

Understanding Entrepreneurial Intention of Vocational High School Students in Indonesia

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Abstract:

The present study aims to analyze the entrepreneurial intentions (EI) of students by using theory of planned behavior (TPB) as the underlying thinking framework. The role of entrepreneurial attitude (EA) and entrepreneurial self-efficacy (ESE) as mediators also analyzed. 302 students from five vocational high schools in Indonesia were involved as participants. Mediating role of EA and ESE statistically analyzed by followed Hayes (2018.) EI was statistically significant shaped by entrepreneurial personal motivation (EPM), EA, and ESE. EA and ESE were statistically significant as mediators of EPM towards EI. This finding can be used as preliminary diagnosis of entrepreneurship education program in vocational high school in Indonesia. Entrepreneurship teaching should consider that raise EPM is an important aspect for raising EI.

Keywords: Entrepreneurial intention, Entrepreneurial personal motivation, Entrepreneurial attitude, Entrepreneurial self-efficacy, Theory of planned behavior, Vocational school

1. Introduction

The tendency of the student's behavior whether a career to be an entrepreneur or work in a company after graduating school can be predicted by understanding their intentions (Ilouga *et al.*, 2014; Scherer *et al.*, 1991). This is in accordance with the basic concept of TPB that a person's behavior can be predicted by understanding intention (Ajzen, 1991). TPB is used by researchers as a basis for predicting students' entrepreneurial behavior (Autio *et al.*, 2001; García-Rodríguez *et al.*, 2017; Iakovleva *et al.*, 2011; Kautonen *et al.*, 2015; Krueger *et al.*, 2000; Liñán and Chen, 2009; Zhang and Cain, 2017).

Base on the TPB, intention is influenced by several antecedents. There are three main antecedents that shape the EI, namely the attitude

to behavior (ATE), perceived behavioral control (PBC) and subjective norm (Ajzen, 1991; Al-Jubari *et al.*, 2018; Kautonen *et al.*, 2015;). A person's intention is also influenced by self-efficacy (Bellò *et al.*, 2018; Boyd and Vozikis, 1994; De Vries *et al.*, 1988; Schmutzler *et al.*, 2018). On the other hand, motivation also plays an important role to forms the intentions (Barba-Sánchez and Atienza-Sahuquillo, 2017, 2018; García-Rodríguez *et al.*, 2017; Mahendra *et al.*, 2017; Tyszka *et al.*, 2011).

Understanding the process of forming entrepreneurial intention is important (Bird, 1988; Boyd and Vozikis, 1994; Liñán and Chen, 2009). Understanding students' entrepreneurial intentions provides great benefits for the program of education (Krueger *et al.*, 2000; Liñán *et al.*, 2011). Understanding of students' entrepreneurial intentions can be taken into consideration to formulate relevant educational programs for entrepreneurship (Douglas and Fitzsimmons, 2013). For teachers, understanding students' entrepreneurial intentions can help them to increase students' potential through better entrepreneurial education (Krueger *et al.*, 2000).

Analyzing student entrepreneurial intention is important for the formulation of education policies (Douglas and Fitzsimmons, 2013). There must be differentiation between someone who wants to be self-employed or became an employee (Douglas and Fitzsimmons, 2013). Teachers can use student entrepreneurial intentions as a diagnostic tool for the improvement process (Krueger *et al.*, 2000). Teachers should improve students' entrepreneurial intentions through increasing student entrepreneurial motivation as antecedent of entrepreneurial intention (García-Rodríguez *et al.*, 2017).

The importance of understanding student entrepreneurial intentions for the entrepreneurship education is the main reason for conducting this research. This research used TPB as a theoretical foundation that supported by the theory of ESE and entrepreneurial personal motivation (EPM). This study examined the effect of EPM to EI through EA and ESE as mediators.

2. Literature Review

2.1 Theory of Planned Behavior

One of the theories that focuses on studying intentions is TPB. This theory examines intention as a tool to predict behavior (Ajzen, 1991). Various studies on intentions have been conducted by researchers who use TPB as a basis for theory. Researchers applied TPB in various fields of research, including: the field of health (De Vries *et al.*, 1988), the field of education (Liaw, 2004), understood consumer behavior (Dilmeri *et al.*, 2017), and the field of entrepreneurship (Autio *et al.*, 2001; Feola *et al.*, 2017; Kautonen *et al.*, 2015; Liñán *et al.*, 2011; Liñán and Santos, 2007; Santos *et al.*, 2016). In the field of entrepreneurship, TPB was applied in various ways. Some researchers have studied entrepreneurship only with TPB (Autio *et al.*, 2001; Iakovleva *et al.*, 2011; Kautonen *et al.*, 2015; Liñán and Chen, 2009). Several other researchers modified and tested TPB studies with other theories (Al-Jubari *et al.*, 2018; García-Rodríguez *et al.*, 2017; Liñán *et al.*, 2011; Santos *et al.*, 2016; Shiri *et al.*, 2017; Solesvik, 2013).

