

# **Psychological Characteristics and Entrepreneurial Intention: A Theory of Planned Behavior Approach**

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## **Abstract**

The study is related to the intention to be entrepreneurs among Politeknik Sultan Haji Ahmad Shah (POLISAS) students and can be explained by Ajzen's (1991) Theory of Planned Behavior. For this reason, this study firstly indicated the influence of psychological characteristics on entrepreneurial intention. Another part of this study is to point out the effect of psychological characteristics on attitudinal factors as well as the effect of attitudinal factors on entrepreneurial intention. The data were surveyed and gathered from final year diploma students from two fields of study (engineering and commerce) offered by POLISAS. A total of 100 questionnaires were distributed to the respondents but only 88 questionnaires were used in the statistical analyses. The results indicated that the hypothesized linkage between psychological characteristics and entrepreneurial intention was fully supported. The study also found that the hypothesized linkage between psychological characteristics and attitudinal factors were partially supported. Implications and limitations of the findings are specified for future study.

**Keywords:** Psychological characteristics, Entrepreneurial intention, Theory of Planned Behavior

## **1. Introduction**

The unemployment rate in Malaysia until August 2013 is three per cent, equivalent to 411,400 people. Human Resources Minister, Datuk Richard Riot reported that a total of 422,248 graduates were registered as active job seekers in Labour Department during this period. A total of 233,065 active job seekers were graduates and about 189,183 were non-graduates (MStar Online, 2013). To conclude, these numbers are likely to increase even more and this prove that there is and will be a great shrinkage in career options as also advocated by the Executive Director of the Malaysian Employers Federation in an article entitled "*PengangguranSiswazahHantuiEkonomi Negara*". It was assumed that there was a total of 100,000 unemployed graduates in the onset of the financial crisis to date (MohdShaharet al., 2003). The unemployment rate continued to increase and in the month of November 2013, the unemployment rate rose to 3.4% to a total of unemployed population of 484.600 people (Malaysia Labour Force Statistics, 2013).

Polytechnics were established by the government in 1969 to provide training in technical and vocational areas (Annie Wong & Jamil Hamali, 2006). To fulfil the requirements of skilled manpower by 2020, the Director of Evaluation and Curriculum Development Department of Polytechnic, noted that the matter can be achieved by increasing the number of conventional and metro polytechnic as well as upgrading existing institutions. Thus, throughout years, the enrolments of polytechnic students are increased, which resulted to the increasing numbers of graduates.

The attitude of current graduate who are seen to be too dependent on the government and private sectors for employment must be changed. The inculcation of entrepreneurship values and changing the mindset as to view self-employment as a viable alternative to salaried employment has been intensified including in institutions of higher education. As such, efforts have been intensified to create more self-employment opportunities for economic growth. Business opportunities for self-employment and entrepreneurship including in petty trading, SMEs, agriculture, and services have been promoted (MoHR, 2006). According to the Human Resources Minister, there were 40,000 unemployed graduates failing to find a suitable job. Thus, entrepreneurship can be seen as a potential career to solve the unemployment problem (Utusan Malaysia, 2008).

As becoming an entrepreneur is one of the options to solve unemployment graduates in Malaysia, this study was conducted to view and create a better understanding of the psychological characteristics and focus on entrepreneurial intention among POLISAS students. This study is relevant to see whether students have a high level of entrepreneurial intention or not and if so, what are the relevant features that can be used as a basis to encourage them to venture forth in entrepreneurship by setting up business entities in accordance with the skills, expertise and knowledge that they had. The main focus of this study is to examine the influence of psychological characteristics on entrepreneurial intention. Another part of this study focus on investigating the effect of psychological characteristics on attitudinal factors (Ajzen & Fishbein, 1980; Ajzen, 1987, 1991) as well as the effect of attitudinal factors on entrepreneurial intention.

## **2. Literature Review**

### *Psychological Characteristics*

Only two major variables of the psychological characteristics- need for achievement and locus of control were focused in the following discussion. A study by Diniset *al.* (2008) aimed to test a model of entrepreneurial intention (Liñan & Chen, 2007) among secondary students based on their psychological characteristics namely need for achievement, locus of control, propensity to take risk, tolerance of ambiguity, self-confidence and innovativeness (Koh, 1996). A sample of secondary students was chosen ranging from 14 to 15 years old and the data were analysed using structural equations modeling.

