



# Intention to Pursue Postgraduate Studies in Malaysian Universities

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Intention is a key element that precedes human behaviours requiring decisional processes. This topic was considerably addressed in education fields. However, there is a dearth of studies that looked at students' intention to pursue postgraduate studies. This paper investigated this issue among 330 Malaysian undergraduate students from both public and private universities. By applying the Theory of Planned Behaviour (TPB), the study examined the effect of TPB proximal determinants (attitudes towards the behaviour, subjective norms and perceived behavioural control) on intention. Furthermore, the paper assessed possible moderating effects of gender, race and type of university (public vs private). The results showed a positive effect of attitude and perceived behavioural control on intention, but not subjective norms. Additionally, no moderating effect was observed in this study. Implications and recommendation were discussed towards the end of the paper.

**Key words:** *intention, postgraduate, students, university, behaviour.*



## Introduction

Intention is a key element that precedes human actions requiring decisional processes and is considered as an immediate determinant of voluntarily behaviours. Given its importance in behavioural studies, intention seized attention of scholars in social sciences and was one of the most featured topics in entrepreneurship (self-employment), and across other disciplines such as travel, purchasing and loyalty, use of internet and social media, continuance of certain behaviours and practices, volunteering, internationalization issues, education and so on (Salem & Salem, 2018). A number of theories are applied in research concerning behavioural intention, such as the Theory of Planned Behaviour (TPB), Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), as well as other social cognitive, motivation and psychology theories. The TPB appears to be most commonly used due to its consistency in predicting intention (Fayolle & Liñán, 2014; Riyanti, 2018).

In education however, little is known about intention realities around learning and teaching aspects. A good deal of studies found in the literature look at intention to study overseas (see. E.g. Presley et al., 2010; Stroud, 2010; Salisbury et al., 2010; Schnusenberg et al., 2012; Hamidi, 2014; Pope et al., 2014; Zhuang et al., 2015; Vernon et al., 2017). This might be justified by growing international mobility of students which is a product of universities increasingly seeking to incorporate global perspectives in their programs (Schnusenberg et al., 2012). Specifically, there are limited studies on the intention of undergraduate students to pursue postgraduate studies (Jepson and Neumann, 2010).

In the Malaysian context, entrepreneurship intention has been researched extensively while papers that address the intention issue in education are limited (Krishnan and Sajilan, 2014; Najib et al., 2015). Thus far, the existing studies on intention have assessed themes like; the use portals and e-learning systems (Mahmod et al., 2005; Ramayah et al., 2010; Bakar et al., 2013), technology acceptance among students and teachers (Luan and Teo, 2009; Teo et al., 2009; Jambulingam, 2013; Wong et al., 2013), use of e-books, online libraries, software and educational games (Ramayah 2006, Ibrahim et al., 2011; Letchumanan and Tarmizi, 2011; Shittu et al., 2011), use of computer and internet (Abdelaziz et al., 2013), secondary students' choice of tertiary level education (Wagner and Fard, 2009; Krishnan and Sajilan, 2014), foreign undergraduates' intention to study in Malaysian universities (Koe and Saring, 2012), and International students' behavioural intention (Shahijan et al., 2016; Ramli, Muljono & Afendi 2018), online gaming (Salem, Tarofder & Salem, 2018).

By applying the theory of planned behaviour, the current study aims to add to the existing knowledge and provide valuable insights that could benefit policy makers, students as well as



educational institutions. Our study differs than the existing studies in two ways. First, it looks into the intention to engage in postgraduate study; a topic that has not been research globally. The intention of graduate students to pursue postgraduate studies may not be similar to the intention of secondary students wishing to enrol in a graduate program. Second, this study considers different types of moderation effect.

The remainder of the paper goes as follow: a review of entrepreneurship research in Malaysia. The application of the theory of planned behaviour in postgraduate education will be discussed first, then followed by the study framework and hypotheses. The subsequent sections focus on the methods including sampling and measurement of variables. Next will be the analysis of data. The discussion of the findings and conclusion will appear in the last part.

### **Previous research on intention to progress to postgraduate level**

As mentioned earlier, although there is some research on university students use of technology, internet and online application, there is a huge shortage of studies related to the intention to undertake postgraduate courses (Jepson and Verhegyi). For the best knowledge of the authors, only a few studies are found in the literature. These studies brought to light interesting, but sometimes contradicting, evidence. For example, Wegner (1969) assessed the intention for postgraduate study while considering gender differences in socio-economic background, marriage time, and academic ability. The author found that male intention is influenced by academic ability whereas females formed interest for postgraduate studies through high academic ability, low socioeconomic status and late marriage. Ball (2016) found men to have had lower odds of intending to pursue postgraduate study compared to women.

