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The meta-analysis study: Career decision making self efficacy and career maturity

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Abstract

This study was a meta-analysis of the relationship between Career Decision Making Self Efficacy and Career Maturity. Career maturity is one of the most important and interesting issues among student or undergraduate career development. The quantitative review of primary studies from 11 studies examined 3,255 participants. The results indicated that $\rho = 0.4665$ and credibility interval were $0.2023 < \rho < 0.7307$. It can be inferred that there was a relationship between career decision making self-efficacy and career maturity.

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INTRODUCTION

Self-efficacy is a key factor in dealing with his or her environment or life experience. Through thought and action, individuals can become "*agentic operators*", not just as a "spectator" who becomes a "victim" of the situation, environment, and their situation. Thus, self-efficacy is an individual's assessment of his or her ability to carry out the tasks effectively in certain situations. The concept of self-efficacy was formulated by Bandura (1997). Schunk and Zimmerman (2003) also elaborated that people are not only become products of their environment but they also can be an active determinant of their own destiny.

Stokes (1986) and Pajares (2004) confirmed that success skills are not innate, but they can be learned and developed through mastery activities, experiential representation, modeling, and encouragement from significant others. Self-efficacy can be generalized across various human functions. Bandura (1997) confirmed that perceived self-efficacy is the basis of how motivation and action are built. He theorized that self-efficacy can be a predictor of an individual's style of thinking, motivation, level of functioning, and level of achievement in all areas of life.

The first application of the self-efficacy concept in career psychology and counseling was made by Hackett and Betz (1981). This research focuses on self-efficacy in career. Betz and Taylor (1994) defined career self-efficacy as the degree of individual confidence to do important

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tasks in relation to career decision making. Self-efficacy theory can be viewed as an approach in the application of social learning theory to career behavior (Mitchell and Krumboltz, 1990).

Career Decision making Self-Efficacy (CDMSE) is the concept of self-efficacy in career decisions making related to the context of career building (Betz & Voyten, 1997). Self-efficacy in career decision making is the belief that one can successfully complete a task or assignments required to make career decisions (Betz & Taylor, 1994).

Social Cognitive Career Theory (SCCT) provides a framework for unifying the common pieces or elements in existing career theories and organizing them to understand how people develop vocational interests, make occupational choices, and achieve varying degrees of career success and stability (Lent & Brown, 2002). This theory was developed from Bandura's (1986) general social cognitive theory. SCCT emphasizes the client's ability to direct vocational behavior. This theory also includes personal and environmental influences that can strengthen, weaken, or assist individual choices in career development to succeed. SCCT considers the importance of interests, abilities, and values in the career development process. This theory can be implemented in the level of individual and the environment. Similar to developmental theories, SCCT focuses on how people negotiate certain developmental milestones (e.g., career choice) and barriers that have an important influence on their future career (Lent, 2005). Social cognitive theory sees how people can change, develop, and regulate their own behavior over time and in different situations.

Career maturity is one of the most discussed construct research in adolescent career development. In general, career maturity is defined as an individual's readiness to make informed career decisions and handle age-appropriate career development tasks (Savickas, 1984). It can be considered merely as “decision readiness” (Phillips & Bluestein, 1994). This concept can also be defined as an individual's ability to make appropriate career choices, including awareness of what it takes to make career decisions and the degree to which one's choices are both realistic and consistent over time (Betz, 1988; King, 1989; Öhler, Levinson, & Hays, 1996) in dealing with opportunities and obstacles that exist in society (King, 1989). In other literature, career maturity is generally defined by some terms such as "individual career readiness"; “age of appropriate career choice”, and “awareness of career development tasks”. The essence of career maturity is the ability of an individual to choose a suitable career with a full understanding of the desired career both now and in the future (Caswell, et al, 1998; Crites, 1971).

