

The role of social support on vocational school students' career choices

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ABSTRACT

Strengthening career choices for vocational students is essential in preparing them to enter the world of work. Many studies highlighted the importance of career choices that are by the areas of expertise for vocational students and even examine the mechanism for strengthening their career choices. However, limited studies still focused on testing models for forming career choices by involving social support, career self-efficacy, and vocational identity in an integrative manner. Therefore, this study investigated the model of developing student career choices by applying for social support, career self-efficacy, and vocational identity. This study used structural equation modelling (SEM) analysis with Amos 18 software. The study results revealed that social support, career self-efficacy, and vocational identity factors directly influence vocational students' career choices. In addition, career self-efficacy mediates the effect of social support on career choice. Finally, vocational identity moderates the interaction of the independent variables (social support and career self-efficacy) and the dependent variable (career choice). The results of this study provided important implications for lecturers to implement learning strategies that aim to strengthen vocational students' career choices.

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1. INTRODUCTION

Career preparation programs for vocational students have an essential role in bridging them into the world of work. The maturity of career choices for vocational students must have been formed since they chose a vocational field when they studied at the vocational high school level—many career choices for students after graduation [1]–[3]. Still, for vocational students, the right career choice is a career based on their expertise when they study at vocational high schools. Several scholars have highlighted studies regarding career choices for vocational students [2]–[7]. Studying the suitability of the field of career choice is a complex process for many vocational students and students in general [8]–[10].

Many cases report that the career choices of vocational students are not by their areas of expertise when studying at school [11]–[14]. The findings of previous studies indicate that the problem of mismatching career choices with student areas of expertise is significant [11]–[13]. However, previous studies have not

discussed much career choice in the context of vocational education. Therefore, studies to determine how the interaction of antecedent factors affects the career choices of vocational students need to be carried out. In response to these concerns, new research focusing on factors influencing graduate career choices and employment decisions made primarily by vocational school students is being widely discussed [15]–[17]. In the vocational development literature, several factors influence individual career choices, such as contextual factors (family and friends) [9], [18], [19], and internal factors that include one's interests and values [20].

Among the various factors disclosed in the previous literature, factors related to social context (external factors) are considered to be essential and play a role in shaping student's career choices, especially regarding their social support [18], [19], [21]–[24]. Researchers widely discuss socio-contextual factors that facilitate or hinder career development. Previous research has found that a high level of perceived social support positively relates to beliefs about one's abilities in some vocational regions [22]. Help from family, friends, and teachers has been shown to contribute to influencing students' career choices [1].

In addition, in the theory of Social Cognitive Career, internal factors are an essential highlight influencing a person's career choice [25]. The factor on the inner dimension that is considered to have a strategic role in influencing student career choices is career self-efficacy. Several scholars highlight the role of career self-efficacy in forming student career choices. Chan [22] examined the relationship between social support, career self-efficacy and student career choice. The analysis reveals that social support, career self-efficacy, and career choice positively correlate. Self-efficacy has received the most research attention in career decision-making compared to other career preparation domains because it is essential for successful career outcomes [26]. Career self-efficacy refers to a person's belief that they can complete tasks related to making career decisions and being committed to a career [27]. Previous studies have proven that individuals with career self-efficacy tend to be involved in career exploration in terms of their career preparation [28].

Another factor that plays a vital role in influencing career choices is vocational identity [29]. Vocational identity is defined as goals, interests, values, and work roles that are self-determined by individuals [30]. In a general context, Marcia [31] concluded that individuals with higher self-identities tend to have more crystallized self-concepts, more stable self-evaluations, and more incredible determination. Referring to previous study [31], vocational identity is defined as the identity of a person who shows clarity or stability regarding career goals, interests, and talents [32]. The vocational identity reflects the status and level of personal understanding of themselves regarding career development [33]. Thus, it can be concluded that people with higher levels of vocational identity are more likely to understand their values and career goals clearly.