According to the TPB, the main center of study is devoted to intention as an important determinant of action (Autio *et al.*, 2001). Intention is a high interest in the specific case (Bird, 1988). In the entrepreneurial context, EI can be used to predict the behavior of entrepreneurship during the starting of the business (Krueger *et al.*, 2000). EI is someone's intention to open a business independently (Engle *et al.*, 2010). EI is defined as a strong desire to own a business (Zhang and Cain, 2017).

Based on TPB, one of the important antecedents to EI is EA (Al-Jubari *et al.*, 2018; Feola *et al.*, 2017; Liñán and Chen, 2009; Santos *et al.*, 2016). Attitude is an assessment process and perception of behavior before doing an action (Ajzen, 2001). The same object will be perceived differently by different people. This is the real form of attitude. Interpretation of behavior results in different outcomes if different attitudes are built (Ajzen, 2001). For the same role, in the entrepreneurial context, the attitude shows the perception of entrepreneurship. EA is a personal assessment, both positive or negative, to become an independent person for starting a new business (Liñán and Chen, 2009). EA is how far individuals value the concept of entrepreneurship as something that is favored (Kautonen *et al.*, 2015). It means that EA is a sense of pleasure or unhappiness reflected in someone's desire to be self-employed.

2.2 Entrepreneurial self-efficacy (ESE)

According to the view of TPB, the concept of ESE is a similar context to perceived behavior control (PBC). This similarity makes ESE integrated as part of TPB in several previous studies (De Vries *et al.*, 1988; Engle *et al.*, 2010; Zhang and Cain, 2017). The PBC concept is recognized by Ajzen (1991) developed from the self-efficacy (SE) concept of Bandura (1977). PBC-SE are the same concept about the belief in the ability possessed (Ajzen, 2002). PBC-SE have two important similarities, namely both of them have a strong influence on intention to behave, and both concepts are equally talked about the perception of the ability and belief (Armitage and Conner, 2001; Conner and Armitage, 1998).

Self-efficacy is related to specific beliefs about the specific abilities of a person (Ajzen, 2002). Self-efficacy as an important antecedent of entrepreneurial intentions (Barbosa *et al.*, 2007; Boyd and Vozikis, 1994; Chen *et al.*, 1998; Kickul *et al.*, 2009; Kickul *et al.*, 2008; McGee *et al.*, 2009; Tiwari *et al.*, 2017). ESE is a specific term that is used to explain beliefs about specific abilities in the field of entrepreneurship. ESE is an individual's belief with the capability to be successful in running a new business independently (Boyd and Vozikis, 1994). ESE is a specific belief that a person is able to succeed in carrying out specific tasks as an entrepreneur (Barbosa *et al.*, 2007). Further, Barbosa *et al.* (2007) stated that there are four types of ESE, namely, opportunity-identification self-efficacy, relationship self-efficacy, managerial self-efficacy, and the tolerance self-efficacy.

2.3 Entrepreneurial Personal Motivation

Human behavior is the result of the motivation processes and cognitive factors (Shane *et al.*, 2003). The success of an act is influenced by motivation (Herron and Sapienza, 1992). Associated with entrepreneurship, motivation has an important role that plays for running a new business creation. Entrepreneurial motivation is a personal reason that encourages people to choose to be an entrepreneur (Segal *et al.*, 2005). Entrepreneurial motivation is a reason that encourages someone to open a business independently (Morales-Gualdrón *et al.*, 2009). Entrepreneurial motivation is not only about the reason, but also the goal and tendency that drives efforts to establish and start a business.

There are several motives that influence a person's decision whether to become a worker or an entrepreneur. Previous researchers (Morales-Gualdrón *et al.*, 2009) examined multi-dimensional motivation (personal motivation, social environment, organizational environment, business opportunities and scientific development) to become an entrepreneur.