In 1974, Crites developed one of the early models of career maturity (Houle, 2010). The model includes four different constructs that underlie an individual's overall career maturity. They are career choice consistency (i.e., coherence of individual career choice preferences), realism in career choice (i.e., degree of concordance between career choice preferences and

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abilities), competence in career choices, and attitudes toward career choices (Busacca & Taber, 2002). While the first two of the constructs focus on the content of career maturity (i.e., focus on interests and abilities), the second two constructs focus on the career decision-making process. When measuring the career maturity construct in 1978, Crites used two construction-oriented career maturity processes, namely attitudes toward career choices and competence in career choices. Attitudes toward career choices involve individual attitudes toward making career choices. This attitude is explained by factors such as involvement in the career choice process, work orientation, independence in decision making, preference for career choice factors, and career choice process (Crites, 1981). Competence in career choice is a cognitive aspect in making career choices (i.e., being able to accurately assess oneself, gather job information, choose goals, make plans for the future, and actively solve career-related problems). Thus, career maturity does not only involve an ability/competence related to his career, but also his attitude. Since the concept of Crites has been widely used by researchers all over the world, this study aims to review articles in this topics using meta-analysis approach.

Super (in Syahrul 2011) formulated four characteristics of vocationally mature individuals. First, they are relatively consistent in making career choices. Second, they make realistic career choices. Third, they make career choices independently. Fourth, they have a positive career choice attitude. Whereas, there are four characteristics of individuals whose careers are considered immature. First, their thoughts about career choices are not yet stable or keep changing. Second, they make unrealistic career choices. Third, the individuals are not yet independent in making career decisions. Finally, they hesitate in making career decisions. Such conditions can be overcome when individuals feel confident in their ability to carry out the career development tasks. According to the model of SCCT, personal and support factors from the social condition will affect the self-confidence of individuals who are undergoing a career process.

Bandura (1986) describes that there are 4 psychological processes that occur when self-efficacy affects human function and they carry out the process to achieve valuable goals of the individuals. This process is also known as the "mediating process*"*. The four processes are cognitive processes, motivational processes, affective processes, and selection processes.

a. cognitive processes

   The impact of self-efficacy on cognitive processes can be seen in several forms. Much human behavior is governed by their thoughts in achieving valued goals. Individual goals setting is influenced by personal thoughts about the capacity and commitment to the goals. Someone who has a strong self-efficacy will prefer to set challenging goals and strengthen his or her commitment to these goals, including the one related to career.

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b. motivational process

Self-efficacy plays a major role in setting motivation. Most of human motivation is generated by cognitive processes. A person motivates himself and directs his action anticipations through thought. They form beliefs about what they can do. In addition, they anticipate things that might happen on the way to reach career maturity by doing prospective actions.

c. affective process

Self-efficacy plays a role in affective processes, especially the capacity to overcome problems which in turn affects the level of stress and depression experienced by a person when facing a difficult and threatening situation. Self-efficacy in coping stress plays a major role in determining the level of anxiety. People who believe that they will be able to overcome threats will not experience disturbances in thinking patterns. In addition, they dare to face pressures and threats, including the pressures and threats they encounter in the in the career process.

d. Selection process

The type of activity and environment a person chooses is influenced by his or her self-efficacy. People with low self-efficacy will tend to avoid activities and situations that they perceived as something beyond their capacity to cope with. In contrast, individuals with high self-efficacy will be ready to carry out activities in challenging situations that they determine based on their belief towards their capacity to overcome certain situation. The choice of behavior or activity will lead to certain social environment choices that can affect personal development. Furthermore, the social environment will continuously promote these competencies, values, and interests as well as to determine further self-efficacy.

Bandura (1997) emphasized that the mechanism of the influence of self-efficacy on human behavior can occur in the three ways. First, self-efficacy will influence the choice of action to be taken. Individuals will engage in particular task when they feel capable to finish it and they will avoid a task when they feel unable to accomplish the duty. Second, self-efficacy will determine how much effort will be released and the level of persistence in facing the task. High self-efficacy makes a person stronger and more persistent in doing a task. Third, self-efficacy will affect the thought patterns and emotional reactions. If self-efficacy is low, a person will feel that a task will be more difficult than it actually is. Thus, it will lead to stress and make the individuals have a narrower view in solving the problems. In contrast, high self-efficacy makes a person more confident in facing difficult tasks.

Perception of self-efficacy will determine how a person thinks, feels, and behaves, that self-confidence will lead to success, self-doubt will result in defeat and failure. However, what is more important is how individuals actively use their self-efficacy abilities to influence how they

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should act. Self-efficacy in making career decisions will affect individuals in achieving career maturity.

