

## The Effects of Outcome Expectations on Career Planning Mediated by Career Interest in Mathematics and Career Decision Making Self-Efficacy

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### Abstract

Difficulties in learning process can cause learning loss. Learning loss is defined as the inability to maximally conduct the learning process at school. This research attempted to prove the effects of self-confidence and social support on learning loss. It used a correlational design and involved 151 students of grade VIII. Findings showed that both self-confidence and social support influenced the decrease in learning loss. Thus, it is suggested to improve students' self-confidence and social support to reduce the chance of learning loss.

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## INTRODUCTION

Career planning is a process of determining educational, trainings and professional opportunities that match the interests, desires and goals of students (Akkas & Rahman, 2011). Prior to deciding on work and further study, students should set long-term goals that can be achieved by identifying what they will do throughout their career. Okon & Archibong (2014) argue the right career can determine individual's well-being and life satisfaction. Proper career planning is able to make students achieve success, but if it is poor, it can lead to disappointment and failure.

Career planning is often seen as the first step in a career program in which a management designs and improves students' career planning continuously using tools to identify career options and preferences, set development goals and establish action plans to help the students match interests and abilities with job opportunities (Ismail, Madrah, Aminudin, & Ismail, 2013).

Planning a career is not an easy matter because students need to think about their own needs, values and goals before finally making a career decision. There are some students who are able to plan careers that will be chosen easily, while there are some who experience difficulties in making career plans (Stărică, 2012).

A preliminary study conducted by the researchers in September 2021 by distributing career planning questionnaires to MAN students in Tulungagung Regency found that students' abilities to make career plans were still lacking. Of 122 students there were 26 students (21%) were in the high category, 60 students (49%) had the medium category and 36 (30%) students had the low category, meaning that they did not yet have the ability make career plans. Basically, career plans include having self-understanding, knowing the environments and family as well as various information related to the world of work.

The results of the preliminary study above are in line with the phenomena found in Putra,

Yusuf, & Solfema's (2019) study that there are still students who have finished their education, but have not been able to determine the direction of career planning. As a result, many graduates of high school are unemployed. Hadi, Aryani, & Suwidagdho (2020) state that in reality, there are still many contradictory findings because high school students' career choices are still low. This is even worsened by the fact that most teachers cannot understand the potential and intelligence of individuals so that school counselors experience difficulties in serving career counseling. Career planning is not something that is easily determined by students. They must have sufficient information about further studies according to their potential.

Efforts to make career planning for students can be realized by considering several internal factors, including expectations for self-efficacy results, and career interest. Pratiwi, et al. (2020) argue that the expectations of the results desired by individuals can largely influence the career plans to choose in the future. The stronger individual's beliefs in outcome expectations, the higher possibilities they will achieve (Gunawan & Yuliati, 2019). Expected results are defined as both positive and negative consequences that have been calculated before something happens (Lent, Ezeofor, Morrison, Penn, & Ireland, 2016). Expected results will be obtained by carrying out certain activities because individuals will have a tendency to develop interest in activities that are believed to make them achieve the desired results. This is what raises individual's motivation to continue to strive to achieve the expected career. According to social cognitive career theory (SCCT) individuals develop goals to pursue relevant academic and career activities consistent with interests, self-efficacy, and outcome expectations (Sheu, Lent, Miller, Penn, Cusick, & Truong, 2018). Vocational psychology studies have long assessed psychosocial factors that can assist in determining career planning and identified self-efficacy as a mechanism that can help explain individual tendencies or interests to approach or

stay away from a particular career (Hackett, G. & Byars, A. M., 1996; Sohrab & Zarrin, 2020).

Environmental and behavioral variables that can affect career planning cover beliefs about the ability to organize and carry out actions (self-efficacy) and an introduction to the expected consequences of an action (outcome expectations) (Rogers & Creed, 2011). Both of these variables stimulate the career planning required by individuals to make progress toward the career goals that have been identified. Therefore, this study attempted to examine the effects of outcome expectations on career planning through career interest in mathematics and career decision making self-efficacy.

