

Effect of Entrepreneurship Education on Entrepreneurial Intention Mediated by Entrepreneurial Characteristics and Attitude

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ABSTRACT

Job opportunities for college graduates are low, however, there is an alternate career path, that is, become an entrepreneur instead. For students to become successful entrepreneurs, colleges should encourage students to enhance their entrepreneurial competencies. This study aims to analyze the effect of entrepreneurship education on entrepreneurial intention mediated by entrepreneurial characteristics and entrepreneurial attitude. The sample in this study are students from State Polytechnic of Malang and the Vocational Business Administration Study Program of Brawijaya University, as well as students from State Vocational High School 12 Malang. The sampling technique was based on purposive sampling. Subjects attended entrepreneurship courses and participated in entrepreneurial activities. Data collection used questionnaires. For data analysis, descriptive statistics and path analysis were used. From the results, it was shown that those students who had taken entrepreneurship education, that is, entrepreneurship courses and entrepreneurship activities, seem to have developed high levels of entrepreneurial characteristics. In addition, students who have entrepreneurial characteristics tend to appreciate and like to participate in entrepreneurial activities, as such, students get to realize their business ideas, turning them into real businesses in the future, after accruing capital and through social networking.

Keywords: entrepreneurship education, entrepreneurial characteristic, entrepreneurial attitude; entrepreneurial intention.

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1. INTRODUCTION

The shortage of job opportunities to match with the increasing number of college graduates causes a tough competition between those college graduates looking for jobs. This causes an increase in the number of unemployed college graduates. Instead of being unemployed, if more students consider entrepreneurship, that would improve a country's economy. According to Aier, Hota, Noopur, Acharya, & Sunduray (2024) entrepreneurship is a noble

and honorable activity that fosters independence and job satisfaction. Entrepreneurs have the ability to create wealth by building new businesses, and play a role in creating jobs (Kadarusman, 2020). Therefore, college graduates should develop a mindset that entrepreneurship is an alternative career choice, then the number of educated unemployed will be reduced. In May 2023, the number of entrepreneurs in Indonesia reached 3.47% out of the total population. Meanwhile, McClelland (1961) argued that countries with a higher mean level of nAch would exhibit more entrepreneurial activity and economic growth than those with a lower mean level of nAch. Therefore, the Indonesian government is committed to increasing the number of entrepreneurs.

Referring to these conditions, “the Indonesian government issued Presidential Regulation Number 2 of 2022 concerning National Entrepreneurship Development for 2021-2024”, with a target of one million new entrepreneurs by 2024. In view of the regulation, college graduates should be taught to develop a mindset where they can become entrepreneurs. As such, instead of becoming job seekers they become job creators.

Entrepreneurial intention is a cognitive description of a person's actions to establish a new business and create new values within an ongoing company (Fini, Grimaldi, Marzocchi, & Sobrera, 2009). Factors that encourage entrepreneurial intentions are personal characteristics including traits and background, and the environment including social, economic, political, and infrastructure development (Mazzarol, Volery, Doss, & Thein, 1999). Entrepreneurship education is one form of developmental study provided to students in various forms, including entrepreneurship lectures, entrepreneurship training, entrepreneurship internships, entrepreneurship exhibitions, and implementation of business ideas.

Chen, Weng & Hsu (2010) studied the influence of entrepreneurship education on entrepreneurial intention and have found that students who participated in entrepreneurship training and other entrepreneurial activities were more confident in their ability to become entrepreneurs. This is because, as based on Galloway *et al.*'s (2006) study, by participating in entrepreneurship education, students' motivation to become an entrepreneur increases. Previous researchers also examined the influence of entrepreneurship education on entrepreneurial characteristics. Rasheed (2003) stated that students who take entrepreneurship training and have experience in running a business have higher entrepreneurial characteristics such as the need for achievement, personal control, self-esteem, and innovation. Krueger & Brazeal (1994) and Kourilsky & Walstad (1998) stated that increasing business knowledge and developing entrepreneurial characteristics through solid learning methods can develop a mindset that entrepreneurship is an alternative career choice.

Furthermore, Rasheed (2003) and Chen *et al.* (2010) studied the relationship between entrepreneurship education, entrepreneurial characteristic, and entrepreneurial intention, and found that when students participate in training and business activities, their entrepreneurial characteristics increased compared to students who did not participate in entrepreneurship education. Indarti & Rostiani (2008) stated that self-efficacy determined the entrepreneurial intention of Indonesia and Norway students. Birdthistle (2008) states that locus of control and importance of independence are important for someone who intends to become an entrepreneur.