This literature review aims to build and construct a stronger conception based on empirical studies that have been conducted. In this study, researchers mapped 11 articles or studies related to career maturity and self-efficacy in career decision making. Furthermore, specifically, researchers examine empirical articles related to the relationship between self-efficacy in career decision making and career maturity.

This study used meta-analysis technique as an attempt to summarize various research results quantitatively based on the concept of Sutjipto (1995). Meta-analysis can also be seen as a technique for re-analyzing research results that are processed statistically based on the results of primary studies. In a meta-analysis study, the data analyzed is primary data. The meta-analysis studies helps researchers to construct theories by collecting various studies and summarizing the results of these studies. Afterward, the researchers can identify relationships between variables better and present data that is aggregated from the various primary studies.

Hunter & Schmidt (1990) also stated that meta-analysis approach helps to examine the correlation between variables by controlling variations from many source artifacts. With perfect control, the study of correlation distribution can be used directly to estimate the actual correlation distribution. Researchers can integrate these results and construct theories by observing correlation between several observed variables in previous studies.

According to Sugiyanto (2004), to synthesize various research results, corrections are made from the previous artifacts or imperfections. Imperfections of the previous studies will lead to difficulties to describe the real phenomenon, because the results were inflated by various systematic and nonsystematic research errors.

Hunter and Schmidt (1990) explain that there are at least 11 artifacts, includes:

1. sampling error.
2. measurement error on the dependent variable.
3. measurement error on the independent variable.
4. the dependent variable dichotomy.
5. independent variable dichotomy.
6. range variation in the independent variable.
7. range variation in the dependent variable.
8. imperfection of construct validity on the dependent variable.
9. imperfection of construct validity on the independent variables.
10. reporting or transcription errors.
11. variance caused by external factors.

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METHOD

The objective formulation in this meta-analysis study is to review quantitatively and look at the consistency of the results of several primary studies on the relationship between self-efficacy in career decision making and career maturity.

The next stage is to collect data in the form of primary studies, through international journals and doctoral dissertations which can be accessed from PROQUEST and EBSCO via www.lib.ugm.ac.id. The journals used are not limited to primary study journals, but also conceptual journals. Articles were obtained from international journals such as the *journal of psychology, journal of career development quarterly, journal of career development,* and *journal of college student development.* Besides the journals, the research results examined in this study were also obtained from doctoral dissertations from the University at Buffalo, State University of New York, University of Southern California, Hong Kong Baptist University, University of Minnesota, West Virginia University, Auburn University, University of Georgia, Florida State University, and University of Iowa.

The study is based on 11 conceptual and empirical articles to provide a basis for understanding the correlation between self-efficacy in career decision making and career maturity. The assessment was carried out by identifying the number of samples, the correlation between the observed variables and the variance. In several journals, there are research variable labels that have almost the same construct labels, for example *Career Readiness, Career Planning,* and *Career Decision*. However, researchers still choose journal reference sources that have the same variable label, namely *Career Maturity*. This is what causes the number of selected articles to be limited to 11 articles. Besides that, the limitation is also because the researchers only select journals that involve youth, student, or student participants.

As an effort to do synthesis, the first corrections were made to artifacts and the imperfection of previous studies. Meta-analysis is used as a basis for rejecting or accepting the proposed hypothesis. In this research, 2 (two) artifacts will be analyzed, namely errors sampling and measurement error (Hunter and Schmidt, 1990), including:

1. Transform the price of F into T, D, and r.
2. Bare Bone Meta Analysis: sample error correction
    a) Calculates the mean population correlation.
    b) Calculating the variance rxy (σ^2 r)
    c) Calculating the sampling error variance (σ^2 e)
    d) Sampling impact.