Referring to the existing literature, career choice is possible depending on social support, career self-efficacy, and vocational identity. In previous studies, vocational identity moderates social environment relations and career choice [29]. Many studies discuss career choice, but these studies have not comprehensively addressed the involvement of social support, career self-efficacy, vocational identity, and career choice in the scope of vocational education. Therefore, this study aims to examine the antecedents of career choice, including social support, career self-efficacy, and vocational identity in vocational students. In addition, this study places vocational identity as a moderator variable on the relationship between social support, career self-efficacy, and career choice. The conceptual model developed in this study is shown in Figure 1. It can be seen that the hypothesis tested in this study is: i) Social support has a significant positive effect on the career choice of automotive engineering vocational students (H1); ii) Career self-efficacy has a significantly positive effect on the career choice of automotive engineering vocational students (H2); iii) Vocational identity has a significantly positive effect on the career choice of automotive engineering vocational students (H3); iv) Career self-efficacy mediates the effect of social support on the career choice of automotive engineering vocational students (H4); v) Vocational identity moderates the effect of social support on the career choice of automotive engineering vocational students (H5); vi) Vocational identity moderates the effect of career self-efficacy on the career choice of automotive engineering vocational students (H6).

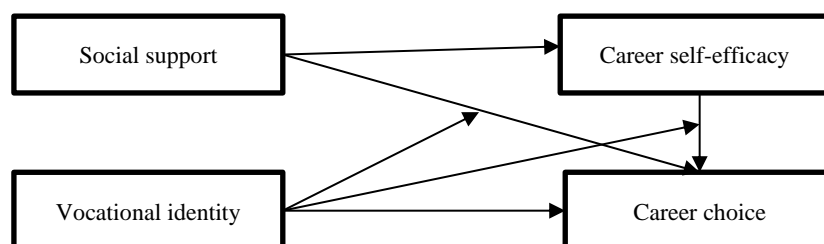


Figure 1. Conceptual models

2. RESEARCH METHOD

This study involved students in the automotive engineering study program at one of the state universities in the Special Province of Yogyakarta, Indonesia. The student population for the automotive engineering study program in Yogyakarta is 650 students. The number of samples was determined using the Isaac and Michael [34] formula of 329 students consisting of 265 male and 64 female students. The data collection procedure starts with obtaining the consent of all respondents before they are involved in filling in the data using a self-administered survey method. We conducted trials to improve the questionnaire from previous studies, which we adapted to the context of this study.

Data collection is done through an online mechanism with Google Forms. We export the results of the questionnaire in the form of a data spreadsheet to continue the analysis process. All survey items were measured on a five-point Likert scale: ranging from 1 (strongly disagree) to 5 (strongly agree). Students' perceptions of social support were collected using a questionnaire developed by Ray and Miller [35]. The social support questionnaire consists of 12 items of four lecturer support items, four friend support items, and four family support items. Data on student perceptions of career self-efficacy were collected using a previous study questionnaire [36]. The career self-efficacy questionnaire consists of 25 items consisting of five items each of self-appraisal, occupational information, goal selection, planning, and problem-solving.

Meanwhile, vocational identity was collected using a questionnaire developed by Savickas and Porfeli [37]. Vocational identity is measured by 30 vocational identity status assessment (VISA) items. There are three dimensions which include career exploration (10 items), career commitment (10 items), and career reconsideration (10 items). Finally, students' perceptions of career choice were measured using a previous study questionnaire [38], [39]. The career choice questionnaire consists of two dimensions: seven career exploration items [39] and six career decidedness items [38].

The study data were analyzed using structural equation modelling (SEM) analysis with Amos 18 software. SEM analysis on Amos measures two aspects: validity and reliability tests and hypothesis testing. We use the acceptance criteria for items if the factor loading is above 0.50 [40]. Meanwhile, path analysis is used to test the hypothesis developed in this study. The hypothesis is accepted if the significance value is below 0.05 [41]. Before testing, we tested the fit model using the following criteria: $Cmin/df \leq 5$, the goodness of index (GFI) $GFI \geq 0.90$, comparative fit index (CFI) $CFI \geq 0.90$, root mean square error of approximation (RMSEA) $RMSEA \leq 0.08$.

