 2 were more interested in extracurricular activities than college 1.

The researcher investigated whether there was significant difference in participation in extracurricular activities among the selected colleges. Therefore, one-way ANOVA was used to examine the difference among the selected colleges. It was found that there was significant difference among the selected colleges concerning the participation in extracurricular activities ($F = 4.665$, $p = 0.010$) see in Table 11.

Table 11   ANOVA Results for Pre-service Teachers' Extracurricular Activities by Colleges

Variables	Sum of Squares	df	Mean Square	F	p
Between Groups	554.527	2	277.263		
Within Groups	46660.015	785	59.440	4.665**	.010
Total	47214.542	787			

Note: *The mean difference is significant at 0.01 level.

Again, Post Hoc comparison was computed using Games-Howell test to find out the difference between participation in extracurricular activities which college is significant difference from that of each other (see in Table 12).

Table 12 The Result of Post Hoc Test for Pre-service Teachers' Participation in Extracurricular Activities by Colleges

(I) Colleges	(J) Colleges	Mean Difference	p
College 1	College 2	-.881	.405
	College 3	-2.044*	.008
College 2	College 1	.881	.405
	College 3	-1.163	.171
College 3	College 1	2.044*	.008
	College 2	1.163	.171

Note: *The mean difference is significant at 0.05 level.

Based on the results of Post-Hoc Test by using Games Howell method, participation level in extracurricular activities from college 1was significant difference from college 3. But there was no significant difference among other colleges.

Comparison of Social Skills

Firstly, to study the social skills of pre-service teachers, descriptive statistics was used. The results for all 788 participants were presented in Table 10.

Table 13 Descriptive Statistics for Social Skills of the Pre-service Teachers

Variable	N	No. of items	Minimum	Maximum	Mean	Std. Deviation
Social Skills	788	41	79	161	122.64	8.973

The descriptive statistics for social skills of pre-service teachers was shown in Table 13. This table showed that the total mean score of social skills of pre-service teachers. Descriptive statistics showed that the mean and standard deviation for the whole sample were 122.64 and 8.973 respectively. To know the detailed information among the subscales of social skills, descriptive statistics was again conducted.

The Subscales of Social Skills

Social skills consist of five subscales. They were solidarity and empathic skills, conversational skills, self-assertion skills, collaboration skills and conflict resolution skills. Descriptive analysis revealed means and standard deviations for five subscales of social skills. Means percent were computed since item proportion is not equal.

Table 14 Mean Percent Comparisons for the Subscales of Social Skills of Pre-service Teachers

Subscales	N	No. of items	Min	Max	Mean	Mean Percent	Std. Deviation
Solidarity and empathic skills	788	11	16	44	33.83	76.89%	3.241
Conversational Skills	788	11	20	44	31.56	71.73%	2.986
Self-assertion Skills	788	6	11	23	17.41	72.54%	1.719
Collaboration Skills	788	8	10	32	24.52	76.63%	2.437
Conflict Resolution skills	788	5	9	20	15.31	76.55%	1.706

Table 14 showed that the number of participants, number of items, minimum, maximum, mean, mean percentage and standard deviation of social skills. Although the mean percent of Solidarity and empathic skills (76.89%) was the highest and that of Conversational Skills (71.73%) was the lowest, it cannot be interpreted that pre-service teachers have good level of solidarity and empathic skills and poor level of Conversational Skills because mean percent were not highly different.

Comparison of Social Skills by Gender

To know social skills between male and female pre-service teachers, descriptive analysis was conducted. The means and standard deviations of males and females were reported in Table 12.

Table 15 Descriptive Statistics for Social Skills by Gender

Variable	Gender	N	Mean	Std. Deviation	Mean Difference
Social Skills	Male	394	122.90	9.474	0.53
	Female	394	122.37	8.447	

As mentioned in Table 15, the total mean score of social skills for male pre-service teachers exceeds 0.53 than that of female pre-service teachers. So, social skills of male pre-service teachers were slightly higher than that of female pre-service teachers.

To examine whether these differences were significant or not, the independent sample *t* test was conducted. The results of *t* test were described in Table 16.

Table 16 The Result of Independent Sample t test for Social Skills of Pre-service Teachers by Gender

Variable	Gender	N	*t*	*df*	*p*	Mean Difference
Social Skills	**Male**	394	.837	786	.403	0.53
	Female	394				

According to Table 16, the result of *t* testindicated that there was no significant difference between male and female pre-service teachers in social skills.

Moreover, descriptive analysis was conducted to compare social skills by different subscales of male and female pre-service teachers. The mean, standard deviation and mean differences of subscales of social skills between male and female pre-service teachers for each subscale were displayed in Table 17.

Table 17 Descriptive Statistics for Social Skills of Pre-service Teachers by Gender in each Subscale

Subscales	Gender	N	Mean	Std. Deviation	Mean Difference
Solidarity and empathic skills	Male	394	34.08	3.279	.50
	Female	394	33.58	3.187	
Conversational Skills	Male	394	31.69	3.065	.26
	Female	394	31.43	2.902	
Self-assertion Skills	Male	394	17.38	1.846	-.05
	Female	394	17.43	1.583	
Collaboration Skills	Male	394	24.41	2.675	-.22
	Female	394	24.63	2.170	
Conflict Resolution skills	Male	394	15.34	1.756	.05
	Female	394	15.29	1.657	

According to Table 17, it can be seen that the mean scores of subscales of social skills for male and female pre-service teachers were different. And then, to examine whether these differences were significant or not, the independent sample *t* test was conducted.

Table 18   The Result of Independent Sample t test for Social Skills by Gender in each Subscale

Subscales	Gender	N	t	df	p	Mean Difference
Solidarity and Empathic skills	Male	394	2.192*	786	.029	.50
	Female	394				
Conversational Skills	Male	394	1.217	786	.224	.26
	Female	394				
Self-assertion Skills	Male	394	-.414	786	.679	-.05
	Female	394				
Collaboration Skills	Male	394	-1.301	786	.193	-.22
	Female	394				
Conflict Resolution skills	Male	394	.396	786	.692	.05
	Female	394				

Note: * The mean difference is significant at 0.05 level.

According to the result of *t* test in Table 18, there were not significant differences in all subscales by gender except solidarity and empathic skills. Therefore, it can be interpreted that solidarity and empathic skills of male pre-service teachers were significant difference from that of female pre-service teachers.

Comparison of Social Skills by education levels

To examine the education level effect, a mean comparison of social skills scores of first year, second year and post graduated pre-service teachers was conducted. It was found that the mean scores of social skills of post graduated pre-service teachers were highest among the selected education levels. The results were mentioned in Table 19.

Table 19   Descriptive Statistics for Social Skills by Education Level

Variable	Education Level	N	Mean	Std. Deviation
Social Skills	1st Year	262	122.59	9.552
	2nd Year	263	121.79	9.508
	PPTT	263	123.52	7.687

According to the result of Table 19, it was found that the mean scores of social skills of first year, second year and post graduated pre-service teachers were 122.59,121.79 and 123.52 and their standard deviations were 9.552, 9.508 and 7.687 respectively. The mean score of post graduated pre-service teachers was the highest in social skills among education levels. Therefore, social skills of post graduated pre-service teachers was the best among others education levels.

The researcher investigated whether there was significant difference in social skills among the education levels. Therefore, one-way ANOVA was used to examine the difference among the education levels. It was found that there was no significant difference among the education levels concerning the social skills ($F = 2.447$, $p = 0.087$) see in Table 20.

Table 20   ANOVA Results for Social Skills by Education Level

Variables	Sum of Squares	df	Mean Square	F	p
Between Groups	392.622	2	196.311		
Within Groups	62977.849	785	80.227	2.447	.087
Total	63370.471	787			

Comparison of Social Skills by Colleges

In order to know the social skills of pre-service teachers among the selected colleges, descriptive statistics was made. A mean comparison of social skills scores of College 1, College 2 and College 3 was conducted. In this part, there were 261 pre-service teachers from College 1, 261 pre-service teachers from College 2 and 266 pre-service teachers from College 3. The results were mentioned in Table 21.

Table 21   Descriptive Statistics for Social Skills by Colleges

Variable	Colleges	N	Mean	Std. Deviation
	College 1	261	121.81	8.235
Social Skills	College 2	261	122.51	9.221
	College 3	266	123.57	9.360

As mentioned in Table 21, it was found that the mean scores of social skills of pre-service teachers from college 1, college 2 and college 3 were 121.81, 122.51 and 123.57 and their standard deviations were 8.235, 9.221 and 9.360respectively. The mean score of pre-service teachers from college 3 was the highest in social skills among selected Education Colleges. Therefore, social skills of pre-service teachers from college 3 was the best among selected Education Colleges.

The researcher investigated whether there was significant difference in social skills among the selected colleges. Therefore, one-way ANOVA was used to examine the difference among the selected colleges. It was found that there was no significant difference among the selected colleges concerning the social skills ($F = 2.583$, $p = 0.076$) see in Table 22. This means that pre-service teachers from all selected Education colleges were not different in social skills.

Table 22   ANOVA Results for Social Skills of Pre-service Teachers

Variables	Sum of Squares	df	Mean Square	F	p
Between Groups	414.286	2	207.143		
Within Groups	62956.185	785	80.199	2.583	.076
Total	63370.471	787			

Table 23 The Relationship Between Participation in Extracurricular Activities and Social Skills

Variable	Participation in Extracurricular Activities	Social Skills
Participation in Extracurricular Activities	-	.298**
Social Skills	.298**	-

Note: **Correlation is significant at the 0.01 level (2-tailed).

It can be seen from Table 23 that the participation in extracurricular activities was correlated with social skills of pre-service teachers (r = .298, p= 0.01). Although the strength of correlation was weak, there was significant correlation in 0.01 level. This means that if pre-service teachers more participate in extracurricular activities, their social skills would be higher.

Conclusion

Students who participate in extracurricular activities (ECAs) offered by school are not limited to learning academic skills but they also develop social and life skills through experience. This is highlighted in the research conducted by Wilson (2009) stating that participation can give adolescents confidence about their physical and perhaps social selves; social competence, often have greater opportunity to interact with others, develop friendships, and to develop social confidence, participation might be interpreted as a sign of maturity and as a self-affirming behavior. Such life-long benefits of participation in extracurricular activities shape students to become well-rounded beings. Extracurricular activities such as community service, voluntary and internships promote a greater sense of community and belonging for students. Rodriguez et al. (2011) revealed that participation in ECAs also helps to provide happiness in life (cited in HninPwintSoe, 2014). Impacts of ECAs on students' life such as good health, quality job, self-confidence and good social life increase the happiness throughout their life.

Eccles, (2003) suggested that participation in voluntary, school-based, extracurricular activities increase school participation and achievement. This happens because it facilitates: (a) the acquisition of interpersonal skills and positive social norms, (b) membership in pro-social peer groups, and (c) stronger emotional and social connections to one's school.

Acknowledgements

References

Ahmad, A. (2016). Cocurricular Activities and its Effects on Social Skills. Retrieved July 12, 2018 from https://www.researchgate.net/publication/320044239

Annu, S., &Sunita, M. (2015).Extracurricular Activities and Student's Performance in Secondary School of Government and Private Schools.*International Journal of Sociology and Anthropology Research* Vol.1, No.1; Retrieved July 10, 2018 from https://www. researchgate.net/publication/330533880

Brook, B. A. (2013). Extracurricular Activities and the Development of Social Skills in Children with Intellectual and Learning Disabilities.Retrieved January 31, 2019 from   https:// www.ncbi.nlm.nih. gov/m/ pubmed/25400206/

Caballo, V. E. (1986). The Relationship Between Social Skills and Social Anxiety and Personality Styles/Disorder. Retrieved July 30, 2018 from https://www.research gate.net/publication/269519330

Eccles, J. (2003). Extracurricular Activities and Adolescent Development.Retrieved December 14, 2018 from https:// www.researchgate.net/publication/227544478

Gresham, F. M., & Elliot, S. N. (1990). The Relationship Between Social Skills and Behavioral Problems in Children with Visual Impairment. Retrieved November 13, 2018 from htpps:// rcak.srce.hr/file/221040

Gutierrez, C. P. T & Delgado, S. C. (2015).Design of an Instrument to Assess Social Skills in Teacher Training Programs.Retrieved July 27, 2018 from https://www.sciencedirect.com.science/article/pii/ S18770428150043438/pdf?

HninPwintSoe. (2014). Perception of Students and Teachers on the role of Extracurricular Activities at a Private University in Myanmar. Retrieved July 10, 2018 from https:// unitec. Research bank. ac.nz/ handle/ 10652/2521

Holloway, J. H. (2000). Extracurricular Activities: The Path to Academic Success? Retrieved July 27, 2018   from https://www.ascd.org/publications/educational-leader ship/dec99

Sung, Y. J. (2009). The Effect of Social Skills on Academic Achievement of Linguistically Diverse Elementary Students: Concurrent and Longitudinal Analysis. Retrieved January 23, 2019 from https://vtechworks.lib.vt.edu/handle/10919/37504

Tom, W. C., et al. (2002). Participation in Extracurricular Activities.Retrieved December 10, 2018 from https://nlts2.sri.com/reports/2003042/nlts2_report_2003_04_2_ch 4.pdf

Wachsmuth, S. (2013).An Examination of the Extracurricular Activity Participation, Social Skills and School Engagement of Students with Emotional and Behavioral Disorders. Retrieved September 8, 2018 from https://mospace.umsystem.edu/xm lui/handle/10355/40120

PERSONAL MEANING AND GENERAL WELL-BEING OF ADOLESCENTS IN[1] DEPEIYIN TOWNSHIP

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Abstract

The main purpose of this study was to investigate the personal meaning and general well-being of adolescents in Depeiyin Township. A total of 600 (316 males and 284 females) students selected from six schools in Depeiyin Township participated in this study. Personal Meaning profile (PMP) consisting of 30 items developed by Wong (1998) was used to measure personal meaning and Adolescents' General Well-Being (AGWB) consisting of 27 items developed by Colombo (1986) was used to measure general well-being in this study. According to the results, the levels of adolescents' personal meaning and general well-being in Depeiyin Township were satisfactory. Based on the results of independent samples *t* test, there were no significant differences in both personal meaning and general well-being of adolescents according to grade, school locality and subject combination. However, female adolescents were significantly higher than male adolescents in general well-being. One way ANOVA results showed that there was no significant difference not only in personal meaning but also in general well-being of adolescents according to aged group. Then, Pearson-Product Moment correlation was conducted and it was found that the personal meaning and the general well-being of adolescents were significantly and positively correlated. Finally, simple linear regression was used to predict general well-being from personal meaning and the result indicated that the adjusted R square was .237 and therefore 24% of variance in general well-being was explained by personal meaning of adolescents. Therefore, it may be concluded that personal meaning can affect on the general well-being of adolescents. The findings of this study may be expected to have some contribution to the benefit of education.

Keywords: Personal meaning, General well-being, Adolescence, Adolescent

Introduction

Adolescence is a very critical and important stage in the development of human being. Most of the physiological, psychological, and social changes within the person take place during this period of life (Erikson, 1968). Wong (1998) suggested that the role of meaning in an adolescent's life can be a central point for a successful transition into adulthood. Well-being is also a predictor of academic success and involves cognitive and psychosocial elements. Generating well-being among adolescents need to be addressed as they are a pillar of a nation and a generation that will shape society (Garcia Alandete, 2015). Vernon (2008) described well-being as thriving in everyday circumstances and finding meaning in life. Moreover, general well-being is a very important factor in every phase of life. So, in education research field, there is a need for studying general well-being of students.

Promoting well-being is important in learning, education and sustainable development. Seligman describes five qualities to well-being; positive emotion, engagement, relationship, meaning and achievement. Well-being is often connected to happiness. Happier students may be more enthusiastic about their education, less likely to miss class and more committed towards their academic success than unhappy students. Well-being is related to teaching, education, learning and achievements. Teachers, educators and parents with other professionals should have the competence to discover learning process that promotes well-being in school.

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Purpose of the Study

The main purpose of the study is to investigate the personal meaning and general well-being of adolescents in Depeiyin Township.

Definitions of Key Terms

Personal meaning : Personal meaning is defined as an individually constructed cognitive system that is grounded in subjective values and capable of endowing life with personal significance and satisfaction (Wong, 1989).

General well-being : General well-being was defined as dynamic state of wellness, which has physical, social and mental/psychological dimensions (Colombo, 1986).

Adolescence : Adolescence is defined as a transitional period between childhood and adulthood, which describes the teenage years between 10 and 19 (World Health Organization (WHO, 2014).

Adolescent : Adolescent is defined as a young person, usually between the ages of 12 and 18, who is developing into an adult (Longman Dictionary of Contemporary English, 2009).

Review of Related Literature

Adolescence is today defined as a distinct period of adjustment of as a journey to adulthood where a teenager has to face rapid physical, cognitive and social changes (Nurmi, 2001).

Reker and Wong (1998) have identified the major sources of meaning: (a) meeting such basic needs (b) leisure activities or hobbies; (c) creative work; (d) personal relationships (e) personal achievement (f) personal growth (g) social and political activism (h) altruism; (i) enduring values and ideals (j) traditions and culture (k) legacy and religion.

Well-being is seen as an essential part of a positive quality of life (Sagiv, Roccas & Hazan, 2004). Columbo (1986) describes adolescents' well-being as a multidimensional construct, incorporating psychological, physical, and social dimensions. Adolescents with higher than average psychological well-being are regarded as more successful in meeting situational demands and stressors while a deficit in psychological well-being can mean a lack of success and the occurrence of emotional problems (Visser & Routledge, 2007).

Recently, Dodge et al. (2012) further defined well-being as the balance point between an individual's resource pool and the challenges faced. They used the term seesaw to describe an individual's need to return to a set-point for well-being and the individual's need for equilibrium. The concept of well-being comprises two main elements: feeling good and functioning well. Feelings of happiness, contentment, enjoyment, curiosity and engagement are characteristic of someone who has a positive experience of their life. Experiencing positive relationships, having some control over one's life and having a sense of purpose are all important attributes of well-being.

De Lazzari (2000) found that scores on the PMP (Personal Meaning Profile) were better than emotional intelligence at predicting life satisfaction among high school students. Mascaro and Rosen (2005) indicated that in young adult population, individuals with high levels of

meaning tend to have fewer symptoms of depression, to be more character logically hopeful, and to be more likely to be experiencing states of hope than individuals with low levels of meaning.

Garcia-Alandete (2015) conducted a study on the implication of the meaning of life and psychological well-being of Spanish College students. The results showed a significant relationship between meaning in life and psychological well-being dimensions, in terms of covariance and prediction, especially with global Psychological Well-Being, Self-Acceptation, Environmental Mastery, and Positive Relations.

Singh et al (2014) initiated a study on "Meaning in Life as a correlate of Mental Health". Results indicate a significant positive correlation between mental health (which was measured in terms of emotional, psychological and social well-being) and presence of meaning. Moreover, Shek (1992) found that students who scored highest both in terms of quality of existence as well as purpose of existence also scored highest in psychological well-being. Furthermore, it was discovered that students who both high quality and purpose of existence had lower symptom levels with respect to psychological well-being, better self-image, and higher ego strength. These positive correlations contribute to the view that life purpose and meaning are key attributes for establishing a full human existence.

Previous research has shown that well-being, resilience, and character strengths are related to greater academic success and college completion (Hartley, 2011). Therefore, it may be suggested that students who have more meaning in their lives are in a position of psychological well-being that is amicable for achieving a successful transition into adulthood (cited in De Lazzari, 2000).

Method

The personal meaning and general well-being of adolescents in Depeiyin Township were examined by using questionnaire survey method.

Participants for the Study

The participants for the study were 600 students (316 males and 284 females) from Depeiyin Township, Sagaing Region in 2018-2019 academic years.

Instruments and Data Collection Procedure

The research instruments were Personal Meaning Profile developed by Wong (1989) and Adolescent's General Well-Being Questionnaire developed by Colombo, 1986. After modifying the required instrument and applying it for data collection, The personal meaning and general well-being of adolescents were investigated among the selected schools from Depeiyin Township, Sagaing Region during October, 2018.

Findings

Table 1 Descriptive Statistics for the Subscales of Adolescents' Personal Meaning

Subscales	N	Minimum	Maximum	Mean	SD
Achievement	600	11	25	18.70	2.92
Relationship	600	9	25	19.78	2.63
Religion	600	9	25	20.99	2.32
Self-transcendence	600	9	25	20.25	2.47
Self-acceptance	600	10	25	19.66	2.42
Intimacy	600	9	25	19.68	2.61
Total (Personal Meaning)	600	61	146	119.37	11.05

According to Table 1, it was found that the level of personal meaning for adolescents in Depeiyin Township was satisfactory as the observed mean score (119.37) was greater than the theoretical mean score (90).

According to Table 2, there was slightly difference between mean values of male and female adolescents' personal meaning. It was seen that mean values of female adolescents were higher in personal meaning than that of male adolescents.

Table 2 Means and Standard Deviations of Adolescents' Personal Meaning by Gender

Variable	Gender	*N*	Mean	*SD*
Achievement	Male	316	18.68	2.97
	Female	284	18.73	2.88
Relationship	Male	316	19.76	2.73
	Female	284	19.80	2.52
Religion	Male	316	20.84	2.52
	Female	284	21.15	2.08
Self-transcendence	Male	316	20.05	2.53
	Female	284	20.48	2.39
Self-acceptance	Male	316	19.41	2.48
	Female	284	19.94	2.32
Intimacy	Male	316	19.88	2.77
	Female	284	20.10	2.43
Total (Personal Meaning)	Male	316	118.63	11.78
	Female	284	120.19	10.15

To find out whether there were significant differences between male and female adolescents in personal meaning, independent samples *t* test was used.

Table 3 Results of Independent Samples *t* test on Subscales of Personal Meaning by Gender

Variable	*t*	*df*	*p*	Mean Difference
Achievement	-.23	598	.82	-0.03
Relationship	-.20	598	.84	-0.04
Religion	-1.62	598	.11	-0.31
Self-transcendence	-2.11*	598	.04	-0.43
Self-acceptance	-2.67**	598	.01	-0.53
Intimacy	-.99	598	.32	-0.22
Total (Personal Meaning)	-1.74	598	.08	-1.56

Note: ** The mean difference is significant at the 0.01 level.
* The mean difference is significant at the 0.05 level.

According to Table 3, there was no significant difference in adolescents' personal meaning by gender. Therefore, it can be interpreted that adolescents did not differ in personal meaning by gender.

According to Table 4, it was seen that mean values of Grade 9 adolescents were slightly higher in personal meaning than that of Grade 10 adolescents.

Table 4   Means and Standard Deviations of Adolescents' Personal Meaning by Grade

Variable	Grade	*N*	Mean	*SD*
Achievement	Grade 9	326	18.79	2.797
	Grade 10	274	18.59	3.069
Relationship	Grade 9	326	20.01	2.533
	Grade 10	274	19.50	2.719
Religion	Grade 9	326	20.92	2.232
	Grade 10	274	21.08	2.43
Self-transcendence	Grade 9	326	20.26	2.28
	Grade 10	274	20.24	2.68
Self-acceptance	Grade 9	326	19.66	2.42
	Grade 10	274	19.66	2.42
Intimacy	Grade 9	326	19.99	2.62
	Grade 10	274	19.97	2.61
Total (Personal Meaning)	Grade 9	326	119.63	11.78
	Grade 10	274	119.05	10.15

The result of independent samples *t* test which indicated the comparison of adolescents' personal meaning by gender was shown in Table 5.

Table 5 Results of Independent Samples *t* test on Subscales of Personal Meaning by Grade

Variable	*t*	*df*	*p*	Mean Difference
Achievement	.83	598	.40	.20
Relationship	2.37*	598	.02	.41
Religion	-.84	598	.40	-.16
Self-transcendence	.07	598	.95	.02
Self-acceptance	.03	598	.98	-.01
Intimacy	.08	598	.94	.02
Total (Personal Meaning)	.64	598	.52	.58

The result of independent samples *t* test revealed that there was no significant difference in adolescents' personal meaning by grade. Therefore, it can be interpreted that adolescents did not differ in personal meaning by grade.

According to Table 6, the mean scores of urban adolescent were found slightly higher than those of rural adolescents in personal meaning.

Table 6 Means and Standard Deviations of Adolescents' Personal Meaning by School Locality

Variable	School locality	*N*	Mean	*SD*
Achievement	Urban	300	18.75	2.90
	Rural	300	18.66	2.96
Relationship	Urban	300	19.70	2.59
	Rural	300	19.86	2.67
Religion	Urban	300	21.04	2.41
	Rural	300	20.94	2.24
Self-transcendence	Urban	300	20.28	2.62
	Rural	300	20.22	2.31
Self-acceptance	Urban	300	19.73	2.44
	Rural	300	19.59	2.40
Intimacy	Urban	300	20.03	2.50
	Rural	300	19.94	2.72
Total (Personal Meaning)	Urban	300	119.52	11.41
	Rural	300	119.22	10.70

To study whether there was significant difference in personal meaning between urban and rural adolescents or not, independent samples *t* test was used.

Table 7 Results of Independent Samples *t* test on Subscales of Personal Meaning by School Locality

Variable	*t*	*df*	*p*	Mean Difference
Achievement	.39	598	.70	.09
Relationship	-.78	598	.44	-.16
Religion	.49	598	.62	.10
Self-transcendence	.28	598	.78	.06
Self-acceptance	.68	598	.50	.14
Intimacy	.41	598	.69	.09
Total (Personal Meaning)	.33	598	.74	.30

The result of independent samples *t* test revealed that there was no significant difference between urban and rural adolescents in the whole personal meaning.

According to Table 8, Combination-1 adolescents were slightly higher in personal meaning than Combination-7 adolescents.

Table 8 Means and Standard Deviations of Adolescents' Personal Meaning by Subject Combination

Variable	Subject Combination	N	Mean	*SD*
Achievement	Combination-1	308	18.66	2.88
	Combination-7	292	18.75	2.98
Relationship	Combination-1	308	19.81	2.56
	Combination-7	292	19.75	2.70
Religion	Combination-1	308	20.81	2.41
	Combination-7	292	21.18	2.21
Self-transcendence	Combination-1	308	20.11	2.62
	Combination-7	292	20.40	2.29
Self-acceptance	Combination-1	308	19.42	2.57
	Combination-7	292	19.92	2.22
Intimacy	Combination-1	308	20.01	2.58
	Combination-7	292	19.96	2.64
Total (Personal Meaning)	Combination-1	308	118.81	11.68
	Combination-7	292	119.96	10.34

To study whether there was significant difference in personal meaning between Combination-1 and Combination-1 adolescents or not, independent samples *t* test was used. The result of independent samples *t* test which showed the comparison of personal meaning between urban and rural adolescents was shown in Table 9.

Table 9 Results of Independent Samples *t* test on Subscales of Personal Meaning by Subject Combination"

Variable	*t*	*df*	*p*	Mean Difference
Achievement	.380	598	.70	-.09
Relationship	-.24	598	.81	.06
Religion	1.94*	598	.05	-.37
Self-transcendence	1.48	598	.14	-.29
Self-acceptance	2.57**	598	.01	-.50
Intimacy	-.25	598	.80	.05
Total (Personal Meaning)	1.28	598	.20	-1.15

According to Table 9, there was no significant difference in adolescents' personal meaning by subject combination. Therefore, it can be interpreted that adolescents did not differ in personal meaning by subject combination.

Based on the results in Table 10, 16^+ years old adolescents had the highest mean scores in personal meaning and second highest was 15^+ years old adolescents' mean scores.

Table 10 Means and Standard Deviations for Adolescents' Personal Meaning by Aged Group

Variable	Aged Group	*N*	Mean	*SD*
Achievement	14^+	167	18.88	2.78
	15^+	247	18.39	2.89
	16^+	186	18.96	3.07
Relationship	14^+	167	19.93	2.42
	15^+	247	19.77	2.72
	16^+	186	19.65	2.69
Religion	14^+	167	20.66	2.40
	15^+	247	21.05	2.22
	16^+	186	21.20	2.37
Self-transcendence	14^+	167	20.24	2.17
	15^+	247	20.16	2.68
	16^+	186	20.39	2.43
Self-acceptance	14^+	167	19.51	2.39
	15^+	247	19.64	2.37
	16^+	186	19.83	2.50
Intimacy	14^+	167	19.86	2.54
	15^+	247	19.99	2.65
	16^+	186	20.09	2.63
Total (Personal Meaning)	14^+	167	119.08	10.44
	15^+	247	119.00	11.18
	16^+	186	120.11	11.43

To explore the significant differences in adolescents' personal meaning by aged group, One Way Analysis of Variance (ANOVA) was used.

Table 11 Results of ANOVA in Adolescents' Personal Meaning by Aged Group

Variable		Sum of Squared	df	Mean Square	F	p
Total (Personal Meaning)	Between Groups	147.93	2	73.96	.61	.55
	Within Groups	73029.67	597	122.33		
	Total	73177.60	599			

Based on the results of Table 11, the mean scores of adolescents' personal meaning by aged group were no statistically significant difference.

Table 12 Descriptive Statistics for the Subscales of Adolescents' General Well-Being

Subscales	No of items	Minimum	Maximum	Mean	Mean %	SD
Mental Well-Being	16	26	71	52.17	65.21	6.12
Physical Well-Being	5	5	25	16.19	64.76	2.93
Social Well-Being	6	14	30	24.53	81.76	2.88
Total (General Well-Being)	27	56	119	92.81	68.74	8.66

According to Table 12, the theoretical mean score for adolescents' general well-being was 81 and the observed mean score was 92.81. Therefore, it can be said that the level of general well-being for adolescents in Depeiyin Township was satisfactory as the observed mean score was higher than theoretical mean score.

Table 13 Mean Percent and Standard Deviations of Adolescents' General Well- Being by Gender

Variable	No of items	Gender	N	Mean %	SD
Mental Well-Being	16	Male	316	64.17	6.22
		Female	284	66.36	5.89
Physical Well -Being	5	Male	316	65.24	3.06
		Female	284	64.16	2.79
Social Well-Being	6	Male	316	81.3	2.98
		Female	284	82.3	2.76
Total (General Well-Being)	27	Male	316	68.17	9.01
		Female	284	69.50	8.36

According to Table 13, it was observed that the mean score for male adolescents was slightly greater than that of female adolescents in general well-being.

Table 14 Result of Independent Samples *t* test for Adolescents' General Well-Being by Gender

Variable	t	df	p	Mean Difference
Mental Well-Being	.63***	598	.00	-1.19
Physical Well-Being	.23	598	.26	.27
Social Well-Being	.35	598	.19	-1.0
Total (General Well-Being)	.67**	598	.01	-1.33

The result of independent samples *t* test showed that there was significant difference in adolescents' general well-being by gender at the 0.01 level.

According to Table 15, the mean percents of Grade 10 adolescents were slightly greater than those of Grade9 in general well-being. Therefore, it can be assumed that the Grade 10 adolescents had slightly higher general well-being than that of Grade 9 adolescents.

Table 15 Mean Percent and Standard Deviations of Adolescents' General Well-Being by Grade

Variable	No of items	Grade	*N*	Mean %	*SD*
Mental Well-Being	16	Grade 9	326	64.8	6.21
		Grade 10	274	65.7	5.10
Physical Well-Being	5	Grade 9	326	54.17	2.74
		Grade 10	274	53.7	3.15
Social Well-Being	6	Grade 9	326	99.04	2.70
		Grade 10	274	97.04	3.07
Total (General Well-Being)	27	Grade 9	326	68.78	8.51
		Grade 10	274	68.83	9.04

Table 16 Result of Independent Samples *t* test for Adolescents' General Well-Being by Grade

Variable	*t*	*df*	*p*	Mean Difference
Mental Well-Being	-1.43	598	.15	-.90
Physical Well-Being	.55	598	.58	.47
Social Well-Being	2.10*	598	.04	2.00
Total (General Well-Being)	-.12	598	.90	-.05

The result of independent samples *t* test revealed that there was no significantly difference of adolescents' general well-being by grade. Therefore, it can be interpreted that general well-being of Grade 9 and Grade 10 adolescents was not different.

Table 17   Mean Percent and Standard Deviations of Adolescents' General Well-Being by School Locality

Variable	No of items	Grade	*N*	Mean %	*SD*
Mental Well-Being	16	Urban	300	65.18	6.59
		Rural	300	65.24	5.62
Physical Well-Being	5	Urban	300	54.20	2.92
		Rural	300	53.70	2.95
Social Well-Being	6	Urban	300	98.00	2.99
		Rural	300	98.28	2.78
Total (General Well-Being)	27	Urban	300	68.82	9.43
		Rural	300	68.78	8.02

According to Table 17, it was represented that the mean percent of rural adolescents' general well-being was slightly greater than that of urban adolescents.

