

A META-ANALYSIS STUDY ON FACTORS INFLUENCING CAREER MATURITY OF ADOLESCENTS

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Abstract

The main purpose of this study was to conduct the systematic review on the factors influencing the career maturity of adolescents. As the initial analysis of the study, related literature and previous studies were searched and reviewed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Then, the systematic review with meta-analysis was accomplished to explore the personal and environmental factors that have significant effect on the career maturity of adolescents. An exhaustive literature search enabled to select 18 studies which were eligible to conduct meta-analysis. In all cases in this study, random-effects model which assumes that there is heterogeneity between ESs in different studies, was used. 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). From the results of meta-analysis, career decision making self-efficacy, self-efficacy, self-concept, emotional intelligence and self-esteem were found to be salient personal factors that have significant effect on the career maturity of adolescents. Furthermore, it was found out that parental support, family support and socio-economic status can be considered as the important external or environmental factors that have significant influence on the adolescents' career maturity.

Keywords: Career Maturity, Meta-analysis, Adolescents

Introduction

Career maturity is an important issue in human life, because it covers the individual's development (Ratnaningsih, Kustanti, Prasetyo & Fauziah, 2017) as a result of the information and feedback received on themselves and the profession (Inkson, & Elkin, 2008; Patton, & McMahon, 2006; Perry, & Vanzandt, 2006), which takes place throughout the life span. According to Havighurst, among the several developmental tasks that must be completed during the adolescence period, the most important one that must be achieved by adolescents is the preparation to plan and choose a future career (as cited in Yusuf, 2004). Similarly, Hurlock (2002) also pointed out that as the adolescents begin to think about their future seriously, they learn to distinguish the career choices and tend to choose the preferred and aspired one. Individuals who are not ready and is not appropriate in the career election caused immaturity (Atli, 2017). Unpreparedness and improper phenomenon in the selection of high school students experienced career beckon. Since career maturity is important in selecting careers, it is important for the adolescents to have career maturity so as to choose and determine the direction of his career precisely (Coertse & Schepers, 2004).

Significance of the Study

Indecision in making career decision due to lack of career maturity (Çoban, 2005; Gülbahçe, 2007; Kök, 2013; Sekmenli, 2000; Şahin, 2010; Ürün, 2010) thus making the individual is not ready to undergo a career decision that has been made (Zunker, 2006). Individuals with a high level of career maturity, can make more informed career choices (Patton,

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Creed, & Muller, 2002) and less experienced uncertainty in a career (Creed & Patton, 2002; Patton & Creed Gonzales, 2008). Teenagers develop less vocational maturity owing to various factors, including a lack of understanding or worry about the decisions they will soon confront (Churnia et al., 2021). As the consequences of lacking career maturity, high school students encounter high level of perplexity to follow graduation or completion of their formal schooling.

Career maturity is regarded very vital element in the provision of vocational guidance particularly for the adolescence and is one of the mostly researched construct in career development (Bozgeyikli, Eroglu, & Hamurcu, 2009).

Objectives of the Study

The main objectives of the study are:

- To conduct the systematic literature review on factors influencing adolescents' career maturity by the Preferred Reporting Items for Systematic Review and Meta- Analyses (PRISMA) guidelines
- To explore the factors influencing adolescents' career maturity via Meta-analysis

Definition of the Key Term

Career Maturity. Career maturity is the extent to which an individual is able to master the career developmental tasks that are applicable to the relevant stage of his/her life (Miles 2008).

Meta-analysis. Meta-analysis is a set of techniques used to combine the results of a number of different reports to create a single, more precise estimate of an effect (Ferrer, 1998).

Adolescents. Adolescents are the individuals who are at the age of between 10 and 19 years (WHO, 2015).

Review of Related Literature

Factors Influence Career Maturity of Adolescents

Career maturity is fundamental construct in career development processes (Sneva, 2011; Powell & Luzo, 1998). Super (1957) introduced the concept of career maturity more than 53 years ago, with the initial term of “vocational maturity” which was also interchangeably described as “career readiness” (Chui, 2007). Thus, the term “career maturity” involves the sense of readiness and achieving competency in the career-related developmental task.

Crites (1978) defines career maturity as the extent to which a person has mastered appropriate vocational development tasks such as knowledge of self and knowledge about world of work and developing right attitude relevant for his/her vocational development. Moreover, Gysber, Heppner and Johnson (2003) conceptualized career maturity as the “readiness to engage in the developmental tasks appropriate to the age and level at which one finds oneself”. Interestingly, Donald Super later came up with the term ‘Career Adaptability’ to suggest career maturity for adults (Gysber et al., 2003).