Does a person who participates in entrepreneurship education tends to have a positive attitude toward entrepreneurial activities and thus become interested in being an entrepreneur? Entrepreneurship education aims to increase awareness towards the fact that entrepreneurship is a career choice by providing knowledge and skills that help to create and develop businesses. Attitude is defined as the tendency to like or dislike objects, and is

evaluative (Ajzen, 2005). “The theory of planned behavior states that attitude is a predictor of intention”. Lee & Shim (2024) stated that the more positive the teacher's attitude towards an object, the more likely they will agree to carry out behavior that is related to that object. The results of previous research stated that students who take part in entrepreneurship education tend to establish new businesses provided that entrepreneurship education can develop a positive mindset towards entrepreneurship.

Rasheed's (2003) studied the relationship between entrepreneurial characteristics, entrepreneurial attitudes, and entrepreneurial intentions and stated that several psychological traits are expressed as predictors of entrepreneurial behavior. Entrepreneurial characteristics are several characteristics of a person that describe him/her as an entrepreneur. As stated by Ajzen (2005), attitudes are evaluative, the tendency to react to likes or dislikes of an object. Students' attitudes towards entrepreneurship vary, they tend to respect entrepreneurship if they consider entrepreneurial activities are beneficial. On the other hand, students tend to disrespect entrepreneurship, if entrepreneurial activities do not provide benefits. Luthje & Franke (2003) found that risk taking propensity and internal locus of control have a significant effect on entrepreneurial attitudes. Adding to this line of thought, Yusof *et al.* (2007) noted that risk-taking, innovativeness, need for achievement, and tolerance for ambiguity have a positive and significant effect on entrepreneurial attitudes. Harris & Gibson (2008) stated that the characteristics of students are related to entrepreneurial attitudes, where the value of personal control and innovation is higher for male students. Furthermore, the results of the study stated that attitudes towards entrepreneurship have a strong and significant influence on entrepreneurial intention (Luthje & Franke, 2003; Fini, Grimaldi, Marzocchi, & Sobrero, 2009).

Students participating in the Student Entrepreneurship Program at Malang State Polytechnic and students in the Vocational Business Administration Study Program at Brawijaya University engage in entrepreneurship education, including entrepreneurship courses, seminars, business plan creation, board game training (Do It: Start a Business), turning business ideas into real businesses, and participating in entrepreneurship exhibitions. Meanwhile, students at SMK Negeri 12 Malang receive entrepreneurship education, which includes entrepreneurship courses, seminars, and board game training (Do It: Start a Business). Can entrepreneurship education increase students' entrepreneurial characteristics? Do students who take entrepreneurship education develop a positive attitude towards entrepreneurial activities? Furthermore, are they interested in becoming entrepreneurs?". This study aims to analyze the effect of entrepreneurship education on entrepreneurial intentions with entrepreneurial characteristics and entrepreneurial attitudes as mediating variables.

2. LITERATURE REVIEW

2.1 Entrepreneurial Intention

“Intention reflects an indication of the extent of a person's desire to do something, and how much effort he or she puts into planning in order to be able to act“ (Ajzen, 1991). The stronger a person's intention to make his/her wishes come true, the greater is the effort the individual puts in. Bird (1988) states that intention is the state of mind that directs a person's desire to realize a goal. Based on this assumption, intention is the driving force to act. Entrepreneurial intention is about a person's desire to start a business (Ngugi, Gakure, Waithaka, & Kiwara, 2012). It is about creating a new business venture or creating new values in the existing business ventures. Entrepreneurial intentions are influenced by

personality and environmental factors (Mazzarol, Volery, & Thein, 1999). Environmental factors include social, economic, political, and infrastructure development, whereas, personality factors include the character and background of the individual. In this study, entrepreneurial intention is interpreted as an indication of a person's desire to start a business, both now and in the future. Several entrepreneurship researchers have studied entrepreneurial intention. Indarti & Rostiani (2008) conducted research on the entrepreneurial intentions of Indonesian and Norwegian students. Research findings stated that self-efficacy influences the entrepreneurial intention, but motivation for achievement does not influence the entrepreneurial intention. Furthermore, Opute, Nchu, Babatunde, Iwu, & Eze (2020) stated that students' perceptions of entrepreneurship and the students' entrepreneurial characteristics positively affect students' entrepreneurial intentions.