Table 18 Result of Independent Samples *t* test for Adolescents' General Well-Being by School Locality

Variable	*t*	*df*	*p*	Mean Difference
Mental Well-Being	-.08	598	.94	-.06
Physical Well-Being	.65	598	.51	.50
Social Well-Being	-.30	598	.77	-.28
Total (General Well-Being)	.07	598	.95	.04

The result of independent samples *t* test stated that there was no significantly difference of adolescents' general well-being by school locality.

Table 19 Mean Percent and Standard Deviations of Adolescents' General Well-Being by Subject Combination

Variable	No of items	Grade	N	Mean %	SD
Mental Well-Being	16	Combination-1	308	65.32	5.94
		Combination-7	292	65.10	6.29
Physical Well-Being	5	Combination-1	308	54.03	2.90
		Combination-7	292	53.9	2.97
Social Well-Being	6	Combination-1	308	98.48	2.72
		Combination-7	292	97.8	3.03
Total (General Well-Being)	27	Combination-1	308	68.95	8.21
		Combination-7	292	68.66	9.24

Table 19 showed that the mean % of Combination-1 adolescents were slightly greater than that of Combination-7 adolescents in all subscales of general well-being.

Table 20 Result of Independent Samples *t* test for Adolescents' General Well-Being by Subject Combination

Variable	t	df	p	Mean Difference
Mental Well-Being	.37	598	.72	.22
Physical Well-Being	.17	598	.87	.13
Social Well-Being	.70	598	.48	.68
Total (General Well-Being)	.54	598	.59	.29

Table 20 showed that there were no significant differences in adolescents' general well-being according to their subject combination so that it can be interpreted that the general well-being of adolescents did not significantly differ across subject combination.

Table 21 Mean and Standard Deviation for Adolescents' General Well-Being by Aged Group

Variable	No of items	Aged Group	N	Mean %	SD
Mental Well-Being	16	14^+	167	64.92	6.20
		15^+	247	64.81	6.15
		16^+	186	66.00	5.99
Physical Well-Being	5	14^+	167	53.80	2.75
		15^+	247	53.70	2.91
		16^+	186	54.40	3.13
Social Well-Being	6	14^+	167	99.32	2.50
		15^+	247	98.56	2.89
		16^+	186	96.52	3.16
Total (General Well-Being)	27	14^+	167	68.82	8.38
		15^+	247	68.59	8.77
		16^+	186	68.80	8.75

According to the results of the Table 21, the 14^+ years old adolescents got the highest mean % and the 15^+ years old adolescents got the lowest mean %.

Table 22 Results of ANOVA in Adolescents' General Well-Being by Aged Group

Variable		Sum of Squared	df	Mean Square	F	p
Mental Well-Being	Between Groups	108.16	2	54.08	1.4	.24
	Within Groups	22336.50	597	37.42		
	Total	22444.66	599			
Physical Well-Being	Between Groups	4.80	2	2.40	.28	.76
	Within Groups	5149.66	597	8.63		
	Total	5154.47	599			
Social Well-Being	Between Groups	47.32	2	23.66	2.8	.06
	Within Groups	4930.07	597	8.26		
	Total	4977.40	599			
Total (General Well-Being)	Between Groups	44.70	2	22.35	.29	.75
	Within Groups	45779.596	597	76.68		
	Total	45824.293	599			

The result showed that the adolescents'' general well-being was not significantly different in accordance with aged group.

The descriptive statistics for personal meaning and general well-being were worked to investigate their correlation.

Table 23 Pearson Correlation Between Personal Meaning and General Well-Being of Adolescents

Variables	Personal Meaning	General Well-Being
Personal Meaning	1	.489[**]
General Well-Being	.489[**]	1

Note: [**] Correlation is significant at 0.01 level (2-tailed).

According to Table 23, it was found that there was a significant positive relationship between personal meaning and general well-being of adolescents ($r = .489$, $p < .01$), which indicate that as personal meaning increase, general well-being increase accordingly. It can be interpreted that adolescents who are higher personal meaning will be better in general well-being.

Next, to obtain more detailed information, Pearson Product-moment correlation was computed again to find out the inter-relationship between personal meaning dimensions and general well-being dimensions and the result was shown in Table 24.

Table 24 Inter-correlations Among Personal Meaning Dimensions and General Well-Being Dimensions

Dimensions	1	2	3	4	5	6	7	8	9
1.Achievement	1				.				
2.Relationship	.420[**]	1	.						
3.Religion	.384[**]	.316[**]	1						
4.Self-transcendence	.533[**]	.535[**]	.467[**]	1					
5.Self-acceptance	.409[**]	.386[**]	.427[**]	.428[**]	1				
6.Intimacy	.376[**]	.516[**]	.317[**]	.399[**]	.366[**]	1			
7.Mental Well-Being	.226[**]	.268[**]	.211[**]	.281[**]	.166[**]	.241[**]	1		
8.Physical Well-Being	.181[**]	.167[**]	.136[**]	.188[**]	.153[**]	.104[**]	.274[**]	1	
9.Social Well-Being	.406[**]	.451[**]	.305[**]	.512[**]	.349[**]	.445[**]	.258[**]	.186[**]	1

Note: [**] Correlation is significant at the 0.01 level (2-tailed).

According to Table 24, the dimensions of personal meaning were significantly inter-correlated with dimensions of general well-being. Thus, it can be found that all the dimensions of personal meaning were positively correlated to adolescents' general well-being dimensions. It meant that the higher personal meaning adolescents had, the more they have general well-being.

Table 25   Model Summary for Personal Meaning and General Well-Being of Adolescents

Model	R	*R* Square	Adjusted *R* Square	Std. Error of the Estimate
1	.489[a]	.239	.237	7.638

a. Predictors: (Constant), personal meaning item total

The result indicates that the adjusted *R* square was .237. This indicates that 24% of the variance in general well-being was explained by personal meaning of adolescents.

Table 27   Result of Regression Coefficient for Personal Meaning and General Well-Being of Adolescents

Model	Unstandardized Coefficients		Standardized Coefficients	*t*	*p*
	B	Std. Error	*β*		
1 (Constant)	46.733	3.385	.489	13.807	.000
Personal Meaning Item total	.387	.028		13.694	.000

a. Dependent Variable: general well-being item total

According to the result, the identified equation to understand the relationship was;

GWB = 46.73 + .38 PM

Where, GWB = General Well-being

PM   = Personal Meaning

Figure 4.15 Predictor Power of Personal Meaning on General Well-Being

Next, in order to explore the effects of personal meaning dimensions on general well-being, simple linear regression was again computed.

Table 28   Regression for Personal Meaning Dimensions Predicting General Well-Being

Predictors	General Well-Being			*t*	*p*
	B	Std. Error	β		
Constant	47.761	3.525		13.549	.000
Achievement	.299	.133	.100	2.256	.024
Relationship	.482	.154	.145	3.129	.002
Religion	.233	.160	.062	1.462	.144
Self-transcendence	.738	.172	.208	4.299	.000
Self-acceptance	.087	.155	.024	.562	.575
Intimacy	.423	.145	.126	2.920	.004

The result showed that the achievement dimension positively predicted adolescents' general well-being (β=.100, p <0.05), the relationship dimension also positively predicted adolescents' general well-being (β=.145, p <0.01), the religion dimension also positively predicted adolescents' general well-being (β=.062, p=.144), the self-transcendence dimension

also positively predicted adolescents' general well-being ($\beta =.208$, $p<.001$), the self-acceptance dimension also positively predicted adolescents' general well-being ($\beta=.024$, $p=.575$) and the intimacy dimension also positively predicted adolescents' general well-being ($\beta=.126$, $p<.01$). Then the model can be defined in the following equation.

GWB = 47.761 + .299 AC + .482 RS + .233 RG + .738 ST + .087 SA + .423 IM

Where, GWB = General Well-Being

    AC = Achievement Dimension

    RS = Relationship Dimension

    RG = Religion Dimension

    ST = Self-transcendence Dimension

    SA = Self-acceptance Dimension

    IM = Intimacy Dimension

  In this study, there was no significant difference in the personal meaning and general well-being of adolescents by grade, subject combination, school locality and aged group. However, there was no significant difference in adolescents' personal meaning by gender but female adolescents' general well-being were significantly higher than that of male adolescent. Due to Myanmar culture, parents and teachers cultivate their children unequally. Depeiyin is a province town and there its urban and rurual region has no obvious difference in culture.

  In this study, based on the result of Pearson Product-Moment Correlation Coefficient, personal meaning was significantly and positively correlated with general well-being. Furthermore, personal meaning and general well-being were in strong correlation between each other. So, the correlation of personal meaning and general well-being with each other, along with the explanation of variance in general well-being by personal meaning are all important indicators in terms of development of adolescents.

Conclusions

  Personal meaning may be a protective factor of mental health, enhancing the life satisfaction and the general well-being. It is essential to include the personal meaning in the counselling process to develop a meaning centred counselling, focusing on the personal positive functioning and strengths, and integrating the personal characteristics and circumstances and the cultural values of the participants. A meaning centred counselling needs to be deepening the understanding of the fundamental human motivation which is the meaning of life, and the cognitive behavioural process involved in meeting it.

  The findings also have significant implications to faculty the adolescents. The positive meaning and the general well-being of the respondents may also be attributed to their sharing of knowledge as well as their guidance to other students. The teachers will have to be encouraged to sustain their commitment to the school by helping the students to establish a positive personal meaning and a positive general well-being.

Acknowledgements

References

Columbo, S. A. (1986). General well-being in adolescents: Its nature and measurement (Doctoral dissertation, Saint Louis University). Colombo, S. A. (1984). General well-being in adolescents: Its nature and measurement. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 8520101).

De Lazzari, S. A. (2000). *Emotional intelligence, meaning, and psychological wellbeing: A comparison between early and late adolescence*. (Unpublished master's thesis). Trinity Western University, Langley, BC, Canada.

Dodge, R.,Dalay, A. P., Huyton, J., & Sanders,L. D. (2012). The challenge of defining wellbeing. *International Journal of Well-Bieng,* 2(3), 222-235.doi:10.55502/ijw.v2.i3.

Erikson, E. (1968). *Identity, youth and crisis.* New York: Norton.

Garcia-Alandete, J. (2015). Does Meaning in Life affect psychological well-being. *European Journal of Counseling Psychology*.

Hartley, M. T. (2011). Examining the relationships between resilience, mental health, and academic persistence in undergraduate college students. *Journal of American College Health*, 59, 596–604.

Mascaro, N. & Rosen, D. (2005). Existential Meaning's Role in the Enhancement of Hope and Prevention of Depressive Symptoms. *Journal of Personality*.

Nurmi J-E. (2001). *Navigating through adolescence introduction*. In Nurmi J-E (Ed) Navigating through adolescence. European perspectives. New York: Routledge Falmer, 3-17.

Shek, D. (1992). Meaning in life and psychological well-being: an empirical study using the Chinese version of the purpose in life questionnaire. *Journal of Genetic Psychology,* 153(2), 185-190.

Singh, S., & Khandelwal, S. (2014). "Meaning in life as a correlate of mental health". *Indian Journal of Psychological Science*, vol-5, No. 1 (P. 50-58).

Vernon, M. (2008). *Well-being.* Stocks field: Acumen.

Visser, M., & Routledge, L. (2007). Substance abuse and psychological wellbeing of South African adolescents. *South African Journal of Psychology, 37*(3), 595-615.

Wong, P.T.P. (1989). *Implicit theories of personal meaning: A life span perspective.* Unpublished study, Trent University, Peterborough, ON.

World Health Organization, (2014). *Adolescent development*. Retrieved August 20, 2018, from http://www. who.int/ maternal child adolescent/topics/adolescence/dev/en/

SELF-DIRECTED LEARNING AND ACADEMIC SELF-EFFICACY OF EDUCATION COLLEGE STUDENTS

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Abstract

The purpose of this study is to investigate the Self-Directed Learning and Academic Self- Efficacy of Education College Students. Descriptive research design and survey method were undertaken in this study. The research instruments for this study are Self-directed Learning and Academic Self- Efficacy scale. Self-Directed Learning is the combination of the index of the Rowbotham M. Schmitz GS (2013) development and Validation of a Student Self -Efficacy Scale. j Nurs care 2;126 dol. The Cromnbach Alpha values were .865 for Self-Directed Learning and Academic Self- Efficacy. The participants for this study were randomly selected from Monywa Education College. A total of 400 of the second year students (200 males and 200 females) were participated in this study. Among the male students, 100 of males are science and remain are art. And also 100 of females are science and 100 are art. The collected data was analyzed by descriptive and inferential statistics. The result of the study indicated that there were significant differences in the Self-Directed Learning on the Education College students according to awareness, learning strategies, Learning activities, evaluation and interpersonal skills by gender. The result of the study indicated that there were significant differences in the Self-Direct Learning on Education College students according to awareness, learning strategies, learning activities, evaluation and interpersonal skills by subject. And then, there were significant differences in the Academic Self-Efficacy of students in according to subject and gender. According to the results of this study, since the Self-Directed learning skill is a skill that has overarching effects on an individual's ability to tolerate unmet wants or needs, handle disappointments and failures, and work towards success. The research suggested that Self- Directed Learning should more actively involve for the promotion of Academic Self-Efficacy skill of the children. And in education sector, teachers and educators should also organize effective Self-Directed Learning programs or activities so that can be implemented inside and outside the schools in order to enhance the Self-Directed Learning skill of students.

Keywords: Learning, Self-Directed Learning, Self-Efficacy, Academic Self-Efficacy

Introduction

At present Myanmar is undergoing an educational curriculum reform. The philosophy underpinning this reform is to build "learning communities". Most educators need to adapt their teaching styles and perspectives on teaching and learning. Among these aspects, student Self-Directed Learning and cooperative learning by activity are considered to be important, as they can transform students' learning styles from passivity to initiative-driven, promote the students to participate in the process of teaching and learning, and move the focus from the indirect and outward experience to the intrinsic and direct experience. In other words, it can develop smoothly not only the students' knowledge, competence and skills, but also their values, attitudes and emotions.

It is now recognized that education has to be a lifelong process. The practice of education and its underlying knowledge base change so rapidly that it is essential that teachers continue to learn throughout their professional career. However, continuing professional education is not simply a matter of keeping up to date, but also entails reflection on practice in order to incorporate new experiences, to relate present situations with previous experiences, and to recognize current experiences based upon this process. Self-Directed Learning enables the learner, whether student or practitioner, to do these important things.

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Due to the rapid developments in science and technology in today's information age, information continually accumulates and already existing information lose its up-to date and changes quickly. In addition, the advancements and changes in information technologies have enabled individuals to access information through more flexible learning environments and new learning opportunities. When these new learning opportunities are applied effectively, students can manage their learning according to their own learning preferences, specialize based on their interests and abilities and acquire more knowledge about social, cultural, vocational and actual issues. Increasing in parallel with the developments in information age, these new learning opportunities imply that learning cannot be confined to educational institutions. It can even be claimed that educational institutions will soon have fewer roles in this context and out-of-school learning will be more effective on learners' lives than school learning in formal education. The fact that learning is no more limited to educational institutions brought a new dimension to the issue: the skills that individuals should have. It is necessary for students to be individuals who are able to access knowledge, to question the knowledge obtained, to adapt this knowledge to their beliefs and life styles, and finally to expand and to transfer their knowledge when need arises. In other words, they should be equipped with "self-development" and "life-long learning" skills. The Commission for a Nation of Lifelong Learners (1997) defined life-long learning as "a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will need throughout their lives and to apply them with confidence, creativity, and enjoyment in all roles, circumstances, and environment. According to Soran , Akkoyunlu and Kavak, life-long learning turns educational activities and learning into a dynamic process that provides individuals with opportunities to learn everywhere and every time rather than in a fixed time and place. The most important skill necessary for individuals to be a part of lifelong learning process (life-long learners) is "self-directed learning. Self-Directed Learning combines a number of educational movements such as adult learning, cooperative learning, democratic learning, and critical pedagogy.

Self-Directed Learning is not the latest trend in education. It has been around since the beginnings of cognitive development (Aristotle and Socrates), and is a natural pathway to deep understanding and efficacy. By being mindful of the ways Self-Directed Learning can appear in the classroom, and leveraging it as an integral part of how people learn, teachers can create a more meaningful learning experience for students that will last beyond the regurgitation of memorized content.

Purpose of the Study

The main purpose of the study was to investigate the Self- Directed Learning and Academic Self-Efficacy of Education College Students.

Definitions of Key Terms

Learning; "A change in human disposition or capability that persists over a period of time and is not simply ascribable to processes of growth" (Robert Gagne, Briggs &Wager, 1992).

Self-Directed Learning; "refers to the ability of students to be in control of their own Learning process rather than being directed by their teachers (Brockett, R.G. 1994).

Academic Self-Efficacy; refers to "personal judgments of one's capabilities to organize and execute courses of action to attain designated types of educational performances". (Schunk, D. H.1981).

Review of Related Literature

The concept of self-directed learning has been in existence since antiquity. For example, Aristotle, Plato and Socrates advocated self-direction as part of their methodology (Kulich, 1970). Early examples of programs that encouraged Self-Directed Learning in the United States have been found in adult education through correspondence courses, an early type of distance learning. These included the Ticknow Society in 1897 and the Chautauqua movement which began in 1881 (Agassiz & Eliot, 1897; Bergmann, 2001; Long, 1990; Vincent, 1885). The conceptual framework for SDL was initially created as part of the field of adult education. In 1926, Lindemann proposed that adults' source of motivation stemmed from their experiences and the opportunity to choose the path for their own learning (Brookfield, 1984). Lindemann and Knowles were both credited with the introduction of the term, andragogy, which was defined as 19 "the art and science of helping adults learn" (Knowles, 1980, p. 43 as cited in Merriam, 2001). Knowles developed a conceptual framework for adult learning based on five assumptions. Adult learners have a self-concept that is independent and tends to be self-directed. They have experience that serves as a learning resource. Adult learners may have changing social roles that drive learning. Adults are interested in immediate application of knowledge that is problem based. Finally, adult learners tend to be more internally motivated (Merriam, 2001). Researchers determined that Self-Directed Learning plays an important part in the process of adult learning (e.g., Bolhuis, 2003; Brockett & Hiemstra, 1991; Kulich, 1970; Merriam, 2001). As adult education became an important field in its own right, the study of Self-Directed Learning joined andragogy as two important parts of adult learning research. The demands of the information age increased the need for continuing education of the workforce which tended to drive the research in andragogy and Self -Directed Learning(Candy, 2004; Houle, 1988).

Bandura (1997) argued that self-efficacy has its most powerful motivational effects through the process of cognized goals. Goals provide the basis for self-regulation of effort by providing a standard for judging the adequacy and effectiveness of goal relevant effort and strategy (Bandura & Cervone, 1983). Specific and difficult (but not impossible) goals are strongly related to performance in a wide variety of tasks and settings (Locke & Latham, 1990). Self-efficacy leads to higher goals being set (Wood et al., 1990; Zimmerman, Bandura, & Martinez-Pons, 1992), and high goals increase the positive effects of self-efficacy by providing an evaluative context to aid self-regulation (Cervone, Jiwani, & Wood, 1991). When goals provide a standard, highly efficacious persons show a stronger relationship among self-evaluation, self-direction, and performance (Bandura & Schunk, 1981). Goals, and the broader category of positive expectations, are one type of vehicle by which efficacy effects are manifested.

Anxiety and negative emotions can be debilitating. Academic Self-efficacy has an impact on affect through its effects on attention and construal of environmental demands, by the choice of actions taken, and through its effect on the ability to control and manage negative or potentially negative emotions. Lazarus and Folkman (1984) argued that the way in which an individual construes the demands placed by the environment can have dramatic impact on his or her ability to cope with that environment. They made a distinction between regarding demands as "threats" versus "challenges." Bandura (1997) also argued that a high sense of coping efficacy encourages individuals to adopt courses of action designed to change hazardous environments. People with high perceived efficacy are less likely to be immobilized by anxiety (Betz &

Hackett, 1983; Krampen, 1988). For example, Meece, Wigfield, and Eccles (1990) found that effects of past performance on math anxiety and math performance were mediated by personal efficacy beliefs. Pintrich and DeGroot (1990) also reported that it was the efficacy beliefs, rather than anxiety, that were predictive of academic achievement. Self-efficacy beliefs are related to an enhanced ability to use effective problem-solving and decision-making strategies, to plan and manage one's personal resources more efficiently, to entertain more positive expectations, and to set higher goals. Very central to these self-efficacy effects seems to be the ability to manage the stressors created in demanding situations by means of a more positive analysis of extant risks and available coping resources, which results in the tendency to see demanding situations as challenges rather than threats.

Research Method

Descriptive research design and survey method were undertaken in this study. Self-Directed Learning and Academic Self-Efficacy questionnaires were used to assess Self- Directed Learning and Academic Self-Efficacy beliefs. The demographic factors of each student were also collected. For Self- Directed Learning, there were 5 dimensions. They are; (1) Awareness, (2) Learning-Strategies, (3) Learning-Activities, (4) Evaluation and (5) Interpersonal Skills. Each dimension contains 12 items. For Academic Self- Efficacy, there were 10 items.

Sampling

Subject Stream	Arts		Science	
Gender	Male	Female	Male	Female
Number of students	100	100	100	100
Total	200		200	

Instrumentation

The research Instrument used for this study were Self- directed Learning and Academic Self- Efficacy scale. Self-Directed Learning is the combination of the Rowbotham M. Schmitz GS (2013) development and Validation of a Student Self-Efficacy Scale. j Nurscare 2;126 dol. Students respond to items using a 5-point Likert scale through "1= Never; 2=Seldom, 3=Seldom, 4=often, 5=Always for five dimensions of Self-Directed Learning. Each dimension of Self-Directed Learning contains twelve items and total of sixty items. Academic Self- Efficacy scale contains ten items. The demographic factors of participants including gender and, subject were also investigated.

Procedure

Preparing and modifying Self-Directed Learning and Academic Self- Efficacy Questionnaires was done carefully done the expert validity, the pilot testing was primarily conducted to be sure that research study were valid and reliable. Then data collection was conducted from 400 pre-services teachers of selected Monywa Education College during the last week January, 2019.

400 pre-service teachers were randomly selected from second year students commensurate to the Art and science and males and females. After giving the required instruction, the student teachers took 45 minutes to complete questionnaires including the participants' demographic factors. The data collection process was assuring completed at the end of the first week February, 2019.

After conducting the survey procedures the data were examined in terms of descriptive statistics; the results were described in Table 1.

Table 1   Descriptive Statistics for Self-Directed Learning of Education College Students

Subscales	N	Minimum score	Maximum score	Mean	SD
Awareness	400	25	60	46.36	5.969
Learning –Strategies	400	19	85	47.50	6.567
Learning-Activities	400	25	60	44.86	6.403
Evaluation	400	24	60	46.33	6.865
Interpersonal Skills	400	23	60	45.49	6.712
Total(Self-Directed Learning)	400	122	297	230.54	27.131

Since the observed mean score (230.54) was higher theoretical mean score (180), the level of student teachers was satisfactory.

Gender based analysis was conducted to reveal the differences in Self-Directed Learning between male and female students. The mean and standard deviation for achievement motivation of males and females students were reported in Table 2.

Table 2   Means and Standard Deviations of Self-Directed Learning by "Gender"

Variable	Gender	N	Mean	SD
Awareness	Male	200	46.03	6.013
	Female	200	46.69	5.921
Learning -Strategies	Male	200	46.17	5.915
	Female	200	48.85	6.918
Learning -Activities	Male	200	44.04	5.894
	Female	200	45.68	6.791
Evaluation	Male	200	45.11	6.579
	Female	200	47.54	6.945
Interpersonal Skills	Male	200	44.61	6.372
	Female	200	46.38	6.942
Self-Directed Learning	Male	200	225.95	25.096
	Female	200	235.13	28.351

According to table 2, the mean scores of males (Mean=225.95) were higher than females (Mean=235.13). Thus, females were   higher than males in self-directed learning by gender.

To study the significant differences between male and female students in Self-Directed Learning, Independent Samples *t* **test** was used the result were shown in Table 3.

Table 3   Results of Independent Sample *t* test for Self-Directed Learning by Gender

Variable	t	df	p	Mean Difference
Awareness	-1.106	398	.269	.660
Learning Strategies	-4.164***	398	.000	-2.680
Learning Activities	-2.579**	398	.010	-1.640
Evaluation	-3.592***	398	.000	-2.430
Interpersonal Skills	-2.649**	398	.008	-1.765
Self-Directed Learning	-3.427***	398	.001	-9.175

In the table 3, the result shows that there were significant differences in total (Self-Directed Learning) at the 0.001 level by Gender.

To find out the significant differences by subject stream that the preservice teachers were specialized, independent sample *t* test was used. The mean and standard deviation for Self-Directed Learning by subject-Stream were reported in table 4.

Table 4   Means and Standard Deviations of Self-Directed Learning by Subject Stream

Variable	Subject Stream	N	Mean	SD
Awareness	Art	200	46.63	5.94
	Science	200	46.09	5.99
Learning -Strategies	Art	200	47.84	6.46
	Science	200	47.17	6.67
Learning Activities	Art	200	46.00	6.39
	Science	200	43.72	6.22
Evaluation	Art	200	47.19	6.92
	Science	200	45.47	6.72
Interpersonal Skills	Art	200	46.21	6.79
	Science	200	44.78	6.58
Total Self-Directed Learning	Art	200	233.86	27.51
	Science	200	227.22	26.39

According to the table 4.4, the mean score for total Self-Directed Learning of student teachers of art were (233.86) and the mean score for total Self-Directed Learning of student teachers of science were (227.2). Therefore, the mean score of art students were found greater than the science students.

To find out the significant differences by "Subject Stream", independent sample *t* test was used. The results were shown in Table 5.

Table 5   Results of Independent Sample *t* test of Self-Directed Learning by Subject- Stream

Variable	t	df	p	Mean Difference
Awareness	.90	398	.366	.540
Learning -Strategies	1.02	398	.308	.670
Learning Activities	3.61***	398	.000	2.28
Evaluation	2.52*	398	.012	1.72
Interpersonal Skills	2.15*	398	.032	1.44
Total(Self-Directed Learning)	2.47*	398	.014	.01

According to table 5, there was significant difference in learning activities, evaluation, interpersonal skills of Self-Directed Learning according to Subject-Stream. And then, there was significant difference between Arts students and science students in the whole Self-Directed Learning (*t*=2.4, *p*=.014) at the 0.05 level.

In terms of descriptive statistics, minimum, maximum scores mean and standard deviation of Academic Self-Efficacy of Education College Students were calculated to analyze data. The results were described in Table 6.

Table 6 Descriptive Statistics for Academic Self-Efficacy of Education College Students

Variable	N	Minimum score	Maximum score	Mean	*SD*
Total Academic Self-Efficacy	400	15	50	38.14	5.872

The observed mean score (230.54) was higher than theoretical mean score (180). The level of Education College Students' academic self-efficacy was satisfactory.

Gender based analysis was conducted to reveal the differences in Academic Self-Efficacy between male and female students. The mean and standard deviation for Self-Efficacy of male and female students were reported in Table 7.

Table 7   Means and Standard Deviations of Academic Self-Efficacy by Gender

Variable	Gender	N	Mean	SD
Total Academic Self-Efficacy	Male	200	37.28	5.36
	Female	200	39.00	6.24

According to table7. The mean scores of males (Mean=37.28) were higher than females (Mean=39.00). Since the mean score (39.00) was higher than the (37.28). According to the Myanmar culture, nature of females are shy and obedience of the older person or teachers and respect to the others.

To study the significant differences between male and female students in Self- Efficacy, independent samples *t* test was used.

The result of *t* test which showed the comparison of Academic Self- Efficacy between male and female students was shown in Table 8.

Table 8   Result of Independent Sample *t* test of Academic Self- Efficacy by Gender

Variables	*t*	*df*	*p*	Mean Difference
Academic Self-Efficacy	2.957	398	.033	-1.720

For investigating the students' Academic Self-Efficacy. The results were shown in the following Table 9.

Table 9 Mean and Standard Deviations of Academic Self-Efficacy by Subject Stream

Variables	Subject Stream	N	Mean	*SD*
Academic Self-Efficacy	Art	200	38.64	5.818
	Science	200	37.65	5.899

According to table 9, the means scores of Academic Self-Efficacy by Art was 38.64 and the means scores of Academic Self-Efficacy by Science was 37.65. Since the mean score of 38.65was higher the Art students than the Science students. Therefore, Academic Self-Efficacy of Art students and science students were satisfactory.

To study the significant differences between art and science student s in Self-Efficacy, independent samples *t* test was used. The result of *t* test was shown in Table 8.

Table 10 Result of Independent Sample *t* test of Academic Self-Efficacy by Subject Stream

Variables	*t*	*df*	*p*	Mean Difference
Academic Self-Efficacy	1.690	389	.092	.990

According to table 10, it was shown no significant differences in the Academic Self-Efficacy of Education College students by Subject Stream (t=1.690, p=.092). It can be interpreted that almost of the student teachers were entering into the Education College with high marks, they had prior knowledges in each person in earlier.

In order to investigate whether the students Self-Directed Learning and Academic Self-Efficacy were related or not, Pearson correlation coefficient was computed. The correlation coefficient between Self-Directed Learning and Academic Self-Efficacy was expressed in the Table 11.

Table 11 Pearson Correlation between Self-Directed Learning and Academic Self-Efficacy of Education College Students

Variables	Self-Directed Learning	Academic Self-Efficacy
Self-Directed Learning	-	.722

Table 11 showed that the correlation between Self-Directed Learning and Academic Self-Efficacy of Education College Students from selected Monywa Education College. In this research there was a significant positive correlation between Self-Directed Learning and Academic Self-Efficacy of Education College Students it was Significant positive correlation (r = .722) (p<0.01) level (2 tailed).Therefore, Indicated that as Self-Directed Learning increase, Academic Self-Efficacy increase accordingly.

Conclusion

Self-Directed Learning is the transformative process of information that- when internalize and mixed with what he has experience- change what he knows and build and what he does. It is based 0n input, process and reflection. It is what changes us. To enhance students' problem-solving ability, teacher educators should pay more attention to the positive impact of self-directed learning and self-efficacy in teacher educators' education.

Teachers also should encourage to students to develop their own ideas in their studio work and, eventually, to set their own goals and artistic problems. Teacher educators interested in measuring a generic ability or readiness for Self-Directed Learning have been particularly active with this concept of self-direction.

Self-directed learning is life- long process of gaining and using information presented to us .The abilities to learning is only successful when the information gained is use and understood. Learning is the transformative process of information that- when internalize and mixed with what he has experience- change what he knows and build and what he does. It is based 0n input, process and reflection. It is what changes us.

"Acquire knowledge and skill and having readily available from memory so we should make sense of future problem and opportunities".

This study's aim was to provide teacher educators with guidance and support needed to apply the knowledge , skill and understandings gained in self-directed learning ,in order to better organize and monitor their own learning more effectively. Learners will apply techniques for managing time, setting appropriate goals, evaluating performances and reporting on their learning. Reflection activities will help learners understand how to apply these skills more broadly to learning other subjects as well. Instructors will assist Self-Directed Learning and more

autonomous learners. For Self-Directed activities learners took the opportunity to learn about aspect s of special education that we were not as familiar with.

By Self-Directed learning , the prospective teachers are able to ensure that they fully understood not only Self- Directed Learning but also learning process ,how they related to special education and their everyday classroom experienced teacher. In short, the future learners are to learn about the educational policies and rationales behind special education and batter understand the process that take place.

Learning is the transformative process of information that- when internalize and mixed with what he has experience- change what he knows and build and   what he does. It is based on input, process   and   reflection. It is what changes us.

Should enhance students' problem-solving ability, student teachers should pay more attention to the positive impact of self-directed learning readiness and academic self-efficacy in student teachers' education.

Acknowledgements

References

Agassiz& Eliot (2003); metacognitive on student self-directed learning.

Bandura, A. (1977).Social Learning theory, Englewood Cliffs ,nJ: Prentic Hall .

Bandura, A. (1997).Self Efficacy; The exercises of control. New York, NY: Worth Publisher.

Brookfield, S. (1981). Self-directed learning: A critical review of research. In S.

Brookfield (Ed.). Self-directed learning: From theory to practic (pp. 5-16). New directions for continuing education; no. 25. San Francisco: Jossey-Bass.

Bolhuis, 5.(2003).towards processes –oriented teaching for Self- Directed Learning life-long learning. A Multidimensional perspective. Learning and instruction (13) 3 (327-347). dio :10.1016/50959

Brockett, R.G. (1994). Resistance to self-direction in adult learning: Myths and misunderstandings. In R. Hiemstra & R.G. Brockett, R.G. (1994). Resistance to self-direction in adult learning: Myths and misunderstandings. In R. Hiemstra & R.G.