Examining multi-dimensional motivation in two different groups also has been done previously by Autio and Kauranen (1994). The first group was an entrepreneur in the field of technology, and the second one was the researchers. There were four dimensions that was examined, namely the factor of opportunity, personal motivation, market pull and technology development. In the context of present research, personal motivation from Autio and Kaunen (1994) was used as a reference in the development of motivational instruments. Entrepreneurial personal motivation is specific terms that used in present research closely related to personal reasons that exist in someone who encourages people to become an entrepreneur. Referring to Autio and Kauranen (1994), entrepreneurial personal motivation consists of achievement motive, reasons for self-development, motivation to be more independent, economic motives and frustration with circumstances.

2.4 Hypothesis development

Research findings indicated that there was a significant influence of EA on EI (Liñán and Chen, 2009). This result was also strengthened by several presently researchers (Al-Jubari *et al.*, 2018; Kautonen *et al.*, 2015; Mahendra *et al.*, 2017; Shiri *et al.*, 2017). Wider testing was carried out by Iakovleva *et al.* (2011) involved 2.235 students from 13 countries. The results of the research showed that EA was the strongest influence on EI when compared with other variables (Iakovleva *et al.*, 2011).

Self-efficacy has a significant effect on decisions (intentions) to become entrepreneurs (Chen *et al.*, 1998; McGee *et al.*, 2009; Wilson *et al.*, 2007). Some recent findings also showed that it was not much different from previous (Bellò *et al.*, 2018; Gupta *et al.*, 2018; Schmutzler *et al.*, 2018; Tiwari *et al.*, 2017; Zhang and Cain, 2017). ESE is an important factor that will directly affect EI (Krueger *et al.*, 2000). Self-efficacy does not only directly affect Intention, but also towards behavior (De Vries *et al.*, 1988). In the context of entrepreneurship, ESE is an important form of EI to build confidence in entrepreneurs, so that they have the courage to act differently and cannot be predicted in the face of uncertainty (Baum and Locke, 2004). The higher the ESE, the stronger the entrepreneurial intention (Boyd and Vozikis, 1994; Chen *et al.*, 1998; Kickul *et al.*, 2008; Wilson *et al.*, 2007).

In the other hand, entrepreneurial motivation has a significant influence on entrepreneurial intention (Barba-Sánchez and Atienza-Sahuquillo, 2017, 2018; Mahendra *et al.*, 2017). The higher

entrepreneurial motivation is owned by someone with a high intention towards entrepreneurship. The workers have lower entrepreneurial motivation than the entrepreneur, so that the EI of workers also lower (Tyszka *et al.*, 2011). Motivation provides a real influence on a willingness to do anything for successful in a business (Barba-Sánchez and Atienza-Sahuquillo, 2017). Entrepreneurial motivation to ESE gives a positive and significant influence (Yi and Duval-Couetil, 2018). In the context of a slightly different, achievement motivation has a strong effect on ESE (Scherer *et al.*, 1991). A logical argument can be presented that the higher a person's motivation, naturally will build strong self-confidence and belief that able to complete the tasks and responsibilities as an entrepreneur. This means that entrepreneurial personal motivation in various dimensions will have a significant effect on ESE. Entrepreneurial motivation to attitude has a significant and positive effect (Mahendra *et al.*, 2017). Entrepreneurial motivation had tested to EA, SN and PBC, the result showed the only entrepreneurial motivation-EA has a significant effect (García-Rodríguez *et al.*, 2017). The other tests were shown findings that motivation have a significant effect on attitudes (Solesvik, 2013). In the entrepreneurial context, high entrepreneurial personal motivation can provide a better attitude towards entrepreneurship.

The mediator function EA has been tested by several researchers (Al-Jubari *et al.*, 2018; García-Rodríguez *et al.*, 2017; Solesvik, 2013; Zhang and Cain, 2017). Entrepreneurial attitude is a full mediator in the relationship between risk taking and entrepreneurial intention (Zhang and Cain, 2017). Human motivation based on self-determinant theory indirectly influence on EI, with EA, SN and PBC as mediators (Al-Jubari *et al.*, 2018). Regarding entrepreneurial personal motivation, entrepreneurial attitude can act as a full mediator of EI (Solesvik, 2013).