Theoretical Framework of Factors Influences Career Maturities of Adolescents

Super divided the career development into five stages, namely the growth stage (ages 0-14 years), an exploration stage (age 14-24 years), stage of formation (age 24-44 years), the maintenance phase (ages 44-64 years), and the reduction stage (age 65 until death) (Gladding, 2012; Sterner, 2012). Career maturity is the readiness of the individual to complete the task of career development at every stage of career development (Coertse and Schepers, 2004; Dodd et al., 2014; Janeiro, 2010 categorized as the exploratory stage, so that career maturity in

adolescence is defined as how well people make a career choice and level of knowledge about education and job selection (Coertse and Schepers, 2004).).

Content Theories

The Theory of Work Adjustment (TWA) is based on the difference of individuals and vocational behavior (Dawis, 2002, 2005; Dawis & Lofquist, 1984). According to this theory, the two underlying processes that are inseparable in making a career choice is adjustment and accommodation. The theory declares two processes that an individual adheres to. In the adjustment phase, it requires an individual or person (P) to investigate a work environment (E) that can be best suited with his personality and skills. The second phase, accommodation, is from the side of E which searches for P who has enough skills to meet the needs and requirements of the organization. The amount of satisfaction of P depends on his needs and the satisfactoriness of E is based on the operational skills of P.

There are four types of adjustment maintained by person and environment (Dawis, 2005). The person level adjustment in the work environment can be denoted as “flexibility” which is a kind of tolerance an individual brings to his work environment. Next is activeness where P tries to modify E. The third is reactiveness where P adopts a self-modification to the difficult situation without transforming E. The fourth is perseverance in which P determines to adjust before choosing to leave E. The prime strength of TWA is that it measures many variables like satisfaction, satisfactoriness, needs and values, indexes of correspondence, skills and abilities (Dawis, 2005).

Process-Content Theories

Social Cognitive Career Theory (SCCT) (Lent, Brown, & Hackett, 2002; Lent, 2005) proposed a model having three segments of career development that elucidates the vocational interest, career choices, and career performance and stability. This three sections emphasized on personal goals, self-efficacy, and outcome expectations. This theory showed the interaction and influence between the person and the environment upon each other.

Indicators of Career Maturity

In the concept of career maturity theory by Super (in Sharf, 2006), individuals who are ready with their career choices will have 5 conditions which are indicators of one's career maturity, namely: (1) Start thinking about their choice of working field; (2) Have planning and information about work fields of interest; (3) Have a consistent or stable choice of work of interest; (4) Realize self's potential; (5) Having a career choice with comprehensive consideration regarding self-potential and information about the field of work to be chosen. (Cited in Sharf, 2006).

Method and Procedure

With the aim of exploring consistent factors for career maturity of adolescents, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and Quantitative Literature Review with Meta-analysis were done with the following procedures.

Systematic Review on Factors Influencing Career Maturity of Adolescents

According to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, intensive search for the related literature and previous studies related to the influencing factors or antecedents of adolescents' career maturity was systematically carried out. Specifically, reporting and synthesizing literature were done by following four steps such as

(1) the identification of related research and literature from database searches, (2) initial selection of the studies based on inclusion and exclusion criteria, (3) assessment of the full text for eligibility, and (4) coding and reporting the final articles included in the review.

Data Sources and Literature Search

An initial literature search was conducted on the following databases: Google Scholar, Academia, Eric, ResearchGate and bibliographies of related articles. In the electronic searches, the keywords were used; “Factors Influencing career maturity of adolescents”, “Factors affecting on career maturity of adolescents”, “Determinants of adolescents’ career maturity”, and “Antecedents of adolescents’ career maturity”.

Inclusion and Exclusion Criteria

To be included in the systematic review with meta-analysis, each study had to fulfill the following criteria: (1) The major focus of the study was on the influencing factors or predictors or determinants of career maturity; (2) To be an empirical study where sufficient information to calculate the effect size were provided; (3) The study had to be conducted with the participants who are within the adolescence period; (4) Samples of participants from normal population were accepted; (5) The study had to be written in English; and (6) The study had to be published in a peer-reviewed journal, conference, or thesis and (7) Full text was available.

Selection Process of the Studies

The search yielded a total of 2243 records. After removing the duplicate and irrelevant studies, the remaining abstracts and titles were reviewed by screening. Ultimately, 29 articles were eligible for meta-analysis. From these 29 articles, 11 were excluded due to inconsistencies with inclusion criteria or insufficient data. The PRISMA flow chart for selection of studies is shown in Figure 2 (McKenzie, Bossuyt, Boutron, Hoffmann, Mulrow, et al. & The PRISMA Group, 2020).