Brockett, R. G., & Hiemstra, R. (1991). *Self-direction in adult learning Perspectives on theory, research and practice*.(p. 2). New York, NY: Routledge

Brockett, R. G., and Hiemstra, R. (1991) Self-direction in adult learning: Perspectives on theory, research, and practice, London: Routledge.

Brookfield, s D. (1985) 'Self-Directed Learning: A Conceptual and Methodological Exploration', Studies in the Education of Adults, 17/1, pp. 19-32.

Caffarella, R.S. (2000). Goals of self-directed learning. In G.A. Straka (Ed.), Conceptions of self-directed learning: Theoretical and conceptual considerations (pp. 37-48). Berlin, Germany: Waxmann.

Candy, P. C. (1991) Self-direction for lifelong learning: A comprehensive guide to theory and practice, Oxford, San Francisco: Jossey-Bass.

Education Research Conference, Calgary: Faculty of Continuing Education, university of Calgary.

Garrison, DR. (1997) Self- Directed Learning Toward a comprehensive model Adult Education Quarterly,48(1)18-33 dio:10.1177/07417/369704800113

Houle, C.O. (1961). The inquiring mind. Madison, University of Wisconsin Press. New   York: Association Free Press.

Khan, A. (2011).Teacher efficacy A Toll to Enhance Academic Achievement of Secondary School .*Language in India* ,11(6),235-247.

Knowles, M.S. (1975). Self-directed learning: A guide for learners and teachers. New York: Association Free Press.

Long, H. B. (1993). Self-directed learning knowledge: Some issues. In H. B. Lon and   Associates (Eds.), Emerging perspectives of self-directed learning pp. 1-8).
Norman, OK: Oklahoma Research Center for Continuing Professional and Higher Education of the   University of Oklahoma

Meyer, J.P.,& Stanley L.J.,& Parfyonova , N. M(2010). Employee commitment profiles. Journal of vocational Behaviour ,80, 1-6.

Merriam& Caffarella, 1999-Andragogy and Self-Directed Learning. Pillars of adult learning theory. New Directions for Adult and continuing Education, 1999(39)

Myanmar ministry of education Website. Retired December 15 2017, from http://www.moe.gov mm

Richey,Rita c. The legacy of Robert M.Gagne .2000.283-291

Schunk, D. H. (1981). Modeling and attributional effects on children's achievement: A self-efficacy analysis. Journal of Educational Psychology, *73, 93-105*

Taylor, I.M. Ntoumanis, & STANDAGE, (2008) Journal sport and Exercise Psychology 30,75-94.

Tough, A. (1971). The adult's learning projects: A fresh approach to theory and practice in adult learning. Toronto: Ontario Institute for Studies in Education.

PERSONANLITY TRAIT AND ACADEMIC HARDINESS OF PRE-SERVICE TEACHERS IN MANDALAY EDUCATION COLLEGE

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Abstract

The main purpose of this study was to investigate the personality trait and academic hardiness of pre-service teachers in Mandalay Education College. In this study, a total of 320 participants of the student teachers from Mandalay Education College (160 males and 160 females) were selected by using random sampling technique. To study the personality trait and academic hardiness of the student teachers, two instruments were used. The EPQR- A extraversion scale was modified from (Eysenck, Eysenck & Barrett, 1985). Academic hardiness scale consists of the 19 items devised by Benishek and Lopez (2001). The collected data was analyzed by using descriptive statistic and independent sample *t* test. The findings also showed that academic hardiness scale of female students was higher than that of male students. There was significant difference in academic hardiness by gender. By grade, the result for academic hardiness scale of first year students was higher than that of second year students. The result of the study indicated that extraversion scale of art students was higher than that of science students. And also academic hardiness scale of art students was higher than that of science students. There were significant differences in extraversion scale and hardiness scale of student teachers by subject stream. According to the results, there was a significant positive relationship between extroversion and hardiness of student teachers from Mandalay Education Colleges. This means that the student teachers who are high in extroversion are also high in hardiness accordingly. It is hoped that finding presented in this study will provide some insight in the study of personality trait and academic hardiness of student teachers in the future.

Keywords: Personality, Extraversion, Hardiness, Academic hardiness

Introduction

Improving the quality of education and investment on educational and human resources are regarded as effective factors paving the way for a country's pervasive development. Hence, improvement of students' academic achievement is also among the basic goals of educational planning. And also, academic achievement hardiness is provided the academic hardiness. It's through academic achievement students can fully actualize their talents and capabilities in line with educational goals. In fact, academic achievement is considered as one important criteria of educational quality.

On other hand, learners are different personality characteristics according to family backgrounds, age and gender, etc. these differences can help educators recognize their students' individual differences. Educators have always asked whether people's personality characteristics can help them attain higher academic hardiness or people's personality characteristics can help them attain lower academic hardiness. The continuity of the effect of childhood personality on achievement criteria is worthy of attention, because school adjustment and academic performance are believed to have cumulative effects in the course of time (Caspi et al., 2005).

Big five personality characteristics are: Neuroticism: emotional stability or neuroticism is the most important aspect of personality comparison; Neuroticism reflects individual differences in one's disposition towards constructing, perceiving and feeling realities in threatening, disturbing or problematic ways. Extroversion: describes the intensity and quality of an

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individual's relationship to the environment; Extroverted people seek connection with the environment and are warm, energetic, and sociable (Klinkozs et al., 2006).

Aims of the Study

The main aim of the study is to investigate personality trait and academic hardiness of pre-service teachers in Mandalay Education College.

Definitions of Key Terms

Personality: The combination of characteristics or qualities that form an individual's distinctive character (English oxford dictionary).

Extraversion (Extroversion): An orientation of one's interest and energies toward the outer world of people and things rather than the inner world of subjective experience (APA Dictionary of Psychology).

Hardiness: Hardiness is a personality style, which is characterized by a sense of commitment, control and perception of problems as challenges. (Santrock, 2006)

Hardiness: An ability to adapt easily to unexpected changes combined with a sense of purpose in daily life and of personal control over what occurs in one's life. Hardiness dampens the effects of stressful situation through information gathering, decisive actions, and learning from the experience (APA Dictionary of Psychology).

Academic hardiness refers to the resilience of students to academic failure: hardy students display a willingness to engage in challenging academic work, commit to academic activities and pursuits, and perceive they have control over their academic performance and outcomes (Benishek & Lopez, 2001; Maddi, Harvey, Kho Shaba, Fazel, & Resurreccion, 2009).

Review of Related Literature

Psychologically speaking, personality is all that a person is. It is the totality of one's behavior towards oneself as well as others. It includes everything about the person, his physical, emotional, social, mental and spiritual make-up. It is all that a person has about him.

So definitely, the term personality signifies something deeper than more appearance of outward behavior. How should it be given a proper definition is a difficult problem. Actually subjective nature does not allow to reach to a clear-cut, well agreed definition. That is why, it has been defined by many psychologists in so many ways according to their own point of view.

First, J.B. Watson (1930) who is the famous behaviorist. He defined, personality is the sum of activities that can be discovered by actual observations over a long enough period of time to give reliable information (1930). Thus, Watson give emphasis on the behavior of an individual and consider personality as nothing but the useful effect one makes upon the person coming in his close contact.

Cattell (1950:2-3) has given the definition of personality': "Personality is that which permits a prediction of what a person will do in a given situation. The goal of psychological research in personality is thus to establish laws about what different people will do in all kinds of social and general environmental situation. Personality is concerned with all the behaviors of the individual, both overt and under the skin."

Most definitions emphasize on the role of individual characteristics-traits influencing their behaviour.

The term personality is used in a number of ways including the apparent features of a person. However, psychologists use it to refer to the characteristic pattern of thinking, feeling and acting. By characteristic pattern we mean the consistent and distinctive ways our ideas, feelings and actions are organized. When people talk about personality people usually refer to the totality or whole of the person. Thus, the enduring pattern expressed by the person in various situations is the hall mark of personality.

Interestingly the theories of personality go beyond the literal meaning of "personality" which stands for large masks used by actors in ancient Greek drama. Contrary to this the personality theorists view 'personality' as the essence of the person. It is a person's "true" inner nature. The unique impression that a person makes on others is equally important in understanding personality. However the concept of personality has been defined by psychologists in many ways and it is the theoretical perspective or position which directs our attention to particular aspects of personality.

Understanding personality has proved to be a difficult and challenging task. It's so complex that no single theory is able to cover the total personality. The different theories approach the structure and functioning of personality from different positions. There are many theories of personality each provides different answers about the way they treat the issues about personality functioning. In the present lesson you will learn about four major theoretical perspectives of personality. They include psychoanalytic, trait, humanistic and social-cognitive perspectives.

According to Bandura, models have great influence on personality development of children and formed their own personality through observation and imitate their model's behavior. He believed that a variety of personal factors control human's behavior. Self efficacy, i.e. an individual's confidence in the ability to perform certain behavior would lead to favorable outcome. Thus, when self-efficacy is perceived as high, the person would feel confident that he can perform the response necessary to gain favorable outcome. Perception of low efficacy could influence the morale of the actor to perform the response.

Walter Michell, from Colombia University, is an advocate of Bandura's social learning theory. However, he asserted that people behave differently in different situations. For example, a person is an introvert in school, but might be an extrovert at home. Because of this, Mitchell (1990) maintains that human's behavior is characterized more by situational specificity rather than consistency. According to him, both the person and the situation are important factors that determined behavior, and thus the concept of personality does not require complete consistency in behavior.

Mount and Barrick (1995) mentioned that it appears that many personality psychologists have reached a consensus that five personality constructs, referred to as the Big Five, are necessary and sufficient to describe the basic dimensions of normal personality. This study prefers to use the Big Five Model because it widely used to measure personality. According to Paunonen and Ashton (2001), the Big Five personality dimensions of neuroticism, extroversion, agreeableness, openness to experience and conscientious have been studied extensively and have been associated with a variety of work attitudes and behavior.

These five personality dimensions are broad dimensions that are theorized to subsume most narrowly focused personality traits. The breadth of these dimensions is a benefit in that it distils a large number of personality traits into a parsimonious set of dimensions for use in research. It means that this model is widely used and suitable to use in any research. As stated by Harris and Fleming (2005), the Five Factor Model has enjoyed widespread popularity in the field. Five personality traits collectively classify the higher-level dispositions of an individual according to the Five Factor Model.

According to Eysenck (1986), extraverts tend to seek interaction with others, novel experiences and complex, varied and intense stimuli, extroverts, on the other hand, prefer their own company and prefer the familiar and unfamiliar. While Costa and McCrae (1992) stated that extroverts are gregarious, assertive, activity and excitement-seeking. It similar with Mount and Barrick (1995) which mentioned that extraversion is most often described as the degree to which an individual is sociable, gregarious, talkative, assertive, adventurous, active, energetic and ambitious.

Based on Watson and Clark (1997), extroverts have been found to be socially engaging, gregarious, assertive, expressive, articulate, comfortable in group settings and have a great number of friends. Williams (1997), extraverts also tend to be high in positive affectivity, self-efficacy and optimism. According to Harris and Fleming (2005), extroversion represents various aspects such as sociable, gregarious, assertive and talkative. However, Manning et al., (2006) stated that extroversion is about the extent to which people are comfortable in social relationships, how socially inhibited, and the extrovert who is comfortable in social relationships and socially uninhibited. Tallman and Burning (2008) stated that extroverts' need for power and recognition may also cause them to take more risks in the job and they would expect the organization to support their work activities. Besides, Tallman and Burning (2008) also stated people high in extroversion tend to be high performers and committed to the organization and their work. They will develop psychological contracts that reflect their hard work, commitment and willingness to work with others.

Kobasa's theory of psychological hardiness (Kobasa, 1979; Ouellette, 1993) provides a useful framework for understanding why certain students are more willing to engage in more challenging academic course work than others. Hardiness and others), challenge (i.e., perceiving change rather than stability as an expected and normal theory posits that three cognitive appraisal processes serve to buffer the deleterious effects of stressful life situations. These cognitive processes are: commitment (i.e, perceiving one's life activities as valuable to self part of life and viewing change as beneficial to personal development), and control (i.e., perceiving oneself as having personal control over important life events). The quality of students' Academic hardiness is influenced by wide range of environmental factors. The variable is very important for students, institutions of learning, educationists and curriculum practices. Psychological hardiness comprised of three obliquely related attitudes (Kobasa et al., 1982). The three interrelated hardiness attitudes of commitment, control, and challenge enhance the person performance (Maddi and Kobasa, 1979). Moreover it was found that there was a negative relationship between individuals' hardiness scores and mathematics anxiety (Ashcraft, 2002). There is different between boys and girls math experience in school but researches have shown that there was no significant gender difference with respect to academic achievement and general abilities (Lingard et al., 2005; karimi, 2009).

Research Method

The descriptive research design survey method was used in this study.

Sampling

The participants for the study were first year and second year student teachers chosen from Mandalay Education College. A total of 320 student teachers were selected by simple random sampling technique. Among 320 student teachers, 160 were males and 160 were females.

Instrumentation

The research instruments were the EPQR-A extraversion scale and academic hardiness scale. The EPQR-A extraversion scale was drawn from Eysenck, Eysenck and Barrett (1985). Academic hardiness scale included 19 items devised by Benishek and Lopez (2001).

The 19-items Academic Hardiness Scale (Benishek and Lopez, 2001) assesses the three components of academic hardiness - commitment, challenge, and control - which were proposed in Kobasa's (1979a, 1979b) theory of psychological hardiness. Students respond to items using a 4-point Likert scale.

Procedure

This study intends to investigate personality trait and academic hardiness of pre-service teachers in Mandalay Education College. The selection of the research title and gathering the related literature review were done by studying related books, journals, articles and research reports from the library and internet sources. And, the appropriate instruments to be used in this study were prepared by the guidance of supervisor. After preparing it, the questionnaires were assessed by the experts in the field of Educational Psychology in order to confirm face and content validity of the questionnaires. According to the validation of the expert reviews, the questionnaires were modified to be suitable and able to assess the students.

A pilot testing was conducted to pre-service teachers in Sagaing Education College. The questionnaire were re-modified to be more accomplished by correcting misunderstanding, requisites and inappropriate uses. A survey study was conducted with pre-service teachers from Mandalay Education College. The necessary data were collected and then, the data were entered into a computer data file and analyzed using the Statistical Package for the Social Science (SPSS) software version 20. In order to examine the responses, Descriptive, Pearson product moment correlation and independent sample t test were used. Independent sample t test was used to examine whether there were significant differences in personality trait and academic hardiness of pre-service teachers by gender, grade, and subject stream. And research paper was written and submitted with the guidance of supervisor. Finally, the interpretation of finding was made and conclusion was drawn.

Data Analysis and Finding

The aim of the study was to investigate personality trait and academic hardiness of pre-service teachers in Mandalay Education College. The results and finding of the study were presented. The collected data were analyzed by using the Statistical Package for the Social Science (SPSS) 20 version. The findings and results were presented as follow;

In terms of descriptive statistics, minimum and maximum scores, mean and standard deviation of personality trait and academic hardiness of pre-service teachers in Mandalay Education College were calculated to analyze data. The results were described in table 1.

Table 1 Descriptive Statistics for the Personality Trait and Academic Hardiness of
Pre- service Teachers

Variables	*N*	Minimum	Maximum	Mean	*SD*
Extroversion	320	17	48	34.18	3.997
Hardiness	320	40	66	51.96	4.335

According to the table 1, the minimum and maximum, mean and standard deviation of personality trait and academic hardiness of pre-service teachers were presented. The mean score of extroversion was 34.18 and mean score of academic hardiness was 51.96.

Gender based analysis was conducted to reveal the differences in personality trait between male and female students. The mean and standard deviation for personality trait of male and female students were reported in Table 2 and 3.

Table 2 Mean and Standard Deviation of the Personality Trait for Pre-service
Teachers by Gender

Variable	Gender	*N*	Mean	*SD*	Mean Differences
Extraversion	Male	160	34.08	3.657	
	Female	160	34.28	4.319	.200

According to the table 2, mean score of male student teachers was 34.08 and mean score of female student teachers was 34.28. So, mean score of female students was slightly higher than that of male students for extroversion.

This may be because female student teachers are more talkative, flexible and lively than male student teachers in Mandalay Education College.

To find out the significant differences by gender, independent samples *t* test was used. The results were shown in Table 3.

Table 3 The Results of Independent Sample *t* test for the Personality Trait of Pre-service
Teachers by Gender

Variable	Gender	*N*	*t*	*df*	*p*
Extroversion	Male	160	-.447	318	.655
	Female	160			

According to table 3, there was no significant difference in extroversion because of that, most of the male students of Mandalay Education College are well behaved, afraid to speak in public, not open-minded.

But, Muhammad Irfan Arif, Aqeela Rashid, Syeda Samina Tahira, Mahnaz Akhter University of Education, Lahore, Pakistan, they studied prospective teachers' personality in 2016.They found this study show that there was a significant difference between the male and female prospective teachers on Extraversion trait of their personality. The mean score of male prospective teachers was greater than the mean score of female prospective teachers on their Extraversion personality trait. It means that male prospective teachers are dominant over female prospective teachers on their Extraversion personality trait There was a significant difference between the male and female.

Moreover, Soraya Hakami, Elaheh Hejazi, and Masoud Gholamali Lavasani, Department of Educational Psychology and counselling, University of Tehran, Iran, they studied the relationships between personality traits and academic achievement among students. According to the final results, ANOVA and *t*-test indicated there is no significant gender differences in the personality characteristics and academic achievement. But according to the research in pre-service teachers from Mandalay Education College, *t*-test indicated there is no significant in the extraverted characteristics by gender.

Gender based analysis was conducted to reveal the differences in academic hardiness between male and female students. The mean and standard deviation for academic hardiness of male and female students were reported in Table 4 and 5.

Table 4 Mean and Standard Deviation of Academic Hardiness for Pre-service Teachers by Gender

Variable	Gender	*N*	Mean	*SD*	Mean Differences
Academic Hardiness	Male	160	50.94	4.645	2.025
	Female	160	52.97	3.751	

According to the table 4, mean score of male student teachers was 50.94 and mean score of female student teachers was 52.97. So mean score of female student teachers was higher than that of male student for academic hardiness.

To find out the significant differences by gender, independent samples *t* test was used. The results were shown in Table 5.

Table 5 The Results of Independent Sample *t* test for Academic Hardiness of Pre-service Teachers by Gender

Variable	Gender	*N*	*t*	*df*	*p*
Academic Hardiness	Male	160	-4.290***	318	.000
	Female	160			

Note*** The mean difference is significant at the .001 level.

According to the table 5, there was significant difference in academic hardiness of student teachers by gender at .001 level ($t = -4.290$, $p<.001$).

Generally male students usually hang out with their friends and, female students have sense shame so that they emphasize on studying. That's why female students were higher than male students for academic hardiness.

Grade based analysis was conducted to reveal the differences in personality trait between First Year and Second Year student teachers. The mean and standard deviation for achievement motivation of First Year and Second Year students teachers were reported in Table 6 and 7.

Table 6 Mean and Standard Deviation of the Personality Trait for Pre-service Teachers by Grade

Variable	Grade	*N*	Mean	*SD*	Mean Differences
Extroversion	First Year	160	34.30	3.962	.238
	Second Year	160	34.06	4.040	

According to the table 6, mean score of first year students was 34.30 and mean score of second year students was 34.06, mean score of first year students was higher than that of second year students for extroversion.

This may be because first year student teachers are more likely curiosity in new experiences than second year student teachers in Mandalay Education College.

To find out the significant differences by grade, independent samples *t* test was used. The results were shown in Table 7.

Table 7 The Results Independent Sample *t* test for the Personality Trait of Pre-service Teachers by Grade

Variable	Grade	N	*t*	*df*	*p*
Extroversion	First Year	160	.531	318	.596
	Second Year	160			

According to table 7, there was no significant difference. Because of first year students and second year students are at the same age, same thought and there might not be differences in their environmental experiences. And also, their behavioral patterns are same to each other.

Grade based analysis was conducted to reveal the differences in academic hardiness between First Year and Second Year student teachers. The mean and standard deviation for achievement motivation of First Year and Second Year students teachers were reported in Table 8 and 9.

Table 8 Mean and Standard Deviation for Academic Hardiness of Pre-service Teachers by Grade

Variable	Grade	*N*	Mean	*SD*	Mean Differences
Academic Hardiness	First Year	160	52.54	4.478	1.163
	Second Year	160	51.38	4.120	

According to table 8, mean score of first year student was 52.54 and mean score of second year students was 51.38. So, first year student teachers are higher than that of second year in academic hardiness. This is because second year students seen to focus not only on school also on other external stuff.

To find out the significant differences by grade, independent samples *t* test was used. The results were shown in Table 9.

Table 9 The Results Independent Sample *t* test for Academic Hardiness of Pre-service Teachers by Grade

Variable	Grade	N	*t*	*df*	*p*
Academic Hardiness	First Year	160	2.417*	318	.016
	Second Year	160			

Note* The mean difference is significant at the .05 level for academic hardiness.

According to the table 9, there was significant difference in academic hardiness of student teachers by grade. ($t = 2.417$, $p<.05$).

First year students matriculated not very soon and they had to work so hard in order to get high marks to study in the Universities they want to attend. This may be reason why they work like a horse.

Subject stream-based analysis was conducted to reveal the differences in personality trait between art and science students. The mean and standard deviation for achievement motivation of art and science students were reported in Table 10 and 11.

Table 10 Mean and Standard Deviation of the Personality Trait for Pre-service Teachers by Subject Stream

Variable	Subject Stream	*N*	Mean	*SD*	Mean Differences
Extroversion	Arts	160	34.71	3.894	1.063
	Science	160	33.65	4.039	

According to table 10, mean score of art students was higher than that of science students for extroversion. This may be because student teachers in Art section are more interested in reading general knowledge and more active participation not only in other school activities but also outside activities of Mandalay Education College.

To find out the significant differences by subject stream, independent samples *t* test was used. The results were shown in Table 11.

Table 11 The Results of Independent Sample *t* test for the Personality Trait of Pre-service Teachers by Subject Stream

Variable	Subject Stream	Number of Items	*N*	*t*	*df*	*p*
Extroversion	Arts	12	160	2.395*	318	.017
	Science	12	160			

Note* The mean difference is significant at the .05 level for extroversion.

According to the table 11, there was significant difference in Extroversion of student teachers by subject stream. ($t = 2.395$, $p<.05$).

More extraversion features can be found in art students than that of science students. Art students are more curious in new environment and experience. Besides that they are more likely to take part and compete every single school activities. And they show a great interest not only in school talks and seminar also in external conferences. So that, we can make an inference that art students are more extrovert than science students.

Subject stream-based analysis was conducted to reveal the differences in academic hardiness between art and science students. The mean and standard deviation for achievement motivation of art and science students were reported in Table 12 and 13.

Table 12 Mean and Standard Deviation of Academic Hardiness of Pre-service Teachers by Subject Stream

Variable	Subject Stream	*N*	Mean	*SD*	Mean Differences
Academic Hardiness	Arts	160	52.60	4.419	1.288
	Science	160	51.31	4.165	

According to the table 12, mean score of art student was 52.60 and mean score of science students was 51.31 for academic hardiness. So, student teachers in art section are higher than that of science section for academic hardiness.

Table 13 The Results Independent Sample *t* test for Academic Hardiness of Pre-service Teachers by Subject Stream

Variable	Subject Stream	Number of Items	N	t	df	p
Academic Hardiness	Arts	19	160	2.682**	318	.008
	Science	19	160			

Note** The mean difference is significant at the .01 level for academic hardiness.

According to the table 13, there was significant difference in academic hardiness of student teachers by subject stream. ($t = 2.682$, $p<.01$)

Art students are higher than science students in hardiness. This is because science students seen to focus not only on school also on other external stuff.

To find out the relationship between extroversion and academic hardiness of pre-service teachers, Pearson product-moment correlation coefficient was used. The results were shown in Table 14.

Table 14 The Relationship Between Extroversion and Academic Hardiness of Pre-Service Teachers

Variables	Extroversion	Hardiness
Extroversion	-	.209**
Academic Hardiness	.209**	-

Note: **Correlation is significant at the .01 level (2-tailed).

According to table, there was a significant positive relationship between extroversion and academic hardiness of student teachers ($r = 0.209$, $p <.01$). This means that the student teachers who are high in extroversion are also high in hardiness accordingly.

In summary, teachers play a key role in the teaching learning process so they need to aware what they are doing and why they are doing. The relationship between personality trait and academic hardiness have important implication for research and pedagogical practices. Students high in academic hardiness are likely to experience less academic stress which may lead to better grade. Therefore, It can be interpreted that the higher the lack of extraversion in student teachers, the lower the academic hardiness.

Conclusion

Extroversion was the personality factors explained in this study. There are other important personality aspects, cultural factors and demographic variables that also be explored. It is hoped that this research will provide a variable insight into personality trait and academic hardiness of pre-service teachers by investigating student's response to extraversion and academic hardiness scale. In the future, more researchers are need to applied more relevant instrument for personality trait and academic hardiness possible. Qualitative research is good research method to investigate deeply about the feeling and experience of student teachers. It can be used in the further studies. The participants in this study are only from Mandalay Education College.

Further studies can investigate other Education colleges and to have comparison between different Education colleges. To be conducted, it is hoped that the findings presented in this study

will provide some insight in the study of personality trait and academic hardiness of student teachers in future. This study also lays a foundation for future personality traits research.

Behdokht Mall-Amiri, Department of Foreign Languages, Central Tehran Branch, Islamic Azad University, Tehran, Iran was an attempt to investigate the difference between extrovert and introvert EFL teachers' classroom management. This study revealed a significant difference between extrovert and introvert EFL teachers' classroom management. It is found out that extrovert EFL teachers are better than introvert teachers at managing adult EFL learners' classes.

A great number of research suggests that hardiness acts as a protective factor in stressful situations, especially in work context. In the present research the factor structure of Dispositional Resilience Scale (DRS; Bartone, Ursano, Wright, & Ingraham, 1989), and its factorial invariance across gender was examined. Furthermore, the relationships of hardiness to five-factor personality traits and several mental health outcomes (positive affect, negative affect and physical symptoms) were also explored.

On the other hand, the research finding was a significant positive relationship between extroversion and academic hardiness of pre-service teachers from Mandalay Education College. This means that the student teachers who are high in extroversion are also high in hardiness accordingly.

So, we should train our students, instead of introvert personality type, extrovert personality type suits today's generation as they are going to be future leader's of new age. Student teachers done need to give a talk in public since they have to lead and guide their pupils. We should hold more lively discussions, competitions, education talks, exhibition, and workshops in order to train our students to be extrovert leader.

According to the Myanmar culture, the ones who are silent and never argue with their parents and teachers are called well-behaved. However we need to improve this tradition, students done need to discuss with their parent and teachers openly but not with impolite manner. Holding discussion and education talks let the students gain wider knowledge and information. And then workshops, seminars, discussions and conferences to develop positive personality could be organized at school environment.

Acknowledgements

References

Allport, G. W. Traits Revisited. American Psychologist, 1966, 21, 1-10, In G. Lindzey et al (Eds.), Theories of Personality: Primary Sources and Research, 2nd ed. New York: Wiley, 1973.

Ashton, M. C., & Lee, K. (2001). A theoretical basis for the major dimensions of personality. European Journal of Personality, 15 (5), 327-353.

Ashton, M. C., Lee, K., & Paunonen, S. V. (2002). What is the central feature of extraversion?: Social attention versus reward sensitivity. Journal of Personality and Social Psychology, 83 (1), 245-251.

Benishek, L. A., & Lopez, F. G. (2001). Development and initial validation of a measure of academic hardiness. Journal of Career Assessment, 9, 333-352. doi:10.1177/106907270100900402

Benishek, L. A., Feldman, J. M., Wolf-Shipon, R. W., Mecham, S. D, & Lopez, F. G. (2005). Development and evaluation of the revised academic hardiness scale. Journal of Career Assessment, 13, 59-76. doi:10.1177/106907270427027

Cattell, R. B. (1957). Personality and motivation structure and measurement. Oxford, England: World Book Co.

Clark, L.M., & Hartman, M. (1996). Effects of hardiness and appraisal on the psychological distress and physical health of caregivers to elderly relatives. Research on Aging, 18, 379-401.

Cole, M. S., Field, H. S., & Harris, S. G. (2004). Student learning motivation and psychological hardiness: Interactive effects on students' reactions to a management class. Academy of Management Learning and Education, 3, 64-85.doi:10. 5465/ AMLE.2004.12436819

Eysenck & Eysenck (1975), Emotionality (Buss & Plomin 1975) and (negative) Adjustment (Hogan, 1986)…Varations in other models of personality as Extraversion.

Eysenck, S. B., & Eysenck, H. J.(1975). Manual of the Eysenck Personality Questionnaire. London: Hougter & Soughton.

Furnham, A., Zhang, J., & Chamoro, T. (2006). The relationship between psychometric and self-estimated intelligence, creativity, personality and academic achievement. Imagination, cognition and personality, 25(2), 119-145.

Goldberg, L. R.(1992). The development of markers for the big five factor structure. Psychological Assessment, 4 (1), 26-42.

Jung, C. (1971). Psychological Ttypes. New Jersey: University Press.

Kobasa, S. (1979). Stressful life events, personality and health: An inquiry into hardiness. Journal of Personality and Social Psychology, 37, 111.

Kobasa, S. C. (1979b). Stressful life events, personality, and health: An inquiry into hardiness. Journal of Personality and Social Psychology, 37, 1-11. doi:10.1037/0022-3514.37.1.1

Mc Care, R.R and John, O.P. (1992) An Introduction to the five-factor model and its application. Journal of Personality, 60 175-215

Paunonen, S. V., & Ashton, M. C.(2001). Big five predictors of academic achievement. Journal of Researchin Personality, 35, 78-90.

Watson, D., & Clark, L. A. (1997). Extraversion and its positive emotional core. In R. Hogan, J. Johnson, & S. Briggs (Eds.), Handbook of personality psychology (p. 767-793). San Diego, CA: Academic Press.

Wright, C. I., Williams, D., Feczko, E., Barrett, L. F., Dickerson, B. C., Schwartz, C. E., et al. (2006). Neuroanatomical correlates of extraversion and neuroticism. Cerebral Cortex, 16 (12), 1809-1819.

METACOGNITIVE AWARENESS AND MATHEMATICS ANXIETY OF GRADE 10 STUDENTS I[1]N MEIKHTILA TOWNSHIP

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Abstract

The main aim of this study was to investigate metacognitive awareness and mathematics anxiety of Grade 10 students in Meikhtila Township. Participants were 994 students from eight schools in Meikhtila Township. The descriptive research design and quantitative survey method were used. In this study, Metacognitive Awareness Inventory (MAI) consisting of 44 items (r=0.881) was used to measure the metacognitive awareness of the students. The inventory contained eight dimensions; declarative knowledge, procedural knowledge, conditional knowledge, planning, information management strategies, comprehension monitoring, debugging strategies and evaluation. And, the next instrument, Mathematics Anxiety Rating Scale developed by Sharia et al. (2015) was used to measure mathematics anxiety of students. It includes 26 items (r=0.879) and consists of two dimensions; cognitive dimension, the worry component and affective dimension, the emotional component. The result of *t* test showed that there was a significant difference in metacognitive awareness by gender. The metacognitive awareness of female students was higher than that of male students. The result also showed that there was no significant difference in metacognitive awareness by subject combination. The ANOVA result revealed that there were significant differences in metacognitive awareness by schools. Besides, there was no significant difference in mathematics anxiety by gender and by subject combination. As the ANOVA result, there were significant differences in mathematics anxiety between school 2 and school 3, between school 2 and school 4, and between school 3 and school 7. According to the Pearson product-moment correlation, there was a significant negative correlation between metacognitive awareness and mathematics anxiety of Grade 10 students (r= -.162, p<.01). Thus, it can be concluded that the higher level of students' metacognitive awareness, the lower level of their mathematics anxiety.

Keywords: Metacognition, Metacognitive Awareness, Mathematics Anxiety

Introduction

Importance of the Study

There is a growing evidence that metacognition is an important component of intelligence and cognition as well as a major influence on academic success (Panaoura, 2005). Metacognition has been one of the most concentrated concepts in the field of psychology. It has long been an important area of research that has had growing numbers of applications within education (Erickson, 2015). Mathematics anxiety has been the focus of much psychological and educational research in the past few years. Math anxiety is a real issue that can impact a young person's goals, many career-related decisions they may make in life and their overall future. Metacognitive training has been shown to be a very effective method which can overcome mathematics problem-solving difficulties and rather, can lead to a lesser impact of mathematics anxiety on performance (Legg, 2009).