3. RESULTS

3.1. Questionnaire validity test

The first stage of analysis carried out in this study was to test the validity of the questionnaire on each variable. Validity testing using the factor loading value criteria must be above 0.50. The obtained validity test for each variable is shown in Table 1. All indicators for each variable show a factor loading value above 0.50, meaning that all indicators can explain the measured variable.

Table 1. Standardized loading factor values

Variable	Indicator	Estimate	p-value
Social support	Lecturer support (DD)	0.813	***
	Friends support (DT)	0.862	***
	Family support (DK)	0.779	***
Career self-efficacy	Self-appraisal (SA)	0.760	***
	Occupational information (OI)	0.819	***
	Goal selection (GS)	0.859	***
	Planning (PL)	0.840	***
	Problem-solving (PS)	0.696	***
Vocational identity	Career exploration (CE)	0.788	***
	Career commitment (CC)	0.788	***
	Career reconsideration (CR)	0.659	***
Career choice	Career exploration (CarEx)	0.881	***
	Career decidedness (CarDec)	0.845	***

***=the probability of getting its absolute value is less than 0.001

3.2. Structural equation modeling analysis

SEM analysis in this study was used to test the hypothesis of direct influence, the role of mediation, and the role of moderation in the interaction of the variables of social support, career self-efficacy, vocational identity, and career choice of automotive engineering vocational students. The first step in the SEM analysis was carried out to test the fit model. Figure 2 shows that the model meets the fit model criteria ($Cmin/df=2.398$, $GFI=0.938$, $CFI=0.970$, and $RMSEA=0.65$).

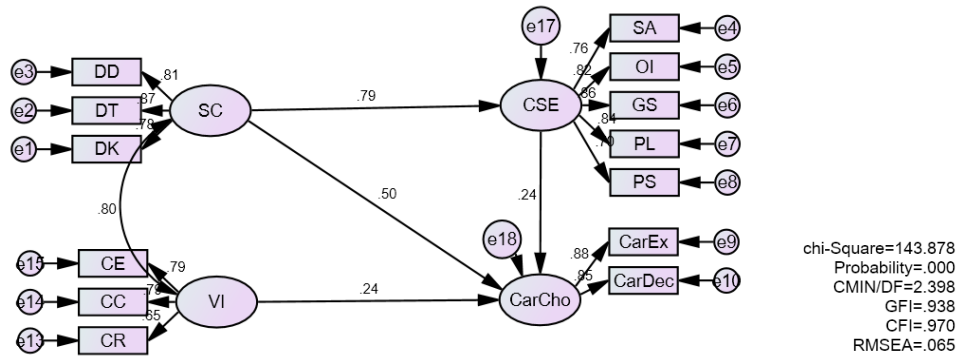


Figure 2. Model fit test and SEM analysis

Furthermore, we tested the hypothesis of direct and indirect influence (mediation role) in the model shown in Table 2. The first hypothesis is proven to be accepted with the acquisition of a significant value below 0.001 (estimate=0.486, p=***). This means that social support from lecturers, friends, and family has a vital role in influencing the career choices of automotive engineering vocational students. In testing the H6, it is proven that the hypothesis is accepted (estimate=0.237, p=0.004). This finding means that career self-efficacy has a significant positive effect on the career choice of automotive engineering vocational students. In addition, direct effect testing was also carried out on the third hypothesis. This hypothesis states that vocational identity has a significantly positive effect on the career choice of automotive engineering vocational students. The results of the path analysis show the acquisition of an estimate of=0.256 with a significance value of 0.004 (the third hypothesis is accepted). This finding means that vocational identity, which consists of career exploration, career commitment, and career reconsideration, is proven to have a significantly positive effect on the career choice of automotive engineering vocational students.

In Figure 2, we also examine the mediating role of career self-efficacy on the effect of social support on the career choice of automotive engineering vocational students. Mediation testing uses the estimated bootstrapping confidence interval analysis technique. The model we developed uses 200 bootstrap samples with a 90% confidence level. The results of the mediation role analysis are shown in Table 3. Career self-efficacy is shown to indirectly affect the effect of social support on the career choice of automotive engineering vocational students (estimate=0.176, p=0.009).