Similarly, Robinson *et al.* (1991) have listed locus of control, need for achievement, and self-confidence as entrepreneurial attitudes. Need for achievement by McClelland (1961) and locus of control by Rotter (1966) are among the characteristics that have received the most attention in the entrepreneurship literature (Shaver & Scott, 1991). Further, need for achievement and internal locus of control have both been recognised as factors that work together to increase student success (Cooke *et al.*, 1995).

#### *Need for Achievement*

In the early to mid-1960s, McClelland (1961) suggested that the key to entrepreneurial behaviour lies in motivation achievement. Individuals who have a strong need of achieving, are among those who want to solve their own problems, set goals and strive to achieve targets through their own efforts, show higher performance in challenging tasks and innovative in finding meaning for new and better ways to improve their performance (Littunen, 2000). Consequently, the need for achievement theory as suggested by McClelland (1961) is one of the most applied theories on entrepreneurship and has the most important effect on entrepreneurial intention (Diniset *al.* 2008). Similarly, a study by Yusof *et al.* (2007), need for achievement had positive and significant influence on entrepreneurial inclination.

#### *Locus of Control*

Locus of control as studied by Leone and Burns (2000) is a psychological characteristic that is related to the generalized expectations of a person on whether he or she will be able to control the events in life. Individuals who are reluctant in believing in their ability to control the environment though their actions would also be expected to be reluctant to assume the risks of starting a business (Mueller & Thomas, 2000; Chen, Greene & Crick, 1998).

A study by Luthje and Franke (2003) indicated the attitude towards entrepreneurship is influenced by the character of internal locus of control of the respondents. They found that students who control the events in their lives have a better favourable attitude towards running their own lives. For example, Gilad (1982) was able to use locus of control to distinguish successful and unsuccessful small business owners (Engle *et al.*, 1997). Further, another study by Ramayah and Zainun (2005) was significantly related to entrepreneurial intention which again supports the works of Indarti and Kristainsen (2003). In their study, locus of control should be developed or nurtured in future entrepreneurs. Nevertheless, locus of control had negative influence on entrepreneurial inclination (Yusof *et al.*, 2007).

#### *Entrepreneurial Intention*

Entrepreneurship can be viewed as a process that occurs over time (Gartner *et al.*, 1994; Kyro & Carrier, 2005). Thus, entrepreneurial intentions will be seen as a first step in the development of long-term business creation (Lee

& Wong, 2004). For the purpose of a start-up, then, will be the first decisive element of entrepreneurial behavior (Kolvereid, 1996; Fayolle&Gailly, 2004).

### *The Theory of Planned Behaviour*

The Theory of Planned Behavior (TPB) is the extension of the Theory Reasoned Action (Ajzen&Fishbein, 1975). In the TPB, intention is a function of the three factors device: attitude, subjective norms, and perceived behaviour control.

#### a) Attitudes

Attitudes are defined by Ajzen (1991) as beliefs and perceptions about the willingness to personal behavior, which in turn relate to expectations about the impact of personal decisions as a result of behaviour. It can be said that attitudes have a wide range of personality and indirect impact on certain behavior, with the influence of several factors. According to these models, people's evaluation of, or attitudes toward behaviour are determined by the total set of accessible behavioral beliefs, where belief is based on the subjective probability that the behaviour will produce a given outcome. Kolvereid (1996) and Ajzen (2002) suggested that attitude refers to the degree to which the individual holds or negative personal valuation about being an entrepreneur.

#### b) Subjective Norms

Subjective norms or perceived social norms are defined as the perceived perception about individual values, confidence, and norms held by those who they think are important, respected or individual desire to comply with the norms. This relates to the subject's perception of other nations opinion of the proposed behavior. As suggestion by Shook and Bratianu (2008), future research should investigate the influence of subjectivenorms on entrepreneurial intentions in the former transition economies.

#### c) Perceived Behavioral Control

Perceived behavioral control is defined as personal confidence about the ability to plan and implement behavior perception in the decision-making control. It is also an individual's perceived ease or difficulty to maintain the behavior to fulfil the interest to become an entrepreneur (Ajzen, 1991). This concept is introduced into the TPB to accommodate elements related to non-volitional stick, at least potentially, in all behavior (Ajzen, 2002). Krueger and Dickson (1994) indicate that increased of perceived behavioral control increases the perception of opportunity.

As studied by Clouse, Goodin and Aniello (2000), perceived behavioral control refers to the perceived feasibility of being self-employed or starting a business. As suggested by the research questions, the current study focuses on the entrepreneurial intention and the predictors of entrepreneurial intention instead of the intention-behavior part. In the study by Souitariset

*al.* (2007), intention to become self-employed was positively and significantly correlated to perceived behavioral control.