2.2 Entrepreneurship Education

Cooney (2012) describes successful entrepreneurial skills as entrepreneurship skills, technical skills, and management skills. The purpose of entrepreneurship education is to increase understanding of the process of establishing and managing new business ventures, as well as to increase awareness for students that entrepreneurship is a career choice (Liñán, Moriano, & Zarnowska, 2008). The entrepreneurship education program consists of various aspects, including entrepreneurship course, business model canvas workshop, business plans, managing businesses, and participating in entrepreneurship expo. The effectiveness of entrepreneurship education depends on the appropriateness of the selection of learning methods (Hytti & O'Gorman, 2004). Previous research findings suggest that effective entrepreneurship education can develop students' entrepreneurial characteristics. Hisrich, Peters, & Shepherd (2013) stated that entrepreneurship education programs provide knowledge about entrepreneurial characteristics, entrepreneurial mindset, development of entrepreneurial intentions, opportunity identification and analysis, business planning, new business finance, and business management and development. McGee, Peterson, Mueller, & Sequeira (2009) suggest that knowledge of entrepreneurship can increase self-confidence in achieving success when carrying out activities related to establishing a new business. Patzelt, Williams & Shepherd (2014) stated that entrepreneurship education can provide awareness to students that entrepreneurship is a career alternative. Dognan, Saat, Juhari & Alshagawi (2021) observed that education and training in entrepreneurship play an important role in developing a person's entrepreneurial characteristics.

2.3 Entrepreneurial Characteristic

In general, an entrepreneur is known as someone who has different characteristics from the general public. Several traits or characters inherent in an entrepreneur are referred to as entrepreneurial characteristics. The results of the previous study explained that students who have a higher level of internal locus of control, motivation to achieve, willingness to take risks, creativity, building social relationships, and tolerance for ambiguity tend to be interested in becoming an entrepreneur in the future. Ucbasaran, Westhead, & Wright (2009) stated that entrepreneurial characteristics play an important role in identifying and managing business opportunities. Further studies have been conducted on the relationship between entrepreneurial characteristics and entrepreneurial intentions. It has been found that students who have higher level of entrepreneurial characteristics favor entrepreneurship (Gurol & Atsan (2006). These students are not afraid of taking risks, have internal locus of control, develop and express the desire to achieve and innovate. Dubey (2024) explained entrepreneurial characteristics such as independence, locus of control, social networking, tolerance for ambiguity, risk-taking propensity, and ability to plan and manage an

organization and contribute positively towards entrepreneurial intentions. This study examines the entrepreneurial characteristics including internal locus of control, need for achievement, risk-taking propensity, creativity, social networking, tolerance for ambiguity, leadership, and critical thinking.

2.3.1 Internal Locus of control

Everyone is different in terms of the extent to which they feel and accept personal responsibility, and are willing to accept the consequences of their actions (Rotter, 1996). Internal locus of control is a personal characteristic that reflects a person's belief that his/her actions influence the results obtained. Individual with internal locus of control believe that the results achieved in the future are influenced by actions that have been taken previously (Kobia & Sikalieh, 2010). A person who has an internal locus of control tends to look for entrepreneurial roles (Shane, Locke, & Collins, 2003). In general, entrepreneurs have an internal locus of control, they tend to seek new opportunities and innovate, and also have the ability to control the events in their lives (Gurol & Atsan, 2006). Students' hard work influences their fate and their hopes of becoming an entrepreneur (Dubey, 2024).

2.3.2 Need for Achievement

McClelland (1961) explains that the need for achievement is a character that is based on the desire to do something better or quicker than other people or better than their own previous achievements or of others. The need for achievement is a person's strong desire to excel in various tasks and to perform those tasks better than others (Greenberg & Baron, 2008). Someone who tends to have a higher need for achievement, when faced with a complex task, tends to be enthusiastic about completing the task well and learning how to do the task better. A person who tends to have a high need for achievement tends to want to solve problems, sets targets and try to achieve them through hard work, show higher performance in carrying out challenging tasks, and be innovative in finding new and better ways to improve performance (Littunen, 2000).