Table 2. The results of the path analysis among variables

Path	Estimate	S.E.	C.R.	P-value	Result
Social support → Career choice	0.486	0.115	4.217	***	Significant
Career self-efficacy → Career choice	0.237	0.082	2.879	0.004	Significant
Vocational identity → Career choice	0.256	0.099	2.574	0.010	Significant
Social support → Career self-efficacy	0.691	0.058	12.014	***	Significant

***=correlation is significant at the 0.001 level

Table 3. The result of bootstrapping in testing the mediator

	Path	SC → CarCho	CSE → CarCho	VI → CarCho	SC → CSE
Standardized direct effect	Estimate	0.521	0.219	0.236	0.804
	P-value	0.034	0.011	0.056	0.012
Standardized indirect effect	Estimate	0.176			
	P-value	0.009			
Standardized total effect	Estimate	0.696	0.219	0.236	0.804
	P-value	0.019	0.011	0.056	0.012

***=correlation is significant at the 0.001 level; SC=social support; CSE= career self-efficacy; VI=vocational identity; CarCho=career choice

In the last stage, we conducted a vocational identity moderation test on the effects of social support and career self-efficacy on career choice. The initial step in testing moderation begins by entering a moderation variable (first moderation=interaction of social support and vocational identity variables, second moderation=interaction of career self-efficacy and vocational identity variables). The moderating variable interaction model is shown in Figures 3(a) and 3(b). In Figures 3(a) and 3(b), the fit model test is obtained in the two moderation models. Figure 3(a) is a model of moderating vocational identity in the relationship

between social support and career choice for vocational students. The model fit test in Figure 3(a) shows that the model meets the criteria for model fit (Cmin/df=2.636, GFI=0.927, CFI=0.959, and RMSEA=0.71). Meanwhile, testing the vocational identity moderation model on the relationship between career self-efficacy and career choice of vocational students. Figure 3(b) shows that the model meets the model fit criteria (Cmin/df=2.821, GFI=0.924, CFI=0.954, and RMSEA=0.75).

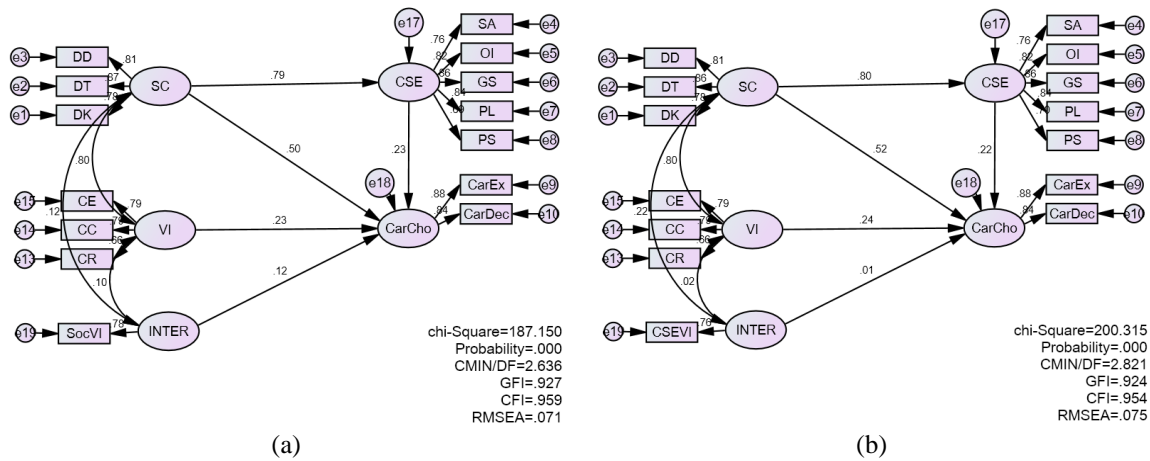


Figure 3. Moderation test using SEM Amos between (a) social support and career choice; and (b) career self-efficacy and career choice