Metacognition plays an important role in education because it helps learner to be capable of developing a plan, monitoring and evaluating how much it's effective that means metacognition helps the learner to be more involved in learning process (Costa & Kallic, 2001, cited in Abdellah R, 2015). In addition, it can guide cognitive processes which are crucial in learning setting through a deliberate and conscious memory search.

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In addition, it is important for adolescents to be aware of their strengths and limitations as learners. As they are not usually aware of the limitations of their knowledge, this lack of awareness is likely to present difficulties for them in effecting monitoring and regulating school tasks. Success of metacognitive awareness affects students' academic performance as well as their ability to communicate what they know about a particular problem. Being able to communicate their level of understanding to instructors is crucial to the learning process (Erickson, 2015).

Metacognition is of importance to academic performance, problem solving and student learning. Although students who are utilizing metacognitive skills can easily recall and use their past knowledge to challenging problems, on the other hand individuals with anxiety have difficulty storing and retrieving information (Nelson & Harwood, 2011, cited in Saricam & Ogurlu, 2015).

For all age groups, metacognitive awareness is crucial for efficient independent learning, because it fosters forethought and self-reflection. Good metacognitive thinkers are also good intentional learners. That is, they are able to direct their learning in the proper ways to build understanding. They know when to use strategies and how to use them. They are able to redirect the normal frustration that occurs when things are confusing or are not initially productive into further learning and research strategies. They are able to control their academic stresses that occur due to their teachers, peers, exams, results, and self-inflicted. Although metacognitive awareness has a positive influence on learning, math anxiety has a negative effect on academic performance.

Students' anxiety in response to mathematics is a significant concern for educators in terms of the perception that high anxiety will relate to avoidance of mathematics. Mathematics is an importance subject in school curriculum in every country. It has been taught so that children can understand the numerical data presented to them, and able to perform simple and complex calculations in day-to-day encounters. It is also common belief among students that mathematics is a hard subject and difficult to learn. In mathematics education, many researchers propose innovative ways of teaching, linking concept and real-life applications and motivating the students to take more interest in the subject to overcome mathematics phobia. To improve students' mathematics ability, decreasing their anxiety can also affect in their academic performance (Hemmings, Grootenboer, & Kay, 2011, cited in Mutawah, 2015).

Mathematics anxiety can also affect students' motivation to learn in mathematics classes. It is related to student's feeling, tense or anxious when working with numbers or solving mathematical problems. It can be found in all ages, from pre-school to graduate students and beyond. Defined as feelings of tension and anxiety that interfere with the solution process and manipulation of mathematical problems in a wide variety of real-life applications, academic and non-academic situations, math anxiety may be manifested in both cognitive and effective processes; and it has been linked negatively to various indices of success and to detrimental effects on future career and professional development (Elbedour, 2018).

Math anxiety can negatively impact cognition in a variety of ways. Thus, it is necessary to reduce math anxiety in classroom setting. However, awareness of metacognitive knowledge helps individuals to solve mathematical problems effectively and decrease their anxiety (Homayouni & Alvai, 2012).

Thus, the present study emphasizes on investigating the relationship between metacognitive awareness and mathematics anxiety of Grade 10 students. The result will provide useful information for improving mathematics skills.

Purpose of the Study

The main aim of this study was to investigate metacognitive awareness and mathematics anxiety of Grade 10 students in Meikhtila Township. The specific objectives are as follows;

(1) To explore metacognitive awareness of Grade 10 students by gender, subject combination and schools

(2) To examine mathematics anxiety of Grade 10 students by gender, subject combination and schools

(3) To find out the relationship between metacognitive awareness and mathematics anxiety of Grade 10 students

Definitions of Key Terms

Metacognition : Metacognition is the ability to reflect upon, understand and control one's learning (Schraw & Dennison, 1994).

Metacognitive Awareness : Metacognitive awareness is defined as all learning processes and behavior involving any degree of reflection, learning strategies selection, and intentional mental processing that can result in a student's improved ability to learn (Conley, 2014).

Mathematics Anxiety : Mathematics anxiety is defined as a feeling of tension, apprehension, or fear that interferes with Mathematics performance (Ashcraft, 2002).

Related Literature

Meaning and Nature of Metacognitive Awareness

The essence of metacognition is awareness of how individuals acquire knowledge, and how to control the process in acquire knowledge (Schraw & Dennison, 1994). Metacognitive awareness refers to feelings and experiences we have when engaging in cognitive process (Flavell, 1979). Dr. David Conely (2014) also defined metacognitive awareness as all learning processes and behavior involving any degree of reflection, learning strategies selection, and intentional mental processing that can result in a student's improved ability to learn.

Metacognitive awarenessrelates to an individual's awareness of where they are in the learning process, their knowledge about content knowledge, personal learning strategies, and what has been done and needs to be done (Wilson, 1999). It also relates to individuals' awareness of where they are in the learning process or in the process of solving a problem, of their content specific knowledge, and of their knowledge about their personal learning or problem solving strategies. It also includes their knowledge of what needs to be done, what has been done, and what might be done in particular learning contexts or problem solving situations. Metacognitive awareness encompasses an individual's cumulative knowledge of acquired competencies and on-going knowledge of mental processes in progress.

Schraw & Dennison (1994) defined metacognitive awareness as the ability to reflect upon, understand, and control one's learning. Their account divides metacognitive awareness into

two components, which themselves further divide into subcomponents. The first component of metacognitive awareness is knowledge of cognition, which includes three sub-components that facilitate the reflective aspects of metacognition; declarative knowledge, procedural knowledge and conditional knowledge. The second component, regulation of cognition, includes five sub-components that facilitate the control aspect of learning. Five component skills of regulation have been discussed extensively, including planning, information management strategies, comprehension monitoring, debugging strategies, and evaluation (Baker, 1989, cited in Schraw & Dennison, 1994).

Knowledge about Cognition

Knowledge about cognition is how learners know about themselves as learners, and about their own ability to use appropriate strategies to achieve their goals (Schraw & Dennison, 1994).

(1) **Declarative knowledge*;* It is how learners know about themselves as a learner, about their own weaknesses and strengths, and about their relationships with the tasks that they want to accomplish, such as learning or problem solving.
(2) **Procedural knowledge*;* It is to know how and what strategies learners can use to accomplish their tasks.
(3) **Conditional knowledge;** It is to know when and under what conditions learners can use a particular strategy to achieve their goals (Schraw & Dennison, 1994).

Regulation about Cognition

Regulation about cognition is to control the cognition in terms of planning, implementation and evaluation (Schraw & Dennison, 1994).

(1) **Planning;**It is to set goals and allocate resources before beginning the task.
(2) **Information Management Strategies;** It includes skills to process information, such as organizing, elaborating etc.
(3) **Comprehension Monitoring**; It entails assessing one's comprehension and learning process, whether the reading materials make sense or not.
(4) **Debugging Strategies;** It is to look for help when encountering difficulties.
(5) **Evaluation;** It is to assess oneself to see whether he or she has accomplished his/her jobs (Schraw and Dennison, 1994).

Two-factor Theory of Mathematics Anxiety

In spite of the many theories concerning mathematics anxiety, the researcher used the two-factor theory of mathematics anxiety.

Mathematics is also a gateway to engineering, scientific and technological fields (Mahmood, 2011, cited in Shaira et al., 2015). Mathematics, either can be a major subject or a minor subject to college students significantly gives anxiety especially in school (academic setting) when doing activities such as home works, board works in a class discussion and seat works after a series of lessons in Mathematics. Mathematics is a subject which elicits many different attitudes and feelings. Among these attitudes are general feelings towards the subject, such as liking or enjoyment, and more specific attitudes such as confidence and anxiety.

As anxiety and mathematics have been combined to for a one construct which what we call mathematics anxiety, we can simply define that this mathematics anxiety often leads to avoidance of math by those who experience it and it is noticeable that students who are anxious,

bored and fearful towards math or who do not comprehend the importance of math in professional and personal life are the once most likely to avoid the study of math. Math Anxiety is found to have a no single underlying theory. There is a noticeable lack of any clear theoretical basis for mathematics anxiety, in either the research or the treatment literature. Parallel to this, there also no single and fixed definition that could describe Math Anxiety. However, considerations to these many applicable theories lead the researchers to define mathematics anxiety with two dimensions; cognitive and affect.

Test anxiety and mathematics anxiety were among the different types of anxiety being studied in the 1950's and since that time mathematics anxiety research has grown in parallel with, although lagging slightly behind, research in the field of test anxiety. In spite of an apparently close relationship between mathematics anxiety and test anxiety there has been less cross-fertilization between these two fields than would be expected. Libert and Morris (1967, cited in Shaira et al., 2015) were first to propose a two-factor model of test anxiety that distinguished between an affective "emotionality" and a cognitive worry dimension of test anxiety. According to Richardson and Suinn (1972), feelings of tension and anxiety interfere with the manipulation of numbers and the solving of mathematical problems in a wide variety of ordinary life and academic situations.

Liebert and Morris (1967, cited in Shaira et al., 2015) distinguished two components of mathematics anxiety; affective and cognitive. Affective anxiety refers to the emotional component of anxiety, feelings of nervousness, tension, dread, fear, and unpleasant physiological reactions to testing situations. Cognitive anxiety refers to the worry component of anxiety, which often displayed through negative expectation, preoccupation with and self-deprecatory thoughts about an anxiety-causing situation.

Major Causes of Mathematics Anxiety

Many students claim not to like math. But for some, the issue with math is more than simply disliking algebra or fractions. For some students, doing math can cause negative emotions like fear of failure. This harms their ability to perform. This is called mathematics anxiety.

(1) Parent's Role

(2) Teacher's Role

(3) Classroom Experience

(4) Attitude on Performance

Sample of the Study

The participants used for this study were Grade 10 students from Meikhtila Township. By using simple random sampling technique, the students were selected as the sample from eight high schools. The total of the students were 994 from the selected schools.

Table 1 Number of the Students for the Selected Schools in Meikhtila Township

No.	School	Subject Combination	Number of Students		Total
			Male	**Female**	
1.	B.E.H.S (1)	Combination-1	21	18	39
		Combination-7	57	58	115
2.	B.E.H.S (2)	Combination-1	30	28	58
		Combination-7	29	27	56
3.	B.E.H.S (3)	Combination-1	28	24	52
		Combination-7	25	31	56
4.	B.E.H.S (4)	Combination-1	56	63	119
		Combination-7	20	23	43
5.	B.E.H.S (5)	Combination-1	36	50	86
		Combination-7	23	38	61
6.	B.E.H.S, Taw Ma	Combination-1	30	28	58
		Combination-7	26	29	55
7.	B.E.H.S, Ye Wai	Combination-1	25	25	50
		Combination-7	28	28	56
8.	B.E.H.S, Chi Sat	Combination-1	25	16	41
		Combination-7	24	25	49
Total			483	511	994

Male = 483, Female = 511

Combination 1= 503, Combination 7= 491

Combination 1 = Myanmar, English, Mathematics, Chemistry, Physics, Economics

Combination 7 = Myanmar, English, Mathematics, Chemistry, Physics, Biology

Research Design and Method

The descriptive research design and quantitative survey method were used in this study.

Instrumentation

In this study, the researcher used two instruments to investigate metacognitive awareness and mathematics anxiety of Grade 10 students in Meikhtila Township. To examine metacognitive awareness of students, Metacognitive Awareness Inventory (MAI) developed by Schraw and Dennison (1994) was used. To measure mathematics anxiety of students, the research used Mathematics Anxiety Rating Scale developed by Sharia et al. (2015).

Metacognitive Awareness Inventory (MAI) originally consists of 52 items and is divided into eight subscales. After conducting pilot test, some items were repaired and defeated to get higher Cronbach's alpha and so 44 items remain in Metacognitive Awareness Inventory. Mathematics Anxiety Rating Scale includes 30 items and is divided into two dimensions. After pilot testing, there were 26 items in this questionnaire. Cronbach's alpha reliability coefficients were 0.881 for metacognitive awareness questionnaire and 0.879 for mathematics anxiety questionnaire respectively.

Data Analysis and Finding

The main purpose of the present study was to investigate metacognitive awareness and mathematics anxiety of Grade 10 students in Meikhtila Township. By using the statistical analyses, findings and results were presented in this section.

1. Metacognitive Awareness of Grade 10 Students

Descriptive statistics were used for mean, standard deviation, minimum and maximum scores of metacognitive awareness of Grade 10 students. The result can be seen in Table 2.

Table 2 Descriptive Statistics for Metacognitive Awareness

Variable	*N*	**Minimum**	**Maximum**	**Mean**	*SD*
Metacognitive Awareness	994	77	171	130.20	14.51

According to the result, the minimum and maximum scores were 77 and 171 respectively. The value of standard deviation was 14.51. The value of mean score was 130.20 and higher than the theoretical mean score 110. So, it may be said that metacognitive awareness of most students was satisfactory to some extent.

Mean and standard deviation for metacognitive awareness of Grade 10 students by gender were reported in Table 3. The mean score of female students was higher than that of male students in metacognitive awareness.

Table 3 Descriptive Statistics of Metacognitive Awareness by Gender

Variable	Gender	*N*	**Mean**	*SD*
Metacognitive Awareness	Male	484	127.74	14.24
	Female	510	132.54	14.39

The result showed that there were differences in metacognitive awareness according to gender. To make sure these differences, independent sample *t* test was conducted.

Table 4 The Result of Independent Sample *t* test on Metacognitive Awareness by Gender

Variable	Gender	*N*	*t*	*df*	*p*	Mean difference
Metacognitive Awareness	Male	484	**-5.287*****	992	**.000**	-4.804
	Female	510				

***p<.001

As the result, there was a significant difference between male and female students in metacognitive awareness at 0.001 level.

Again, descriptive statistics were used for mean percentage and standard deviation for each dimension of metacognitive awareness by gender.

Table 5 Descriptive Statistics for Each Dimension of Metacognitive Awareness by Gender

Variables	Gender	*N*	**Mean%**	*SD*
Declarative Knowledge	Male	484	73.50	10.19
	Female	510	75.08	9.13
Procedural Knowledge	Male	484	72.72	10.28
	Female	510	74.68	9.65
Conditional Knowledge	Male	484	74.65	10.73
	Female	510	76.80	10.89
Planning	Male	484	73.79	11.47
	Female	510	75.50	11.51
Information Management Strategies	Male	484	71.33	10.29
	Female	510	74.19	10.50

Variables	Gender	N	Mean%	SD
Comprehension Monitoring	Male	484	71.73	11.24
	Female	510	74.95	10.27
Debugging Strategies	Male	484	74.16	11.41
	Female	510	78.76	11.03
Evaluation	Male	484	71.19	11.14
	Female	510	75.00	10.98

According to the result, the mean score of male students was highest in conditional knowledge and lowest in evaluation dimension. For female students, the mean score was highest in debugging strategies and lowest in information management strategies.

To know whether the two groups were significantly different or not, independent sample *t* test was computed.

Table 6 The Result of Independent Sample *t* test on Dimensions of Metacognitive Awareness by Gender

Variables	Gender	N	t	df	p	MD
Declarative Knowledge	Male	484	**-2.582****	992	**0.010**	-1.58
	Female	510				
Procedural Knowledge	Male	484	**-3.090****	992	**0.002**	-1.95
	Female	510				
Conditional Knowledge	Male	484	**-3.142****	992	**0.002**	-2.16
	Female	510				
Planning	Male	484	**-2.352***	992	**0.019**	-1.71
	Female	510				
Information Management Strategies	Male	484	**4.333*****	992	**0.000**	-2.86
	Female	510				
Comprehension Monitoring	Male	484	**4.726*****	992	**0.000**	-3.22
	Female	510				
Debugging Strategies	Male	484	**6.461*****	992	**0.000**	-4.60
	Female	510				
Evaluation	Male	484	**5.433*****	992	**0.000**	-3.81
	Female	510				

*p<.05, **p<.01, ***p<.001

According to the result, there was a significant difference in all dimensions between male and female students. The mean scores of females were significantly higher than that of males in all dimensions.

To find the differences in metacognitive awareness of the students by subject combination, descriptive statistics was conducted.

Table 7 Descriptive Statistics of Metacognitive Awareness by Subject Combination

Variable	Subject Combination	N	Mean	SD
Metacognitive Awareness	Combination 1	503	129.36	14.16
	Combination 7	491	131.06	14.83

Combination 1 = Myanmar, English, Mathematics, Chemistry, Physics, Economic

Combination 7 = Myanmar, English, Mathematics, Chemistry, Physics, Biology

To know whether the two groups varied significantly, independent sample *t* test was computed.

Table 8 The Result of Independent Sample *t* test on Metacognitive Awareness by Subject Combination

Variable	Subject Combination	*N*	*t*	*df*	*p*	*MD*
Metacognitive Awareness	Combination 1	503	**-1.855**	992	**0.064**	-1.705
	Combination 7	491				

According to the *t* test result, there was no significant difference in metacognitive awareness by subject combination.

Next, mean and standard deviation for metacognitive awareness of Grade 10 students by schools were presented in Table 9. The mean score of students from school 7 was highest and that of students from school 8 was lowest among all schools.

Table 9 Descriptive Statistics of Metacognitive Awareness by Schools

Variable	School	*N*	Mean	*SD*
Metacognitive Awareness	School 1	154	127.95	14.84
	School 2	114	130.33	15.81
	School 3	108	133.46	13.93
	School 4	162	132.05	15.35
	School 5	147	127.67	12.73
	School 6	113	127.88	10.57
	School 7	106	138.24	13.66
	School 8	90	124.23	14.48

To know whether these differences in mean scores were statistically or not, one-way analysis of variance (ANOVA) was conducted.

Table 10 ANOVA Results for Metacognitive Awareness by Schools

Variable	Region of Group	Sum of Square	*df*	Mean Square	*F*	*P*
Metacognitive Awareness	Between Groups	14089.649	7	2012.807	10.176***	.000
	Within Groups	195033.510	986	197.803		
	Total	209123.160	993			

***p<.001

According to the ANOVA result, there was a significant difference in metacognitive awareness by schools.

Then, to find out the mean comparison in metacognitive awareness of students by schools specifically, Post-Hoc test was computed by Tukey HSD method and students' metacognitive awareness were interpreted by using the multiple comparison method. (See Table 11)

Table 11 Result of Tukey HSD Multiple Comparison for Metacognitive Awareness by Schools

(I)School	(J)School	Mean Difference (I-J)	P
School 3	School 1	5.515*	.048
	School 5	5.796*	.018
	School 6	5.587*	.021
	School 8	9.230***	.000
School 4	School 8	7.816**	.002
School 7	School 1	10.288***	.000
	School 2	7.903**	.002
	School 4	6.186*	.015
	School 5	10.596***	.000
	School 6	10.360***	.000
	School 8	14.003***	.000

*$p<.05$, **$p<.01$, ***$p<.001$

According to the result, there was a significantly difference in metacognitive awareness by schools. This might be due to the fact that schools differ depending on the instructional strategies, learning environments and learning styles of the students.

2. Mathematics Anxiety of Grade 10 Students

Descriptive statistics were used for mean, standard deviation, minimum and maximum scores of mathematics anxiety of Grade 10 students. The result can be seen in Table 12.

Table 12 Descriptive Statistics for Mathematics Anxiety

Variables	No of Items	Mini	Maxi	Mean	Mean %	*SD*
Cognitive	14	14	56	36.17	64.62	13.86
Affective	12	12	48	30.46	63.51	12.66
Overall Mathematics Anxiety	**26**	**28**	**104**	**66.63**	**66.63**	**12.95**

According to the result, the minimum and maximum scores of mathematics anxiety were 28 and 104 respectively. The value of standard deviation was 12.95. The value of mean score was 66.63 and higher than the theoretical mean score 65.

Mean and standard deviation for mathematics anxiety of Grade 10 students by gender were reported in Table 13. The mean score of female students was higher than that of male students in mathematics anxiety.

Table 13 Descriptive Statistics of Mathematics Anxiety by Gender

Variables	Gender	*N*	Mean	*SD*
Cognitive	Male	484	64.25	13.79
	Female	510	64.97	13.93
Affective	Male	484	63.63	12.81
	Female	510	63.40	12.52
Mathematics Anxiety	**Male**	**484**	**66.47**	**12.90**
	Female	**510**	**66.77**	**13.01**

The result showed that there were differences in mathematics anxiety according to gender. To make sure these differences, independent sample *t* test was conducted.

Table 14 The Result of Independent Sample *t* Test on Mathematics Anxiety by Gender

Variables	Gender	N	t	df	p	MD
Cognitive	Male	484	-0.817	992	0.414	-0.719
	Female	510				
Affective	Male	484	0.284	992	0.284	0.777
	Female	510				
Mathematics Anxiety	Male	484	-0.372	992	0.710	-0.306
	Female	510				

As the result, there was no significant difference between male and female students in mathematics anxiety and also in its dimensions. So, it might be said that mathematics anxiety was not influenced by gender, and both male and female students have the same level of mathematics anxiety.

Mean and standard deviation for mathematics anxiety of Grade 10 students by subject combination were reported in Table 15. The mean score of combination 1 students was higher than that of combination 7 students in mathematics anxiety and also in its two dimensions.

Table 15 Descriptive Statistics of Mathematics Anxiety by Subject Combination

Variables	Subject Combination	N	Mean	SD
Cognitive	Combination 1	503	65.49	13.54
	Combination 7	491	63.73	14.14
Affective	Combination 1	503	64.13	11.93
	Combination 7	491	62.87	13.34
Overall Mathematics Anxiety	**Combination 1**	**503**	**67.41**	**12.31**
	Combination 7	**491**	**65.82**	**13.54**

To know whether the two groups significantly varied or not, independent sample *t* test was computed.

Table 16 The Result of Independent Sample *t* test on Mathematics Anxiety by Subject Combination

Variables	Subject Combination	N	t	df	p	MD
Cognitive	Combination 1	503	2.007*	992	0.045	1.762
	Combination 7	491				
Affective	Combination 1	503	1.565	992	0.118	1.255
	Combination 7	491				
Overall Mathematics Anxiety	**Combination 1**	**503**	**1.944**	**992**	**0.052**	**1.595**
	Combination 7	491				

*p<.05

According to the result, there was no significant difference in mathematics anxiety and affective dimension, but there was a significant difference in cognitive dimension according to subject combinationat 0.05 level.

And finally, mean and standard deviation of mathematics anxiety by schools were reported in Table 17. Students from school 2 had highest mathematics anxiety level and students from school 7 had lowest mathematics anxiety level.

Table 17 Descriptive Statistics for Mathematics Anxiety by Schools

Variable	School	N	Mean	SD
Mathematics Anxiety	School 1	154	66.34	12.90
	School 2	114	70.54	13.38
	School 3	108	65.16	12.31
	School 4	162	64.83	14.80
	School 5	147	67.24	12.70
	School 6	113	67.74	6.29
	School 7	106	64.51	12.42
	School 8	90	67.24	13.69

To know whether these differences in mean scores were statistically significant or not, one-way analysis of variance (ANOVA) was conducted.

Table 18 ANOVA Results for Mathematics Anxiety by Schools

Variable	Region of Group	Sum of Square	df	Mean Square	F	P
Mathematics Anxiety	Between Groups	3213.818	7	459.117	2.779**	0.007
	Within Groups	163276.962	986	165.595		
	Total	166490.781	993			

**p<.01

According to the result, there was a significant difference in mathematics anxiety by schools. To find out the mean comparison in mathematics anxiety of students by schools specifically, Post-Hoc test was computed by Tukey HSD method and students' mathematics anxiety was interpreted by using the multiple comparison method.

Table 19 Result of Tukey HSD Multiple Comparison for Mathematics Anxiety by Schools

(I)School	(J)School	Mean Difference (I-J)	P
School 2	School 3	5.378*	.042
	School 4	5.702*	.022
	School 7	6.026*	.015

*p<.05

According to the result, there was a significant difference in mathematics anxiety by schools. This may be due to teaching styles, teachers' strategies, classroom size and parents' aspirations of the students concerning mathematics.

3. Relationship Between Metacognitive Awareness and Mathematics Anxiety of Grade 10 Students in Meikhtila Township

In order to find out whether there was a significant association between students' metacognitive awareness and their mathematics anxiety or not, Pearson product-moment correlation was conducted. The relationship between metacognitive awareness and mathematics anxiety was shown in Table 20.

Table 20   Correlation Matrix Between Metacognitive Awareness and Mathematics Anxiety of Grade 10 Students

Variables	Mathematics Anxiety
Metacognitive Awareness	-.162**

Note: **Correlation is significant at the 0.01 level (2-tailed).

According to the result, there was a statistically significant negative correlation between metacognitive awareness and mathematics anxiety ($r = -.162$, $p< 0.01$). This result is consistent with the previous research of Tableb & Hoofar (2014) in which metacognitive awareness is negatively correlated with mathematics anxiety ($r =-.48$, $p< 0.001$). Besides, this result is also consistence with the research of Saricam & Ogurlu (2015), in which there was negative significant relationship between metacognitive awareness and mathematics anxiety ($r = -.47$, $p>0.01$). So, it can be interpreted that the higher metacognitive awareness level of the students, the lower mathematics anxiety level. Besides, the dimensions of metacognitive awareness were negatively related with those of mathematics anxiety.

Conclusion, Discussion and Recommendation

The main purpose of this research was to investigate metacognitive awareness and mathematics anxiety of Grade 10 students in Meikhtila Township. Moreover, the researcher investigated whether there was a significant difference between metacognitive awareness and mathematics anxiety or not.

Metacognitive Awareness by Gender: In the comparison of metacognitive awareness between male and female students, the mean scores were 127.74 and 132.54 respectively and the mean score of female students was higher than that of male students. According to the independent sample t test result, there was a statistically significant difference between male and female students at 0.001 level. This might be due to the fact that female students want to get higher marks in academic subjects, want to compete each other in the classroom and can check their mistakes more than male students. And so, they are more careful in selecting their strategies suitable to achieve expected goals, more specific in planning, monitoring their academic progress than male students. Thus, the teacher should try to help male students to management their time effectively, to regulate their own behaviour to adapt to academic situations, to set academic goals, and to plan effectively for academic work.

Metacognitive Awareness by Subject Combination: After conducting the differences in metacognitive awareness by subject combinations, it was found that the mean score of combination 7 students was 131.06 and that of combination 1 students was 129.36. Hence, the mean score of combination 7 students is higher than that of combination 1 students. According to the independent sample t test result, there was no significant difference in metacognitive awareness by subject combinations. This might be because all students, whatever they take any combination, have the same level of metacognitive awareness about the lessons. Besides, it may be interpreted that students know their own abilities, try to understand the lessons and, can evaluate and get information after their activities whether they are combination 1 or combination 7 students. So, the teacher should assist students in developing their abilities to monitor and regulate their cognition. And, it was found that there was a significant difference only in information management strategies among all dimensions. So, it can be interpreted that that combination 1 students are weak in using which strategies are suitable to excepted goals to achieve. Thus, the students should be provided strategic questions which are designed to encourage students to think about which strategy might be appropriate for a given task and to provide a reason or rationale for that strategy choice.

Metacognitive Awareness by Schools: The descriptive statistics revealed that the mean score of students from school 2 was 138.24 and highest in all school. The mean score of students from

school 8 was 124.23 and lowest among all schools. The result of ANOVA showed that there were significant differences by schools concerning metacognitive awareness (F=10.176, p<0.001) at the 0.001 level. This mean that the metacognitive awareness of students differed by schools. And then, Post-Hoc test was again employed by Tukey HSD method and the students' metacognitive awareness were interpreted by using the multiple comparison method. The result showed that there were significant differences in all schools. This might be due to the fact that schools differ depending on the instructional strategies, learning environments and learning styles of the teachers. Teachers should design the conducive learning environments in which students can enjoy the learning process and produce better results.

Mathematics Anxiety by Gender: According to the descriptive result, the mean score of male students was 66.47 and that of female students was 66.77 in mathematics anxiety. The mean score of female students was slightly higher than that of male students. But, the independent sample *t* test result showed that there was so significant difference in mathematics anxiety by gender. Thus, it can be interpreted that both male and female students showed the same level of mathematics anxiety. Besides, it can be said that the students showed higher anxiety in worry component than in emotional component. To reduce the mathematics anxiety of students, the teacher should help them to plan their study habits, to manage their time effectively, and to try best for exam and academic results. As the mean score of male students was higher in affective dimension, the teacher should often make solving math problems on the board, asking math quiz, and sitting mathematics tests frequently to reduce their anxiety in testing situation.

Mathematics Anxiety by Subject Combination: The descriptive statistics showed that the mean score of combination 1 students was higher than that of combination 7 students in mathematics anxiety and in both dimensions. The independent sample *t* test result revealed that there was no significant difference in mathematics anxiety and affective dimension, but, there was a significant difference in cognitive dimension. Thus, it can be assumed that the mathematics anxiety of combination 1 students was significantly higher than combination 7 students in worry component. It may be because of the fact that mathematics is more complicated, more experiment and more difficult than other subjects like arts and it is solved by steps, and so combination 1 students have more anxiety in worry component than combination 7 students. Thus, the teacher should help combination 1 students to plan their study habits, to manage their time effectively, to try best for exam and academic results, to look for their weakness in the ways they learn.

Mathematics anxiety by Schools: According to the descriptive statistics, the mean score of students from school 2 was highest and that of students from school 7 was lowest among all schools. Again, to reveal the significant differences in mathematics anxiety of the schools, one-way analysis of variance (ANOVA) was computed. The result of ANOVA showed that there were significant differences by schools concerning mathematics anxiety (F=2.78, p<0.01) at the 0.01 level. This mean that the mathematics anxiety of students differed by schools. The result of Post-Hoc test showed that there were significant differences between school 2 and school 3, between school 2 and school 4, and between school 2 and school 7 at the 0.05 level. This may be due to teaching styles, teachers' strategies, and parents' aspirations of the students concerning mathematics. Students should be exposed to relevant instructional strategies to overcome the anxiety of the students.

The Relationship Between Metacognitive Awareness and Mathematics Anxiety of Grade 10 Students in Meikhtila Township: According to the Pearson product-moment correlation result, there was a significant negative correlation between metacognitive awareness and mathematics anxiety (r = - 0.16). This is consistent with the result of Tableb & Hoofar (2014) (r = -.48, $p<$ 0.001) and also consistent with the previous research of Saricam & Ogurlu (2015) (r = -.47, $p>$0.01). So, it may be interpreted that the higher level of students' metacognitive awareness, the lower level of their mathematics anxiety and metacognitive awareness can moderate mathematics anxiety of students to some extent.

Based on the finding of the Pearson product moment correlation, the following suggestions and recommendations were drawn to improve metacognitive awareness and to reduce mathematics anxiety of Grade 10 students.

- Metacognition or awareness of the process of what thinking strategies to use and when, how and why to apply them is important both for teachers and for students, it is critical ingredient to successful learning.
- Teaching strategies of mathematics teachers should place an emphasis not on memorizing problem solving procedures but on developing students' thinking skills.
- Students should be taught to talk themselves through the activities they are engaged in, asking themselves or each other the questions a teacher would ask.
- The teacher should train the students with higher level of anxiety to use a checklist with entries for planning, monitoring and evaluation, with sub-questions included under each entry that needs to be addressed during the course of instruction to be more systematic and strategic during problem solving.
- For developing metacognitive behaviors, teachers should use paired problem solving method.
- The teacher should encourage students to keep a note on their thinking. Such notes are worth taking since they can reflect their thinking, their awareness of ambiguities and inconsistencies, and comment on how they have dealt with difficulties.
- Changing students' learning style from depending too much on teacher's instruction to self-monitoring and self-questioning is indispensable to make them self-regulated learners. Parents' participation in such effort is essential to achieve their goal.
- Students should be provided with sets of metacognitive questions, including comprehension questions designed to encourage students to reflect on a problem before solving it, strategic questions designed to encourage students to think about what strategy might be appropriate for a given task and to provide a reason for that strategy choice, and connection questions designed to encourage students to identify and recognize deep-structure task attributes so that they could activate relevant strategy, to be completed during the task.
- Students should be given the opportunity to observe skilled experts using the skills and should access to an experts' reflection on what he or she is doing and how well it is being done.
- Students should spend a sufficient amount of time applying the targeted skills to reduce their anxiety concerning mathematics.

- Students should be trained to become strong problem solvers because their anxiety may increase if they cannot solve a problem.
- Teachers should be aware of the needs and capabilities of the students with different mathematics anxiety levels when designing teaching strategies for them.
- The mathematics teachers should use effective teaching strategies in mathematics because this subject is a fundamental to an understanding of all science subjects.
- Finally, Students should be trained to have a habit of awareness about their cognition to reduce their anxiety.