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3. Artifact others: correction of measurement errors
   a) Calculates the combined mean.
   b) Calculates population correlation corrected by measurement error.
   c) Confidence intervals
   d) Impact of variation in reliability

RESULTS AND DISCUSSION

Characteristics of the research sample

The characteristics of the research sample are as follows:

Table 1. The Characteristics of the Research Sample

No	Researchers	Year	Sample	
			Amount	Respondent
1	Lennings, C, J	May 1994	395	Seniors High School and first year university students
2	Betz, Nancy E; Voyten, Karla Klein	Dec 1997	350	Age of 18-25 years, various races, students, university students
3	Ahlgren, Rebecca L.	2001	344	University student
4	Kornspan, Alan S; Etzel, Edward F	Mar/Apr 2001	259	Athletic University student
5	Jacobson, Bethanne T.	2002	320	University Students with disabilities
6	Creed, Peter A; Patton, Wendy	2003	367	Student
7	May, Lee Ching, M.	August 2007	147	Student
8	Wu, Maryann	May 2009	312	University Student
9	Walker, Quiteya Dawn	May 2010	347	Students with disabilities
10	Sneva, Jacob N.	May 2011	164	Teenagers from various races
11	Houle, James L. W.	August 2011	250	Athletic student

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Data transformation

Data transformation is not carried out in this meta-analysis because all data already has r data and equation 1 is not available.

Bare bone meta-analysis : Correction of sample errors

Based on Hunter & Schmidt (1990), the steps in the bare bone meta-analysis for corrected sample error are as follows:

1. Population Correlation Mean (R_{oxy} or ρ_{XY})

To calculate the average population correlation, equation (2) is used:

$R_{exy} = \frac{\Sigma(Ni.Ri)}{Ny}$ .... equation (2)

Based on equation (2), the following worksheet is created:

Table 2. Worksheet for calculating the average population correlation after correcting the number of samples.

No	Year	Researchers	N	r_{XY}	Nr_{XY}
1	May 1994	Lennings, C, J	395	0,15	59,25
2	Dec 1997	Betz, Nancy E; Voyten, Karla Klein	350	0,58	203
3	2001	Ahlgren, Rebecca L.	344	0,41	141,04
4	Mar/Apr 2001	Kornspan, Alan S; Etzel, Edward F	259	0,26	67,34
5	2002	Jacobson, Bethanne T.	320	0,34	108,8
6	2003	Creed, Peter A; Patton, Wendy	367	0,56	205,52
7	August 2007	May, Lee Ching, M	147	0,2	29,4
8	May 2009	Wu, Maryann	312	0,46	143,52
9	May 2010	Walker, Quiteya Dawn	347	0,44	152,68
10	May 2011	Sneva, Jacob N.	164	0,33	54,12
11	August 2011	Houle, James L. W.	250	0,27	67,5
AMOUNT			3255	0,36	1232,2
AVERAGE			120,556		**0,3785**

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The average population correlation of 11 primary studies after being corrected by the number of samples shows that self-efficacy in career decision making is associated with career maturity of **0,3785**

2. Calculating Variance r_{XY} or ($\sigma^2 r$)

The following equation is used to calculate the variance ($\sigma^2 r$)

$$(\sigma^2 r) = \frac{\Sigma\{Ni.(ri- r)^2\}}{\Sigma Ni} \quad \text{..... equation (3)}$$

Table 3. Worksheet to count Variance r^{XY}

(After correcting for the number of samples)

No of studies	N	r_{xy}	$(r_i - r_{xy})$	$(r_i - r_{xy})^2$	$N(r_i - r_{xy})^2$
1	395	0,15	-0,228546851	0,052233663	20,63229693
2	350	0,58	0,201453149	0,040583371	14,20417993
3	344	0,41	0,031453149	0,000989301	0,3403194
4	259	0,26	-0,118546851	0,014053356	3,639819173
5	320	0,34	-0,038546851	0,00148586	0,475475111
6	367	0,56	0,181453149	0,032925245	12,08356502
7	147	0,2	-0,178546851	0,031878978	4,686209766
8	312	0,46	0,081453149	0,006634615	2,07000003
9	347	0,44	0,061453149	0,00377649	1,310441864
10	164	0,33	-0,048546851	0,002356797	0,386514666
11	250	0,27	-0,108546851	0,011782419	2,945604715
AMOUNT	3255	4			62,77442661
Average	120,556	0,36			**0,019285538**

By using equation 3, the results of the study of the variance of the relationship between self-efficacy in career decision making and career maturity are obtained by 0**,019285538.**

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3. CalculatingtheSamplingErrorVariance(σ^2e)

