

Personality traits, entrepreneurial self-efficacy, and entrepreneurial intention among vocational students

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ABSTRACT

Entrepreneurship in technical and vocational education is a current and relevant topic. While the role of entrepreneurial self-efficacy (ESE) and personality traits as determinants of entrepreneurial intention (EI) has been extensively studied, the role of ESE and personality traits as determinants of vocational students' EI is still poorly understood. Thus, this study employed ESE and big five personality traits to explore the determinants of EI among vocational college students. This study's survey had a sample size of 162 technical vocational education and training (TVET) college students, enrolled in technology in automotive, technology in welding, and technology in refrigeration and air conditioning programs. Data were analyzed using Pearson Correlation and Multiple Linear Regression. The results indicate that apart from neuroticism, openness to experience, conscientiousness, agreeableness, and extraversion were positively associated with EI. The results also confirm that ESE is a predictor of EI. Going forward, the article intends to contribute to a better understanding of ESE and personality traits that influence vocational students' EI, as well as provide some important insights into the unique aspects of TVETs that empower youth to actively participate in micro-entrepreneurial initiatives. This study encourages academics and policymakers to reconsider the approach used in entrepreneurship education in the vocational setup.

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1. INTRODUCTION

The contemporary socio-economic landscapes of Malaysia warrant the demand for technical and vocational education and training (TVET) as a means to seize employment opportunities [1]. Over the last few years, government policies have heavily promoted TVET programs to stimulate and rejuvenate entrepreneurial activities (reference) because these programs have a track record in producing a skilled workforce that can drive enterprises [2]. TVET programs remain in high regard as a primary bridge in fortifying the TVET-enterprises link [3]. Enterprises can offer opportunities for vocational college graduates to generate good income using the skills learned, thus being more resilient to life challenges [4]. As planned by the Ministry of Education [5] vocational colleges are responsible for producing 10 percent of entrepreneurs by providing training activities in enterprises. Previous studies disclose that small enterprises in Malaysia contribute significantly to job creation [6] despite being comparatively lower than other countries due to a range of reasons [7].

Based on theories, entrepreneurship is an effective solution for the unemployed, particularly educated individuals who struggle to secure jobs [8]. An individual who wants to pursue entrepreneurship demonstrates deliberate and planned behavior; it is observed that when one's own business is being created, he/she is highly involved in careful planning and thinking [9]. Specifically, entrepreneurship is a process, and entrepreneurial intention (EI) would be the first step in the long process of venture creation [10], [11]. Although intention behavior is significant in the birth of a new venture, it is important to examine factors that influence the EIs of TVET students so that adequate understanding is established to formulate and roll out strategies that effectively spark these traits [12].

Shapero and Sokol's [13] earlier study proposed the model of the entrepreneurial event which presented personality traits as a key EI predictor, and this was supported by other observations that the role of personality is significant in intention [14]–[16]. This study further explained personality traits in five dimensions, namely extraversion (EXTRA), openness (OPEN), neuroticism (NEURO), conscientiousness (CONSC), and agreeableness (AGREE) [17], commonly named the Big Five personalities. Past studies have explored the connection between the Big Five personalities and EI from various perspectives [18]–[24]. A previous study by Nawang *et al.* [25] found that personality traits are significantly correlated to students' decision to pursue entrepreneurship as a career. The study reported that high school students' entrepreneurial personality traits scored a moderate level as their motivation to succeed and risk-taking were less positive. Besides that, Rajadurai *et al.* [1] stated that vocational college students have a moderate level of EXTRA, AGREE, CONSC, and OPEN towards the entrepreneurial tendency.

In addition, researchers observed that entrepreneurial self-efficacy (ESE) influences TVET students' EI. ESE refers to a person's confidence in their capacity to create a successful business [26]. It is an important part of the intentional model of business decision-making [9] which advocates the active, and not passive participation of an individual plays a crucial role in business creation and management decisions. According to Krueger, Reilly, and Carsrud [20], ESE is proposed as a major antecedent of the intention to become an entrepreneur. Botha and Taljaard [27] even identified a relationship between ESE and EI. Lans, Gulikers, and Batterink [28] suggested a direct link between students' ESE and their EIs. Higher levels of ESE are associated with lower (higher) degrees of EI in theoretically (practically) oriented courses [29].