Acknowledgements

Reference

Abdellah, R. (2014). Metacognitive awareness and its relation to academic achievement and teaching performance of pre-service female teachers in Ajman University in UAE.*Journal of Social and Behavioral Sciences, 174, 560-567.*

Ashcraft, M. H. (2002). Math anxiety: personal, educational and cognitive consequences. *Current Directions in Psychological Science, 11 (5), 181-185.*

Conley, D. (2014). Metacognition and learning: strategies for instructional design. Available from http://theelearningcoach.com/learning/metacognition-and-learning/.

Elbedour, S. (2018). Math anxiety: Trends, issues and challenges. *Journal of Psychology and Clinical Psychiatry, Vol 9 (1).*Available from http://medcraveonline.com.

Erickson, S. L. (2015). Math anxiety and metacognition in mathematics education.*Doctoral Dissertation, University of California, Merced.*Retrieved from https://escholarship.org/uc/item/26w5j72t.

Flavell, J. (1979). Metacognition and cognitive monitoring: A new area of cognitive developmental inquiry. *American Psychology, 34 (10), 906-911.*

Homayouni, A. &Alvai, S. Z. (2012).Investigation the role of metacognitive processes and learning styles in mathematics anxiety.*Paper presented in World Conference on Design, Arts and Education, Antalya, Turkey.*

Legg, A. M. (2009). Metacognition moderates math anxiety and affects performance on a math task. *Electronic Theses & Dissertations. 428.* Available from http://digitalcommoms.georgiasouthern.edu/etd/428.

Mutawah, M. A. A. (2015). The influence of mathematics anxiety in middle and high school students math achievement. *International Education Studies; Vol. 8, No. 11;2015.*Retrieved from http:// dx. doi. org/ 10.5539/ies.v8n11p239.

Panaoura, A. (2005). Young pupils' metacognitive ability in mathematics.*European Research in Mathematics Education III.*

Richardson, F. C., &Suinn, R. M. (1972). The mathematics anxiety rating scale: psychometric data. *Journal of Counseling Psychology, Vol (19) 6, 551-554.*

Saricam, H. &Ogurlu, u. (2015). Metacognitive awareness and math anxiety in gifted students. Cypriot Journal of Educational Science, Vol 10, issued 4, 338-348. Retrieved from http://sproc.org/ojs/index.php/cjes/.

Schraw, G. & Dennison, R. (1994).Assessing metacognitive awareness.*Contemporary Educational Psychology, Vol 19, 460-475.*

Shaira et al. (2015).Development of math anxiety rating scale.Retrieved from http://www.academia.edu.

Siebers, W. M. (2015). The relationship between math anxiety and student achievement of middle school students.*Dissertation in partial fulfillment of the requirements For the Degree of Doctor of Philosophy.*

Wilson, J. (1999). Defining metacognition: a step towards recognizing metacognition as a worthwhile part of the curriculum.*Paper presented at the AAREConference, Melbourne.*

MATHEMATICAL SELF-CONCEPT, MOTIVATION TO LEARN MATHEMATICS AND SELF-REGULATED LEARNING STRATEGIES OF UNIVERSITY STUDENTS

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Abstract

This study was conducted to investigate mathematical self-concept, motivation to learn Mathematics and self-regulated learning strategies of university students in Sagaing Region. The descriptive research design and quantitative survey method were taken in the present study. The sample was 500 students (male=250, female=250) from the two universities in Sagaing Region. The research instruments: "Mathematical Self-concept Questionnaire with 20 items, Motivation to Learn Mathematics Questionnaire with 29 items and Self-regulated Learning Strategies Questionnaire with 22 items" were adapted and utilized in this study. Then, the data were analyzed by using descriptive statistics, independent sample *t* test, one way ANOVA, Pearson Product Moment Correlation and multiple regression analysis. According to the data results, there was no significant difference in mathematical self-concept by gender, grade and parents' education. And then, male students are more motivated to learn Mathematics than female students. There was no significant difference in motivation to learn Mathematics by grade and parents' education. Moreover, male students more appropriately applied self-regulated learning strategies than female students. Final year students also applied more self-regulated learning strategies than second year students. There was no significant difference in self-regulated learning strategies by parents' education. Next, there were significant positive correlations among mathematical self-concept, motivation to learn Mathematics and self-regulated learning strategies. Additionally, mathematical self-concept and motivation to learn Mathematics can predict 23% of self-regulated learning strategies. Finally, this study highlights the fact that the higher mathematical self-concept and motivation to learn Mathematics, the more self-regulated learning strategies will be applied.

Key words: Mathematical self-concept, Motivation, Self-regulated Learning

Introduction

Importance of the Study

Children of today are the assets of the nation tomorrow. Every child has his own image. They have to be nurtured to harness their potential and use it for future and molded their personality according to their abilities. When the children become adolescents, they want to live in their own world. They build their self-picture according to the circumstances in which they live. Self-image leads to self-prestige, self-esteem and self-believe. All these components of personality are the outcome of self-concept. It is also necessary to assess the self-concept of adolescents.

In assessing the adolescents, there are numerous factors which may affect students' learning performance such as teachers' instructional methods, learning environment, students' learning strategies, self-concept and motivation etc. Among all, it is always believed that the students' motivation and learning strategies play crucial roles in their learning (Schunk, 1990; O'Neil & Drillings, 1994; Pajares & Kranzler, 1995). Self-concept, motivation and learning strategies are of particular interests to educational psychologists and researchers.

Also, Mathematics has been posting poor results despite being a compulsory subject at the basic education level and being a basic requirement to any of the prestigious courses at the

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university including Medicine and engineering in recent years. Various studies have identified areas of difficulty in the learning of Mathematics at various levels (Cramer, Post &delMas, 2002; Kato Kamii, Ozaki & Nagahiro, 2002; Harries & Suggate, 2006; Harries & Barmby, 2007). Indeed Brown, Brown and Bibby (2008) observed that in many countries, many students do not enjoy school mathematics and seek to avoid it later. Methews and Pepper (2005) noted powerful reasons for not continuing with Mathematics. This includes lack of enjoyment and a belief that the subject is boring, for both high attaining as well as low attaining students.

For all of the above conditions, self-concept, motivation and learning strategies play a crucial role to be a successful learner in Mathematics. Therefore, all these three psychological constructs linked with Mathematics are investigated in the context of this study.

Aims of the Study

The main aim of this study is to investigate mathematical self-concept, motivation to learn Mathematics and self-regulated learning strategies of university students who specialize in Mathematics major from selected universities in Sagaing Region (2018-2019) AY.

The specific objectives are:

1. To explore the differences in mathematical self-concept, motivation to learn Mathematics and self-regulated learning strategies of university students by gender.

2. To examine the differences in mathematical self-concept, motivation to learn Mathematics and self-regulated learning strategies of university students by grade.

3. To examine the differences in mathematical self-concept, motivation to learn Mathematics and self-regulated learning strategies of university students by parents' education level.

4. To investigate whether there are relationships or not among mathematical self-concept, motivation to learn Mathematics and self-regulated learning strategies of university students.

Methodology

Research Design

In this study, the descriptive survey method and quantitative research design were used to examine the relationship among mathematical self-concept, motivation to learn Mathematics and self-regulated learning strategies.

Sampling

By using simple random sampling technique, firstly, the universities were randomly selected in Sagaing Region. Secondly, the participants for this study were chosen from Sagaing University and Monywa University in Sagaing region (2018-2019) AY. A total of 500 students were participated in this study. Among them, 250 were first year students and 250 were third year students and also 250 were males and 250 were females.

Instrumentation

The purpose of this study is to examine mathematical self-concept, motivation to learn Mathematics and self-regulated learning strategies of university students from selected universities in Sagaing region (2018-2019) AY. So, in this study, mathematical self-concept

questionnaire, motivation to learn Mathematics questionnaire and self-regulated learning strategies questionnaire were used. Mathematical self-concept questionnaire of 20 items was adapted from Ayodele (2011), motivation to learn Mathematics questionnaire of 36 items was adapted from Liu and Lin (2010) and then self-regulated learning strategies questionnaire of 22 items was adapted from Pintrich and De Groot(1990) in order to be suitable for university students. All these instruments were in the form of four-point Likert scale, "1=strongly agree", "2=agree", "3=disagree" and "4=strongly disagree".

Procedure

For this study, the related literatures were reviewed from many journals, theses, dissertations and reports in education site as much as possible. After reporting the proposal, permissions from authorized persons were requested. In order to validate the instrument, experts' reviews and judgments were requested. After pilot testing, a total of 500 students from Sagaing University and Monywa University were tested using the mathematical self-concept questionnaire, motivation to learn Mathematics and self-regulated learning strategies questionnaire. Then, the collected data was analyzed by using the Statistical Packages for the Social Sciences (SPSS) Programme. Finally, the interpretation and conclusion were drawn altogether with suggestions.

Data Analysis and Findings

Descriptive Statistics for Mathematical Self-concept of Students

In order to find out the students' mathematical self-concept, mathematical self-concept questionnaire was used.

Table 1 Descriptive Statistics for Mathematical Self-concept of Students

Variable	N	Minimum	Maximum	Mean	SD
Mathematical Self-concept	500	35	77	55.48	6.061

Table 1 indicated that the mean score and standard deviation for the whole sample were 55.48 and 6.061 respectively. The maximum and minimum scores were 35 and 77. Theoretical mean score is 50 and therefore observed value is higher than that of theoretical value. So, the results revealed that the students' mathematical self-concept was satisfactory.

Table 2 Means and Standard Deviations of Mathematical Self-concept by Gender

Variable	Gender	N	Mean	SD
Mathematical Self-concept	Male	250	55.70	6.180
	Female	250	55.26	5.943

Table 2 showed that the mean score of male students exceeded 0.44 than that of female students.

Table 3 The Result of Independent Sample *t* test for Mathematical Self-concept by Gender

Variable	t	df	p	Mean Difference
Mathematical Self-concept	0.819	498	0.413	0.44

According to Table 3, the result of independent sample t test indicated that there was no significant difference between male and female students in the mathematical self-concept but the mean scores of male students were slightly higher than that of female students in the mathematical self-concept. This finding is similar to the study of Sikhwari (2014) and different from the study of Kvedere (2012) which reported that male students have higher mathematical self-concept than female students. Therefore, the results of t test confirmed the assumption that there was no significant difference between male and female students in mathematical self-concept (t=0.819, p>0.05).

Table 4 Means and Standard Deviations for Mathematical Self-concept by Grade

Variable	Grade	N	Mean	SD	Mean Difference
Mathematical Self-concept	Second Year	250	55.29	6.30	-0.38
	Final Year	250	55.67	5.82	

It was found that the mean scores of mathematical self-concept of final year students were slightly higher than that of second year students.

Table 5 The Result of Independent Sample t test for Mathematical Self-concept by Grade

Variable	Grade	N	t	df	p
Mathematical Self-concept	Second Year	250	-0.694	498	0.488
	Final Year	250			

According to Table 5, the mean scores of final year students were slightly higher than second year students in the mathematical self-concept but the result of independent sample t test indicated that there was no significant difference between second year and final year students in the mathematical self-concept. Therefore, the results of t test confirmed the assumption that there was no significant difference between second year and final year students in mathematical self-concept (t=-0.694, p>0.05).

Table 6 Mean Comparison of Mathematical Self-concept by Father's Education

Father's Education Level	N	Mean	SD
Primary school level	142	54.63	5.662
Middle school level	200	55.83	5.876
High school level	120	55.69	6.830
Graduate level	33	56.00	5.809
Post graduate level	5	56.80	6.216
Total	500	55.48	6.061

According to table 6, the mean score of mathematical self-concept with father's education level of primary school was 54.63 and that of middle school was 55.83. And the mean score of mathematical self-concept with father's education level of high school was 55.69 and that of graduate level was 56.00. Finally, the mean score of mathematical self-concept with father's education level of post-graduated level was 56.80.

Table 7 The Result of ANOVA for Mathematical Self-concept by Father's Education Level

Father's Education Level	Sum of Squares	df	Mean Square	F	p
Between Groups	149.189	4	37.297	1.016	.399
Within Groups	18179.569	495	36.726		
Total	18328.758	499			

According to Table 7, there was no significant difference in mathematical self-concept by father's education level (F=1.016, p>0.05). So, it can be concluded that mathematical self-concept does not depend on father's education level.

Table 8 Mean Comparison of Mathematical Self-concept by Mother's Education

Mother's Education Level	*N*	Mean	*SD*
Primary school level	213	55.26	5.566
Middle school level	176	55.49	6.652
High school level	80	55.60	6.056
Graduate level	26	56.54	6.048
Post graduate level	5	56.80	6.261
Total	500	55.48	6.061

According to table 8, the mean score of mathematical self-concept with mother's education level of primary school was 55.26 and that of middle school was 55.49. And the mean score of mathematical self-concept with mother's education level of high school was 55.60 and that of graduate level was 56.54. Finally, the mean score of mathematical self-concept with mother's education level of post-graduated level was 56.80. Table 8 revealed that there was little difference in mathematical self-concept by mother's education level.

Table 9 Descriptive Statistics of Motivation to Learn Mathematics

Variable	*N*	Maximum	Minimum	Mean	*SD*
Motivation to Learn Mathematics	500	109	58	83.74	7.86

According to Table 9, the minimum score was 58 while the maximum score was 109. The mean score and standard deviation of the whole sample were 83.74 and 7.86. The observed mean score 83.74 was greater than the theoretical mean score 72.5. It was found that the university students' motivation to learn Mathematics was satisfactory.

Table 10 Descriptive Statistics for Motivation to Learn Mathematics by Gender

Variable	Gender	*N*	Mean	*SD*
Motivation to Learn Mathematics	Male	250	84.94	7.399
	Female	250	80.55	9.136

Table 10 showed that the mean score of male students exceeded 4.39 than that of female students.

Table 11 The Result of Independent Sample *t* test for Motivation to Learn Mathematics by Gender

Variable	*t*	*df*	*p*	Mean Difference
Motivation to Learn Mathematics	3.433**	498	.001	4.390

Note: **The mean difference is significant at 0.01 level.

Table 11 showed that there was a significant difference between male and female students in motivation to learn Mathematics (p< .01). So, it can be said that male students had higher motivation to learn Mathematics than female students. This finding is similar to the study of Liu and Lin (2010).

Table 12 Means and Standard Deviations for Motivation to Learn Mathematics by Grade

Variable	Grade	*N*	Mean	*SD*
Motivation to Learn Mathematics	Second Year	250	83.14	7.758
	Final Year	250	84.35	7.930

Table 12 showed that there was slightly difference in the mean scores by grade in motivation to learn Mathematics.

Table 13 The Result of Independent Sample *t* test for Motivation to Learn Mathematics by Grade

Variable	*t*	*df*	*p*	Mean Difference
Motivation to Learn Mathematics	-1.727	498	.085	-1.212

The results in Table 13 showed that there was no significant difference between second year and final year students for motivation to learn Mathematics (*p*=.085). Motivation to learn Mathematics did not show any performance difference between second year and final year students.

Table 14 Mean Comparison of Motivation to Learn Mathematics by Father's Education

Father's Education Level	*N*	Mean	*SD*
Primary school level	142	82.88	7.406
Middle school level	200	83.88	7.953
High school level	120	84.43	7.993
Graduate level	33	83.36	8.499
Post graduate level	5	89.00	8.456
Total	500	83.74	7.860

According to table 14, the mean score of mathematical self-concept with father's education level of primary school was 82.88 and that of middle school was 83.88. And the mean score of mathematical self-concept with father's education level of high school was 84.43 and that of graduate level was 83.36. Finally, the mean score of mathematical self-concept with father's education level of post-graduated level was 89.

Table 15 Mean Comparison of Motivation to Learn Mathematics by Mother's Education

Mother's Education Level	*N*	Mean	*SD*
Primary school level	213	83.82	7.913
Middle school level	176	83.99	7.716
High school level	80	82.84	7.268
Graduate level	26	83.08	9.777
Post graduate level	5	89.60	8.820
Total	500	83.74	7.760

According to table 15, it was found that there was little difference in mathematical self-concept by mother's education level.

Table 16 Descriptive Statistics for Self-regulated Learning Strategies of University Students

Variable	*N*	Minimum	Maximum	Mean	*SD*
Self-regulated Learning Strategies	500	44	85	64.06	6.405

According to Table 16, the minimum score was 44 and the maximum score was 85. The mean score and standard deviation of the whole sample were 64.06 and 6.405. The observed mean score 64.06 was greater than the theoretical mean score 55. Therefore, it can be concluded that the students' self-regulated learning was satisfactory.

Table 17 Gender Difference in Self-regulated Learning Strategies

Variable	Gender	*N*	Mean	*SD*
Self-regulated Learning	Male	250	64.82	6.783
	Female	250	63.31	5.922

Table 17 showed that there was slightly difference in the mean scores of self-regulated learning strategies by gender.

Table 18 The Result of Independent Sample *t* test for Self-regulated Learning Strategies by Gender

Variable	*t*	*df*	*p*	Mean Difference
Self-regulated Learning Strategies	2.665**	498	.008	1.512

Note:*The mean difference is significant at 0.01level.

Table 18 showed that there was significant difference between male and female students (*p*< .01).

Table 19 The Result of Independent Sample t test for Subscales of Self-regulated Learning Strategies by Gender

Sub-scales	Gender	*N*	Mean	*SD*	*t*	*df*	*p*	*MD*
Cognitive Strategies	Male	250	39.24	4.417	1.387	498	.166	.500
	Female	250	38.74	3.605				
Metacognitive Strategies	Male	250	25.58	3.122	3.566***	498	.000	1.012
	Female	250	24.56	3.222				

Note:***The mean difference is significant at .001 level.

Table 19 revealed that there was significant difference in the usage of metacognitive strategies (*p*<.001). This meant that compared to female students, generally, male students were making more appropriate use of self-regulated learning strategies.

Table 20 Means and Standard Deviations for Self-regulated Learning Strategies by Grade

Variable	Grade	*N*	Mean	*SD*
Self-regulated Learning Strategies	Second Year	250	63.21	6.335
	Final Year	250	64.91	6.375

Table 20 showed that there was slightly difference in self-regulated learning Strategies between second year and final year students.

Table 21 The Results of Independent Sample t test for Self-regulated Learning by Grade

Variable	*t*	*df*	*p*	Mean Difference
Self-regulated Learning Strategies	-2.983**	498	.003	-1.696

Note:** The mean difference is significant at 0.01 level.

According to the results of *t* test, it was found that there was significant difference between second year and final year students for the usage of self-regulated learning (*p*=.003). Thus, final year students used more self-regulated learning than second year students in this study.

Table 22 Mean Comparison of Self-regulated Learning Strategies by Father's Education

Father's Education Level	*N*	Mean	*SD*
Primary school level	142	62.95	6.403
Middle school level	200	64.33	6.400
High school level	120	64.70	6.542
Graduate level	33	64.36	5.225
Post graduate level	5	67.80	8.106
Total	500	64.06	6.405

Table 22 revealed that there was little difference in mathematical self-concept by father's education level.

Table 23 Mean Comparison of Self-regulated Learning by Mother's Education

Mother's Education Level	*N*	Mean	*SD*
Primary school level	213	63.76	6.573
Middle school level	176	64.24	6.637
High school level	80	63.86	5.884
Graduate level	26	65.15	4.370
Post graduate level	5	68.60	7.570
Total	500	64.06	6.405

Table 23 revealed that there was little difference in self-regulated learning strategies by mother's education level.

**Table 24 The Correlation among Mathematical Self-concept, Motivation to learn
              Mathematics and Self-regulated Learning Strategies**

Variables	Mathematical Self-concept	Motivation to Learn Mathematics	Self-regulated Learning Strategies
Mathematical Self-concept	-	.542**	.499**
Motivation to Learn Mathematics	-	-	.473**
Self-regulated Learning Strategies	-	-	-

Note: ** The mean difference is significant at 0.01 level.

The results of table 24 showed that there were significant relationships among mathematical self-concept, motivation to learn Mathematics and self-regulated learning strategies. Therefore, it can be concluded that the higher university students' mathematical self-concept and motivation to learn Mathematics, the more self-regulated learning will be.

Table 25 Model Summary for Mathematical Self-concept, Motivation to Learn Mathematics and Self-regulated Learning Strategies

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.482[a]	.232	.226	5.863

Table 25 revealed that the mathematical self-concept and motivation to learn Mathematics significantly predicted self-regulated learning strategies of university students. The simple linear regression correlation coefficient R=.482 and adjusted R square was .226. It can be concluded that 23% of self-regulated learning strategies can be predicted from mathematical self-concept and motivation to learn Mathematics. To see vividly, the explanation can be seen in Table 26.

Table 26 Results of Simple Linear Regression on Mathematical Self-concept, Motivation to Learn Mathematics and Self-regulated Learning Strategies

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig
	B	Std. Error	Beta		
1(constant)	26.122	5.306		4.923	.000
Mathematical Self-concept	.040	.062	.035	.649	.517
Motivation to Learn Mathematics	.430	.048	.480	8.881	.000

a . Dependent Variable :Self-regulated Learning Strategies

The results of Table 26 revealed that the predictors mathematical self-concept and motivation to learn Mathematics significantly predicted self-regulated learning.

SRLS=26.122+.040MSC+.430MTLM

Where,
SRLS = Self-regulated Learning Strategies
MSC = Mathematical Self-concept
MTLM= Motivation to Learn Mathematics

Conclusion

It is important to remember that mathematical self-concept, motivation to learn Mathematics and self-regulated learning strategies cannot be considered as separate entities, but as an interdependent collective. Therefore, it is necessary to give attention to the enhancement of mathematical self-concept and motivation when offering psychological interventions in order to improve self-regulated learning of students.

And then, students should be exposed to positive mathematical self-concept enhancement programs. They should be provided sufficient emotional and academic support. Individual students should reduce or avoid negative self-concept on Mathematics which undermines their motivation to learn.

Most of the research suggests that to raise academic self-concept, parents and teachers need to provide children with specific feedback that focuses on their particular skills or abilities. Learning opportunities should be conducted in groups (both mixed ability and like ability) that downplay social comparisons. Teacher should give positive self-concept that attempts to be creative, original, spontaneous and generous. Teacher should motivate higher level of aspiration and improved academic self-concept. School and classroom environment are important factors of academic self-concept. Increase in academic self-concept lead to increase in subsequent academic achievement and other desirable educational outcomes. Self-concept is an important outcomes variable in itself, it also plays a central role in mediating the effects of other desirable educational outcomes. Academic self-concept is formed and developed through interactions.

Mathematics teachers should focus on motivational strategies that will improve students' engagement in mathematical activities.It is acceptable that success seekers increase motivation for success; but failure avoiders decrease their efforts after failing at a task. In addition, success seekers seem to be most strongly motivated by tasks that have a medium level of difficulty, whereas failure avoiders seem to prefer either very easy or very difficult tasks. Finally, success seekers are more likely to set realistic goals, whereas failure avoiders tend to set goals for themselves that are unrealistically easy or difficult. Teachers often use the term self-motivated to refer to students who become easily motivated to learn, without much external persuasion .It leads to a strongest form of motivation. Self-motivated learners are likely to be the best learners, if their motivation is directed towards productive goals. Self-motivation is not an innate characteristic, but rather is learned in much the same fashion as the Meta cognitive skills. Teachers should be aware that by enabling learners to employ motivational strategies effectively. They can help the students to develop the personality trait of self-motivation. It can be helpful for both academic and non-academic tasks.

Githu and Mangi (2003) reported that mathematical self-concept has direct effect on students' Mathematics achievement and is a powerful predictor for Mathematics academic achievement. They maintained that mathematical self-concept is altered by means of intervening programs of educational material, learning related activities, learning experience, educational methods and suitable evaluation methods.

Today, academic motivation and academic self-concept play a vital role in achieving the goals. Students need to establish and maintain a positive learning environment for attaining success. Students are not sufficiently trained to deal with today's behavioral problems of life. It is a need of the hour for the teachers to learn the effective strategies for enhancing the students' academic achievement.

Moreover, it was revealed that mathematical self-concept has direct influence on motivation to learn Mathematics and self-regulated learning strategies. Therefore, it can be concluded that Mathematics teachers can exploit suitable strategies for reconstruction of mathematical self-concept and fortification of students' beliefs that may result in enhanced mathematical self-concept and elevated motivation to learn Mathematics. Moreover, education of self-regulated learning strategies can be transmitted and educated to the students. More concentration of teachers on self-regulation and proposing lessons effectively emphasizing fortification of students' self-regulation skills can be a helpful practice.

Acknowledgements

References

Brown, M., Brown, P. & Bibby, T. (2008).*I would rather die: Reasons given by 16years-olds or not continuing their study of mathematics. Research in Mathematics Education, 10(1), 3-18.*

Cramer, K.A., Post, T.R. & delMas, R.C. (2002).*Initial Fraction Learning by Fourth and Fifth Grade Students: A Comparison of the Effects of Using Commercial Curricula With the Effects of Using the Rational Number Project Curriculum.* Journal for Research in Mathematics Education, 33(2), 111-144.

Harries, T. & Barmby P (2007).*Representing and Understanding Multiplication, Journal for Research in Mathematics Education,* 9, 33-45.

Harries, T. and Suggate, J. (2006). *Exploring links across representations of numbers with young children.* International Journal for Technology in Mathematics Education, 13(2), 53-64.

Kato, Y., Kamii, C., Ozaki, K. and Nagahiro, M. (2002).*Young Children's Representations of Groups of Objects: The Relationship between Abstraction and Representation.* Journal for Research in Mathematics Education, 3(1), 30-45.

Kvedere, L. (2012). *Mathematics Self-concept of the 9th Grade Students in Latvia. 2nd year Doctoral Strdent, Imantas 51-45, Daugavpils, LV-5401, Latvia.learning and motivation.* Educational Psychologist, 18, 88-100.

Mathews, A. and Pepper, D. (2005).*Evaluation of participation in A level mathematics: Interim re-port, London: Qualifications and Curriculum Agency.*

Parajes, F. & Miller, M.D. (1994).*The role of self-efficacy and self-concept beliers in Mathematical Problems-solving.*A path analysis. Journal of Educational Psychology, 86, 193 – 203.

Schunk, D.H. (1990). *Goal setting and self-efficacy during self-regulated learning. Educational Psychologist*, 25, 71-86.

ADVERSITY QUOTIENT AND ACADEMIC STRESS OF STUDENTS FROM UNIVERSITIES OF EDUCATION

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Abstract

This study was conducted to study adversity quotient and academic stress of students from Universities of Education. This study is to find out the differences of adversity quotient and academic stress of students in terms of gender, subject stream, grade and university. The participants in this study were 917 (male = 364, female = 553) fourth year and fifth year students from Universities of Education. Adversity Respond Profile (ARP) developed by Stoltz (1997) and Academic Stress Inventory (ASI) developed by Lin and Chen (2009) were used. The reliability coefficients of Adversity Response Profile (ARP) and Academic Stress Inventory (ASI) questionnaire were .674 and .987. The data were analyzed by using descriptive statistics, independent samples *t* test, One-way ANOVA, Pearson Product-Moment Correlation and Simple Linear Regression. Adversity quotient and academic stress of students from Universities of Education were satisfactory. The *t* test results stated that there were no significant differences in adversity quotient by gender and grade. ANOVA results also showed that there were no significant differences in adversity quotient by subject stream. And then, the results of *t* test confirmed that adversity quotient of university-2 students had higher than that of university-1 students. Continually, the results revealed that male students had higher academic stress than female students. The results showed that academic stress of subject stream-3 students was the highest among three groups of subject stream. Additionally, the results showed that there was no significant difference in academic stress by grade. The results confirmed that university-1 students had higher academic stress than university-2 students. And then, the results revealed that there was a negatively significant relationship (*r*=-.462) between adversity quotient and academic stress. It could be interpreted that the higher adversity quotient, the lower academic stress. Finally, the results revealed that adversity quotient can predict 21% of academic stress.

Keyword: Adversity Quotient, Academic Stress, Subject Stream

Introduction

Nowadays, life is a mixture of all sorts of situations. All these situations created life miserable not only for adults, but also for students. Students in university experience stress related to academic requirements, support systems, and ineffective coping skills. Stress is one of the serious issues that affect university student's life, its effects could be reflected in student social, academical, and mental health. Academic stress among students have long been researched on, and researchers have identified stressors as too many assignments, competition with other students, failures, lack of pocket money, poor relationships with other students or lecturers, family or problems at home. Since stress negatively affects executive functioning ability, particularly working memory, increased academic stress will likely affect working memory in a similar manner (Popoli et al., 2011). In today's educational literature, the term resilience used when describing the characteristics needed by university students to reduce their academic stress and to be successful. So, university students need to build-up their resilience. According to Stoltz (1997), adversity quotient (AQ) is as a quantitative measure of a person's resilience. Stoltz also described that Adversity Quotient as intelligence to face the difficulties and the ability to survive in a variety of challenges faced and transformed this challenge into an opportunity. The higher resilience people have, the higher adversity quotient (AQ) people have. In the present situations of the university students, the increasing uncertainty and complexity of their studies and duties, adversity quotient will help them predict who can thrive in the face of

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adversity or distress. To gain adversity quotient, a person requires ability to withstand adversity, reduce stress and surmount adversity or stress. Zhou Huijuan (2009) stated that the success rate of students in the learning activities are determined by the adversity quotient has owned by each students. Many researchers aimed to increase the level of awareness and identify the factors that influenced the adversity quotient (AQ) level of the university students. The researchers viewed that as students enroll in university, it was significant to be fully aware of their AQ level, primarily because it was a very important component to decrease academic stress. Furthermore, when stressful events arise, this study will help the students to assess themselves on what kind of adversity they tend to weaken and do extra effort to turn their weaknesses into a strong foundation or basis for facing with adversities.

Main Aim of the Research

The main aim of this study is to study university students' Adversity Quotient (AQ) and Academic Stress (AS) from Universities of Education.

Scope of the Study

This study is limited to study the adversity quotient and academic stress of selected fourth year and fifth year students from Universities of Education. The adversity response profile (ARP) questionnaire with 20 items was developed by (Stoltz, 1997) used to measure the adversity quotient experienced by fourth year and fifth year students.

The academic stress questionnaire with 34 items developed by (Lin & Chen, 2009) was used to measure the academic stress experienced by fourth year and fifth year students.

Definitions of Key Terms

Adversity: Adversity is functionally defined as strain, hardship, challenge, and emotional or academical stresses (Stoltz, 1997).

Adversity Quotient (AQ): Adversity Quotient is operationally defined as the sum of the scores obtained on the four scales of control, original and ownership, reach, and endurance measured on the Adversity Respond Profile (Stoltz, 2001).

Control (C): Control scale measures the degree of the person perceives that he or she has over adverse events (Stoltz, 1997).

Origin and Ownership (O2): Origin and Ownership is the extent to which the person owns or takes responsibility for the outcomes of adversity (Stoltz, 1997).

Reach (R): Reach is the degree to which the person perceives good or bad events reaching into other areas of life (Stoltz, 1997).

Endurance (E): Endurance is the perception of time over which good or bad events and their consequences will last or endure (Stoltz, 1997).

Stress: Stress defined is as the non-specific response of the body to any demand for change (Selye, 1956).

Academic Stress: Academic stress is psychological distress with respect to some anticipated frustration associated with academic failure or even unawareness to the possibility of such failure (Centre, 2010).

Subject Stream: Subject Stream can be divided into Science, Commerce and Arts.

Review of Related Literature

Stoltz (1997) also stated that AQ takes three forms. First, AQ is a new conceptual framework for understanding and enhancing all facets of success. Second, AQ is a measure of how a person responds to adversity as subconscious patterns of behavior can now be measured, understood and changed. Finally, AQ is a scientifically grounded set of tools for modifying how a person responds to adversity and, as a result, improves overall personal and professional effectiveness.

The Adversity Quotient consists of "CO2RE" elements, and is constructed by Stoltz (1997). From these four elements can further explore how to enhance their AQ capabilities, the elements are described as follows: C stands for control (Control), showing "how much control can be made of adversity and frustration", the key point is "feel". O2 (Origin & Or) on behalf of the cause and responsibility (Ownership, Ow) the meaning is: "the causes of adversity and setbacks are my one cause". R (Reach) is the scope and limits of the individual stress effects, lower AQ scores, a range will let setbacks affect individual daily life, will increase the burden and pressure, bear the individual such as interpersonal disharmony, leads to self-emotion cannot be calm, work efficiency, lose the incentive to work in. E (Endurance) continues to influence the state of the individual in the face of adversity and frustration, including two situations: how long will it take? Or how long will it take to lead to stress and frustration.