Figures 3(a) and 3(b) shows that the interaction between vocational identity and social support significantly predicts the career choice of automotive engineering vocational students (estimate=0.122, $p=***$, the fifth hypothesis is accepted). In addition, the interaction between vocational identity and career self-efficacy was also shown to be significant in predicting the career choice of automotive engineering vocational students (estimate=0.097, $p=***$, the sixth hypothesis is accepted). These findings indicate that vocational identity can moderate the direct and indirect effects of social support on the career choice of automotive engineering vocational students. Furthermore, a visualization of the moderating role of vocational identity on the effect of social support on the career choice of automotive engineering vocational students is shown in Figure 4. In Figure 4, it can be seen that the impact of social support on career choice is more significant for students with high vocational identity than low vocational identity.

Visualization of the moderating effect of vocational identity on the impact of career self-efficacy on the career choice of vocational students is shown in Figure 5. This finding means that career self-efficacy significantly influences career choice if vocational students have a high vocational identity. Conversely, students with lower vocational identity tend to have less power of career self-efficacy in their career choice.

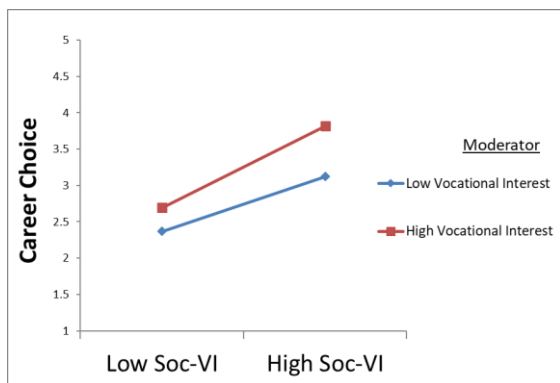


Figure 4. The moderating effect between social support and career choice

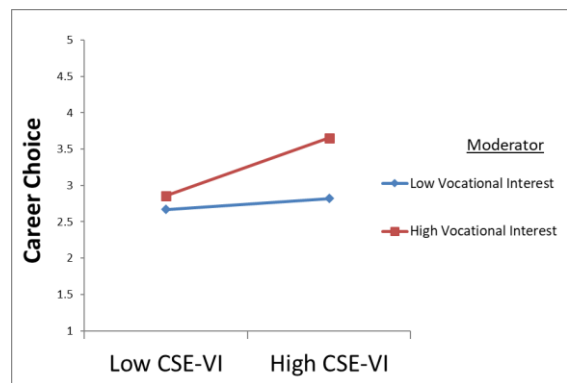


Figure 5. The moderating effect between career self-efficacy and career choice

4. DISCUSSION

Career choice for automotive engineering vocational students is a critical aspect of preparing them to enter the world of work. Indecision and doubts about making career choices after they graduate are also problems that are often encountered. Many antecedent factors influence their career choice decisions. Based on existing literature, this study highlights several essential antecedent factors that influence career choices for vocational students, namely social support, career self-efficacy, and vocational identity. Therefore, this study aims to examine the direct and indirect effects of social support, career self-efficacy, and vocational identity on the career choices of vocational students.

The results of testing the first hypothesis show that social support has a significantly positive effect on the career choice of automotive engineering vocational students. This finding means that sources of social support from lecturers, friends, and family play an essential role in encouraging student career choices. Students with a high source of social support tend to have strong beliefs about their career plans. A positive social environment to support and understand students' career choices further encourages their confidence in career choices. The results of this study are relevant to previous studies conducted by Chan [22]. The results of his study state that social support and career choices are positively correlated. That is, the higher the social support they feel, the higher their confidence regarding their career choice. Lecturers must understand the scope of student careers according to the student's area of expertise. Thus, the teaching process carried out by lecturers will be closer to the range of student career choices. Families also need to understand the scope of careers students can choose so that it will be easier to discuss their career choices with their families. In addition, support from friends also plays a vital role in strengthening or weakening student career choices. The results of this study to enhance also social cognitive career theory, which places the part of contextual factors (e.g., social environment) as one of the crucial factors that shape individual career choices.