ESE is an important variable that can be a mediator of EI (Bellò *et al.*, 2018). Several tests have been carried out successfully on the role of ESE mediators on EI (Prabhu *et al.*, 2012; Zhang and Cain, 2017; Zhao *et al.*, 2005). In the context of the relationship between EPM and EI, which places ESE as a mediator give strong evident (Yi and Duval-Couetil, 2018). On the other hand, Hui-Chen *et al.* (2014) stated that there was a positive and significant relationship between motivation and EI, both directly and indirectly. This opinion confirms that EPM towards EI could be mediated by various variables. In the context of present research, EA and ESE could be mediator for EPM toward EI.

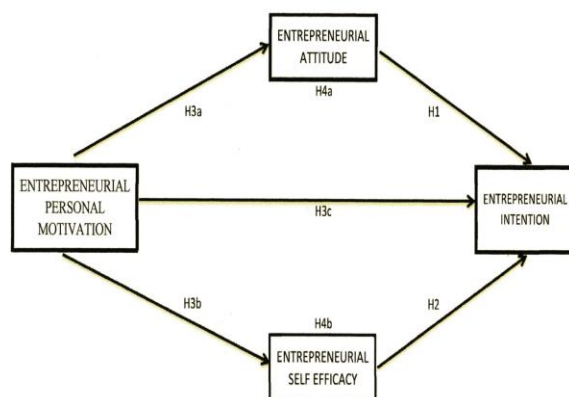


Figure 1. Research framework

Figure 1 show the conceptual frame work of the present research. Base on the figure 1 we can see the relationship between various variable. The hypothesis can be concluded as follows:

- H1 : EA has a significant and positive effect on EI
- H2 : ESE influences the significance and positivity of EI
- H3 : EPM has a significant and positive effect on: (a) EA, (b) ESE, and (c) EI
- H4 : EPM towards EI indirectly influences significance through (a) EA and (b) ESE as mediator

Research Methods

The design of this study was compiled by following correlational research rules. The present study aims to examine mediator role of EA and ESE. Hypotheses testing of parallel multiple mediation using direction from the bootstrap technique for estimate the effect of variable (Hayes, 2009, 2018; Preacher and Hayes, 2008). Multiple regression and simple linear regression were used to test hypotheses (Autio *et al.*, 2001; Bellò *et al.*, 2018) All analyzes was carried out with SPSS 22 with Process 3.1 (see, Hayes, 2018). H_0 rejected if there is no zero between lower and upper level of confidence interval (Hayes, 2009, 2018; Preacher and Hayes, 2008).

The participants of this research were vocational high school students from 5 schools in East Java Province of Indonesia. All of the schools are public school. 302 students participated voluntary in the present study. 57 students from SMK Negeri Tempursari, Lumajang District, 32 students from SMK Negeri 1 Kraksaan, Probolinggo District, 95 Students from SMK Negeri 2 Tuban, Tuban District, 75 students from SMK Negeri 1 Boyolangu,

Tulungagung District, and 43 students from SMK Negeri 1 Turen, Malang District. All participants were majoring in online marketing program. Age range of respondents was 16-19 years old. 7% of students were 16 years old, 39% of students were 17 years old, 42% of students were 18 years old, and 12% of students were 19 years old. 72% respondents were female students. Data collected using questionnaires. The data collection process was carried out for two weeks in the first and second weeks of April 2018. Students was collected in class, they fill the questionnaire voluntarily. The students filled out the questionnaire when they toke entrepreneurship lessons. The filling of questionnaires was supervised directly by entrepreneurship subject teachers.

Development of research instruments

was carried out by referring to instruments that had been developed by previous researchers. EA was developed by adapting from Liñán and Chen (2009). EPM was developed by adapting the instruments developed by Autio and Kauranen (1994). ESE instruments refer to instances developed by Kickul *et al.* (2009). While the EI variable refers to Liñán and Chen (2009). The measurement of the instrument was done by using the Likert scale, from 1 to 5. Value 1 to indicate that it was very disagreeable and the value 5 to indicate that was the quote strongly agrees. To check the internal consistency of the instrument used reliability testing (Scherer *et al.*, 1991). This aims to found out the relevance of instruments in the context of Indonesian culture. The test results showed that EPM had a Cranach's alpha coefficient value of 0.817. EA had a Cranach's alpha coefficient of 0.816. ESE had a value of 0.889. EI had Cranach's alpha coefficient of 0.8. Based on result of reliability test, all of instruments had good reliability.