Stress on the adversity quotient is defined as the mean is some setbacks, negative events encountered in the lives of the people in the (Stoltz, 1997; Stoltz, 2001). As suggested in the section on relationship between adversity quotient and academic stress, stress is a feeling to be suppressed, and is individuals' subjective experience toward environmental variables. Stoltz (1997) demonstrated that the Adversity Quotient is considerably related to the success of people's life and career, and people's reactions toward adversity and quantified figures can serve as reference for researchers or enterprises. When the level of the Adversity Quotient is higher, the level of academic stress should be lower. When dimension scores are higher, individuals' lives will not be influenced by frustration; they will easily treat obstacles, and will not have negative association with adversity (Shen, 2014).

Research Methodology

Sampling

Table 3.1 Number of Students from Universities of Education

No.	University	Number of Students		Total
		Male	**Female**	
1.	SUOE	216	256	472
2.	UDNR	148	297	445
Total		364	553	917

Methodology

In this research, descriptive survey research design and quantitative approach were used to study adversity quotient and academic stress of university students.

Instrumentation

Adversity Response Profile, (Stoltz, 1997): The Adversity Response Profile (ARP) the Original Version was developed by Dr. Paul, G. Stoltz in 1997. The Adversity Response Profile has four

dimensions, namely control, origin and ownership, reach and endurance. Each of the four dimensions has 5 items. The instrument contains totally 20 items. Higher scores indicated higher adversity quotient. This instrument was four-point Likert scale, "1=strongly disagree", "2=disagree", "3=agree" and "4=strongly agree".

Academic Stress Inventory (Lin & Chen, 2009): Academic Stress Inventory (ASI), the Revised Version was developed by Ying Ming Lin and Farn Shing Chen in 2009. The Academic Stress Inventory has seven subscales, namely teachers' stress contains 9 items, results stress contains 5 items, tests stress contains 4 items, studying in group stress contains 5 items, peer stress contains 4 items, time management stress contains 3 items and self-inflicted stress contains 4 items. The inventory contains totally 34 items. Higher scores indicated higher academic stress. The instrument was four-point Likert scale, "1=strongly disagree", "2=disagree", "3=agree" and "4=strongly agree".

Data Analysis and Findings

Descriptive Statistics for Adversity Quotient of University Students

Table 1 Descriptive Statistics for Adversity Quotient of University Students

Variable	*N*	Mini	Max	Mean	*SD*
Adversity Quotient	917	36	72	51.09	4.850

Table 1 revealed that the minimum score of the students was 36 and the maximum score was 72 for adversity quotient. Then, the observed mean score was 51.09 and it was higher than the theoretical mean score of adversity quotient (50). The standard deviation was 4.850. Therefore, it can be said that adversity quotient of the university students was satisfactory. This result is consistent with the findings of "high level" in adversity quotient (Song & Woo, 2015).

Comparisons for Adversity Quotient of University Students by Gender

Table 2 Mean Comparisons and the Results of Independent Samples *t* Test for Adversity Quotient by Gender

Variable	Gender	*N*	Mean	*t*	*df*	*p*	*MD*
Adversity Quotient	Male	364	51.31	1.112	915	.267	.364
	Female	553	50.95				

Table 2 revealed that the mean score of male students in overall adversity quotient (51.31) was higher than that of females (50.95) with mean difference (.364) points. It can be interpreted that adversity quotient of most of male students was higher than adversity quotient of female students.

The result of *t* test found that there was no significant difference in overall adversity quotient of university students by gender (*t*=1.112). Therefore, it can be concluded that adversity quotient of male and female students are the same. This result is consistent with the findings of no gender difference in overall adversity quotient (Abejo, 2002; Huijuan, 2009; Somaratne et al., 2017; Flejoles & Muzones, 2009; Rathee & Sharma, 2018; & Alka, 2012).

Comparisons for Adversity Quotient of University Students by Subject Stream

Table 3 Means and Standard Deviations for Adversity Quotient of University Students by Subject Stream

Variable	Subject Stream	*N*	Mean	*SD*
Adversity Quotient	Subject Stream-1	523	51.18	4.711
	Subject Stream -2	223	51.22	5.363
	Subject Stream -3	171	50.66	4.558

According to Table 3, subject stream-2 students had the highest mean score (51.22) among the groups of subject stream. Subject stream -3 students had the lowest mean score (50.66) among the groups of subject. Therefore, it may be interpreted that adversity quotient of most of subject stream -2 students was more than that of subject stream-1 and subject stream-2 students.

Table 4 The Result of ANOVA for Adversity Quotient by Subject Stream

Variable		Sum of Squares	*df*	Mean Square	*F*	*p*
Adversity Quotient	Between Groups	158.520	2	79.260	.842	.431
	Within Groups	86017.218	914	94.111		
	Total	86175.738	916			

According to Table 4, it was found that there was no significant difference among three groups of subject stream (*F*=.842). It can be assumed that adversity quotient of most of subject stream-1, subject stream-2 and subject stream-3 students may not differ. This result is inconsistent with the findings of significant difference of subject stream in adversity quotient (Sachdev, 2009 & Huijuan, 2009).

Comparisons for Adversity Quotient of University Students by Grade

Table 5 Mean Comparisons and the Results of Independent Samples *t* Test for Adversity Quotient of University Students by Grade

Variable	Grade	*N*	Mean	*t*	*df*	*p*	*MD*
Adversity Quotient	Fourth Year	469	50.87	-1.404	915	.161	-.449
	Fifth Year	448	51.32				

According to Table 5, it was found that the mean score of fifth year students (51.32) were higher than that of fourth year students (50.87) with mean difference (.449) points. It can be interpreted that adversity quotient of fifth year students was higher than adversity quotient of fourth year students. The result of *t* test revealed that there was no significant difference in adversity quotient of students by grade (*t*=-1.404). It can be interpreted that adversity quotient of most of fourth year and fifth year students are the same. This result is inconsistent with the findings of significant grade difference in adversity quotient (Huijuan, 2009 & Espanola, 2016).

Differences in Adversity Quotient of University Students by University

Table 6 Mean Comparisons and the Results of Independent Samples *t* Test for Adversity Quotient of University Students by University

Variable	University	*N*	Mean	*t*	*df*	*p*	*MD*
Adversity Quotient	University-1	472	50.64	-2.931**	915	.003	-.935
	University-2	445	51.58				

Note: ** The mean difference is significant at the .01 level.

Table 6 revealed that the mean score of university-2 students (51.58) was higher than that of university-1 students (50.64) with mean difference (.935) points. It can be interpreted that adversity quotient of university-2 students was higher than that of university-1 students. The result of *t* test revealed that there was significant difference in overall adversity quotient of students by university (*t*=-2.931, *p*<.01). So, it can be interpreted that most of university-2 students were significantly higher adversity quotient than university-1 students. This result is consistent with the finding of significant difference in overall adversity quotient by school types (Alka, 2012).

Descriptive Statistics for Academic Stress of University Students

Table 7 Descriptive Statistics for Academic Stress of University Students

Variable	*N*	Minimum	Maximum	Mean	*SD*
Academic Stress	917	48	119	83.53	10.370

According to Table 7, it was found that the minimum score of the students was 48 and the maximum score was 119 for academic stress. Then, observed mean score was 83.53 and it was less than the theoretical mean of academic stress (85). The standard deviation was 10.370. Therefore, academic stress of the university students was satisfactory. This result is consistent with the findings of "moderate level" in academic stress (Wilks, 2008; Rehman Memon et al., 2016 & Sailaja, 2017).

Comparisons for Academic Stress of University Students by Gender

Table 8   Mean Comparisons and the Results of Independent Samples *t* Test for Academic Stress of University Students by Gender

Variable	Gender	*N*	Mean	*t*	*df*	*p*	*MD*
Academic Stress	Male	364	84.79	2.938**	711.480	.003	2.098
	Female	553	82.70				

 Note: ** The mean difference is significant at the .01 level.

According to Table 8, it was found that the mean score of males (84.79) was higher than that of females (82.70) with mean difference (2.098) points. It can be interpreted that academic stress of male students was higher than that of female students. The result of *t* test revealed that there was significant difference in academic stress of students by gender (*t*=2.938, *p*<.01). Therefore, it can be concluded that most of male students was significantly higher academic stress than females. This result is consistent with the findings of gender difference in academic stress (Misra & Castillo, 2004; Thawabieh & Qaisy, 2012; Li & Yen, 1998 & Ang et al., 2006).

Comparisons for Academic Stress of University Students by Subject Stream

Table 9   Means and Standard Deviations for Academic Stress of University Students by Subject Stream

Variable	Subject Stream	*N*	Mean	*SD*
Academic Stress	Subject Stream-1	523	82.01	9.869
	Subject Stream-2	223	84.56	10.696
	Subject Stream-3	171	86.82	10.563

According to Table 9, subject stream-3 students had the highest mean score (86.82) among the subject stream groups. Subject stream-1 students had the lowest mean score (82.01)

among the subject streams groups. Therefore, it may be interpreted that academic stress of most of subject stream-3 students was higher than that of subject stream-1 and subject stream-2 students.

Table 10 The Result of ANOVA for Academic Stress of University Students by Subject Stream

Variable		Sum of Squares	df	Mean Square	F	p
Academic Stress	Between Groups	3298.883	2	1649.442	15.835***	.000
	Within Groups	95203.601	914	104.161		
	Total	98502.484	916			

Note: *** The mean difference is significant at the .001 level.

According to the ANOVA result in Table 4.17, it was found that there was significant difference in academic stress among subject stream (*F*=15.835, *p*<.001). It can be interpreted that students' subject stream effect on their academic stress. From that point, it can be obviously identified that most of students in three groups of subject stream suffer academic stress.

Table 11   The Result of Post Hoc Test for University Students' Academic Stress by Subject Stream (Tukey HSD Test)

Variable	Subject Stream (I)	Subject Stream (J)	MD (I-J)	p
Academic Stress	Subject Stream-1	Subject Stream-2	-2.549**	.005
	Subject Stream-1	Subject Stream-3	-4.813***	.000

Note: **The mean difference is significant at the .01 level.
    ***The mean difference is significant at the .001 level.

Post Hoc Test revealed that there was significant difference between subject stream-1 students and subject stream-2 students (*MD*=-2.549, *p*<.01). And there was also significant difference between subject stream -1 and subject stream -3 students (*MD*=-4.813, *p*<.001). Therefore, it can be concluded that most of specialization-3 students suffer more academic stress than subject stream-1 and subject stream-2 students. Subject stream -1 students suffer less academic stress than subject stream-2 and subject stream-3 students. This result is consistent with the finding of significant difference of subject combination in academic stress (Nwe Zin Oo, 2018).

Comparisons for Academic Stress of University Students by Grade

Table 12   Mean Comparisons and the Results of Independent Samples *t* Test for Academic Stress of University Students by Grade

Variable	Grade	N	Mean	t	df	p	MD
Academic Stress	Fourth Year	469	83.40	-.395	915	.693	-.271
	Fifth Year	448	83.67				

According to Table 12, it was found that the mean score of fifth year students (83.67) was higher than that of fourth year students (83.40) with mean difference (.271) points. It can be interpreted that fifth year students had higher academic stress than fourth year students. It was found that there was no significant difference in academic stress by grade (*t*=-.395). So, it can be interpreted that academic stress of most of fourth year and fifth year students was the same. This result is inconsistent with the findings of significant difference in grade differences (Liu, 2011 & Espanola, 2016).

Differences for Academic Stress of University Students by University

Table 13   Mean Comparisons and the Results of Independent Samples *t* Test for Academic Stress of University   Students by University

Variable	University	*N*	Mean	*t*	*df*	*p*	*MD*
Academic Stress	University-1	472	85.04	4.588***	915	.000	3.110
	University-2	445	81.93				

Note: ***The mean difference is significant at .001 level.

According to Table 13, it was found that the mean score of most of university-1 students (85.04) was higher than that of university-2 students (81.93) with mean difference (3.110) points. It can be interpreted that university-1 students had higher academic stress than university-2 students.

It was found that there was significant difference in academic stress of students by university (*t*=4.588, *p*<.001). So, it can be concluded that most of university-1 students had significantly higher academic stress than university-2 students. This result is consistent with the finding of significant difference in academic stress by school types (Alka, 2012).

Table 14 The Relationship between Adversity Quotient and Academic Stress

Variable	Adversity Quotient	Academic Stress
Adversity Quotient	-	-.462***
Academic Stress	-.462***	-

Note: *** The correlation is significant at the .001 level (2-tailed).

Table 14 showed that adversity quotient was significantly and negatively corrected with academic stress (*r*=-.462, *p*<.001). This means that the students who are high in adversity quotient may be low in academic stress. Therefore, it can be said that overall adversity quotient and overall academic stress have negative relationship. It can be interpreted that the higher adversity quotient of the students, the lower their academic stress. This result is in line with theoretical assertions. This result is consistent with the findings of negative correlation between adversity quotient and academic stress (Putri et al., & Elline et al., 2016; Zulharman & Firdaus, 2016; Somaratne, Jayawardena & Perera, 2017).

Table 15   The Result of Simple Liner Regression for Adversity Quotient and Academic Stress

Variable	Unstandardized coefficients		Standardized Coefficients	*t*	*p*
	B	**Std. Error**	**Beta**		
(Constant)	134.036	3.217		41.665***	.000
Adversity Quotient	-.989	0.063	-0.462	-15.770***	.000

Note; ***The mean difference is significant at the .001 level.

According to Table 16, the results were statistically significant *F* (1,917) = 248.71, *p*<.001. The adjusted R squared value was .213. This indicates that adversity quotient can predict 21% of academic stress. Then, the identified equation to understand the relationship was shown in the following.

Figure 1   Model between Adversity Quotient and Academic Stress Conclusion

Conclusions and Discussions

According to the result of descriptive analysis for overall adversity quotient, adversity quotient of most of the university students in SUOE and UDNR may be satisfactory. This may be due to all the university students survive daily class activities in university and social activities in hostel. Continually, they may have the ability to respond adversities and so they may pass forgoing ahead.

According to the *t* test result for adversity quotient by gender, there was no significant difference between male and female students in overall adversity quotient (*t*=1.112, *p*>.267). This may be because both male and female students encounter similar set of adversities in learning, social and other areas. Their perception of adversities and responses to adversities may be the same (Stoltz, 1997).

According to the ANOVA result for adversity quotient by subject stream, there was no significant difference among three groups of subject stream. This may be because learning difficulties encountered subject stream-1, subject stream-2 and subject stream-3 students may be similar. Besides, they have the same learning environment and learning facilities. The same leaning environment gives the same intrinsic motivation. Research of Stoltz found people who have high adversity quotient is regarded as most people who have the motivation. Therefore, it can be interpreted that their adversity quotient may not differ.

According to the *t* test result for adversity quotient by grade, there was no significant difference between fourth year and fifth year students. This may be because fourth year and fifth year students are only one year gap in age and they may have the same self-reliance and difficulties in social and other aspects of life. Therefore, it can be assumed that their adversity quotient may be similar.

The results of independent samples *t* test for comparing overall adversity quotient by university revealed that adversity quotient of most of university-2 students was significantly more than university-1 students (*t*=-2.931, *p*<.01). This may be because university-2 has more strict rules and disciplines than university-1. These strict rules and disciplines can cause university-2 students learning, take risks and embrace the change. Therefore, university-2 students may response better performance when they are facing adversities in their lives than university-1 students. Therefore, adversity quotient of most of university-2 students may be better than university-1students.

According to the result of descriptive analysis for academic stress, it can be said that academic stress of most of the university students in SUOE and UDNR may have satisfactory. This may be because university students do class activities, group activities, assignments and projects regularly and so they can cope and manage effectively stress from these activities. Auerbach and Grambling (1998) argued that stress can lead to serious problems if it is not managed effectively.

According to the *t* test result for academic stress by gender, there was significant difference between males and females in academic stress ($t=2.938$, $p<.01$). This may be due to male students may be lower study habit than female students. Low study skills lead to low academic achievement which causes stress for exam and academic stress (Koki & Abdullahi, 2014). Therefore, male students may be higher academic difficulties than female students. Female students have more interactions with teachers than male students. Study habit, academic difficulties and student-teacher interaction affected on academic stress (Agolla & Ongori, 2009 & Shan et al., 2010). It can be concluded that academic stress of most of male students had higher than that of female students.

According to the ANOVA result for academic stress by subject stream, there was a significant difference among the groups of subject stream at the .001 level. According to Post Hoc test, there was significant difference between subject stream-1 and subject stream-2 students ($MD=-2.549$, $p<.01$). And there was also significant difference between subject stream-1 and subject stream-3 ($MD=-4.813$, $p<.001$). This may be due to subject stream-2 and subject stream-3 students may suffer more anxiety and worry concerning about with academic learning and tests because of their lower entrance marks and may be more encounter language difficulties than subject stream-1 students.

It can be concluded that academic stress of most of subject stream-1 students was the lowest among three subject streams students. It can be concluded that academic stress of most of subject stream-3 students had the highest among groups of subject stream.

According to the *t* test result for academic stress by grade, there was no significant difference in academic stress between fourth year and fifth year students. This may be because both fourth year and fifth year students may encounter class workload situations such as too much projects, assignments and tem-papers and a lot of studies hours which cause them to lose focus academic work and stress them up. This is due to both fifth year and fourth year students may have the same degree in academic stress.

The results of independent samples *t* test for comparing academic stress revealed that most of university-1 students was significantly higher academic stress than university-2 students ($t=4.588$, $p<.001$). This may be due to university-1 may be lower time management and higher student-teacher ratio than university-2. Therefore, university-1 students may be increased academic workload and the absence of healthy teacher-student interaction than university-2 students. Academic workload situations and student-teacher interaction effect on academic stress (Agolla & Ongori, 2009).

According to Pearson Product-Moment Correlation, it was found that there was a statistically significant negative correlation between adversity quotient and academic stress ($r=-.462$). Therefore, it can be concluded that the higher the adversity quotient of university students, the lower their academic stress.

According to linear regression, the result revealed that adversity quotient can predict 21% of academic stress (adjusted *R* square=.213). It can be concluded that academic stress of university students can reduce when increase their adversity quotient.

Acknowledgements

References

Abejo, A. O. (2002) *Adversity quotient profile of the employees of the College of Arts and Science of St. Joseph's College, Quezon City: Indicator of their effectiveness as leaders.* St. Joseph's College, Quezon City. Retrieved September 2018 from http://www.thesisabstracts.com/ThesisAbstract_379

Agolla, J. E., & Ongori, H. (2009). An assessment of academic stress among undergraduate students: The case of University of Botswana. *Educational Research and Review, 4*(2), 63-70. Retrieved from September 2018 from http://www.sciepub.com/reference/137275

Alka, V. R. S. (2012). *A study of secondary school students' response to adversity in relation to certain psychological and performance factors.* Ph.D., Dissertation, Mumbai University. Retrieved 2018 from http://www.peaklearning.com/ documents/PEAK_GRI_vakharia2.pdf

Ang, R. P., & Huan, V. S. (2006). Relationship between academic stress and suicidal ideation: Testing for depression as a mediator using Multiple Regression. *Child Psychiatry and Human Development, 37* (2), 133-143. Retrieved September 2018 from https://teensneedsleep.files.wordpress.com/2011/03/ang-and-huan-relationship-between-academic-stress-and-suicidal-ideation.pdf

Auerbach, S. M. & Gramling, S. E. (1998). *Stress management: Psychological foundations*. Upper Saddle River, N.J.: Prentice Hall Retrieved August 2018 from https://lib.ugent.be/en/catalog/rug01:000422223

Centre, K. C. (2010). *Stress and stress management.* London: Press books. Retrieved July 2018 from https://hydesmith.com/de-stress/files/StressMgt.pdf

Espanola, R. P. (2016). Adversity quotient and academic of selected students in MSU Marawi City. *Journal of Education Psychology and Social Science, 3*(1), 60-66. doi: 10.21016/MA09WF124O

Flejoles, & Muzones. (2009). *Adversity quotient of Bachelor of science in maritime information technology students*, Maritime University, Molo, Inc., Philippines. Unpublished Doctoral thesis, Retrieved August 2018 from http://www.academia.edu/ 3621438/Adversity_ Quotient_of_Bachelor _of_Science_ in_ Maitime_Information_Technology_Students_at_John_B._Lacson_Foundation_Maritime_University-Molo_Inc http://e-space.mmu.ac.uk/576570/1/Olivia%20SOLOMON%20(MMU).pdf http://www. peaklearning.com/ document/about_aq.pdf. https://www.amazon.com/Adversity-Quotient-PaulGStoltz/ dp/0471344133/ref=olpproductdetails? enco ding= UTF8 &me=#reader0471344133

Huijuan, Z. (2009). *The Adversity quotient and qcademic performance among College Students at ST .* Joseph's College Quezon City. BE.d, thesis, St. Joseph's College. Retrieved July 2018 from https://www.peaklearning.com/documents/PEAK_GRI _huijuan.pdf

Huijuan, Z. (2009). *The Adversity quotient and qcademic performance among College Students at ST .* Joseph's College Quezon City. BE.d, thesis, St. Joseph's College. Retrieved July 2018 from https://www.peaklearning.com/documents/PEAK_GRI _huijuan.pdf

Koki, A. T. A., & Abdullahi, U. (2014). Chapter-2. Retrieved August 2018 from shodhganga. inflibnet. ac.in/ jspui/bistream/…/08-chapter%202.pdf

Li, Y. M. & Yen, L.L. (1998)**.** Daily life stress and its correlates among high school students in Hualien City. *Koohsiung Journal of Medical Sciences,* 14, 234-241. Retrieved August 2018 from http:// europepmc. org/abstract/med/9589618

Lin, Y. M. & Chin, F. S. (2009). Academic stress inventory of students at universities and colleges of technology – *World Transactions on Engineering and Technology Education*. *7(2)*, 157-162.

Liu, L. (2011*). Men are from mars and women are from venus?"--from the aspect of gender role, the interrelationships between AQ, work pressure, personal characteristic, and work performance*, Retrieved July 2018 from http://libserver2.nhu.edu.tw/ETD-db/ETDsearch/view_etd?URN=etd-1207111-111820

Misra, R., & Castillo, L. G. (2004). Academic stress among college students: Comparison of American and international students. *International Journal of Stress Management, 11*(2), 132-148. Retrieved September 2018 from https://www.researchgate.net/ publication/228367874

Nwe Zin Oo. (2018). A study on metacognitive awareness and academic stress of Grade 9 students in Aunglan Township.

Popoli, M., Yan, Z., McEwen, B. S., & Sanacora, G. (2011). The stressed syanapse: The impact of stress and glucocorticoids on glutamate transmission. *National Review of Neuroscience*, *13*(1), 22-37. doi: 10.1038/nrn3138

Rathee, N., & Sharma, S. (2018). Adversity quotient among High School students in relation to demographic variables. *International Journal of Humanities and Social S cience Invention (IJHSSI). ISSN (Online): 2319 – 7722, ISSN (Print): 2319 – 7714. www.ijhssi.org ||Volume 7* Issue 05 Ver. II ||May. 2018 || PP.33-36

Rehman Memon et al., (2016). Perceived stress among physical therapy students of Isra University. *International Journal of Physiotherapy, 3*(1), 35-38. Retrieved October 2018 from https://www.ijphy.org/ articles/Vol%203%20Issue%201/07IJPHY298%20c .done.pdf

Sachdev, P. (2009). *Effectiveness of an intervention programme to develop adversity quotient ® of potential leaders.* Ph.D. Dissertation, Mumbai University. Retrieved 2018 from http://www. peaklearning. com/ documents/PEAK-GRI-pritiSachdev.pdf

Sailaja, V.V. (2017). A study on academic stress of teacher training students. *International Journal for Scientific Research & Development, IJRD, 5*(3), 2017\ ISSN (online): 2321- 0613

Selye, H. (1956). *Types of stress.* Retrieved September 2018 from https://www.tankonyvtar.hu › tartalom.pdf

Somaratne, C. S. N., Jayawardena, L. N. A. C., & Perera, B. M. K. (2017). Impact of Adversity Quotient on Stress Levels of Middle-Level Managers of Non-Governmental Organisation (NGO) Sector. *Tropical Agricultural Research, 29*(1), 45-54. Retrieved August 2018 from https://www. pgia.ac.lk/files/ Annual_congress/journel/v29/Journal-No%201/Papers/5- 32_C.S.N.%20Somaratne%2011.10.17.pdf

Song, J. H., & Woo, H. Y. (2015). A study on AQ (Adversity Quotient), Job satisfaction and turnover intention according to work units of clinical nursing staffs in Korea. *India Journal of Science and Technology, Vol 8* (S8), 74-78, ISSN (Print): 0974-6846, ISSN (Online): 0974-5645, DOI: 10.17485/ijst/ 2015/ v8iS8/71503

Stoltz, P. G. (1997). *Adversity Quotient.* New York: John Wiley & Sons. Retrieved August 2018 from https://media.wiley.com/product_data/excerpt/26/04711789/ 0471178926.pdf

Stoltz, P. G. (1997). Technical Overview for the AQ Profile**.** Retrieved from July 2018 from http://www.peaklearning.com/aboutaq-profiletechnical-data.php

Stoltz, P. G. (2001). *Adversity quotient work: Make everyday challenges the key to your success,* New York: Wiley. Retrieved July 2018 from

Thawabieh, A. M., & Qaisy, L. M. (2012). Assessing stress among university students. *American International Journal of Contemporary Research, 2*(2), February 2012. Retrieved 2018 from https://www. aijcrnet. com/journals/Vol_2_No_2_February _2012/13.pdf

Wilks, S. E., (2008). Resilience amid academic stress: The moderating impact of social support among social work students. *Advances in Social Work, 9*(2), 106-125. Retrieved October 2018, from https://journals. iupui.edu/index.php/advancesin socialwork/ article/view/51

FORGIVENESS, PERFECTIONISM AND SELF-COMPASSION OF UNDERGRADUATE STUDENTS FROM SAGAING UNIVERSITY OF EDUCATION

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Abstract

The aim of this study is to investigate forgiveness, perfectionism, and self-compassion of undergraduate students from Sagaing University of Education. The study conducted a survey research design and employed with a quantitative method. As the research instruments, Heartland Forgiveness Scale (HFS; Thompson et al., 2005), Almost Perfect scale - Revised (APS-R; Slaney et al., 2001), and Self-Compassion Scale (SCS; Neff, 2003b) were applied. A total of 754 undergraduate students (310 males, 444 females) were selected from Sagaing University of Education as participants. Descriptive statistics, independent sample *t* test, correlation analysis and regression were used in this study. The results revealed that there was no significant difference in forgiveness, and perfectionism by gender but there was significant difference in self-compassion by gender, females are higher than males. The results showed that there was significant difference in forgiveness, and perfectionism by grade, only between third year and fifth year students. Third year students are higher than fifth year students. But there was no significant difference in self-compassion by grade. And, there was no significant difference in forgiveness, perfectionism, and self-compassion by subject stream. The findings revealed that there was low negative significant correlation between forgiveness and discrepancy of perfectionism and between self-compassion and discrepancy of perfectionism. According to Multiple Regression analyses, forgiveness was key predictor on perfectionism since adjusted R^2 result showed that 57% of variance in discrepancy of perfectionism which was explained by forgiveness. The results also showed that self-compassion was key predictor on perfectionism since adjusted R^2 result showed that 20% of variance in discrepancy of perfectionism which was explained by self-compassion. Finally, students' positive perception upon negative events and performances should be developed with the help of teachers and parents so that they might not blame themselves or others negatively when the things they don't want happen.

Keyword: Perfectionism, forgiveness, self-compassion

Introduction

Many researches have supported the psychological, emotional, and physical benefits of forgiveness for well-being (e.g., Lawler, Younger, Piferi, Billington, Jobe, Edmonson, et al., 2003; Witvliet, 2001, 2005; Worthington, 2005). At the same time, the field of psychology has gained much knowledge regarding perfectionism and its potentially destructive impact on individuals. Trying to be better in life was a very common and basic need that humankind has been experiencing for centuries. The term perfectionism is rooted in cultures because of human's competitions in workplaces and their striving high to attain resources on one hand and all cultures tendency to prompt a good life for their people in the other hand.

Research on perfectionism has developed extensively over time. The early perfectionism literature adopted a more singular and unidimensional construct (Burns, 1980). It was originally considered as a construct having only one definition and entirely negative consequences. Freud saw the desire for perfection as an aspect of narcissim, which he placed firmly in the realm of neurotic disorder. But further insights support the idea that perfectionism contains both positive and negative dimensions. More recently, a multifaceted conceptualization has proven popular and accurate (e.g., Frost, Marten, Lahart, & Rosenblat, 1990). In the field of psychology, Adler (1956) noted that striving for perfectionism is normal and innate because of the tendency of

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human social being. He argued that those who express healthy perfectionism search for goals that are obtainable, while those who express maladaptive perfectionism might have obsessive order and fear of critique.

Forgiving promotes continuity in interpersonal relationships by mending the inevitable injuries and transgressions that occur in social interaction. There exists much debate as to the conceptualization of forgiveness, and most have considered forgiveness of transgressions interpersonally to be the quite essential definition of forgiveness. However, strong trends in measuring forgiveness have now advanced the notion of assessing forgiveness using multiple aspects in a more comprehensive and dispositional manner. Many self-report measures have been developed to assess forgiveness. Several of these measures assess nondispotional forgiveness such as the forgiveness of another person for a specific transgression (McCollough et al., 1998), and forgiveness of a specific person for one or more transgressions (Hargrave & Sells, 2007).

However, Thompson et al asserted that forgiveness is a multidimensional construct composed of forgiveness of self, forgiveness of others, and forgiveness of situations beyond anyone's control (e.g., an illness or natural disaster). They have introduced and provided strong evidence for considering forgiveness under this new framework, in which it is defined as ".. the framing of a perceived transgression such that one's attachment to the transgressor, transgression, sequelae of the transgression is transformed from negative to neutral or positive". Under this approach, forgiveness is considered as a primarily intrapersonal phenomenon, having to do with a person's internal process of transforming the valence of their attachment to an event or outcome. Perfectionism has been introduced with self-oriented, other-oriented, and socially prescribed perfectionism dimensions (Hewitt & Flett, 1990). Self-oriented and other-oriented perfectionism are both described as originating from within an individual, while socially prescribed perfectionism has gathered some controversy due to its focus on the expectations of others. This means that, similar to forgiveness, the construct of perfectionism has been described using both interpersonal and intrapersonal terms.

The similarities between forgiveness and perfectionism highlight the possibility of an important relationship between the two. It is possible that a destructive element at play here may be an inability for perfectionistic individuals to forgive themselves. Once a perceived failure or inadequacy occurs, these individuals become incredibly vulnerable to future perceived failures, engaging in evaluative and critical condemnation of themselves or others, potentially demonstrating a low level of dispositional forgiveness.

Self-compassion, though recently introduced into the current psychological literature (Neff, 2003a), has held promise for improving mental health and well-being for many years. More recently, self-compassion has made its way into the psychological arena, with strong empirical support for its benefits. Self-compassion has been found to have a significant inverse relationship with perfectionism (Neff, 2003b), in that the more self-compassion the lower the maladaptive perfectionism. Self-compassionate individuals look with understanding upon their experiences rather than criticize them, take a balanced perspective toward negative feelings, see commonalities between their experience and those of others, accept inadequacies as implicitly part of the human condition, and create a mental space in which to be mindful of their feelings and internal processes (Neff, 2003a). With maladaptive perfectionism enacting a harsh judgment on inadequacies or negative experiences, it makes sense that a mindful, understanding, and kind

perspective toward oneself may help save an individual from becoming entrenched in a perfectionistic mindset.

The common humanity aspect of self-compassion, the ability to see oneself as similar to others, with implicit failures, mistakes, and inadequacies, increases a sense of interconnectedness (Neff, 2003b). This sense of belonging is often absent in maladaptive perfectionists, who exhibit low levels of social connection (Rice, et al., 2006). Therefore, the current study will observe whether self-compassion relate to perfectionism and forgiveness to perfectionism. So, undergraduate students (third year, fourth, and fifth year students) from Sagaing University of Education were selected as participants to study perfectionism, forgiveness, and self-compassion.

Aims of the Study

The main aim of this study is to study forgiveness, perfectionism, and self-compassion of undergraduate students from Sagaing University of Education.

The specific objectives of this study are:

- To examine forgiveness of undergraduate students from Sagaing University of Education based on gender, grade, and subject stream.

- To explore perfectionism of undergraduate students from Sagaing University of Education based on gender, grade, and subject stream.

- To investigate self-compassion of undergraduate students from Sagaing University of Education based on gender, grade, and subject stream.

- To observe whether there is a relationship among forgiveness, perfectionism and self-compassion of undergraduate students from Sagaing University of Education.