2.3.3 Risk-taking propensity

Every person's willingness to take risks in decision making varies. Risk-taking propensity is the tendency to take risks when conducting activities, where the probability of success of the activities is less than 100% (Kuip & Verheul, 2003). Managing a business has greater risks than managing activities in general, but is less risky when compared to gambling. This means that managing a business requires someone to be willing to take high risks. According to Zimmerer, Scarborough, & Wilson (2008), an entrepreneur is not someone who takes risks blindly, but he takes calculated risks. Previous research found that the tendency to be willing to take risks affects students' future entrepreneurial intention. Dubey (2024) stated that entrepreneurial intention increases along with the increasing students' risk-taking ability.

2.3.4 Creativity

Creativity is the ability to generate new ideas or recombine existing ones to form something new, to provide a valuable solution to a problem (Sefertzi, 2000). According to Zimmerer *et al.* (2008), it is an ability to develop new ideas and find new ways of seeking opportunities and solving problems. The results of previous research stated that creativity has a strong influence on entrepreneurial intentions (Hamidi, Berglund, & Wennberg, 2008).

2.3.5 Social Networking

Social networking is the ability to build and maintain social relationships which contribute to business success. However, a person's ability to build and maintain social relationships varies between individuals. Chen *et al.* (2010) stated that building social relationships is useful in managing a business, to obtain information and advice. This can encourage opportunities for success. As such, the character of building social relationships encourages students to become entrepreneurs (Dubey, 2024).

2.3.6 Tolerance for ambiguity

Tolerance for ambiguity is a person's ability to manage information about situations that have multiple meanings (Zimmerer *et al.*, 2008). Tolerance for ambiguity is an important entrepreneurial characteristic and is more necessary for entrepreneurs than for managers in a company (Yusof *et al.*, 2007; Dubey, 2024). Hence, ability to handle ambiguous or stressful situations is a necessary quality in entrepreneurship.

2.3.7 Leadership

The founder of the Center for Leadership Development in the United States, Dr. Huthier stated that leadership is the ability to guide and motivate others to perform well in an organization. Transformational leadership style encourages knowledge sharing, further increasing individual innovative behavior (Suryanarayana, 2023). Leadership is the ability to influence a group to achieve a vision or goal that has been set (Robbins & Judge, 2017). Leadership involves analyzing business needs, making solid action decisions, gathering the necessary resources, and managing those resources effectively even while facing challenges. Thus, the role of leadership in an organization is very important.

2.3.8 Critical Thinking

Critical thinking is defined as the use of cognitive skills in improving learning outcomes, such as analyzing thoughts, arguing, and solving problems carefully (Saputra & Kuswanto, 2019). These include analysis, inference, induction, and evaluation (Abu-Dabat, 2013). Further, it includes a person's ability to process and synthesize information to enable them to apply it wisely to tasks that focus on informed decision-making and effective problem-solving. Critical thinking can also be described as getting an in-depth understanding of a problem or reflecting on the problems, keeping an open mind open to different approaches and perspectives, not blindly trusting information received from various sources (oral or written), and thinking reflectively and evaluatively.

2.4 Entrepreneurial Attitude

Attitude reflects the tendency to express a like or dislike to an object, person, institution or event. Attitude is one of the functions or predictors of intention (Ajzen, 1991). Generally, a person will show a certain attitude when faced with an object. They tend to accept or reject an object based on their assessment, whether the object provides benefits or not for them. When an object is considered useful, then they have a positive attitude. However, if an object is considered not useful, then they have a negative attitude (Winkel, 2012). "The Theory of Planned Behavior (TPB) states that attitudes toward behavior, subjective norms, and perceived behavioral control are antecedents of intention" (Ajzen, 1991). This study examines attitudes toward certain behavior as antecedents of intention.

2.5 Relationship between entrepreneurship education, entrepreneurial characteristic, entrepreneurial attitude, and entrepreneurial intention

The results of previous research stated that students who participated in entrepreneurship education tended to have a higher level of entrepreneurial characteristics. Bhatti, Aldogman, Mat Saat, Juhari, & Alshagawi (2021) suggest that entrepreneurship education and training play an important role in developing student's entrepreneurial characteristics. Moreover, students who have participated in entrepreneurship education tend to appreciate or disappreciate entrepreneurial activities. The relationship between entrepreneurship education, entrepreneurial characteristics, and entrepreneurial attitude has been studied previously. Hatten & Ruhland (1995) stated that students who have an internal locus of control will develop a positive attitude towards entrepreneurship after participating in the SBI program. Harris & Gibson (2008) stated that students' entrepreneurial attitudes were positively influenced by the Small Business Institute program. Luthje & Franke (2003) noted that the tendency to take risks and the internal locus of control affect entrepreneurial attitude. In addition, entrepreneurial attitude has a strong and significant influence on entrepreneurial intention (Luthje dan Franke, 2003; Kusmintarti, Asdani, & Riwayatanti, 2017). Grimaldi, Marzocchi, & Sobrero (2009) observe that attitudes have a direct effect on entrepreneurial intentions.