$\sigma^2e = \frac{(1-r^2)^2}{N-1}$..... .....equation (4)

By using equation 4, the results of the error variance = 0.0061389 are obtained

4.Calculating the corrected variance or the true variance

The corrected variance is calculated by equation (5)

$\sigma^2\rho = \sigma^2r - \sigma^2e$..... .....equation (5)

Based on calculations with equation 5, the variance of the population correlation is = 0.0131466

5. Impact of Sampling Error

To calculate the impact of sampling error, this equation can be used:

$\% \sigma^2e = 1-(\sigma^2e / \sigma^2\rho) \times 100\%$..... ...equation (5)

Based on the calculation results with equation 5, the impact of sampling error on the variance is 31.8%

Other Artefact: Correction of Measurement Error

Below is the measurement error calculation worksheet.

Table 4. Meta-analysis to calculate Measurement Error

Number of studies	**N**	**r_{xy}**	**r_{xx}**	**A**	**r_{yy}**	**b**	**N*r_{xy}**
1	395	0,15	0,87	0,932737905	0,71	0,8426	59,25
2	350	0,58	0,94	0,969535971	-	-	203
3	344	0,41	-	-	-	-	141,04
4	259	0,26	-	-	-	-	67,34
5	320	0,34	-	-	-	-	108,8
6	367	0,93	0,93	0,964365076	0,9	0,9487	205,52
7	147	0,2	0,91	0,953939201	0,62	0,7874	29,4

8	312	0,46	0,94	0,969535971	0,58	0,7616	143,52
9	347	0,44	-	-	-	-	152,68
10	164	0,33	0,935	0,96695398	0,789	0,8883	54,12
11	250	0,27	-	-	-	-	67,5
MEAN	3255	4		5,757068106		4,2285	1232,2
SD	120,556	0,36		0,523369828		0,3844	**0,3785**

1. Calculating the Combined Average

The combined average is calculated with this equation:

A = Of (a) x Of (b) ....equation (6)

A = **0,8114651**

A = combined average

(a) = square root of the reliability coefficient r_{xx}

(b) = square root of the reliability coefficient r_{yy}

Av (a) = mean (a)

Av (b) = mean (b)

2. Population Correlation corrected by measurement error.

Equation 7 is used to calculate the population correlation corrected for measurement error:

ρ = AV (ρi) = Av mean r / A..... ..... equation (7)

from these results it can be concluded that the population correlation coefficient after correcting measurement errors in both the independent and dependent variables is = 0.466498006

3. The sum of the squared coefficients of variation (V)

The calculation of this coefficient is by adding up the squared coefficient of variance in both the independent (a) and dependent (b) variables.

$$V = \frac{SD^2(a)}{Ave^2(a)} + \frac{SD^2(b)}{Ave^2(b)} \quad \textit{equation 8}$$

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V = 0.008228359

4. Variance refers to the variation in artifacts.

$p^2_2 = p^2 \tilde{A} V$ ……*equation 9*

= 0,001179105

5. The true correlation variance

$$\text{Var}(\rho) = \frac{\text{Var}(\rho_{xy}) - \rho^2 \tilde{A}^2 V}{\tilde{A}^2} \quad \text{……equation 10}$$

The actual population correlation variance is estimated at 0.018174613 and the standard deviation (SD) is 0.134813254

6. Interval Credibility

The confidence interval is calculated with a degree of acceptance of 95% in equation 11:

Mρ = ρ± 1.96 (SD)..... .....equation (11)

Self-efficacy confidence intervals in career decision making and career maturity:

= 0,4665 ± 1,96 (0,1348)

= 0,4665 ± 0,26423398

0.20226403 < p < 0.73073199

Based on the confidence interval with an acceptance area of 95% i.e.

0.2023 < p < 0.7307

7. Impact of Reliability Variation

The impact of variations in reliability can be calculated with the following equation:

S²2 = ρ²A²V x100%..... .....Equation (12)

p²p

Based on calculations with equality above, the variation in reliability in this study was 8.96887%.