## METHODS

In this study, 312 respondents originating from three schools, namely 114 students from MAN 1 Tulungagung, 119 from MAN 2 Tulungagung and 79 students from MAN 3 Tulungagung were involved and selected using a cluster random sampling technique.

The subject data were collected using instruments that use a Likert scale and have been adapted through a back-translation process. Back translation is used to translate documents into Indonesian from the original English version. After carrying out the back translation, the instruments were reviewed by an expert or methodologist. Then, a small sample scale was tested to see the readability of the items and a large sample to see its validity and reliability.

The outcome expectation instrument used in this study was adopted from the outcome expectation scale developed by Woo, Lu, Henfield, & Bang (2017). It consists of 12 statement items with 4 aspects, namely future orientation, socioeconomic satisfaction and personal expectations. This instrument uses a Likert scale with 4 answer choices ranging from strongly disagree to strongly agree. The results of the validity test showed that the 12 items met the criteria and were declared valid with a range between rxy 0.389 to 0.943. Meanwhile, the level of reliability as showed by the Cronbach's alpha coefficient was 0.959.

The career planning variable was measured using the career planning scale developed by Liptak (2008). It has 48 statement items with 8 aspects of knowledge of the world of work, self-knowledge, knowledge of work, career decision making, career planning, and career implementation. This instrument was measured using a Likert scale with 3 possible answers, namely agree to disagree. The results of the validity test showed that the 48 items used in the study met the criteria and were declared valid with an rxy range of 0.348 to 0.689. Meanwhile, the level of reliability as indicated by the Cronbach's alpha coefficient showed 0.931.

The instrument to measure career interest in science and mathematics used in this study was STEM career interest which focuses on the field of mathematics developed by Oh, Jia, Lorentson, & LaBanca (2012). It has 6 statements with details of 3 science items and 3 mathematics items. Similar to the previous ones, a Likert scale with 4 answer choices was used to score this instrument. The results of the validity test showed that the 6 items used in the study met the criteria and were declared valid with a range between rxy 0.412 to 0.943. Meanwhile, the level of reliability as indicated by the Cronbach's alpha coefficient gained 0.933.

The career decision making self-efficacy was measured using the CDMSE-Short Scale developed by Bandura. It has 25 statement items which cover 5 aspects, namely job information, goals selection, future plans, and problem solving. A Likert scale with 4 answer choices from strongly disagree until strongly agree was used to fill out this instrument. The results of the validity test showed that the 25 items used in the study met the criteria and were declared valid with an rxy range of 0.389 to 0.808. In addition, the level of reliability as indicated by the Cronbach's alpha coefficient was 0.931.

In analyzing the data, this study employed a mediator analysis using the process application developed by Hayes (2013). For more, the data analysis technique in this study used a framework of regression path analysis.

**RESULTS AND DISCUSSION**

Based on the data description, the mean and standard deviation of career planning were (M= 166.75; SD= 33.37), outcome expectations were (M= 64.29; SD= 9.09), interest in science and mathematics careers were (M= 25.95; SD= 4.94), and CDMSE were (M= 129.80; SD= 18.11). Meanwhile, the frequency distribution of

career planning variables was in the medium category with a percentage of 63.02%, the outcome expectations were in the high category with a percentage of 80%, career interest was in the high category with a percentage of 57%, and CDMSE was in the high category with a percentage of 53%. In detail, the data are presented in table 1.

**Tabel 1.** Deskripsi Data

Variabel	N	M	SD
Career Planning	311	166.75	33.37
Outcome Expectations	311	64.29	9.09
Career Interests	311	25.95	4.94
CDMSE	311	129.80	19.11

The hypotheses in this study were tested using a regression analysis. It aimed at calculating the effects of outcome expectations,

career interests in mathematics, and CDMSE on the dependent variable of career planning. The results are presented in table 2 as follows.