Other findings, this study reveals that career self-efficacy has a significantly positive effect on the career choice of automotive engineering vocational students. This finding means that students who have strong confidence in their ability to do the type of work that is their career choice will encourage the maturity of their career choices. Theoretically, career self-efficacy is a person's belief to perform tasks related to career choices [27]. In addition, Choi and Kim [26] state that self-efficacy is widely used in various studies to determine successful career choices and outcomes.

The results of testing the third hypothesis prove that vocational identity has a significantly positive effect on the career choice of automotive engineering vocational students. This finding indicates that vocational students' goals or interests in the chosen job role influence their career choices. These results are relevant to previous studies which state that vocational identity plays a vital role in influencing individual career choices [29]. Vocational identity in this study is explained through three aspects consisting of career exploration, career commitment, and career reconsideration. Students with higher levels of vocational identity are more likely to understand their values and career goals clearly. Students' vocational solid identity status will encourage a more crystallized self-concept regarding their career choices.

This study also examines the mediating role of career self-efficacy on the effect of social support on the career choice of vocational students. The results of testing the mediating function using the bootstrapping confidence interval method reveal that career self-efficacy plays a role in partially mediating the effect of social support on the career choice of vocational students. The existence of career self-efficacy as a mediator will strengthen the influence of social support on the career choice of vocational students. In different studies, career self-efficacy is a mediator in the relationship between social support and career adaptability [3]. In addition, a study conducted by Chan [22] showed that career self-efficacy significantly mediated the effects of social support on the career choice of Taiwanese students. In the context of learning, lecturers are strongly encouraged to strengthen students' beliefs about carrying out tasks related to their career choices. To realize this goal, lecturers can start by giving assignments relevant to the type of career chosen by students. Thus, students will get used to doing tasks related to their career plans, and in the end, they will be more confident in doing the type of work they choose.

Furthermore, this study reveals that vocational identity can moderate the effect of social support on the career choice of automotive engineering vocational students. Students with high interest or vocational identity related to the scope of their career plans will further strengthen the influence of social support on their career choices. Meanwhile, even though social support affects career choice for students with low vocational identity, the impact is not as significant as for students with high vocational identity. The findings of this study strengthen the previous research conducted by Li *et al.* [29], Vocational identity significantly moderates social environment interaction and career choice. Marcia [31] also explained that people with higher general self-identities tend to have more crystallized self-concepts, more stable self-evaluations, and more significant decisions. Testing the moderating effect of vocational identity is also found in the relationship between career self-efficacy and career choice. The investigation results in this study indicate that vocational identity moderates the interaction between career self-efficacy and career choice. Students

with high vocational identity will significantly influence the relationship between career self-efficacy and career choice more than students with low vocational identity.

In the end, the results of this study emphasize the importance of preparing vocational students' career choices according to their areas of expertise by involving factors of social support, career self-efficacy, and vocational identity. This finding has important implications for lecturers who teach at tertiary vocational institutions to program planning and strengthen career choices for vocational students. The hope is that automotive engineering vocational students have career choices in their field of expertise.

5. CONCLUSION

Several antecedent factors, including social support, career self-efficacy, and vocational identity directly influence the formation of career choices for automotive engineering vocational students. In addition, the strengthening of career choices is also proven to occur through the interaction of the influence of social support on career choices through vocational students' career self-efficacy. The role of career self-efficacy in this mediation relationship is partial mediation. Meanwhile, testing the moderation part shows that vocational identity moderates the interaction of the independent variables (social support and career self-efficacy) and the dependent variable (career choice). Students who have vocational identity tend to have a strong influence of social support and career self-efficacy on their career choice. The results of this study provide important implications for lecturers to implement learning strategies that aim to strengthen vocational students' career choices. This study has limitations in selecting the type of questionnaire, namely the self-administered questionnaire. The questionnaire can potentially have ordinary data because the respondent assesses himself. Therefore, future research needs to involve other respondents, such as teachers or colleagues.

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