To date, several relevant research have shown that cognitive and personality-related factors are predictors of EI [28]. However few empirical studies have looked at how these factors influence EI among TVET college students [29]. Researchers have mostly applied the theory of planned behavior [19] and the Shapero-Krueger model of the entrepreneurial event [20] to explain TVET college students' EI. Yet, there has been a lack of research that includes both ESE and personality traits and tests how these factors simultaneously influence EI among TEVT college students, particularly in Malaysia. Thus, this research aims to investigate the roles of ESE and the Big Five personality traits as determinants of EI among Malaysian TVET college students. Particularly, the study was focused on two objectives: i) To determine the influence of personality traits (i.e., OPEN, CONSC, EXTRA, AGREE, and NEURO) on EI; and ii) To determine the influence of ESE on EI.

2. RESEARCH METHOD

This research is cross-sectional. The study's participants were diploma vocational students from three vocational colleges in Negeri Sembilan, Malaysia, as these three colleges are the only ones that offer all three educational programs. A stratified random sampling method was used to determine the sample size. A total of 162 students was selected and consisted of 155 male students (95.97%) and seven female students (4.3%). They were enrolled in vocational programs, namely technology in automotive, technology in welding, and technology in refrigeration and air conditioning. A total of 43.8% (71) of the participants were 19 years old, while 56.2% (91) of the participants were 20 years old.

About 49.4% (80) of those surveyed have a business background through their family, whereas the rest have no relatives who are entrepreneurs. Aside from that, data shows that 56.2% (91) of participants had business experience, compared to 43.8% (71) who have no business experience. There were 31 students (19.15%) out of the total number of participants had taken part in entrepreneurship courses, seminars, or workshops. A total of 156 (96.3%) students believed that being an entrepreneur may earn a lot of money. Only 6 (3.7%) of students believe that being an entrepreneur can earn a lot of money. The results of the studies also suggest that 139 students (85.8%) are interested in becoming entrepreneurs, while only 23 (14.2%) are not.

In this study, the ESE scale has 20 items [30], the EI scale has 10 items [31], and the five personality trait dimensions have 44 items [32]. Both questionnaires were put on a Likert scale with five choices of answers for each statement. The items of EI, ESE, and personality traits were tested for reliability and validity in the pilot study. The results revealed that the ESE scale had 11 valid items, the EI scale had six

valid items, and the personality traits had 25 valid items. Questionnaire reliability were scored as the Cronbach's alpha of ESE, EI, and personality traits were 0.90, 0.81, and 0.70, respectively. In April 2021, the questionnaires were initially given to all selected participants with the help of three vocational colleges. The demographics of the participants were described using descriptive statistical techniques in statistical program for social science (SPSS 26). Pearson's correlation coefficient and multiple linear regression in SPSS 26 were used to examine the relationship between ESE and personality traits with EI among vocational college students.

3. RESULTS AND DISCUSSION

3.1. Descriptive and correlations

Descriptive analysis showed that CONSC (M=4.06) was rated the highest by TVET college students, followed by EI (M=4.05). However, the students felt that OPEN (M=3.63) was not important; thus, this trait scored the lowest as can be seen in Table 1. As for the correlation results, all independent variables had a positive relationship with the dependent variable. Significantly, correlation was indicated between the Big Five personality traits and the ESE factor and EI, with scores ranging from $r=.338$ ($p<.01$) to $r=.693$ ($p<.01$). It is also noted that NEURO was negatively correlated with other variables, with scores ranging from $r=-.540$ ($p<.01$) to $r=-.657$ ($p<.01$).

Table 1. Means and standard deviations, correlations among predictors, and dependent variable

	Mean	S. D	1	2	3	4	5	6	7
ESE	3.97	0.39	1						
Openness to experience	3.63	0.64	.475**	1					
CONSC	4.06	0.56	.561**	.544**	1				
AGREE	3.81	0.67	.593**	.632**	.604**	1			
EXTRA	3.64	0.57	.616**	.618**	.621**	.661**	1		
EI	4.05	0.46	.338**	.601**	.624**	.693**	.674**	1	
NEURO	3.68	0.63	-.564**	-.546**	-.540**	-.633**	-.574**	-.657**	1

** . Correlation is significant at the 0.01 level (2-tailed)

3.2. Multiple regression

The first and second objectives of this study were to identify the unique relationships of the Big Five personality traits and ESE with EI. We conducted a multiple linear regression using SPSS 26 to examine these associations, and the results of the regression analysis are presented in Table 2. All variables were entered resulting in an overall adjusted R-square value for the model of 0.142 and the overall model was found to be significant $F(6,159)=148.749$, $p<0.001$. Thus, the model was successful in explaining 67.2 % of the variation in EI.