3 RESEARCH METHOD

The sample in this study are students from Malang State Polytechnic, the Vocational Business Administration Study Program, Brawijaya University, and SMK Negeri 12 Malang. The sampling technique was purposive sampling. Subjects attended entrepreneurship courses and participated in entrepreneurial activities. Table 1 shows the proportion of respondents. They took entrepreneurship education, including entrepreneurship courses, entrepreneurship seminars, business plan creation, board game training (Do It: Start a Business), realizing business ideas into real businesses and participating in entrepreneurship exhibitions.

Table 1 the proportion of respondents

University/ Vocational School	Program Study	Percentage
Faculty of Vocational Studies, Brawijaya University	Business Administration	31.1
	Accounting	8.9
State Polytechnic of Malang	Electrical Engineering	8.9
	Chemical Engineering	8.9
	Mechanical Engineering	2.2
	Automotive Engineering	2.2
	Broadcasting	2.2
State Vocational High School 12 Malang	Visual communication design	15.6
	Culinary art	2.2
	Multimedia	2.2
	Software and Game Developer	13.3
	Film Production	2.2
	Total	100

Data was collected through a questionnaire with a 5-point Likert scale where 1 = strongly disagree, 2 = disagree, 3 = quite agree, 4 = agree, 5 = strongly agree. A validity test for factor analysis was used to correlate the factor scores with the total score. If the correlation of each factor was positive and its magnitude was greater than 0.3, then the factor was considered to have a powerful construct. Furthermore, Cronbach Alpha reliability test was used; if $\alpha > 0.6$ then the instrument can be said to be reliable. Data analysis was used for descriptive and path analyses. Data were processed by SPSS.

4 RESULT

The results of the descriptive analysis show that the average score of the entrepreneurship education indicator is greater than 4 (Table 2). This means that students who take entrepreneurship courses, attend entrepreneurship seminars, entrepreneurship training, entrepreneurship exhibitions, and business practices can improve their competencies to become entrepreneurs, able to recognize business opportunities, generate business ideas, make business plans, and realize businesses. In addition, it also shows that their interest in participating in exhibitions increases their social networks and it improved their business management skills. The average score of the entrepreneurial characteristic dimensions was greater than 4 (Table 3). This means that students tended to improve their characteristics of internal locus of control, need for achievement, propensity to risk, creativity, social networking, tolerance for ambiguity, leadership, and critical thinking. The average score of the entrepreneurial attitude indicator was greater than 4 (Table 4). This means that students tended to like being their own boss, liked jobs with flexible working hours, liked to participate in entrepreneurial activities and would work hard in pioneering new businesses. The average value of the entrepreneurial intention indicator which was greater than 4 (Table 5), can be interpreted as after graduation, students were interested in realizing business ideas into real businesses and in managing these businesses in the future.

Furthermore, analysis of all research variables showed that all indicators contributed to every variable. For the variable of entrepreneurship education, the contribution of all variable indicators is very strong. This is evident from the loading factor value which is greater than 0.7 (Table 2).

Table 2 Loading scores and the average values of entrepreneurship education

Indicator	Loading Estimate	Average
Participating in entrepreneurship learning increases knowledge about the competencies of becoming an entrepreneur	0.815	4.49
Attending entrepreneurship seminars increased my interest in entrepreneurship	0.801	4.33
Attending entrepreneurship training can improve skills in recognizing business opportunities, generating business ideas, creating business plans, and realizing businesses	0.858	4.49
Involvement in business exercises can improve business management skills	0.900	4.53

Participating in an entrepreneurship exhibition increases social networking	0.851	4.38
Average value of entrepreneurship education indicators		4.44

Entrepreneurial characteristic is the second-order variable that has eight dimensions, namely internal locus of control, need for achievement, propensity to risk, creativity, social networking, tolerance for ambiguity, leadership, and critical thinking. Table 3 shows that the loading factor values of all dimensions of entrepreneurial characteristic variable to be greater than 0.7. These results can be interpreted as, all dimensions of entrepreneurial characteristic contribute to explaining the variable. The leadership dimension contributes highly in explaining entrepreneurial characteristic variable followed by need for achievement, social networking, internal locus of control, creativity, tolerance for ambiguity, propensity to risk, and critical thinking in that order.