**Tabel 2.** Pengaruh harapan hasil terhadap perencanaan karir melalui minat karir sains matematika dan CDMSE

Predictor	$\beta$	t	p	SE	LLCI	ULCI	R	R <sup>2</sup>	F	p
Kriteria:										
MK							.232	.054	17.6	<0.01
HH	.232*	4.193	<0.01	.030	.067	.158				
Kriteria:										
CDMSE							.638	.407	105.8	<0.01
HH	.577*	12.8	<0.01	.090	.974	1.33				
MK	.169*	3.75	<0.01	.166	.296	.947				
Kriteria:										
PK							.858	.736	285.9	<0.01
HH	.005	.136	>0.05	.137	-.251	.288				
MK	.111*	3.61	<0.01	.208	.343	1.16				
CDMSE	.815*	21.4	<0.01	.070	1.36	1.64				
Total Effect	1.96	11.08	<0.01	.177	1.61	2.31				
Ind Effect	.528			.039	.451	.601				

Note: MK = Career Interest, HH = Outcome Expectations, CDMSE = Career Decision Making Self-Efficacy, PK = Career Planning, \* = Significance

Results showed that there found an effect of outcome expectations on career planning mediated by career in mathematics and CDMSE by (R=.858, p<0.01). Moreover, the outcome expectations predicted the increase in career interests in mathematics and science by ( $\beta$ =

.232, p<0.01), CDMSE ( $\beta$ = .577, p<0.01), but did not predict career planning ( $\beta$ = .005, p>0.05). Then, career interest in science and mathematics got ( $\beta$ = .111, p<0.01) and CDMSE got ( $\beta$ = .815, p<0.01), predicting an increase in career planning.

The test about the mediator variable of outcome expectations on career planning through career interests in mathematics and science and CDMSE was carried out using a bias corrected bootstrapping method with  $N=5000$ . Following the analysis, there obtained 95% confidence interval of bootstrap for the total effect of ( $\beta = 1.96$ ,  $SE= 177$ ). It implied that the outcome expectation value at all levels gained significant values indicated by the values of the bootstrap LLCI (lower limit confidence interval) and ULCI (upper limit confidence interval) which showed equally positive. Meanwhile, the result of the indirect effect was ( $\beta= .528$ ,  $SE= .039$ ) with the confidence interval between (LLCI= .451, ULCI= .601). Since the results of the effects of the mediation model from career interest in mathematics and CDMSE to outcome expectations was significant, and there found mediation from career interest in mathematics and CDMSE on career planning with significant outcome expectations, while the outcome expectations on career planning were not significant, it could be interpreted that there was full mediation.

The findings have confirmed there was no effect of outcomes expectations on the career planning. It happened because the students' career choice was not in line with their interests, so they must not be able to create maximum career planning. Even though the expectations were subjective, interests in subjects and career decision self-efficacy needed to be adjusted so that they were aware of creating career decisions and making career planning. A study by Schrik & Wasonga's research (2019) concludes students with stronger belief in the outcomes tend to achieve success and vice versa.

Outcome expectations significantly affected career planning mediated by career interests in mathematics and science and career decision making self-efficacy. It is in line with findings of Hapsari & Yoenanto (2022) study, namely career decision making self-efficacy refers to the level of one's confidence in succeeding required tasks to create some career decisions. This efficacy includes hopes or wishes for certain events, for example persistence in

career decision making activities. Science and mathematics subjects were chosen because they will affect the end of education at the MA level. After graduating from MA, students will be faced with conditions where they must make career decisions, whether they decide to continue their education to a higher level or go straight to work.

Studies on outcome expectations mediated by career interests happened to be done by Rasdi & Ahrari (2020). They found outcome expectations affect career planning. Career planning can be seen clearly through the intermediary variable, namely career interest. Outcome expectations and career planning also have a direct effect on career interest, meaning that outcome expectations and interest are very important for academic and career performance.

Improving career planning as a solution to students' difficulty in career selection can be done by directing them based on their talents and interests. Students can be guided to discover their strengths and weaknesses before advancing to the further educational levels or the world of work so that their future choices are in line with their current state.

One of the strategies in improving career planning according to Santosa (2014) is by using the knowledge-sharing method. This method is proven to significantly increase self-efficacy in making career decisions for job seekers which has an impact on the emergence of more positive behavioral responses to tasks related to the chosen career.

## CONCLUSION

The findings of this study have confirmed the effect of outcome expectations on the career planning mediated by career interests in mathematics and CDMSE. Hence, the future researchers are expected to experiment the strategies of outcome expectations, career interests and CDMSE on career planning.

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