### **3. Methodology**

Survey based methodology was used to obtain data from POLISAS students as respondents for this study. The study population consisted of all the final year diploma students from two fields (engineering, commerce) offered by POLISAS and were registered during the academic year of 2010-2011. The sample was selected among the final year students in POLISAS enrolled in the diploma courses (accounting, civil and electronics engineering). Data was collected through a self-administered questionnaire by the researchers. The sampling was based on simple random sampling and 100 questionnaires were successfully collected, but only 88 of them were utilized for data analysis.

The questionnaire consisted of four sections. Section A comprised questions eliciting demographic and other personal characteristics. Section B had 4 questions eliciting information about entrepreneurial intention and was adapted from Kickul and Zaper (1999) and Chen (1999). Section C consisted of 3 parts eliciting information about attitudes (3 items) which were adapted from Linan *et al.* (2007) and Autio *et al.* (1997), subjective norms (4 items) were adopted from Linan *et al.* (2007) and perceived behavioral control (3 items), adopted from Linan *et al.* (2007). Section D had 8 questions eliciting information about need for achievement (4 items) and locus of control (4 items) and were adapted from Ramayah and Zainun (2005), Mueller and Thomas (2000) and Robinson *et al.* (1991). The respondents were asked to state their agreement or disagreement on statements on a 5-point Likert-type scale with (1 = strongly disagree; 5 = strongly agree).

Factor analysis was undertaken for the study variables. Frequencies and percentages were being used to understand the demographics of the respondents. Next, means, standard deviations, reliability coefficients, and intercorrelations for each factor were computed. Finally, the hypotheses were subsequently tested using hierarchical regression analysis.

### **4. Analysis of Results**

#### *Profile of Respondents*

The majority of the respondents were 21 years (63%). The respondents' gender distribution was slightly higher for males (54%). Regarding ethnicity, Malay constituted almost 94% of the sample and the majority of the respondents were Muslim (95%). About 71% of the respondents lived in urban areas and 50% of the sample originated from Pahang. In terms of fields of study, two fields, commerce and engineering were involved and each group were equally represented. All the commerce respondents consisted of accounting diploma students while respondents in the field of engineering were represented by the civil engineering (25%) and electronic engineering diploma students (25%). Further, 60% of the respondents had

family members involved with business. Similarly, in view of personalexperience in business, 31% of respondents were involved and the majority had only 1 year experience (22%).

The construct of attitudes, subjective norms and perceived behavioral control were analysed by using confirmatory factor analysis. All items were forced into one factor and dropped on a single component, explaining 76.28%, 70.74% and 63.92% of the total variance in the variables attitudes, subjective norms and perceived behavioral control respectively. Hence, none of the items were dropped. The KMO measure of sampling adequacy for attitudes was 0.72 which was considered meritorious, meaning excellent; followed by subjective norms which was 0.81 and considered marvellous, while for perceived behavioral control only 0.60 which was considered middling. The Bartlett's Test of Sphericity for attitudes, subjective norms and perceived behavioral control were respectively significant (Chi-square= 122.97, 189.94, 66.5,  $p < 0.001$ ).

Finally, another similar factor analysis was carried out to confirm the construct of the dependent variable of entrepreneurial intention. By using confirmatory factor analysis, one factor solution was obtained explaining 81.32% of the total variance in the variable. Hence, none of the items were dropped. The KMO measure of sampling adequacy was 0.85 which was considered marvelous, while the Bartlett's Test of Sphericity was significant (Chi-square=304.49,  $p < 0.001$ ).

#### *Descriptive Analysis, Reliability Coefficients, and Intercorrelations of the Study Variables*

Table 1 below shows that the mean values for need for achievement as well as entrepreneurial intention were slightly on high side which were 4.05 and 4.06 respectively. The standard deviations for these variables were respectively 0.58 and 0.66. The mean values for locus of control, attitudes, subjective norms and perceived behavioral control were ranged from 3.12 to 3.90 and were considered moderate and the standard deviations were range from 0.59 to 0.79. In terms of the correlation coefficients, only need for achievement had significant positive correlation with attitude. Similarly, locus of control and attitudes had significant positive correlations with subjective norms. Then, need for achievement, attitudes and subjective norms had significant positive correlations with perceived behavioral control. All the correlation coefficient of the psychological characteristics and the attitudinal factors had significant positive correlations with entrepreneurial intention. Observation on reliability test in this study found that all the reliability coefficients measures were acceptable since they exceed the minimum recommended level of 0.6 (Sekaran, 2003).