Result

There were three regression models in this research. The first model examined the influence of independent variables on mediator variables ((a) the effect of EPM on EA and (b) EPM on ESE). The second model was independent variable toward the dependent variable (EPM against EI). The third model examined the independent variables and mediators towards dependent variable (EPM, EA, and ESE to EI).

Table. 1 The regression analyzis results

Variable	EA (β)	ESE (β)	EI (β)
EPM	0,4627*	0,5547 *	20,3784* / 0.1094 ³⁻
EA			0.6834*
ESE			0.3094*

* $p < 0,05$; ²Model 2; ³Model 3; R Square: 0,6079

The results of all models testing show on table 1. The result shows that EPM, EA, and ESE have a significant effect on EI ($p < 0.000$). R Square value shows 0.6079. It means that the variables EPM, EA, and ESE have an effect of 60,79% to EI, while 39,21% was influenced by other variables. EA has significant effect towards EI, coefficient value of EA to EI is 0,68. That's means that H1 is accepted. H2 also shows that can be accepted. Based on information from table 1, ESE has significant effect towards EI. Coefficient value of ESE to EI is 0,31. Based on table 1, EPM towards EI has different result. EPM to EI, without mediator variables (Model 2) shows significant effect. But, if integrated with mediator variables (model 3) has no significant effect. Coefficient value of EPM to EI is 0,3784 (Model 2) and -0,1094 (model 3). Model 1 examines the effect of EPM on EA and ESE. Both effect of EPM to EA and ESE show significant results ($p < 0,000$). Coefficient value of EPM to EA is 0,462 and EPM to ESE is 0,5547. This results shows that H3a and H3b are accepted.

Table 2 shows direct and indirect effect of EPM to EI through EA and ESE. Based on the data presented in table 2, can be seen that hypothesis testing of total indirect effect of EPM towards EI through EA and ESE as mediators is significant. Based on value of lower and upper of CI, there is no zero between lower and upper of CI. This result can be justified that statistically significant. The same results also show for specific indirect effect of EA and ESE also significant. It means that H4a and H4b are received. Table 2 also informs that total indirect effect of EPM to EI is 0.4878. Specific indirect effect of EPM toward EI through EA is 0.3162, through ESE is 0.1716. For more detail information can be seen in table 2 below.

Table 2. Direct and Indirect Effect of EI to EM

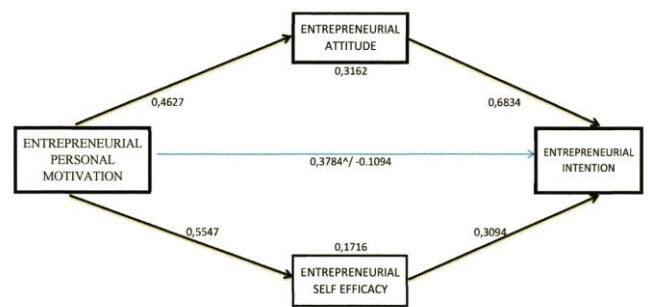
Path	Effect	SE	LLCI	ULCI	P
Total Effect of EPM on EI	0,38*	0,08	0,21	0,54	0,00
Direct effect of EPM on EI	-0,11	0,06	-0,23	0,007	0,06
Total Indirect effect of EPM on EI	0,48*	0,07	0,33	0,63	
Specific indirect effect of EPM on EI through EA	0,32*	0,06	0,19	0,433	
Specific indirect effect of EPM on EI through ESE	0,17*	0,04	0,098	0,25	

3. * $p < 0,05$

4. Discussion

Figure 2 shows the complete model based on hypothesis test. Based on figure 2, there are two different results in testing H3c. The first testing examines EPM towards EI without involve mediator variables (EA and ESE.). The second test involves EPM, EA and ESE together toward EI. The first testing show EPM towards EI is positive and significant, but the second one is contradictory. This result was in line with Solesvik (2013). The difference results show the role of the mediator variable which reduce the direct influence of EPM on EI. So, although there were two different result, but in whole model (integrated mediator variable), there is no effect of EPM to EI. It could be concluded that the H3c is rejected.

Hypothesis 1 examined the effect of EA towards EI. The result showed that this testing was accepted. Actually, this result was not surprising. Most of all TPB studies with EA as determinants of EI showed consistent results (Al-Jubari *et al.*, 2018; Autio *et al.*, 2001; Feola *et al.*, 2017; Iakovleva *et al.*, 2011; Kautonen *et al.*, 2015; Liñán and Chen, 2009; Liñán and Santos, 2007; Liñán *et al.*, 2011; Santos *et al.*, 2016) EA was the most powerful variable contribution to influenced EI (Al-Jubari *et al.*, 2018; Iakovleva *et al.*, 2011; Liñán *et al.*, 2011). The findings in this study further emphasized the consistency of the EA as antecedent of EI.