Research Questions

1. Is there any significant difference between forgiveness, perfectionism, and self-compassion of undergraduate students by gender?

2. Is there any significant difference between forgiveness, perfectionism, and self-compassion of undergraduate students by grade?

3. Is there any significant difference between forgiveness, perfectionism, and self-compassion of undergraduate students by subject stream?

4. Is there any relationship among forgiveness, perfectionism, and self-compassion of undergraduate students?

Scope of the Study

In this study, a total of 754 undergraduate students (310 males and 444 females) from third year, fourth year, and fifth year students from Sagaing University of Education were selected as participants.

Definition of Key Terms

Forgiveness can be defined as a steady change from being angry and not understanding, to a positive attitude which involves letting go of resentment and moving on (Ross et al, 2004).

Perfectionism can be defined as the excessively high personal standards as well as a tendency to be overly critical of one self, when those standards have not met (Frost, Marten, Lahart, & Rosenblate, 1990).

Self-Compassion simply represents compassion turned inward, and refers to how we relate to ourselves in instances of perceived failure, inadequacy or personal suffering (Neff, 2003a, 2003b).

Methodology

Sample of the Study

Students from Sagaing University of Education were selected as a sample for the study in the academic year 2018-2019.

Table 1 Number of Participants by Gender

No.	Grade of Students	Number of Students		
		Male	Female	Total
1.	Third Year	110	144	254
2.	Fourth Year	96	161	257
3.	Fifth Year	104	139	243
	Total	310	444	754

Instrumentation

The research instruments were the Heartland Forgiveness Scale (HFS; Thompson et al., 2005), the Almost Perfect Scale - Revised (APS-R; Slaney et al., 2001), and Self-Compassion Scale (SCS; Neff, 2003b). The Heartland Forgiveness Scale was developed by Thompson et al (2005). The HFS includes 18 items and it is kind of self-report measure. It has three subscales; Forgiveness of Self, Forgiveness of Others, and Forgiveness of Situations. The HFS scale was scored with five-point Likert scale (1= never, 2= seldom, 3= often, 4= almost always, and 5= always).

The Almost Perfect scale - Revised was developed by Slaney et al (2001). The APS-R consists of 23 items that measures the multidimensional construct of perfectionism. It includes three subscales; High Standards, Order, and Discrepancy. Responses to these items were based on a four-point Likert scale (1= strongly disagree, 2= disagree, 3= agree, 4= strongly agree).

The instrument used to measure self-compassion was Self-Compassion Scale developed by Neff (2003b). SCS includes 26 items tapping the tendency to be compassionate. It is measured across three dimensions using six factors, Self-Kindness vs Self-Judgment, Common Humanity vs Isolation, and Mindfulness vs Over-Identification. The SCS was scored with five-point Likert scale (1= never, 2= seldom, 3= often, 4= almost always, and 5= always).

Procedure

In this study, the related literature was accumulated from several available books from library, journals, reports, thesis, and other internet resources. And then, the instrumentation was prepared to assess forgiveness, perfectionism, and self-compassion of students. Next, pilot study was conducted with a sample of 95 undergraduate students from Sagaing University of Education. Then, the instrument was taken validity and reliability by using SPSS (20.0) software. According to pilot study, the instrument was taken validity and reliability so as to assess in data collection. Data collection was carried out in December, 2018. As soon as the required data for

the study was ready, the data were analyzed specifically. Finally, the needed suggestions were discussed with my supervisors and added the requirements. Before editing the final report, the first draft was prepared.

Data Collection

For collecting accurate data for this study, after getting the required authority permission of third year, fourth year, and fifth year of Sagaing University of Education, 754 students from third year, fourth year, and fifth year students were selected to answer the questionnaires. The students were asked to complete all items and assured the results were completely confidential. On average, the students spent 25 minutes to complete all items.

Data Analysis

In this study, quantitative data analyses were used to compute descriptive statistics to identify the mean, standard deviation, frequency, maximum and minimum scores of forgiveness, perfectionism and self-compassion of undergraduate students. Independent sample *t* test was used to inspect whether there were significant differences in forgiveness, perfectionism and self-compassion of student teachers by gender, and subject stream. Moreover, to find the significant differences among grade, one-way ANOVA was used. Then, if there were statistically different, Post Hoc Tukey (HSD) Test was conducted to determine which group had significant difference. Pearson Product-Moment Correlation and Regression were conducted to provide information about the relationship between forgiveness, perfectionism and self-compassion.

Data Analysis and Findings

Table 2 Descriptive Statistics for Dimensions of Forgiveness of Undergraduate Students from Sagaing University of Education

No.	Variable	*N*	Minimum	Maximum	Mean	Mean Percent	*SD*
1.	Forgiveness of Self	754	12	68	19.77	65.90%	3.545
2.	Forgiveness of others	754	7	40	21.31	71.03%	3.661
3.	Forgiveness of Situations	754	10	61	20.82	69.4%	3.417
4.	Overall Forgiveness	754	38	90	63.88	70.98%	6.934

By the mean percentage of the components of forgiveness scales, forgiveness of others was the highest and forgiveness of self was the lowest.

Forgiveness of Undergraduate Students by Gender

Table 3 Mean and Standard Deviation of Forgiveness of Undergraduate Students by Gender

Variable	Gender	*N*	Mean	*SD*	Mean Difference
Forgiveness	Male	310	63.68	7.282	-.34
	Female	444	64.02	6.685	

According to Table 3, the mean scores of females were found greater than those of males in forgiveness.

Table 4 Result of Independent Sample *t* test for Forgiveness by Gender

Variable	Gender	N	t	df	p
Forgiveness	Male	310	-.666	752	.506
	Female	444			

According to Table 4, there were no significant difference in forgiveness between male and female students (*t* =-.666, *p* =.506).

Table 5 Comparison of Mean, Standard Deviation and the Result of Independent Sample *t* test for Dimensions of Forgiveness by Gender

Subscales	Gender	N	Mean%	SD	t	df	p	MD
Forgiveness of Self	Male	310	65.40%	3.731	-.987	752	.324	-.259
	Female	444	66.27%	3.409				
Forgiveness of others	Male	310	68.33%	3.733	-5.165***	752	.000	-1.376
	Female	444	72.93%	3.504				
Forgiveness of Situations	Male	310	67.2%	3.918	-4.473***	752	.000	-1.117
	Female	444	70.93%	2.936				

Note: ***The mean difference is significant at the 0.001 level.

Table 5 revealed that there was significant difference in forgiveness of others and forgiveness of situations among three dimensions of forgiveness.

Forgiveness of Undergraduate Students by Grade

Table 6 Mean and Standard Deviation for Forgiveness by Grade

Variable	Grade	N	Mean	SD
Forgiveness	Third Year	254	64.94	6.794
	Fourth Year	257	63.61	6.474
	Fifth Year	243	63.06	7.420
	Total	754	63.88	6.934

Third year had the highest mean score in forgiveness (64.94) and fifth year had the lowest mean score (63.06).

Table 7 Result of ANOVA for Forgiveness by Grade

Variable		Sum of Square	df	Mean Square	F	p
Forgiveness	Between Groups	469.885	2	234.942	4.938**	.007
	Within Groups	35730.610	751	45.577		
	Total	36200.495	753			

Note: **The mean difference is significant at the 0.01 level.

Table 7 indicated that a statistically significant difference was found among grade in overall forgiveness (*p*<0.05).

Table 8   Result of Tukey HSD Test Multiple Comparison for Forgiveness

Variable	Grade (I)	Grade (J)	Mean Difference (I-J)	p
Forgiveness	Third Year	Fourth Year	1.338	.073
		Fifth Year	1.883**	.007
	Fourth Year	Third Year	-1.338	.073
		Fifth Year	.545	.651

Note: **The mean difference is significant at the 0.01 level.

The result of Post Hoc Tukey HSD Test revealed that the mean difference between third year and fifth year was 1.883 and it was significantly different at *p* = 0.007. However, there were no significant differences among other selected grades.

Forgiveness of Undergraduate Students by Subject Stream

Table 9 Mean and Standard Deviation of Forgiveness of Undergraduate Students by Subject Stream

Variable	Sub-stream	*N*	Mean	*SD*	Mean Difference
Forgiveness	Science	287	63.45	7.155	-.65
	Art	464	64.10	6.786	

According to Table 9, the mean scores of art stream students were found greater than those of science stream students in forgiveness.

Table 10 Result of Independent Sample *t* test for Forgiveness by Subject Stream

Variable	Sub-stream	*N*	*t*	*df*	*p*
Forgiveness	Science	287	-1.250	749	.212
	Art	464			

According to Table 10, there were no significant difference in forgiveness between science and art stream students (*t* =-1.250, *p* =.212).

Again, in order to study whether there was a significant difference in dimensions of forgiveness by subject stream, independent sample *t* test was used. The result revealed that there was no significant difference in dimensions of forgiveness of students according to subject stream.

Table 11 Descriptive Statistics for Dimensions of Perfectionism of Undergraduate Students from Sagaing University of Education

No	Variable	*N*	Minimum	Maximum	Mean	Mean Percent	*SD*
1.	Discrepancy	754	11	48	29.80	62.08%	5.087
2.	High Standards	754	8	53	22.04	78.71%	3.282
3.	Order	754	4	16	12.03	75.19%	2.048
4.	Overall Perfectionism	754	37	92	64.53	70.14%	6.762

By the mean percentage of the components of perfectionism scales, discrepancy was the lowest and high standards subscale was the highest.

Perfectionism of Undergraduate Students by Gender

Table 12 Mean and Standard Deviation of Perfectionism of Undergraduate Students by Gender

Variable	Gender	*N*	Mean	*SD*	Mean Difference
Perfectionism	Male	310	64.33	7.224	-.35
	Female	444	64.68	6.424	

According to table 12, the mean scores of females were found greater than those of males in perfectionism.

Table 13 Result of Independent Sample *t* test for Perfectionism by Gender

Variable	Gender	*N*	*t*	*df*	*p*
Perfectionism	Male	310	-.686	752	.493
	Female	444			

According to Table 13, there were no significant difference in perfectionism between male and female students (*t* =-.686, *p* =.493).

Table 14 Comparison of Mean, Standard Deviation and the Result of Independent Sample *t* test for Dimensions of Perfectionism by Gender

Subscales	Gender	*N*	Mean%	*SD*	*t*	*df*	*p*	*MD*
Discrepancy	Male	310	69.16%	3.731	1.790	752	.074	.673
	Female	444	61.52%	3.409				
High Standards	Male	310	77.36%	3.733	-2.638**	752	.009	-.638
	Female	444	79.64%	3.504				
Order	Male	310	73.88%	3.918	-2.299*	752	.022	-.356
	Female	444	76.13%	2.936				

Note:*The mean difference is significant at the 0.05 level.
       **The mean difference is significant at the 0.01 level.

Table 14 revealed that there was significant difference in high standards and order subscales among three dimensions of perfectionism.

Perfectionism of Undergraduate Students by Grade

Table 15 Mean and Standard Deviation for Perfectionism by Grade

Variable	Grade	*N*	Mean	*SD*
Perfectionism	Third Year	254	65.60	6.698
	Fourth Year	257	64.35	6.288
	Fifth Year	243	63.62	7.174
	Total	754	64.53	6.762

Third year students had the highest mean score in perfectionism (65.60) and those of fifth year had the lowest mean score (63.62).

Table 16   Result of ANOVA for Perfectionism by Grade

Variable		Sum of Square	*df*	Mean Square	*F*	*p*
Perfectionism	Between Groups	500.674	2	250.337	5.541**	.004
	Within Groups	33926.929	751	45.176		
	Total	34427.603	753			

Note: **The mean difference is significant at the 0.01 level.

Table 16 indicated that a statistically significant difference was found among grade in overall perfectionism (*p*<0.05).

Table 17 Result of Tukey HSD Test Multiple Comparison for Perfectionism

Variable	Grade (I)	Grade (J)	Mean Difference (I-J)	*p*
Perfectionism	Third Year	Fourth Year	1.248	.091
		Fifth Year	1.981**	.003
	Fourth Year	Third Year	-1.248	.091
		Fifth Year	.733	.601

Note: **The mean difference is significant at the 0.01 level.

The result of Post Hoc Tukey HSD Test revealed that the mean difference between third year and fifth year was 1.981 and it was significantly different at *p* = 0.003. However, there were no significant differences among other selected grades.

Perfectionism of Undergraduate Students by Subject Stream

Table 18 Mean and Standard Deviation of Perfectionism of Undergraduate Students by Subject Stream

Variable	Sub- stream	*N*	Mean	*SD*	Mean Difference
Perfectionism	Science	287	64.14	6.925	-.60
	Art	464	64.74	6.651	

According to Table 18, the mean scores of art stream students were found greater than those of science in perfectionism.

Table 19 Result of Independent Sample *t* test for Perfectionism by Subject Stream

Variable	Sub- stream	*N*	*t*	*df*	*p*
Perfectionism	Science	287	-1.178	749	.239
	Art	464			

There was no significant difference in perfectionism between science and art students. The result revealed that there was no significant difference in dimensions of perfectionism of students according to subject stream.

Table 20 Descriptive Statistics for Dimensions of Self-Compassion of Undergraduate Students from Sagaing University of Education

No	Variable	*N*	Minimum	Maximum	Mean	Mean Percent	*SD*
1.	Self-Kindness	754	7	25	18.67	74.68%	2.900
2.	Self-Judgment	754	6	65	14.62	58.48%	3.436
3.	Common Humanity	754	4	20	15.15	75.75%	2.596
4.	Isolation	754	4	20	11.89	59.45%	3.103
5.	Mindfulness	754	5	20	14.82	74.10%	2.526
6.	Over-Identification	754	4	18	10.11	50.55%	2.170
7.	Overall Self-Compassion	754	59	147	85.25	65.58%	8.570

By the mean percentage of the components of self-compassion scales, common humanity was the highest and over-identification was the lowest.

Self-Compassion of Undergraduate Students by Gender

Table 21 Mean and Standard Deviation of Self-Compassion of Undergraduate Students by Gender

Variable	Gender	N	Mean	SD	Mean Difference
Self-Compassion	Male	310	84.21	8.641	-1.76
	Female	444	85.97	8.455	

According to Table 21, the mean scores of females were found greater than those of males in self-compassion.

Table 22 Result of Independent Sample *t* test for Self-Compassion by Gender

Variable	Gender	N	t	df	p
Self-Compassion	Male	310	-2.784**	752	.006
	Female	444			

Note: **The mean difference is significant at the 0.01 level.

According to Table 22, there were significant difference in self-compassion between male and female students (t =-2.784, p =.006).

Table 23 Comparison of Mean, Standard Deviation and the Result of Independent Sample *t* test for Dimensions of Self-Compassion by Gender

Subscales	Gender	N	Mean%	SD	t	df	p	MD
Self-Kindness	Male	310	72.72%	2.998	-3.943***	752	.000	-.838
	Female	444	76.08%	2.781				
Self-Judgment	Male	310	58.4%	4.064	-.151	752	.880	-.038
	Female	444	58.56%	2.922				
Common Humanity	Male	310	73.85%	2.738	-3.274**	752	.001	-.637
	Female	444	77.05%	2.461				
Isolation	Male	310	58.85%	2.988	-.869	752	.385	-.200
	Female	444	59.85%	3.182				
Mindfulness	Male	310	73.4%	2.565	-1.227	752	.220	-.229
	Female	444	74.55%	2.496				
Over-Identification	Male	310	51.1%	2.214	1.150	752	.251	.185
	Female	444	50.15%	2.137				

Note: **The mean difference is significant at the 0.01 level.
        ***The mean difference is significant at the 0.001 level.

Table 23 revealed that there was significant difference in self-kindness and common humanity subscales among three dimensions of self-compassion.

Self-Compassion of Undergraduate Students by Grade

Table 24 Mean and Standard Deviation for Self-Compassion by Grade

Variable	Grade	N	Mean	SD
Self-Compassion	Third Year	254	84.89	8.384
	Fourth Year	257	85.43	8.704
	Fifth Year	243	85.42	8.644
	Total	754	85.25	8.570

Fourth year had the highest mean score in self-compassion (85.43) and third year had the lowest mean score (84.89).

Table 25 Result of ANOVA for Self-Compassion by Grade

Variable		Sum of Square	df	Mean Square	F	p
Self-Compassion	Between Groups	48.092	2	24.046	.327	.721
	Within Groups	55256.530	751	73.577		
	Total	55304.622	753			

Table 25 indicated that no significant difference was found among grade in overall self-compassion.

Self-Compassion of Undergraduate Students by Subject Stream

Table 26 Mean and Standard Deviation of Self-Compassion of Undergraduate Students by Subject Stream

Variable	Sub- stream	N	Mean	SD	Mean Difference
Self-Compassion	Science	287	85.69	8.879	.65
	Art	464	85.04	8.364	

The mean scores of science stream students were found greater than those of art stream students in self-compassion.

Table 27 Result of Independent Sample *t* test for Self-Compassion by Subject Stream

Variable	Sub- stream	N	t	df	p
Self-Compassion	Science	287	1.002	749	.317
	Art	464			

There were no significant difference in self-compassion between science and art students ($t = 1.002$, $p = .317$).

Again, in order to study whether there was a significant difference in dimensions of self-compassion by subject stream, independent sample *t* test was used. The result revealed that there was no significant difference in dimensions of self-compassion of students according to subject stream.

Relationship between Forgiveness and Perfectionism of Undergraduate Students

Table 28   Relationship between Forgiveness and Perfectionism of Undergraduate Students

	F of Self	F of Others	F of S	D	HS	O
F of Self		.210**	.194**	-.286**	.061	.103**
F of Others			.434**	-.158**	.144**	.138**
F of S				-.262**	.120**	.110**
D					-.093*	-.058
HS						.144**
O						1

As shown in Table 28, dimensions of perfectionism were significantly slightly correlated with dimensions of forgiveness. So, it can be interpreted that if students had high discrepancy in perfectionism, they will be low in forgiveness.

Regression Result for Forgiveness and Perfectionism of Undergraduate Students

Table 29 Model Summary for Forgiveness and Discrepancy of Perfectionism

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760	.578	.578	3.305

It can be concluded that 57% of discrepancy can be predicted from forgiveness.

Table 30 Results of Regression on Forgiveness and Discrepancy of Perfectionism

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	5.838	1.116		5.230	.000
Forgiveness	-.558	.017	-.760	-32.116	.000

It was found that the predictor forgiveness significantly predicted discrepancy of perfectionism.

$$D = 5.838 - 0.558F$$

D= Discrepancy, F= Forgiveness

It can be interpreted that if students have high discrepancy of perfectionism, they will be low in forgiveness.

Relationship between Self-Compassion and Perfectionism of Undergraduate Students

Table 31 Relationship between Self-Compassion and Perfectionism of Undergraduate Students

	SK	SJ	CH	Iso	M	OI	D	HS	O
SK		-.064	.440**	-.041	.535**	-.327**	-.089*	.237**	.225**
SJ			-.023	.495**	-.022	.272**	.358**	-.086*	.077*
CH				-.008	.474**	-.323**	-.003	.230**	.109**
Iso					-.045	.315**	.474**	-.074*	.008
M						-.370**	-.136**	.286**	.229**
OI							.260**	-.245**	-.118**
D								-.093*	-.058
HS									.144**
O									

As shown in Table 4.32, dimensions of perfectionism were significantly slightly correlated with dimensions of self-compassion.

Regression Result for Self-Compassion and Perfectionism of Undergraduate Students

Table 32 Model Summary for Self-Compassion and Discrepancy of Perfectionism

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.450	.203	.202	4.545

It can be concluded that 20% of discrepancy can be predicted from self-compassion.

Table 33   Results of Regression on Self-Compassion and Discrepancy of Perfectionism

Model	Unstandardized Coefficients		Standardized Coefficients	*t*	Sig.
	B	**Std. Error**	**Beta**		
1(Constant)	52.585	1.656		31.756	.000
Self-compassion	-.267	.019	-.450	-13.827	.000

It was found that the predictor self-compassion significantly predicted discrepancy of perfectionism.

$$D = 52.585-0.267SC$$

D= Discrepancy, SC= Self-Compassion

It can be interpreted that if students have high discrepancy of perfectionism, they will be low in self-compassion.

Conclusion, Discussion and Suggestions

According to the results of descriptive statistics, the mean percentage of forgiveness of others was the highest among the three parts of forgiveness scale. It can also be seen that forgiveness of self was the lowest among the three subscales. The result was in line with the study of Magdalena Wedemalm, 2012. In addition, it was observed that the value of mean and mean percentage were high in overall forgiveness. So, it can be concluded that forgiveness of undergraduate students from Sagaing University of Education was good.

In descriptive analysis for perfectionism, the results showed that the mean score of perfectionism was 64.53 and standard deviation was 6.762. The value of mean percentage was 70.14%. Based on the results, it can be concluded that perfectionism of undergraduate students from Sagaing University of Education was high. Also, it can be seen that high standards subscale was the highest among the three subscales of perfectionism and discrepancy was the lowest rather than the other two subscales. Thus, it can be interpreted that students have high level in having high standards, positive form of perfectionism and low in discrepancy, the negative form of perfectionism.

In terms of descriptive statistics for self-compassion, the results showed that the overall mean score and standard deviation of self-compassion are 85.25 and 8.570. The mean percentage for overall self-compassion was 65.58%. So, it can be interpreted that self-compassion of students from Sagaing University of Education are high. In addition, common humanity subscale is the highest among the six subscales of self-compassion and over-identification was the lowest. Thus, it can be concluded that undergraduate students from Sagaing University of Education have the high skill in common humanity, part of self-compassion and have the lowest skill in over-identification, part of self-criticism.

Concerning the gender, the difference of male and female undergraduate students in forgiveness will be presented. According to the results of independent sample *t* test, there were no significant differences in forgiveness of undergraduate students between males and females. The possible reason may be that both males and females perceive most of the things in positive perspectives and can easily forgive during their carefree and young university student lives. So, it

has no significant difference in forgiveness according to gender. Moreover, forgiveness between males and females undergraduate students was compared with three dimensions. According to the result of t test, there was significant difference in forgiveness of others and forgiveness of situations and there was no significant difference in forgiveness of self. It can be possible that according to the gender nature, females have less hostile nature and can easily feel compassionate for others than males thus females have high forgiveness of others and situations than males.

Next, the difference of male and female difference of undergraduate students in perfectionism will be presented. Depending on the independent sample t test, there was no significant difference in perfectionism between male and female students. The possible reason may be that male and female want to be the best in everything what they do and they will criticize themselves when they do not get the intended results. Thus, it has no significant difference in perfectionism according to gender. The present study was in line with the findings of Grzegorek et al., 2004, Rice & Dellwo, 2002, and Rice & Mizadeh, 2000. In addition, perfectionism between males and females was investigated with three dimensions. The independent sample t test showed that there was significant difference in high standards subscale and order subscale but not in discrepancy subscale.

Finally, the results of self-compassion between males and females will be presented. According to the independent sample t test, there was significant difference in self-compassion between male and female students. The result shows that self-compassion of female students are higher than the self-compassion of male students. The reason may be that females are more soft-minded and can easily feel sympathy than males thus they can be higher in self-compassion rather than males. Moreover, self-compassion between males and females was investigated with six dimensions. The independent sample t test showed that there was significant difference only in self-kindness and common humanity subscales among the six subscales and other subscales have no significant difference. The current study was in line with the results of Neff, 2003b.

Concerning the grade, the comparison of forgiveness of undergraduate students will be discussed. According to the ANOVA result, there was significant difference in forgiveness of undergraduate students by grade. Based on the results of Post Hoc Tukey HSD Test, it was found that there was significant difference between forgiveness of third year and fifth year students but not in between the other grades. Forgiveness of third year students is higher than the forgiveness of fifth year students. The possible reason may be that younger students have less stress, can accept things with positive perspectives and can easily forget bad things thus third year students have higher forgiveness than fifth year students.

Secondly, the comparison of perfectionism of undergraduate students will be discussed. According to the ANOVA result, there was significant difference in perfectionism of student teachers by grade. Based on the results of Post Hoc Tukey HSD Test, it was found that there was significant difference between perfectionism of third year and fifth year students but not in between the other grades. Forgiveness of third year students is higher than the forgiveness of fifth year students. It can be possible that in the beginning of third year, all students have to choose specialized major and take exams for it. And also it is the year when students from education colleges start to enter. Thus, third year students can have more competitive spirits and high standards for their academic activity. So, it can be acceptable the fact that third year students have higher perfectionism than fifth year students.

Finally, self-compassion of undergraduate students was compared by grade. The ANOVA result showed that no significant difference in self-compassion was found according to grade. The possible reason may be that the feeling of self-compassion does not depend on the grade level they reach, and stress for academic work. Therefore, it can be concluded that there was no significant difference in self-compassion by grade.

Concerning the subject stream, the differences in forgiveness of undergraduate students by subject stream will be discussed. According to the results of independent sample *t* test, there were no significant differences in forgiveness of undergraduate students between science and art streams. The possible reason may be that the mind of forgiveness is not dependent on the subject that one takes but on the trust and sympathy of individual towards himself or herself and others.

Next, the comparison of perfectionism of student teachers by subject stream will also be observed. According to the ANOVA result, there was no significant difference in perfectionism of undergraduate students by subject stream. The data showed that perfectionism rates are relatively high across all majors, but not statistically significant between academic majors. The possible reason may be that as the age is becoming more and more developed not only in social media but also in focusing in performance of each individual. Thus, everyone in all fields is driven to have high quality and to be perfect. Therefore, it can be possible that there was not statistically significant between academic majors. The present study was in line with the findings of Daniel, P. V, 2009.

Finally, self-compassion of undergraduate students was compared according to subject stream. Based on the results of independent sample *t* test, there were no significant differences in self-compassion of undergraduate students between science and art streams. The possible reason may be that compassionate mind is dependent on seeing one's own experience in light of the common human experience, acknowledging that suffering, failure, and inadequacies are part of the human condition and that all people including oneself are worthy of compassion. Thus, it can be possible that self-compassion is not influenced by subject stream.

Moreover, correlation analysis was conducted to investigate the relationship between perfectionism and forgiveness, and perfectionism and self-compassion. The result showed that discrepancy of perfectionism, maladaptive form has low negative correlation with forgiveness of self, forgiveness of others, and forgiveness of situations but high standard and order- adaptive perfectionism has slightly positive correlation with dimensions of forgiveness. So, it can be interpreted that if students had high discrepancy in perfectionism, they will be low in forgiveness. The result was in line with the findings of Brooke A.M, 2010.

From the correlation result between perfectionism and self-compassion, it can be seen that discrepancy of perfectionism, maladaptive form has low negative correlation with self-kindness, common humanity, and mindfulness of self-compassion but high standard and order- adaptive perfectionism has slightly positive correlation with these dimensions of self-compassion. Moreover, discrepancy has high positive correlation with self-judgment, isolation, and over-identification but high standard and order- adaptive perfectionism has slightly negative correlation with these dimensions of self-compassion. So, it can be interpreted that if students had high discrepancy in perfectionism, they will be low in self-compassion.

In today's performance-focused society, an unrelenting pursuit of ideal standards that leave no room for error, or perfectionism, is often revered with little consideration of its

consequences. In such society, children and youths had started to become to feel so many burdens for their academic goals, job opportunities and also in social relationships. Thus, perfectionism has become a personality characteristic for those who work or study under performance pressures and expectations. Teachers play an important role for nurturing youths to become intellectual students. They have to guide and assist their pupils to become outstanding students with high morals and social skills. Thus, all teachers need to know the concept of perfectionism and its consequences. If so, they can help pupils who have social or intra-psychic pressures for peak performance and flawless outcomes.

Teachers and parents should understand the importance of perfectionism and the positive and negative consequences of perfectionism. They need to give children motivation to convert maladaptive perfectionism to positive striving perfectionism. Teachers and parents should encourage children to improve the spirit of accepting the negative events and mistakes of oneself and others.   The current research is merely focused on undergraduate students from Sagaing University of Education. So, further research needs to explore in education colleges and in other universities to obtain more detailed information about perfectionism, forgiveness, and self-compassion. It should be observed among different age population because according to the literature, the older ages were associated with higher levels of forgiveness, and lower levels of discrepancy of perfectionism. It should be explored with basic education school students and different grades to obtain more detailed information. It will be needed to investigate perfectionism, forgiveness, and self-compassion on other factors such as parental involvement, age, and career and home environment. To sum up, it is also needed to investigate perfectionism with other concepts such as burn-out, academic stress, depression, academic achievement, academic procrastination, life satisfaction, social anxiety, test anxiety and self-esteem.

Acknowledgements

References

Adler, A. (1927b). *Understanding human nature*. (W. B. Wolfe. Trans). New York, NY: Greenberg.

Burns, D. D. (1980). The perfectionist's script for self-defeat. *Psychology Today, 14(6)*, 34–52.

Frost, R. O., Marten, K. J., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy & Research, 14*(5), 449-468. doi:10.1007/BF01 172967

Grzegorek, J. L., Slaney, R. B., Franze, S., & Rice, K. G. (2004). Self-criticism, dependency, Self-esteem, and grade point average, satisfaction among clusters of perfectionists and nonperfectionists. *Journal of Counseling Psychology, 51*(2), 192-200. doi:10.1037/0022-0167.51.2.192

Hargrave, T. D., & Sells, J. N. (2007). The development of a forgiveness scale. *Journal of Marital and Family Therapy, 23*(1), 41-62.

Hewitt, P. L., & Flett, G. L. (1990). Perfectionism and depression: A multidimensional analysis. *Journal of Social Behavior and Personality, 5*, 423-438.

Lawler, K. A., Younger, J. W., Piferi, R. L., Billington, E., Jobe, R., Edmonson, K., et al. (2003). A change of heart: Cardiovascular correlates of forgiveness in response to interpersonal conflict. *Journal of Behavioral Medicine, 26*, 373–393.

McCullough, M. E., Rachal, K. C., Sandage, S. J., Worthington, E. L., Jr., Brown, S. W., & Hight, T. L. (1998). Interpersonal forgiving in close relationships II: Theoretical elaboration and measurement. *Journal of Personality and Social Psychology, 75*, 1586–1603.

Neff, K. D. (2003a). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity, 2*, 85-102.

Neff, K. D. (2003b). The development and validation of a scale to measure self-compassion. *Self and Identity, 2*, 223-250.

Rice, K. G., & Dellwo, J. P. (2002). Perfectionism and self-development: Implications for college adjustment. *Journal of Counseling and Development, 80*, 188-196.

Rice, K. G., Leever, B. A., Christopher, J., & Porter, J. D. (2006). Perfectionism, stress, and social (dis)connection: A short-term study of hopelessness, depression, and academic adjustment among honors students. *Journal of Counseling Psychology, 53(4)*, 524-534.

Rice, K. G., & Mirzadeh, S. A. (2000). Perfectionism, attachment, and adjustment. *Journal of Counseling Psychology, 47(2)*, 238-250.

Witvliet, C. V. O. (2001). Forgiveness and health: Review and reflections on a matter of faith, feelings, and physiology. *Journal of Psychology and Theology, 29*, 212–224.

Witvliet, C. V. O. (2005). Unforgiveness, forgiveness, and justice: Scientific findings on feelings and physiology. In E. L. Worthington, Jr. (Ed.), *Handbook of forgiveness* (pp. 305–319). New York, NY: Routledge.

Worthington, E. L., Jr. (Ed.). (2005). *Handbook of forgiveness*. New York: Routledge.

Worthington, E. L., Jr., & Drinkard, D. T. (2000). Promoting reconciliation through psychoeducational and therapeutic interventions. *Journal of Marriage and Family Therapy, 26*, 93–101.

PERCEIVED SOCIAL SUPPORT, PERCEIVED EXPERIENCE OF EMERGING ADULTHOOD AND EGO-RESILIENCY OF STUDENT TEACHERS

Saw Nan Aye[1], Aye Aye San[2]

Abstract

The main purpose of this study is to investigate the perceived social support, perceived experience of emerging adulthood and ego-resiliency of student teachers. Thus, the researcher conducted the investigation by using the quantitative method. Sample of 869 student teachers (411 males and 458 females) from two universities of education participated in this study. Student teachers' perceived social support was measured by Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet, Dahlem, Zimet and Farley (1988) which consists of 12 items. And, student teachers' perceived experience of emerging adulthood was measured by Inventory of the Dimensions of Emerging Adulthood (IDEA) developed by Reifman, Arnett and Colwell (2007) which consists of 31 items. Finally, student teachers' ego-resiliency was measured by Ego-resiliency Scale (ER89) developed by Block and Kremen (1996) which consists of 14 items. According to the results of independent samples t test, there were significant differences in perceived social support of student teachers by gender and grade but was no significant difference by university. Moreover, it was found that student teachers' perceived experience of emerging adulthood did not differ according to gender, grade and university. Then, there were significant differences in student teachers' ego-resiliency by gender and university but was no significant difference by grade. Next, Pearson-Product Moment Correlation was conducted and it was found that there were significant positive relationships among perceived social support, perceived experience of emerging adulthood and ego-resiliency. Finally, the multiple linear regression was conducted and 23% of variance in ego-resiliency was predicted by perceived social support and perceived experience of emerging adulthood of student teachers. The findings of this study may be expected to have some contributions to the benefit of education in understanding of social support and emerging adulthood to which their students perceive and how to promote student teachers' ego-resiliency.