Table 1: Means, Standard Deviations, Reliability Coefficients and Intercorrelations of the Variables

Variables	Mean	SD	1	2	3	4	5	6
Need for Achievement	4.05	0.58	(0.877)					
Locus of Control	3.16	0.79	0.109	(0.616)				
Attitudes	3.90	0.69	0.232*	0.185	(0.844)			
Subjective Norms	3.60	0.70	0.157	0.245*	0.464**	(0.861)		
Perceived Behavioral Control	3.12	0.59	0.226*	-0.015	0.371**	0.437**	(0.703)	
Entrepreneurial Intention	4.06	0.66	0.260**	0.253*	0.512**	0.524**	0.438**	(0.923)

*N=100, \*p<0.05, \*\*p<0.01; Cronbach alphas are in parentheses.*

### Assessing Statistical Assumptions

There were no multicollinearity problems since the indicators were acceptable values. This can be clarified by looking at collinearity statistics since all the VIF values were less than 10, tolerance values were more than 0.1 and finally the condition index values were less than 30. To conclude, the model has no multicollinearity problem when it comes to regression analysis (Gujarati, 1995). Further, throughout the regression analysis, the values of Durbin Watson showed that there was no auto-correlation problem of error since the values was at an acceptable range of 1.5 to 2.5.

### Multiple Regression Analyses

A series of multiple regression analyses were employed. The first step is to ascertain the impact of psychological characteristics including locus of control and need for achievement on entrepreneurial intention. In the second step of the analyses, multiple regression analyses were run between psychological characteristics and attitudinal factors. In the final step, the analyses were run to determining whether the attitudinal factors have an influence on entrepreneurial intention.

Psychological characteristics were regressed onto entrepreneurial intention. The R<sup>2</sup> value of 0.18 was obtained suggesting that 18% of the variance in entrepreneurial intention was explained by the psychological characteristics. Both variables in psychological characteristics were found to have significant and positive effects on entrepreneurial intention: need for achievement ( $\beta=0.32$ ,  $p<0.01$ ) and locus of control ( $\beta=0.22$ ,  $p<0.05$ ).

Psychological characteristics were regressed onto attitudinal factors. The R<sup>2</sup> value of 0.13 was obtained suggesting that 13% of the variance in attitude was explained by psychological characteristics. One of two psychological characteristics was found to have significant and positive effect on attitude: need for achievement ( $\beta=0.32$ ,  $p<0.01$ ). The R<sup>2</sup> value of 0.09 was obtained suggesting that 9% of the variance in subjective norm was explained by

psychological characteristics. One of two psychological characteristics was found to have significant and positive effect on subjective norms: locus of control ( $\beta=0.21$ ,  $p<0.05$ ).

The  $R^2$  value of 0.07 was obtained suggesting that 7% of the variance in perceived behavioral control was explained by psychological characteristics. One of the two psychological characteristics was found to have significant and positive effect on perceived behavioral control: need for achievement ( $\beta=0.24$ ,  $p<0.05$ ).

Table 2 illustrates attitudinal factors (attitudes, subjective norms and perceived behavioral control) reveal significant statistical influence on entrepreneurial intention: attitudes ( $\beta = 0.73$ ,  $p < 0.01$ ), subjective norms ( $\beta = 0.51$ ,  $p < 0.01$ ), and perceived behavioral control ( $\beta = 0.40$ ,  $p < 0.01$ ). The  $R^2$  value of 0.53 was obtained suggesting that 53% of the variance in entrepreneurial intention explained by attitudes. The  $R^2$  value of 0.26 was obtained suggesting that 26% of the variance in entrepreneurial intention explained by subjective norms. The  $R^2$  value of 0.15 was obtained suggesting that 15% of the variance in entrepreneurial intention was explained by perceived behavioral control.