Table 3 Loading Value of 2nd-order and Average Value of Dimension of Entrepreneurial Characteristic

2nd-order Variable	Loading factor	Average
Internal Locus of Control	0.782	4.359
Need for achievement	0.829	4.123
Propensity to risk	0.779	4.138
Creativity	0.781	4.054
Social networking	0.825	4.215
Tolerance for ambiguity	0.779	4.169
Leadership	0.850	4.273
Critical thinking	0.726	4.258

Analysis of all indicators of entrepreneurial attitude variable shows that all variable indicators are very strong in explaining entrepreneurial attitude as the loading factor values are greater than 0.7 (Table 4). Likewise, all indicators of entrepreneurial intention are very strong in explaining entrepreneurial intention variable as the loading factor values are greater than 0.7 (Table 5).

Table 6 shows the results of path analysis. Entrepreneurship education has a positive and significant influence on entrepreneurial characteristic, with a coefficient of 0.722. The influence of entrepreneurship education on entrepreneurial attitude is not significant with a coefficient of -0.036. Similarly, the influence of entrepreneurship education on entrepreneurial intention is not significant with a coefficient of -0.158. The influence of entrepreneurial characteristic on entrepreneurial attitude is significant with a coefficient of 0.903. The influence of entrepreneurial attitude on entrepreneurial intention is also significant with a coefficient of 0.702.

Table 4 Loading scores and the average values of entrepreneurial attitude

Indicator	Loading Estimate	Average
Prefer to own a business	0.871	4.09
Prefer a type of work with irregular working hours	0.836	4.27
often involved in entrepreneurial activities	0.895	4.16
Work hard to realize business ideas	0.802	4.27

Average value of entrepreneurial attitude indicators	4.20
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Table 5 Loading scores and the average values of entrepreneurial intention

Indicator	Loading Estimate	Average
I want to have a business after graduation	0.886	4.16
In the future, I want to manage my own business	0.840	4.24
Quickly realize the desire to do business	0.839	4.27
Work hard to open a new business and run it	0.802	4.33
After having entrepreneurial competence I will open a new business	0.686	4.24
believe building and maintaining social networks helps start new businesses	0.802	4.33
Average value of entrepreneurial intention indicators		4.22

Table 6. Path Analysis Results

Independent Variable	Dependent Variable	Path Coefficient	P Value	Notes
Entrepreneurship Education	Entrepreneurial Characteristic	0.722	< 0.001	Significant
Entrepreneurship Education	Entrepreneurial Attitude	-0.036	0.738	Not Significant
Entrepreneurship Education	Entrepreneurial Intention	-0.158	0.184	Not Significant
Entrepreneurial Characteristics	Entrepreneurial Attitude	0.903	< 0.001	Significant
Entrepreneurial Characteristics	Entrepreneurial Intention	0.275	0.158	Not Significant
Entrepreneurial Attitude	Entrepreneurial Intention	0.702	< 0.000	Significant

Referring to the literatures of Solimun, (2002); Hair, Black, Babin, & Anderson, (2010), an indirect influence analysis was conducted using the difference coefficient approach. The results showed that entrepreneurship education has a significant effect on entrepreneurial characteristic with a coefficient of 0.722, and entrepreneurial characteristic has no significant effect on entrepreneurial intentions with a coefficient of 0.275. Further, entrepreneurship education has no significant effect on entrepreneurial intention with a coefficient of -0.158 (Table 6 and Figure 1). Because entrepreneurial characteristic did not have a significant effect on entrepreneurial intention, entrepreneurial characteristic was not a mediating variable with regard to the influence of entrepreneurship education on entrepreneurial intention.

The results of the analysis show that the influence of entrepreneurship education on entrepreneurial attitude is not significant with a coefficient of -0.036, and the influence of entrepreneurial attitude on entrepreneurial intention is significant with a coefficient of 0.702. In addition, the influence of entrepreneurship education on entrepreneurial intention is not significant with a coefficient of -0.158 (Table 6 and Figure 2). Based on this analysis, entrepreneurial attitude is not a mediating variable for the influence of entrepreneurship education on entrepreneurial intention.