Keywords: Perceived Social Support, Perceived Experience of Emerging Adulthood, Ego- resiliency

Introduction

The concept of ego-resiliency has drawn the attention of many psychologists and behavioral scientists since the middle of the twentieth century (Elzohary et al., 2017). According to Block and Block (1980) and Block and Kremen (1996), ego-resiliency has been defined as a personality characteristic reflecting the general capacity for flexible and resourceful adaptation to varying external environmental circumstances and to internal dysphoric states. Ego-resiliency can be conceptualized as a continuum in which individuals who demonstrate high ego-resiliency are likely to bounce back easily and persevere in spite of new and challenging situations (Block & Block, 1980); this resiliency is both socially and psychologically beneficial (Block & Kremen, 1996). Moreover, this is useful behaviorally: ego-resilient individuals are intelligent, resourceful and adaptive in stressful situations. Therefore, ego-resiliency is a capacity that enables individuals to adapt to constantly changing environmental demands (cited in Farkas & Orosz, 2015).

Theoretically, the concepts of ego-control and ego-resiliency were based in part on Lewin's (1935) description of a psychological boundary. Block and Block's (1980) personality model represents the two constructs of ego resiliency and ego control as abstractions intended to

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encompass the observable phenomena of motivational control and resourceful adaptation as relatively enduring, structural aspects of personality (Block & Kremen, 1996). The essence of ego-resiliency relates to adaptability, and the ability to equilibrate and re-equilibrate in responses to both internal changes and changes in the environment (Block & Kremen, 1996).

Ego-resiliency is a personality trait that reflects an individual's adaptability to environmental stress and change (Block & Block, 1980) and could therefore have positive associations with mental health, as well as social support, during the transition to emerging adulthood (Taylor, Eisenberg & Doane, 2013). Social support is defined as a helpful resource that can meet an individual's urgent needs and is provided by a network of others, such as family members, friends, colleagues and other communities (Xu et al., 2017). Perceived social support can be defined as the extent to which and individual believes his/her needs for support, information and feedback are fulfilled (Procidano & Heller, 1983).

According to House (1981), social support can be subdivided into the concepts of social integration (the existence or quantity of social relationships), social network (the structure that characterizes a set of relationship, and relational content (the function and nature of social relationship with various sources). House divided social support into emotional support (liking, love, empathy); instrumental support (goods and services); informational support (information about the environment); or appraisal support (information relevant to self-evaluation). As human beings are the social animals, they may face at least one kind of problem in the social world. Problems can differ according to the situations they encounter.

Some of the problems that university students confront include adaptational challenges, such as living apart from family, adjusting to the regimen of university, taking responsibility of daily living and developing a new kind of social relationships with peers and faculty members (Henton, Lamke, Murphy & Hayres, 1980); managing finances and being responsible for one's self (Greenberg, 1981); academic pressures, interpersonal, sexual and emotional distress (Dunkell-Schetter & Label, 1990; cited in Yalim, 2007).

Many researches showed that university students with low resilience were also related to hard drug use, depressive symptoms and internalizing and externalizing problems in both clinical and nonclinical samples. For these reasons, ego-resiliency is a tendency that university students need and rely on, not only when adjusting to school life but also in their future teaching positions in school and community settings (cited in Noh & Lim, 2015).

Research also suggested that supportive relationships may facilitate successful transitions to the roles of adulthood (Germezy, 1993; Pettit et al., 2012). According to Block (1987), the constructs of ego-control and ego-resiliency secured to be often compassing and integrational importance for understanding the ways in which emerging adulthood will negotiate the many developmental tasks looming large during this period. In this regard, resilient individuals are more likely to assume adult responsibilities and continue to do well during the transition from late adolescence to early adulthood (Arnett, 2000).

Arnett (2000) theorized emerging adulthood is a period of time that is different from the teen years, and also distinct from full-fledged adulthood, suggesting that emerging adulthood is a time of exploration and development of personal identity. During this stage a young person is trying to figure out occupational goals, find love, and establish world views (Arnett, 2000). According to Arnett, most young people between ages 18 and 25 do not believe they have

reached full adulthood because they are often geographically unsettled and may still be obtaining education and training for adult occupations or looking for a mate.

According to Elzohary et al., (2017), most of the university students are going through the critical time of emerging adulthood. Emerging adulthood refers to a developmental period between adolescence and adulthood that is relatively independent from social roles and normative expectations (cited in Pettit et al., 2012). It may be a time of increased vulnerability, given that youths entering college often have to navigate increasingly adult roles, take on new academic and economic responsibilities, and forge new social networks (Taylor et al., 2013). Thus, for university students preparing for future professional responsibilities and adjusting to a new environment, ego-resiliency is a major predictor of successful adaptation to campus life and probably the vital factor that educators can target in order to be resilient in adverse situations (Noh & Lim, 2015).

As Myanmar is a developing country and it is expected to become the developed country, the citizens have to face many challenges unexpected. Challenges faced by students within the community decrease their ego-resiliency unless they have social support provided by others. So, it is more and more important to observe ego-resiliency and perceived social support, especially; in emerging adulthood. By improving ego-resiliency among university students who are prospective teachers and are going to become as the leaders of future new generations, the unnecessary conflicts (i.e. internal and external stressors) may be reduced and created the conducive environment to the world.

Aim of the Study

The aim of the study is to investigate perceived social support, perceived experience of emerging adulthood and ego-resiliency of student teachers.

Definitions of Key Terms

Social Support - Social support is defined as a helpful resource that can meet an individual's urgent needs and is provided by a network of others, such as family members, friends, colleagues and other communities (Xu et al., 2017).

Perceived Social Support - Perceived social support is the recipients' subjective judgments that have offered by providers during the time of needs (Gurung, 2006).

Emerging Adulthood - Emerging adulthood refers to a developmental period between adolescence and adulthood that is relatively independent from social roles and normative expectations (Arnett, 2000).

Perceived Experience of Emerging Adulthood - Perceived experience of emerging adulthood is the perception of growth and development of personality and identity that are experienced between the ages of 18-25 (Arnett, 2007).

Ego-resiliency - Ego-resiliency is the ability to bounce back from negative emotional experiences and by flexible adaptation to the changing demands of stressful experiences (Bruggenwirth, 2016).

Methodology

Sampling

The participants of the study were 869 students (male=411, female=458) from third and fifth year student teachers from two Education Universities in Myanmar_ Sagaing University of Education (SUOE) and University for the Development of National Races of the Union, Sagaing (UDNR).

Research Design and Method

In this research, quantitative research design and descriptive survey method were used.

Instruments

In this study, three instruments were used in order to obtain the data.

Perceived Social Support Inventory: The Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet et al. (1988), which consists a total of 12 items with a 4-point Likert-type scale was used.

Inventory of the Dimensions of Emerging Adulthood (IDEA): The IDEA development by Reifman et al., (2007) which contains 31 items with a 4-point Likert-type scale was used.

Ego-resiliency Scale: Ego-resiliency Scale (ER89) developed by Block and Kremen (1996) which consists a total of 14 items with a 4-point Likert-type scale was used.

At the present study, the Cronbach's alpha coefficient of the perceived social support instrument was .827, emerging adulthood instrument was .686 and ego-resiliency instrument was.776.

Data Analysis and Findings

Table 1 Descriptive Statistics for Perceived Social Support of Student Teachers

Variables	*N*	Minimum	Maximum	Mean	*SD*
Perceived Social Support	869	23	48	38.53	3.938

According to Table 1, perceived social support of student teachers was satisfactory because the observed mean score (38.53) was higher than the theoretical mean score (30).

To examine whether the differences between male and female student teachers in perceived social support were significantly different or not, the independent samples *t* test was conducted.

Table 2 Results of Independent Samples *t* test of Student Teachers' Perceived Social Support by Gender

Variable	Gender	*N*	Mean	*SD*	*t*	*df*	*p*	*MD*
Perceived Social Support	Male	411	38.14	4.107	-2.779**	867	.006	-.741
	Female	458	38.88	3.750				

Note: **The mean difference is significant at 0.01 level.

According to the Table 2, there was gender difference in perceived social support of student teachers. Therefore, it can be concluded that female student teachers had more perceived social support than that of males.

To examine whether the differences between student teachers' perceived social support according to grade were significantly different or not, the independent samples *t* test was conducted.

Table 3   Results of Independent Samples *t* test of Student Teachers' Perceived Social Support by Grade

Variable	Grade	*N*	Mean	*SD*	*t*	*df*	*p*	*MD*
Perceived Social Support	Third Year	444	38.15	3.983	-2.944**	867	.003	-.783
	Fifth Year	425	38.93	3.855				

Note : **The mean difference is significant at 0.01 level.

According to the Table 3, there was grade difference for perceived social support of student teachers. Therefore, it can be concluded that fifth year student teachers had more perceived social support than that of third year student teachers.

To examine whether the differences between student teachers' perceived social support by university were significantly different or not, the independent samples *t* test was conducted.

Table 4   Results of Independent Samples *t* test of Student Teachers' Perceived Social Support by University

Variable	University	*N*	Mean	*SD*	*t*	*df*	*p*	*MD*
Perceived Social Support	University-1	418	38.46	4.082	-.555	867	.579	-.148
	University-2	451	38.61	3.803				

According to the Table 4, there was no significant difference in perceived social support of student teachers according to university.

Table 5   Descriptive Statistics for Perceived Experience of Emerging Adulthood of Student Teachers

Variable	*N*	Minimum	Maximum	Mean	*SD*
Perceived Experience of Emerging Adulthood	869	69	111	86.87	5.820

According to Table 5, perceived experience of emerging adulthood of student teachers was satisfactory because the observed mean score (86.87) was higher than the theoretical mean score (78).

To examine whether the differences between male and female student teachers in perceived experience of emerging adulthood were significantly different or not, the independent sample *t* test was conducted.

Table 6   Results of Independent Samples *t* test of Student Teachers' Perceived Experience of Emerging Adulthood by Gender

Variable	Gender	*N*	Mean	*SD*	*t*	*df*	*p*	*MD*
Perceived Experience of Emerging Adulthood	Male	411	87.13	6.164	1.255	867	.210	.496
	Female	458	86.64	5.489				

According to the Table 6, there was no gender difference for perceived experience of emerging adulthood of student teachers. Therefore, it can be interpreted that student teachers' perceived experience of emerging adulthood was not different according to gender.

To examine whether the differences between student teachers' perceived experience of emerging adulthood according to grade were significantly different or not, the independent samples *t* test was conducted.

Table 7 Results of Independent Samples *t* test of Student Teachers' Perceived Experience of Emerging Adulthood by Grade

Variable	Grade	N	Mean	SD	t	df	p	MD
Perceived Experience of Emerging Adulthood	Third Year	444	87.06	5.935	.976	867	.329	.386
	Fifth Year	425	86.67	5.697				

According to the Table 7, there was no grade difference for perceived experience of emerging adulthood of student teachers. It can be interpreted that student teachers' perceived experience of emerging adulthood was not different according to grade.

To examine whether the differences between student teachers' perceived experience of emerging adulthood according to university were significantly different or not, the independent samples *t* test was conducted.

Table 8 Results of Independent Samples *t* test of Student Teachers' Perceived Experience of Emerging Adulthood by University

Variable	University	N	Mean	SD	t	df	p	MD
Perceived experience of emerging adulthood	University-1	418	87.22	5.842	1.686	867	.092	.665
	University-2	451	86.55	5.787				

According to the Table 8, there was no significant difference in student teachers' perceived experience of emerging adulthood according to university.

Table 9 Descriptive Statistics of Ego-resiliency of Student Teachers

Variable	N	Minimum	Maximum	Mean	SD
Ego-resiliency	869	29	56	40.14	4.294

As shown in Table 9, ego-resiliency of student teachers was satisfactory because the mean score (40.14) was greater than the theoretical mean (35).

To examine whether the differences between male and female student teachers in ego-resiliency were significantly different or not, the independent samples *t* test was conducted.

Table 10 Results of Independent Samples *t* test of Student Teachers' Ego-resiliency by Gender

Variable	Gender	N	Mean	SD	t	df	p	MD
Ego-resiliency	Male	411	40.83	4.348	4.524***	867	.000	1.305
	Female	458	39.52	4.154				

Note: **The mean difference is significant at 0.001 level.

According to the Table 10, there was gender difference for ego-resiliency of student teachers. Therefore, it can be concluded that the male student teachers had more ego-resiliency than that of female student teachers.

To examine whether the differences between student teachers' ego-resiliency according to grade were significantly different or not, the independent samples *t* test was conducted.

Table 11   Results of Independent Samples *t* test of Student Teachers' Ego-resiliency by Grade

Variable	Grade	N	Mean	SD	t	df	p	MD
Ego-resiliency	Third Year	444	39.92	4.141	-1.515	867	.130	-.441
	Fifth Year	425	40.36	4.443				

According to the Table 11, there was no grade difference for ego-resiliency of student teachers. It can be concluded that ego-resiliency of student teachers did not differ according to grade.

To examine whether the differences between student teachers' ego-resiliency according to university were significantly different or not, the independent samples *t* test was conducted.

Table 12   Results of Independent Samples *t* test of Student Teachers' Ego-resiliency by University

Variable	University	N	Mean	SD	t	df	p	MD
Ego-resiliency	University-1	418	40.44	4.373	1.992*	867	.047	.580
	University-2	451	39.86	4.206				

Note : *The mean difference is significant at 0.05 level.

According to the Table 12, there was university difference for ego-resiliency of student teachers. Therefore, it can be interpreted that University-1 student teachers had more ego-resiliency than that of University-2 student teachers.

Correlation among Perceived Social Support, Perceived Experience of Emerging Adulthood and Ego-resiliency of Student Teacher

In order to explore the relationship perceived social support, perceived experience of emerging adulthood and ego-resiliency of student teachers, Pearson Product-Moment correlation coefficient was calculated.

Table 13 Correlation among Perceived Social Support, Perceived Experience of Emerging Adulthood and Ego-resiliency of Student Teachers

Variables	Perceived Social Support	Perceived Experience of Emerging Adulthood	Ego-resiliency
Perceived Social Support	-	.249**	.414**
Perceived Experience of Emerging Adulthood		-	.334**
Ego-resiliency			-

Note: **Correlation is significant at 0.01 level (2-tailed).

The results showed that there was a significant positive relationship between perceived social support and perceived experience of emerging adulthood ($r = .249$, $p < .01$); between perceived experience of emerging adulthood and ego-resiliency ($r = .334$, $p < .01$); and between perceived social support and ego-resiliency ($r = .414$, $p < .01$). It can be interpreted that student teachers who perceive greater social support will be better in emerging adulthood; student teachers who perceive greater emerging adulthood will be better in ego-resiliency; and student teachers who perceive greater social support will be better in ego-resiliency which is consistent with the researches of Kobak and Sceery (1998); Markstrom, Marshall and Tryon (2000); Trask-Tate, Cunningham and Grange (2010); and Waqas, et al., (2016).

In sum, as the correlations were positive, it can be interpreted that student teachers who perceive greater social support and emerging adulthood will be better in ego-resiliency. Therefore, the better they have perceived social support and perceived experience of emerging adulthood, the more they have ego-resiliency.

Effect of Perceived Social Support and Perceived Experience of Emerging Adulthood on Ego-resiliency

To investigate the effect of perceived social support and perceived experience of emerging adulthood on ego-resiliency, multiple linear regression was computed.

Table 14 Results of Regression Coefficient for Perceived Social Support and Perceived Experience of Emerging Adulthood on Ego-resiliency of Student Teachers

Model	Unstandardized Coefficients		Standardized Coefficients	*t*	*p*
	B	Std. Error	β		
(Constant)	9.531	2.079		4.585	.000***
Total PSS	.384	.034	.352	11.433	.000***
Total PEEA	.182	.023	.247	7.997	.000***

Note: $R^2 = .227$, $F (2,866) = 128.089$, $p < .001$

The results showed that perceived social support and perceived experience of emerging adulthood significantly predicted ego-resiliency. It could be interpreted that the higher in perceived social support and perceived experience of emerging adulthood, the greater in ego-resiliency. The adjusted *R* squared value was .227. The results showed that 23% of ego-resiliency of student teachers can be predicted from perceived social support and perceived experience of emerging adulthood.

According to the result, the identified equation to understand the relationship was;

$$ER = 9.531+.384PSS+.182PEEA$$

Where,   ER   = Ego-resiliency
        PSS   = Perceived Social Support
        PEEA = Perceived Experience of Emerging Adulthood

Discussions of the Findings

According to the independent samples *t* test, there was significant difference for student teachers' perceived social support by gender. Female student teachers had more perceived social support than that of males. This finding is consistent with the research of Anderson and Kidd (2014); Demaray and Malecki (2002); and Iglesia, Stover and Liporace (2014) in which females have higher perceptions of support from various sources in their lives. In Myanmar, this finding is consistent with the research of Ohnmar Htun (2018) in which females significantly reported greater social support than males. Moreover, this finding is inconsistent with the research of Tam, Lee, Har & Pook (2011) in which there were no gender differences in perceived social support. In Myanmar, this finding contrasts the research of Swe Swe Thein (2008) in which there was no significant gender difference in perceived social support.

This is because females might invest more time and effort in social relationships, and value relational intimacy in a different way or to a different degree than males Gilligan's (1982). When faced with adversity males tend to rely on their independence, whereas females utilize their social support systems when they suffer from stress, anxiety and depression (Sneed et al.,

2006). Therefore, female student teachers might have more perceived social support than that of males.

According to the independent samples *t* test, there was significant difference for student teachers' perceived social support by grade. Fifth year student teachers had more perceived social support than that of third year student teachers. This may be because as the fifth year student teachers grow and move to a higher academic year, they have more attachment, social integration and intimate relationship with their teachers, friends, people from various organizations such as team compositions and so, they can ask for in a difficult situation from these persons (parents, teachers, supervisors, friends, romantic partner) who may be ready to help, advice and inform them in some ways. Therefore, fifth year student teachers might have more perceived social support than that of third year student teachers.

According to the independent samples *t* test, there was no significant difference for student teachers' perceived social support by university. This may be because university students experience the academic stress, or depression, or loneliness, or feeling unwell, or disappointment, or anxiety, etc., occasionally (McGillivray & Pidgeon, 2015). At that hard time, it may be equal feelings upon the hope that they may have the ones who actually can help, or advice, or inform them. Therefore, University-1 and University-2 student teachers' perceived social support might not be different.

According to the independent samples *t* test, there was no significant difference for student teachers' perceived experience of emerging adulthood by gender. This finding of the research is consistent with the research of Van Dulmen and Goncy (2011; cited in Schnyders, 2012) in which no significant difference by gender were found regarding IDEA. This is because both males and females in this study fall within the period of emerging adulthood. Moreover, this may be the fact that they may equally be desire to have the sense of personal freedom, autonomy, focus on themselves, try out new things, make open choices and find out who they are. So, they might have equal sense to perceive emerging adulthood.

According to the independent samples *t* test, there was no significant difference for student teachers' perceived experience of emerging adulthood by grade. This may be because both the academic years may experience equal themes in growth and developmental processes. The development of personality and identity, cognitive development, biological development and social development are experienced during emerging adulthood (Tanner et al., 2009). Thus, grade might not effect on perceived experience of emerging adulthood.

According to the independent samples *t* test, there was no significant difference for student teachers' perceived experience of emerging adulthood by university. According to social factors that impact the transition to adulthood are attaining education, holding off on marriage, looking for a mate, training for adult occupations and holding off on a stable career (Arnett, 2000; Cote & Bynner, 2008; cited in Schnyders, 2012). In Myanmar, most of the student teachers are not getting married, still attaining education, stay away from parental home but being financial dependent from their parents, and do not also have stable career. So, student teachers' perceived experience of emerging adulthood might not differ by university.

According to the independent samples *t* test, there was slightly significant difference for student teachers' ego-resiliency by gender. Male student teachers had more ego-resiliency than that of females. This result is in line with the research of Block and Kremen (1996) who claimed

that resilient males have to learn and practice more how to control their aggressive impulses and a quick recovery from anger and stress than females.

According to J.H Block (1993; cited in Block & Block, 2006), females experience more parental supervision, more restrictions on exploration, more emphases on maintaining proximity, and more frequent (often unnecessary) help in problem-solving situations. Females grow up in a more structured and directive world than males (cited in Block & Block, 2006). So, female student teachers might have lower ego-resiliency than that of males.

According to the independent samples *t* test, there was no significant difference for student teachers' ego-resiliency by grade. This finding is consistent with the research of Noh and Lim (2015) in which there was no significant difference by grade. Perhaps both the academic years deal with new and unusual situations and are able to adapt resourcefully to changing circumstances and environmental contingencies along the campus life. And, perhaps they may equally maintain good relationships with close teachers, friends, and other members in the community along the campus life. Therefore, ego-resiliency of student teachers might not be different by grade.

According to the independent samples *t* test, there was significant difference for student teachers' ego-resiliency by university. University-1 student teachers had more ego-resiliency than that of University-2 student teachers. Perhaps University-2 student teachers usually use ego-overcontrol to cope with their feelings and desires because they have restricted the time of phone usage, the time of out-pass, stayed under the direct scrutinizing of teachers and guardians, set up the strict rules and regulations such as gender relationship. They may adjust to campus life through greater control in a stressful environment. So, according to Block and Block (2006), ego-overcontrol is one of the causes of decrease in ego-resiliency. For the above reasons, University-2 student teachers might have lower ego-resiliency than University-1 student teachers.

Based on the result of Pearson Product-Moment Correlation Coefficient, there were significant positive relationships among perceived social support, perceived experience of emerging adulthood and ego-resiliency of student teachers. Therefore, it can be interpreted that student teachers who perceive greater social support will be better in emerging adulthood; student teachers who perceive greater emerging adulthood and perceive greater social support will be better in their ego-resiliency. Moreover, for the predictors of perceived social support, perceived experience of emerging adulthood and ego-resiliency, multiple linear regression was executed continuously. The results showed that 23% of ego-resiliency of student teachers can be predicted from perceived social support and perceived experience of emerging adulthood.

Conclusion

To sum up, ego-resiliency is essential for student teachers who must adjust flexibly to a changing environment, overcome high academic stress, and carry out their work in both campus life and their future job. According to the present study, perceived social support and perceived experience of emerging adulthood should be utilized to enhance ego-resiliency. This study is meaningful in that it provides invaluable information for education, in particular information related to students' positive adaptation to campus life. Thus, it is considered to develop ego-resiliency promotion programs for students to support adaptation to campus life and strategies for strengthening adaptability. Not only parents but also teachers need to join hand in hand so that ego-resiliency of emerging adulthoods, the student teachers, is improved. Then only, they will be

able to produce graduate professional teachers who are not only academically competent, but also who are able to adapt to workplace adversities for future country, Myanmar.

Therefore, this study will provide the precious and invaluable information for use by administrators, psychologists, counselors, practitioners and educational experts interested in promoting and cultivating programs for improving student teachers' ego-resiliency that are suitable and adaptable with the environment where they are in by providing necessary social support during emerging adulthood. The results of this study will contribute in the fields of Educational Psychology: educational sociology and developmental psychology.

Acknowledgements

References

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. American Psychologist, 55, 469-480. http://doi: 10.1037/0003-066X.55.5.469

Block, J. H., & Block, J. (1980). The role of ego-control and ego-resiliency in the organization of behavior. In W.A. Collins (Ed.), Minnesota symposia on child psychology , Vol 13, pp. 39–101. Hillsdale, NJ: Erlbaum.

Block, J. (1987). Longitudinal Antecedents of Ego-Control and Ego-Resiliency in Late Adolescence. Retrieved on August 3, 2018 from http://eric.ed.gov/?q=ED285666

Block, J., & Kremen, A.M. (1996). IQ and Ego-Resiliency: Conceptual and Empirical Connections and Separateness. Journal of Personality and Social Psychology 1996, Vol.70, No.2, 349-361. Retrieved on August 3, 2018 from https://pdfs.semanticscholar.org/4f22/0efea84f23601abbe934de2fde345afefe 22. pdf

Block, J., & Block, J.H. (2006). Venturing a 30-Year Longitudinal Study. Published by American Psychologist Association 0003-066X/06$12.00 Vol. 61, No.4, 315-327. Retrieved on July 29, 2018 from https://ais.ku.edu.tr/course/19931/Block%20and%20Block%202006_Ego%20control%20and% 20resiliency_Venturing%20a%2030%20year%20study.pdf

Bruggenwirth, D. (2016). Impact study of futuring on resilience and well-being and the mediating role of positive emotions in adults. Retrieved on August 16, 2018 from https://essay.utwente.nl/70028/1/ Bachelorthese_Toekomstverbeelding,%20veerkracht%20en%20welbevinden_D.%20Bruggenwirth_s1 485709_definitieve%20versie.pdf

Demaray, M. K., & Malecki, C. K. (2002). Critical levels of perceived social support associated with student adjustment. School Psychology Quarterly, 17(3), 213-241. doi:10.1521/scpq.17.3.213.20883

Elzohary, N. W., Mekhail, M.N., Hassan, N. I., & Menessy, R.F.M. (2017). Relationship between Ego Resilience, Perceived Stress and Life Satisfaction among Faculty Nursing Students. IOSR Journal of Nursing and Health Science (IOSR-JNHS) e-ISSN: 2320-1940 Vol 6, Issue 6 Ver. VII. (Nov.-Dec.2017), 57-70. Retrieved on August 20, 2018 from http://www.iosrjournals.org/iosr-jnhs/papers/vol6-issue6/Version-7/I060 6075770.pdf

Farkas, D., & Orosz, G. (2015). Ego-Resiliency Reloaded: A Three-Component Model of General Resiliency. Journals of PLOS One.2015; 10(3): e0120883. Retrieved on August 16, 2018 from https://www.ncbi. nlm.nih.gov/pmc/articles/PMC4376776/

Germazy, N. (1993). Children in poverty: Resilience despite risk. Psychiatry, 56,127-136

Gilligan, C. (1982). In a different voice: Psychological theory and women's development. Cambridge, MA: Harvard University Press. Harter, S. (1985).

Gurung, R.A.R. (2006). Coping and Social Support. Health Psychology: A Cultural Approach. Belmont, CA: Thomson Wadsworth. Pp.131-171.

House, J.S. (1981). Work Stress and Social Support, Addison-Wesley, Reading, Mass.

Iglesia, G.D.L., Stover, J.B., & Liporace, M.F. (2014). Research Reports Perceived Social Support and Academic Achievement in Argentinean College Students. Europe's Journal of Psychology, 2014, Vol. 10(4), 637–649, doi:10.5964/ejop.v10i4.777. https://ejop.psychopen.eu/article/viewFile/777/pdf

Kobak, R.R., & Sceery, A. (1988). Attachment in Late Adolescence: Working Models, Affect Regulation, and Representations of Self and Others. Article in Child Development 59(1):135-46 · March 1988. DOI: 10.2307/1130395.

Markstrom, C. A., Marshall, S. K., & Tryon, R. J. (2000). Resiliency, social support, and coping in rural low-income Appalachian adolescents from two racial groups. Journal of Adolescence, 23,693-703. http://dx.doi.org/10.1006/jado.2000.0353

McGillivray, C.J., & Pidgeon, A.M., (2015). Resilience Attributes Among University Students: A Compatative Study of Psychological Distress, Sleep Disturbances and Mindfulness. European Scientific Journal February 2015 edition vol.11, No.5 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431. Retrieved on June 27, 2018 from https://library.bond.edu.au/news/59593/epublicationsbond-repository-content-relocations

Noh, J.H., & Lim, E.J. (2015). Factors Influencing Ego-resilience in Nursing Students. International Journal of Bio-Science and Bio-Technology, Vol.7, No.3 (2015), 233-242. http://dx.doi.org/10.14257/ ijb sbt . 2015.7.3.25

Ohnmar Htun (2018). A Study on Perceived Social Support and Self-esteem of Grade 9 students in Aungmyaytharzan Township. Unpublished Master's thesis, Sagaing University of Education, Myanmar.

Pettit, J.W., Roberts, R. E., Lewinsohn, P. M., Seeley, J. R., & Yaroslavsky, I. (2012). Developmental Relations between Perceived Social Support and Depressive Symptoms through Emerging Adulthood: Blood is Thicker than Water. Retrieved on August 31, 2018 from https://www.ncbi.nlm.nih.gov/pmc/ articles/PMC3079557/

Procidano, M.E., & Heller, K. (1983). Measures of Perceived Social Support From Friends and From Family: Three Validation Studies. American Journal of Community Psychology, Vol. 11, No. 1, 1983.

Reifman, A., Colwell, M. J. & Arnett , J. J (2007). Emerging Adulthood: Theory, Assessment and Application. Retrieved on July 12, 2018 from https://www.researchgate.net/publication/285153475_ Emerging_Adulthood_TheoryAssessment_and_Application

Schnyders, C. (2012). Parental and Peer Attachment as Predictors of the Perceived Experience of Emerging Adulthood Among Undergraduates Between the Ages of 18-20: A Multiple Regression Study. Retrieved on June 13, 2018 from https://etd.ohiolink.edu/rws_etd/document/get/kent1341242639/inline

Sneed, J.R., Johnson, J.G., Cohen, P., Gilligan, C., Chen, H., Crawford, T.N., & Kasen, S. (2006). Gender differences in the age-changing relationship between instrumentality and fam ily contact in emerging adulthood. Developmental Psychology, 42(5), 787-797.

Swe Swe Thein (2018). An Investigation into Perceived Social Support and General Well-being of Grade 9 students in Mohnyin Township. Unpublished Master's thesis, Sagaing University of Education, Myanmar.

Tam, C.L., Lee, T.H., Har, W.M., & Pook, W.L. (2011). Perceived Social Support and Self-Esteem towards Gender Roles: Contributing Factors in Adolescents. Jeffery Cheah School of Medicine and Health Sciences Monash University Sunway Campus, Malaysia. Doi: 10.5539/ass.V7n 8p49

Tanner, J. L., Arnett, J. J., & Leis, J. A. (2009). Emerging adulthood: Learning and development during the first stage of adulthood. In M. C. Smith & N. DeFrates- Densch (Eds.), Handbook of research on adult development and learning (pp. 34-67). Mahwah, NJ: Lawrence Erlbaum.

Taylor, Z. E., Eisenberg. N., & Doane, L.D. (2013).Transitioning From High School to College: Relations of Social Support, Ego-Resiliency, and Maladjustment during Emerging Adulthood. Retrieved on July 29, 2018 from https://www.researchgate.net/publication/258051839_Transitioning_From_High_School_to _College_Relations_of_Social_Support_Ego-Resiliency_and_Maladjustment-During_Emerging Adulthood

Trask-Tate, A., Cunningham, M., & Lang-DeGrange, L. (2010). The importance of family: The impact of social support on symptoms of psychological distress in African American girls. Research in Human Development, 7, 164-182. doi: http://dx.doi.org/10.1080/15427609.2010.504458

Van Dulmen, M. H. M., & Goncy, E. A. (2011). Confirmatory factor analysis of the inventory of dimensions of emerging adulthood in a sample of college students. Unpublished manuscript.

Waqas, A., Naveed, S., Bhuiyan, M. M., Usman, J., Inam-ul-Haq, A., & Cheema, S. S. (2016). Social Support and Resilience among Patients with Burn Injury in Lahore, Pakistan. doi: 10.7759/cureus.867. Retrieved on September 7, 2018 from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5218893/

Xu, N.L., Zhao, S., Xue, H.X., Fu, W.Y., Liu, L., Zhang, T.Q., Huang, R., Zhang, N. (2017). Associations of perceived social support and positive psychological resources with fatigue symptom in patients with rheumatoid arthritis. Retrieved on September 5, 2018 from https://www.ncbi.nlm.nih.gov/ pubmed/28291837

Yalim, D. (2007). First Year College Adjustment: The Role of Coping, Ego Resiliency, Optimism and Gender (Master's thesis, Middle East Technical University, Ankara). Retrieved on August 18, 2018 from https://etd.lib.metu.edu.tr/upload/ 12608445/index.pdf

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. Journal of Personality Assessment, 52(1), 30–41.