* Direct effect / Model without mediator (EA and ESE)

Figure 2. Final result of research analysis

Testing on hypothesis 2 also accepted. This means that ESE had a positive and significant effect on EI. This finding also strengthened several studies that had been carried out previously (Segal *et al.* 2002; Wang, *et al.* 2002). The same findings of the research were delivered by Baidi and Suyatno (2018) that in the context of Indonesian cultural setting, ESE had a significant and positive effect on EI.



ESE is an important element for the formation of EI (Boyd and Vozikis, 1994). This was the reason that encouraged the integration of ESE in the EI model (Boyd and Vozikis, 1994; De Vries *et al.*, 1988; Krueger *et al.*, 2000). The results of ESE integration in the EI model that have been done in the present research showed satisfactory results, that ESE had a significant and positive effect on EI. Other research findings also showed great effect of ESE toward EI (Barbosa *et al.*, 2007; Bellò *et al.*, 2018; Chen *et al.*, 1998; Kickul *et al.*, 2009, 2008; Wilson *et al.*, 2007; Zhao *et al.*, 2005). Various results of the research were strengthened by the results of the present research.

The testing results in hypothesis 3a was in line with previous studies (García-Rodríguez *et al.*, 2017; Mahendra *et al.*, 2017; Solesvik, 2013). The three previous studies (García-Rodríguez *et al.*, 2017; Mahendra *et al.*, 2017; Solesvik, 2013) conducted research in the context of university students. Whereas in present research conducted students in vocational high school. Although, the present research had different level of education for the participants, but the testing showed consistent results.

Hypothesis 3b stated that EPM had a positive and significant effect on ESE. The results of this test indicated that the hypothesis 3b could be accepted. This study confirmed that EPM had a significant and positive effect on ESE. This meant that the stronger entrepreneurial motivation made, the greater the confidence to succeed in running a business. These results confirmed the research assumption that ESE and PBC had same context. This could be seen from Solesvik's findings (2013) that entrepreneurial motivation affected PBC. In the context of this research EPM had an effect on ESE.

The result testing of hypothesis 4a was in line with previous research findings (Solesvik, 2013). Entrepreneurial attitude was a mediator for entrepreneurial personal motivation towards entrepreneurial intention (Solesvik, 2013). The other study conducted also showed that entrepreneurial attitude was able to become a mediator for entrepreneurial intention (Zhang and Cain, 2017). Presently finding showed that EA was a mediator for entrepreneurial intention from antecedent of entrepreneurial intention (Al-Jubari *et al.*, 2018). Based on table 2, specific indirect effect of EPM to EI through EA is significant. The results show that there is no zero on range of LLCI to ULCI. It's mean that statistically significant. Coefficient value of specific indirect effect of EA is 0, 316.

Hypothesis 4b states that ESE was a mediator of EPM towards EI significance. The test results based on table 2 shows that the 5b hypothesis can be accepted. There is no zero between LLCI and ULCI. This indicates that ESE is as a mediator of EPM towards EI statistically significant. Coefficient value of specific indirect effect of ESE is 0,172. Identical test results were shown by Solesvik (2013), that ESE (PBC) was a mediator of entrepreneurial motivation towards EI. The other finding also confirmed that ESE was a mediator of EPM toward EI (Yi and Duval-Couetil, 2018). The ability of ESE as a mediator of EI had also been demonstrated by several previous researchers (Bellò, *et al* 2018; Zhang and Cain, 2017; Zhao *et al.*, 2005). The present research found that ESE was a mediator for EPM towards EI.

5. Conclusion

Most of hypotheses testing show satisfying results. Role of ESE as mediator of EPM towards EI is an original finding in this study. The results could provide input for all parties that if you want to build your entrepreneurial generation, you should build variables that affect the intention the implemented entrepreneurial education in schools should be more focus on improving the ESE, EPM and EA students. The higher these three variables, the higher their EI will be. The main limitation in this study is related to the selection of samples in only five schools. Expansion of samples with different contexts is expected to be carried out by other researchers as an improvement effort and get a more comprehensive picture.

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