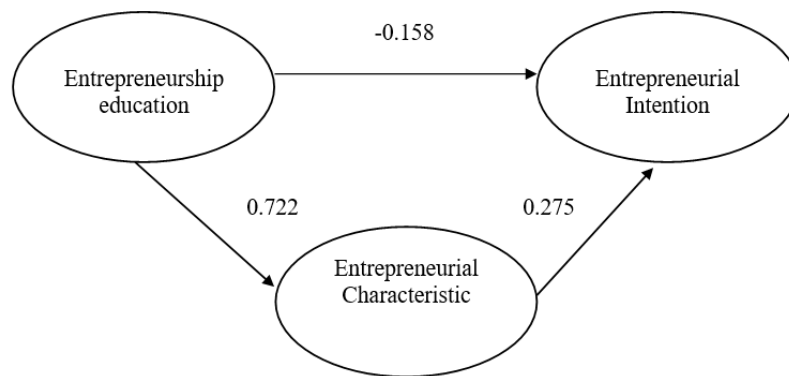


Figure 1. Analysis of the Influence of Entrepreneurship Education on Entrepreneurial Intention with Entrepreneurial Characteristic as a Mediating Variable

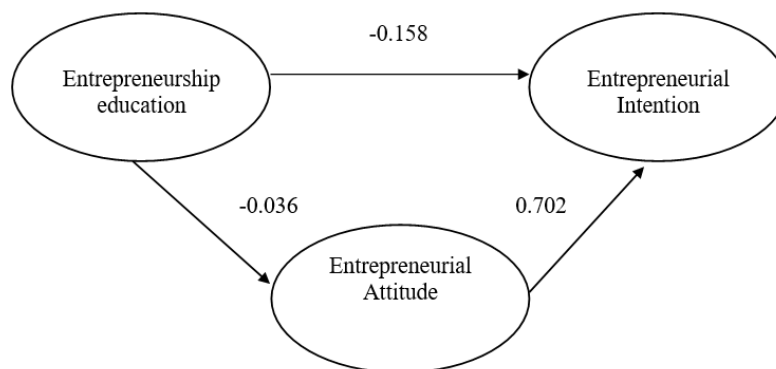


Figure 2. Analysis of the Influence of Entrepreneurship Education on Entrepreneurial Intention with Entrepreneurial Attitude as a Mediation Variable

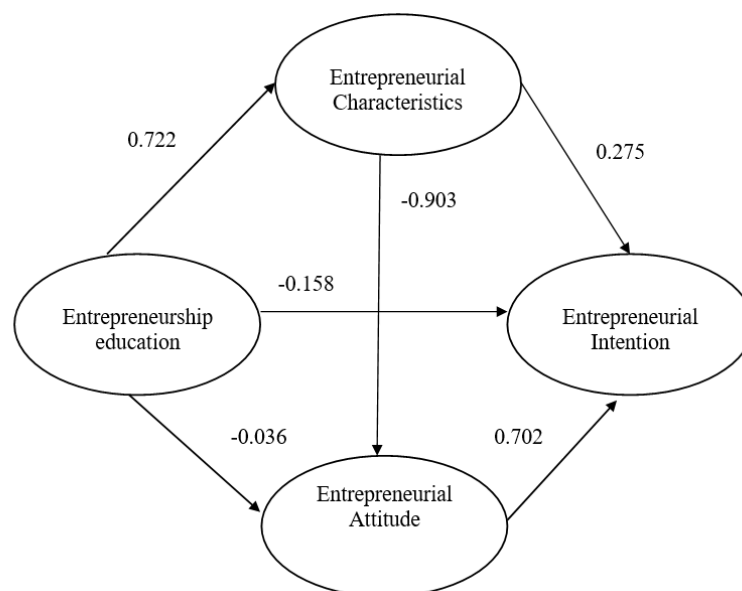


Figure 3. Path analysis diagram

The results of the analysis show that entrepreneurship education has a significant effect on entrepreneurial characteristics with a coefficient of 0.722. Entrepreneurial characteristics have a significant effect on entrepreneurial attitude with a coefficient of 0.903. Likewise, entrepreneurial attitude has a significant effect on entrepreneurial intention with a coefficient of 0.702 (Table 6 and Figure 3). The effect of entrepreneurship education on entrepreneurial intention is not significant with a coefficient of -0.158. The effect of entrepreneurial characteristics on entrepreneurial intention is also not significant with a coefficient of 0.275. Based on this analysis, entrepreneurial characteristic and entrepreneurial attitude mediate the effect of entrepreneurship education on entrepreneurial intention. The coefficient for the effect of entrepreneurship education on entrepreneurial intention through entrepreneurial characteristics and entrepreneurial attitude, is 0.458 ($0.722 * 0.903 * 0.702$).