Based on the results of meta-analysis in the 11 studies that became the sample of this study, effect size was 0.4665 with a credibility interval of $0.2023 < \rho < 0.7307$. This means that 95% of the values in the ρ distribution are in that interval. These data indicate that at the population level the variable self-efficacy in career decision making is related to career maturity.

In a theoretical perspective, individual self-efficacy in career decision making will be able to direct individuals to the behavior of achieving career maturity. Bandura (1997) emphasizes that the mechanism of the influence of self-efficacy on human behavior can occur in three ways. First, self-efficacy will influence the choice of action to be taken. The individual will be involved in a task situation if he feels capable and will avoid a behavior if he feels capable and will avoid a behavior if he feels unable. Second, self-efficacy will determine how much effort will be expended and persistence in facing the task. High self-efficacy makes a person stronger and more persistent in carrying out a task. Third, self-efficacy will influence mindsets and emotional reactions. If self-efficacy is low, a person will feel that a task will be more difficult than it actually is, can cause stress, and have a narrower view of how best to get out of trouble. In contrast, high self-efficacy makes a person more confident in facing difficult tasks, including in achieving career.

Perception of self-efficacy will determine how a person thinks, feels, and behaves, that self-confidence will lead to success, whereas self-doubt will result in defeat and failure. However, what is more important is how individuals actively use their self-efficacy abilities to influence their action. Confident individuals will be able to carry out tasks related to their career, which will lead to the attainment of career maturity. In general, this literature study using meta-analysis technique supports the conceptualization.

This meta-analytic study practically implies that to support career maturity, it is necessary to increase self-efficacy among student in making career decision. Self-efficacy can be increased through direct experience (Bandura, 1997) so that one way that can be done to increase career maturity is by involving educational institutions and parents. School and family can provide feedback and direct activities or activities so that the career maturity goals of students can be achieved.

CONCLUSION

Based on this meta-analysis study, a variation of a study conducted by several researchers on the topic of career decision making self-efficacy and career maturity has some empirical supports.

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First, there is a relationship between self-efficacy in career decision making and career maturity. Second, the results of meta-analysis from the 11 studies that became the sample of this study had an effect size of 0.4665 with a credibility interval of $0.2023 < \rho < 0.7307$. This means that 95% of the values in the ρ distribution are in that interval. The results of the error variance = 0.0061389 are obtained. Based on the calculation results with equation 5, the impact of sampling error on the variance is 31.8%. Thus, self-efficacy in student career decision making is positively related to career maturity.

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REFERENCES

*Ahlgren, R. L. (2001). An investigation of demographic, psychosocial and self-reported behavioral influences on career maturity levels of college student-athletes. *Dissertation.* School of Physical Education at West Virginia University Doctor of Education in Sport and Exercise Psychology. Morgantown.

*Kornspan, A.K. & Etzel, E.F. 2001. The relationship of demographic and psychological variables to career maturity of junior college student-athletes. *Journal of College Student Development* . 42(2). 122-133.

Bandura, A. (1986). Social foundations of thought and action : A social cognitive theory. Englewood Cliffs, NJ : Prentice-Hall.

Bandura, A. (1997).*Self-efficacy: The exercise of control*. New York: W. H. Freeman and company.

Betz, N. E. & Taylor, K. M. (1994). Career decision-making self-efficacy scale manual. Columbus, OH : The Ohio State University.

*Betz, N.E & Voyten, K.K. (1997). Efficacy and outcome expectations influence career exploration and decidedness. *The Career Development Quarterly,* 46(2). 179-189.

Busacca, L. A., & Taber, B. J. (2002). The career maturity inventory-revised: A preliminary psychometric investigation. *Journal of Career Assessment*, 10, 441-455.

Caswell, S., Kiewra, K., Levinson, E. M., & Ohler, D. L. (1998). Six approaches to the assessment of career maturity. *Journal of Counseling and Development*, 76(4), 475-482.

Crites, J.O. (1971).*The maturity of vocational attitudes in adolescence*. Washington, D.C.: American Personnel and Guidance Association.

Crites, J. O. (1981). Career counseling : Model, methods, and materials. NY : McGraw Hill.

Hackett, G. & Betz, N. (1981). A self-efficacy approach to the career development of women. Journal of vocational behavior, 18, 326-339.