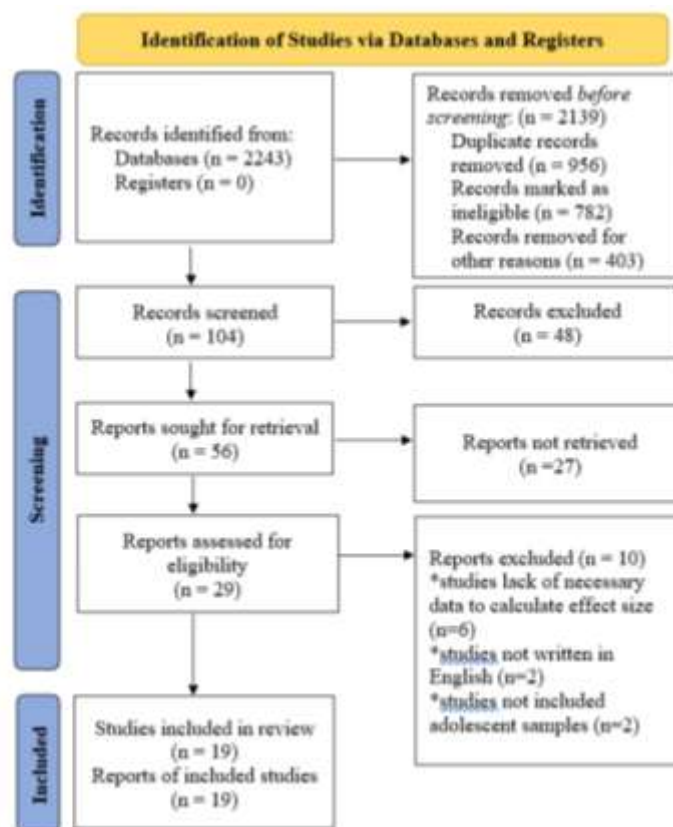


Figure 2 PRISMA Flow Chart of Study Selection

Coding of Studies

The name of the author(s) and year of publication were coded as the study characteristics. The substantive variables such as mean and SD of the age (in years), gender distribution of the sample (% male), target population (middle school students, high school students and college/university students), and geographic location of the study (country) were coded. Regarding methodological characteristics, the following were extracted: research method (survey, case study, review, vs. experimental), and sample size. If the study did not contain sufficient information, the code value was left blank.

Selecting the Factors to be included in Meta-analysis

Table 1 Summary Description of Personal and External Factors from Selected Studies

No	Personal Factors	<i>N</i>	No.	External Factors	<i>N</i>
1.	Self-efficacy	6	12.	Parental support	3
2.	Self-concept	5	13.	Family support	3
3.	Locus of control	4	14.	Socio-economic status	3
4.	Self-esteem	3	15.	Home environment	2
5.	Career decision making self-efficacy	3	16.	Parental Attachment	1
6.	Emotional intelligence	3	17.	Peer support	1
7.	Future time perspective	2	18.	School Achievement	1
8.	Gender	2	19.	Occupational prestige	1
9.	Adversity quotient	1	20.	Work role salience	1
10.	Age	1	21.	Career guidance	1
11.	Core self-evaluation	1			

Note. *N* = Number of studies

Among these factors from the two above-mentioned groups, factors which appear in at least 3 studies were selectively included in conducting the current meta-analysis.

Statistical Analysis

Meta-Essentials (Microsoft Excel workbooks), which was applied for the synthesis of effect sizes (Ess) from the included studies and provided figures, tables, and statistics for the results of meta-analysis (van Rhee, Suurmond, & Hak, 2015). In all cases in this study, random-effects models which assume that there is heterogeneity between ESs in different studies, was used. 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 calculating the *Q* statistic and the *I*² index.

Results and Discussion

Personal Factors Influencing Career Maturity of Adolescents

Table 2 Mean Effect Size, 95% Confidence Intervals, and Significance Level for the Personal Factors

Factor	N	k	r/g	95% CI		p	Q	I ²
				LL	UL			
Self-efficacy	4454	6	0.46***	0.23	0.7	.000	110.79	91.49%
Self-concept	1668	5	0.38***	0.17	0.58	.000	48.92	91.82%
Locus of control	1129	4	0.14	-0.01	0.3	.105	6.14	51.11%
Self-esteem	829	3	0.13***	0.09	0.17	.000	0.14	0.00%
Career decision making self-efficacy	1080	3	0.48***	0.42	0.54	.000	1.25	0.00%
Emotional intelligence	607	3	0.31***	0.28	0.34	.000	0.42	0.00%

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; I² = heterogeneity index, p = significance level

Among the personal factors, career decision making self-efficacy and self-efficacy have large positive effect on adolescents' career maturity ($r = +0.48$ & $r = +0.46$) respectively. For career decision making self-efficacy, the effect sizes were homogeneous and between-study variability was absent in the data ($I^2 = 0.00\%$); the prediction interval showed that the next study result will likely to be an effect size between +0.42 and +0.54. For self-efficacy, the effect sizes were not homogeneous and between-study variability was present in the data ($I^2 = 91.49\%$); the prediction interval showed that the next study result will likely to find an effect size between +0.23 and +0.7.