Table 2. Multiple regression analysis

Variable	Unstandardized coefficients			
	B	SEB	t	p
Constant		0.149	-3.011	0.03
ESE	0.364	0.053	7.829	0.00
NEURO	-0.112	0.049	-2.38	0.02
CONSC	0.126	0.045	3.294	0.01
Openness to experience	0.23	0.043	5.358	0.00
EXTRA	0.174	0.049	4.161	0.00
AGREE	0.198	0.04	5.181	0.00

$R^2=0.672$; $F(6,159)=148.749$; $p<0.001$

The results show that OPEN enhances students' EI ($\beta=0.23$, $p=0.00$). TVET college students require openness to experience and curiosity to adapt to change and not to be afraid of new challenges. In addition, the results display that CONSC ($\beta=0.126$, $p=0.01$) positively predicted EI. CONSC is associated with EI while the students, who score high on CONSC, pay attention to long-term commitment and show great interest in challenging environments to achieve good performance, opportunities for advancement, and success. The association of EXTRA ($\beta=0.174$, $p=0.00$) with EI was also found. This suggests that these students, with high levels of EXTRA, have a tolerance to risk-taking while engaged in entrepreneurial activities. This is because these students are expressive and good communicators. Our study also found the association of AGREE with EI. Our argument is that the AGREE personality–displaying helpfulness,

selflessness, forgiveness, and trustworthiness-drives the intention to be an entrepreneur. On the other hand, neuroticism is negatively associated with EI ($\beta=-0.112$, $p=0.02$), which implies that it (emotional instability) restricts the students from risk-taking behavior because they are anxious and unstable in most situations, hence are risk-averse. The findings of past studies support our results [27], [33]–[35].

Moreover, the results displayed that ESE ($\beta=0.364$, $p=0.00$) positively predicted EI which is consistent with the findings of past studies [36], [37]. The results indicate that college instructors should provide encouragement and assistance to the students so that ESE can be developed. Also, positive experiences should be created to allow student engagement in entrepreneurial activities, particularly for those students who score high on OPEN, CONSC, AGREE, and EXTRA. Career flexibility (to develop ESE) must be embedded by the instructors when designing coursework and planning placement experience. In addition, instructors should consider highlighting the relationship between negative emotions and EI to their students, by way of an EI stimulant. This study also recommends that learning activities, such as writing business plans and developing entrepreneurial competency, should be embedded into the TVET curriculum and placement planning.

Lastly, the results offer some insights into vocational education. First, this paper is one of few studies to provide an empirical test to explore the relationship between ESE, the Big Five personality traits, and EI among Malaysian TVET college students. Apart from developing a novel approach to vocational education research, the practical implications of the findings were discussed by the researchers. Second, the primary goals of vocational college educators are enhancing students' interests and career choices. This study sheds light on alternative approaches to student selection, student interest promotions, and academic achievements through studying entrepreneurship. Third, entrepreneurship is the driving force of a country's economic growth because it boosts efficiency, innovation, and job creation. Nevertheless, Malaysia's technical-vocational colleges have not fully acknowledged the importance of entrepreneurship. Moving forward, educators and policymakers of these institutions should encourage and cultivate entrepreneurial cognition and culture so that entrepreneurial behaviors can be stimulated among college students.

4. CONCLUSION

Our first aim was to investigate the role of the Big Five personality traits on the EI of Malaysian TVET college students. The researchers also examined how EI is affected by ESE. The results revealed that all Big Five personality traits are valid and reliable for EI. OPEN, CONSC, AGREE, and EXTRA have positive and significant influences on EI, whereas NEURO has negative and significant effects on EI. The results help to answer the question of which personality traits lead college students to become entrepreneurs. Moreover, this research finds evidence that not only do cognitive, behavioral, and organizational factors predict a college student's inclination to start a business but also personality traits.




It must be reported that this study encountered some research limitations. First, the cross-sectional design may impede the analysis of casual relationships. Future studies could consider the application of longitudinal designs so that the dynamic changes of the personality traits-ESE-EI relationship can be examined. Another limitation is that the research tools employed in this study may limit the outcomes, other scales should be considered, such as the proactive personality scale.

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