Hunter, J. E., & Schmidt, F.L. (2004). Methods of meta-analysis : Correcting error and bias in research findings. London : Sage Publications, Inc.

*Jacobson, B.T. (2002). Career maturity and the use of disability support services: The effect of locus of control and career self-efficacy for college students with disabilities. *Dissertation* submitted to the College of Human Resources and Education at West Virginia University.

*Houle, J.L.W. (2010). An examination of the relationship between athletic identity and career maturity in student-athletes. *Doctoral Dissertation*. Auburn University.

King, S. (1989). Sex differences in a causal model of career maturity. *Journal of Counseling and Development*, 68(2), 208-215.

*May, L.C. Mimi. (2007). Career maturity, career decision-making self-efficacy, interdependent self-construal, locus of control and gender role ideology of Chinese adolescents in Hong Kong. *Dissertation.* Hong Kong Baptist University.

*Lennings, C.J. (1994). An investigation of the effects of agency and time perspective variables on career maturity. *The Journal of Psychology*, Vol. 128(3), 243-251.

Lent, R. W. & Brown, S.D., (2002). Social cognitive career theory and adult career development. in S.G. Niles (ed.) Adult career development : concepts, issues, and practices (3rd ed., 76-97). Alexandria, VA : National Career Development Association.

Mitchell, L. K., & Krumboltz, J. D. (1990). Social learning approach to decision making : Krumholtz's theory. Dallam D. Brown & L. Brooks (Eds), Career choice and development : Applying contemporary theories to practice (2nd ed., 145-196). San Francisco : Jossey-Bass.

Ohler, D.L., Levinson, E.M., & Hays, G.M. (1996). The relationship between careers maturity and congruence, consistency, and differentiation among individuals with and without learning disabilities. *Journal of Employment Counseling*, 33(2), 50-60.

Pajares, F. (2004).*Albert Bandura: Biographical sketch*. Retrieved April 11, 2007, from http://des.emory.edu/mfp/bandurabio.html.

*Peter, C & Wendy, P. 2003. Predicting two components of career maturity in school-based adolescents. *Journal of Career Development;* 29(4), 277-290.

Schunk, D. H., & Zimmerman, B. J. (2003). Albert Bandura: The scholar and his contributions to educational psychology. In B. J. Zimmerman & D. H. Schunk (Eds.) *Educational Psychology: A century of contributions*, 431-457.

Sneva, J. N. 2011. Exploring career decision-making self-efficacy, career maturity attitudes, and racial identity attitudes of college students of color. Dissertation. Department of educational leadership and policy. New York : University at Buffalo, State University of New York.

e-ISSN: 2548–1800
p-ISSN: 1693–2552

Stokes, D. (1986). Chance can play a key role in life, psychologist says. *Stanford Campus Report*, June 10, 1-4. Retrieved April 11, 2007, from http://des.emory.edu/mfp/bandurabio.html

Sugiyanto. 2004. Hand-out meta-analysis. *Not published*. Yogyakarta: Faculty. GMU Psychology.

Sutjipto, H.P. 1995. Application of meta-analysis in testing item validity. *Psychology Bulletin*. No. 2. December 1995. Yogyakarta: Faculty of Psychology UGM.

Syahrul. 2011. Analysis of the structural model of vocational maturity program studentsD-3 Electrical Engineering Faculty of Engineering UNM.*MEDTEK Journal*, 3(2). 1-11.

Savickas, M.L. (1984). Career maturity : The construct and its measurement. Vo*cational Guidance Quarterly*, 32, 222-231.

Phillips, S.D, & Bluestein, D.L. (1994). Readiness for career choices: Planning, exploring, and deciding. *The Career Development Quarterly*, 43 (1), 63-73.

*Walker, D. Q. (2010). Investigation of the relationship between career maturity, career decision self-efficacy, and self-advocacy of college students with and without disability. *Thesis for the Doctor* of Philosophy. Counseling, Rehabilitation, and Student Development in the Graduate College of The University of Iowa.

*Wu, M. (2009). The relationship between parenting styles, career decision self-efficacy, and career maturity of Asian American college students. A *Dissertation*. Faculty of the Rossiter School of Education University of Southern California.

*) journal articles or research whose data is used in the meta-analysis.