5 DISCUSSION

This means that entrepreneurship education which includes entrepreneurship course, entrepreneurship seminar activities, Do It Start A Business board game training, training in developing business plans, realizing business plans, training in calculating production costs and determining selling prices, and participating in entrepreneurship expos, can increase the level of students' entrepreneurial characteristics, including internal locus of control, need for achievement, propensity to risk, creativity, social networking, tolerance for ambiguity, leadership, and critical thinking. Furthermore, students with high entrepreneurial characteristics tend to like participating in entrepreneurial activities and like to work with flexible working hours. Furthermore, they want to realize their business ideas into real businesses in the future, after having capital and social networks. Leadership is the dimension of entrepreneurial characteristic variables that contributes the most to explaining entrepreneurial characteristic variable, followed by social networking, and need for achievement. These results can be interpreted as having leadership qualities, ability to build and maintain social networking, and a strong desire to achieve more, which are very important for someone who wish to become an entrepreneur in the future.

The results of the study stated that entrepreneurship education can increase the level of entrepreneurial characteristics. The results of this study confirm the results of previous studies which stated that students who take training and are active in business ventures have higher entrepreneurial characteristics compared to students who do not take entrepreneurship education. (Rasheed, 2003 & Chen *et al.*, 2010); Entrepreneurship education and training play an important role in developing a person's entrepreneurial characteristics (Bhatti, Aldogman, Mat Saat, Juhari, & Alshagawi, 2021). Furthermore, someone who has high levels of entrepreneurial characteristics tends to be willing and happy to participate in entrepreneurial activities. The results of this study add strength to those from previous studies which stated that the tendency to take risks, internal locus of control, innovation, need for achievement, and tolerance for ambiguity, self-control have a positive and significant effect on entrepreneurial attitudes (Luthje & Franke, 2003; Yusof *et al.*, 2007; Harris & Gibson, 2008). Finally, someone who tends to like and is interested in getting involved in entrepreneurial activities tends to want their business ideas realized into real businesses after successfully collecting capital and having a social network in the future after graduation. The findings of this study support the results of previous research, which stated that the influence of entrepreneurial attitude on entrepreneurial intention is strong and significant. (Luthje & Franke, 2003; Fini, Grimaldi, Marzocchi, & Sobrero (2009; Kusmintarti *et al.*, 2014).

6 CONCLUSION

Students who took entrepreneurship courses and actively follow and participate in entrepreneurship programs tend to have stronger entrepreneurial characteristics. In addition, students who have entrepreneurial characteristics tend to appreciate and like to participate in entrepreneurial activities, as such, students get to realize their business ideas, turning them into real businesses in the future, after accruing capital and through social networking. It means that students from the State Polytechnic of Malang and the Business Administration Study Program at the Faculty of Vocational, Brawijaya University, who take entrepreneurship courses and actively participate in entrepreneurial activities, tend to have higher levels of entrepreneurial characteristics. These characteristics include internal locus of control, need for achievement, propensity to take risks, creativity, social networking, tolerance for ambiguity, leadership, and critical thinking. Additionally, students from SMKN 12 Malang who take entrepreneurship courses and participate in entrepreneurship seminars and the 'Do It Start A Business' board game training also exhibit these traits. Furthermore, Students who have entrepreneurial characteristics tend to appreciate and like to participate in entrepreneurial activities, as such, students get to realize their business ideas, turning them into real businesses in the future, after accruing capital and through social networking.

Among the entrepreneurial characteristics studied, leadership is the dimension of entrepreneurial characteristic variables that contributes the most to explaining entrepreneurial characteristic variable, followed by social networking, and need for achievement. These results can be interpreted as highlighting the importance for students of having leadership qualities, the ability to build and maintain social networking, and a strong desire to achieve more, which are very important for students who wish to become an entrepreneur in the future.

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