Again, self-concept and emotional intelligence have moderate positive effect on career maturity of adolescents with $r = +0.38$ and $r = +0.31$ respectively. For self-concept, heterogeneity was present in the data ($I^2 = 91.82\%$); the prediction interval showed that the next study result will likely to find an effect size between +0.17 and +0.58. For emotional intelligence, the effect sizes were homogeneous and between-study variability was not present in the data ($I^2 = 0.00\%$); the prediction interval showed that the next study result will likely to be an effect size between +0.28 and +0.34.

As one of the personal factors, self-esteem has small positive effect on career maturity ($r = +0.13$). The effect sizes were homogeneous and between-study variability was not present in the data ($I^2 = 0.00\%$); the prediction interval showed that the next study result will likely to find an effect size between +0.09 and +0.17.

From this analysis on personal factors, it was found out that although the average effect of locus of control on career maturity was positive ($r = 0.14$), the confidence intervals overlapped with zero and the effect sizes were heterogeneous and between-study variability was present in the data ($I^2 = 51.11\%$); the prediction interval showed that the next study result will likely to find an effect size between -0.01 and +0.3. Thus, locus of control may not influence the career maturity of adolescents.

From these results, it should be concluded that career decision making self-efficacy, self-efficacy, self-concept, emotional intelligence and self-esteem were found to be salient personal factors that have significant effect on the career maturity of adolescents.

External or Environmental Factors Influencing Career Maturity of Adolescents

Table 3 Mean Effect Size, 95% Confidence Intervals, and Significance Level for the External or Environmental Factors

Factor	N	k	r/g	95% CI		p	Q	I ²
				LL	UL			
Parental support	1018	3	0.30***	0.13	0.48	.000	4.99	59.88%
Family support	594	3	0.21***	0.02	0.34	.000	2.86	29.97%
Socio-economic status	1201	3	0.18***	0.06	0.30	.000	0.19	0.00%

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; I² = heterogeneity index, p = significance level.

Among the external or environmental factors, parental support has moderate positive effect on adolescents' career maturity ($r = +0.30$). For parental support, the effect sizes were heterogeneous showing the presence of moderate level of between-study variability in the data ($I^2 = 59.88\%$). The prediction interval showed that the next study result will likely to have an effect size within the broad range of +0.13 and +0.48.

Family support and socio-economic status have small positive effect on career maturity of adolescents with $r = +0.21$ and $r = +0.18$ respectively. For family support, moderate level of heterogeneity was found ($I^2 = 29.97\%$); the prediction interval showed that the next study result will likely to find an effect size between +0.02 and +0.34. For socio-economic status, the I^2 index ($I^2 = 0.00\%$) indicated the homogeneity in effect sizes and hence, between-study variability was absent in the data; the prediction interval showed that the next study result will produce an effect size between +0.06 and +0.30.

Form the results of meta-analyses, parental support, family support and socio-economic status can be considered as the important external or environmental factors that have significant influence on the adolescents' career maturity.

Conclusion

Every individual needs to accomplish the career development tasks in each career development stage so as to achieve career maturity. The adolescents in career exploration stage should achieve career maturity of this stage in case they will have a high level of readiness and maturity for the future career pathway. Thus, it is important to consider the relationship between career maturity of adolescents and the predictor variables.

The results of meta-analysis identified the possible predictors of adolescents' career maturity. In this study, the researcher analyzed the quantitative results of 19 studies of career maturity, covering 8588 high school and university students. These studies included both junior and senior high school students as well as the university students, with the mean age range of 14 to 19 years, from over 8 nations. The years of study ranged from 2003 to 2023, so reflecting 20 years of duration.

By reviewing the selected studies, about 21 factors were found as influencing factors on career maturity of adolescents. Among them, factors with five or above studies were selected to be included in data analysis. So, 9 factors were selected and categorized into two groups of factors (Personal Factors and External or Environmental Factors) to investigate how much effect they have on adolescents' career maturity.

As the results, career decision making self-efficacy, self-efficacy, self-concept, emotional intelligence and self-esteem were the influencing personal factors for adolescents' career maturity. Then, parental support, family support and socio-economic status were the influencing external or environmental factors on career maturity of adolescents. In order for the adolescents to achieve career maturity of their ages, the above-mentioned factors should be considered and thus, it is suggested to carry out further studies that can explain the structural model of adolescents' career maturity and its related or influencing factors.

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