Table 2: Regression Analysis between Attitudinal Factors and Entrepreneurial Intention

	Entrepreneurial Intention		
	Std. $\beta$	Std. $\beta$	Std. $\beta$
Attitudes	0.728***		
Subjective Norms		0.511***	
Perceived Behavioral Control			0.398***
R2	0.530	0.261	0.159
F Value	96.864***	30.339***	16.218***
Durbin-Watson Statistic	1.901	1.925	1.764

Note:  $N = 88$ , \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.10$

## 5. Discussion and Conclusion

The study objective was to investigate the linkage between psychological characteristics and entrepreneurial intention. Another objective was to investigate the effect of psychological characteristics on attitudinal factors as well as the effect of attitudinal factors on entrepreneurial intention. In general, this study found that the level of entrepreneurial intention among the POLISAS students as a whole is high. The majority of them pursuing studies have the intention to start a business and this supports the finding obtained by Wang *et al.* (2001) regarding students pursuing studies at tertiary level education in Singapore. Their study found

that students from the polytechnics and universities have the attitude and strong interest in entrepreneurship.

In this study, the mean score of need for achievement is the highest than other variables. In line with this, according to McClelland (1965) and Cromie (2000), the belief that entrepreneurs might have a distinctly higher need for achievement is widely held. Another variable for psychological characteristics focused in this study is locus of control. These characteristics are included in the study by Koh (1996) because they are the most frequently enumerated as entrepreneurial characteristics in the literature and evidence indicating association between them and entrepreneurship have been widely documented.

In terms of the linkage between psychological characteristics and entrepreneurial intention, the statistical results obtained from this study showed that the psychological characteristics of POLISAS students have significant and positive effects on their intention to become entrepreneur after graduation. These findings are consistent with previous research (Davidson, 1995; Rotter, 1966). There has been much discussion in the entrepreneurship literature indicating a fairly consistent relationship between need for achievement and entrepreneurship (Johnson, 1990). According to Bonnett and Furnham (1991), internal locus of control was found to be positively associated with the desire to become an entrepreneur.

Similarly, the need for achievement was found to have significant and positive effect on attitudes and perceived behavioral control respectively while locus of control was found to have significant and positive effect on subjective norms. However, if viewed in terms of correlation between psychological characteristics and entrepreneurial intentions, need for achievement and locus of control showed a weak to moderate significant correlation (McBurney, 2001) with entrepreneurial intention. Therefore, psychological characteristics of POLISAS students have significant, positive and weak effects on their intention to become entrepreneurs after they graduated. The relationship in terms of psychological characteristics and attitudinal factors revealed weak to moderate (McBurney, 2001) significant correlation between the need for achievement and attitude, as well as the relationship between need for achievement and perceived behavioral control, followed by the relationship between locus of control and subjective norms.

Subsequently, attitudinal factors have significant and positive effects on entrepreneurial intention. These findings are in tandem with previous researchers (Ajzen, 1991; Kolvereid, 1996; Krueger & Dickson; 1994). The findings are in line with Douglas and Shepherd (2002) who found that there is a relationship between entrepreneurial attitudes and the intention toward entrepreneurship.

Similarly, from the findings, subjective norms were found positive and significantly related to entrepreneurial intention. Meaning that, specifically friends, immediate family, lecturers and colleagues can influence the students in POLISAS in making the decision to start a business and become entrepreneurs. This study is also supported by Krueger (1993) and Kolvereid (1996), indicating that when the students are still in the stage of searching for a career choice, opinions of their parents, friends and others might drive them to consider entrepreneurship as career choice.

According to Linan (2007) and Ajzen (1991), subjective norms measure the perceived social pressure from family, friends or significant others. The findings in this study are consistent with the studies by Kalafatis *et al.* (1999) who found that friends, family, political and religious organizations will affect the person in making decisions based on the recommendations and support from their environment.

Perceived behavioral control was found to have a positive and significant relationship with entrepreneurial intention. These findings support the study of Ajzen (1991) which asserts that the perceived behavioral control is a factor that may affect entrepreneurial intention. The attitudinal factors relating to the Theory of Planned Behavior appeared to be significant variables to predict entrepreneurial intention. Thus, it is important to translate this into activities that can help improve that attitudes toward behavior related to entrepreneurial intention, improve the environment to boost the social norms and exposed students to acquire skills that can support their perceived behavioral control.

The results of this study also have implications for educators seeking a better understanding of students' psychological characteristics, attitudes toward behavior, perception of subjective norms, perceived behavioral control, and intention to become entrepreneurs. Findings from this study offer a better understanding of the factors that can lead students towards forming entrepreneurial intention after graduation. This study concentrated only for locus of control and need for achievement as variables of the psychological characteristic that influenced the entrepreneurial intention and the attitudinal factors underlying the Theory of Planned Behavior. Hence, future researchers might need to widen the scope of psychological characteristics like self-confidence, risk-taking, innovativeness and tolerance for ambiguity to enhance our understanding of entrepreneurial intention.

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