Moreover, Donaldson and McNicholas (2004) found that personal satisfaction, desire to acquire and improve industrial skills, and career prospects to be the prime motivator for a postgraduate degree. The longitudinal study of Jepson and Neumann (2010) examined the effect of one semester on intentions to progress to a postgraduate program. The authors argue that postgraduate students often do not report intention to progress to postgraduate degree at the early stage of their undergraduate programs, but that intention for postgraduate level of education occurs at some stage throughout the undergraduate degree. Their findings indicated that despite a deliberate encouragement from faculty, there has been no significant change in students' intentions over the semester.

Jepson and Verhegyi (2011) found no statistically significant differences between first, second and third-year business students in terms of their intention to enrol in a postgraduate program. However, that knowledge about the postgraduate degree is found to be a key

component to increasing students' intentions. In a quite different scope of interest, Mellor-Bourne et al. (2014) examined the need for information and it affects the decision to consider returning to postgraduate degree among those who spend some years 'away' from universities. It was revealed that respondents interested in programme specific information. Although the information is available, it is not always easily found. Finding the right information is harder for those returning to HE compared to their peers who were not disconnected from the university. In conclusion, the sum of the foregoing evidence remains largely insufficient. Thus, more research is needed so to unveil new realities and deepen our understanding regarding graduate students' intention to enrol in undergraduate degrees.

### **Theoretical framework and hypotheses**

#### ***The theory of planned behaviour and the intention to pursue postgraduate studies***

The theory of planned behaviour (Ajzen, 1991) has been used in predicting intention across wide ranges of behavioural fields. This theory explains how people come to form intentions which then translate into behaviours. The theory emphasizes the importance of three predictors (also called proximal determinants) of intention namely: attitude towards the behaviour, subjective norms and perceived behavioural control (Ajzen, 2011). These predictors lead to the development of specific behavioural intentions. In general, positive attitudes towards performing a specific behaviour, along with certain levels of social pressure to do so, and perceived control of the performer over his/her actions are likely to lead individuals to engage in the behaviour (Abdelaziz et al., 2013; Riyanti, 2018).

Based on the meta-analysis results, TPB is said to have the ability to develop behaviour change interventions (Hardeman et al., 2010). This theory also accounts for an average variance in intention and behaviour which increases for self-reported/ psychometric measures compared to objective/observed measures. However, compared to attitudes and perceived control, subjective norms generally have a weaker effect in predicting intention (Armitage and Conner, 2001). Regarding such a weak effect in the case of postgraduate study intention, Jepson and Vehegyi (2011) argued that students recognise parents, friends and other elements of the social circle to be a minor source of information about postgraduate options.

TPB-based findings related to intention in postgraduate education and entrepreneurial pursuits among Malaysian students are not different. The proximal determinants of TPB, and their corresponding elements in other theories and model, tend to have confirmed effects. This includes: 1) for attitude: Letchumanan and Tarmizi (2011), Othman and Mansor (2012), Mokhtar and Zainuddin (2012), Ibrahim et al. (2011), Chuah et al., 2015, Kim-soon et al. (2016), Trivedi (2017). 2) For subjective norms: Ng et al., (2011), Mokhtar (2012), Othman



and Mansor (2012), Mokhtar and Zainuddin (2012), Kim-soon et al. (2016). 3) For perceived control: Trivedi (2017), Ibrahim et al (2011); Ng t al., (2011), Mokhtar and Zainuddin (2012), Chuah et al. (2015).

### ***Moderating effects***

According to Mokhtar (2012), Statistics on the enrolment in Malaysian universities shows more female students involved in undergraduate courses compared to males, however the numbers drop at postgraduate programs. This, indeed, implies certain differences in terms of gender intention for postgraduate study. A confirmation to this assumption was later provided by Abbas (2015) who noticed differences in the four constructs of TPB (entrepreneurship intention, subjective norm, attitude toward behaviour, and perceived control) between male and female students. Further differences between males and females in the intention to pursue a postgraduate study are found in Wegner (1969) and Ball (2016).

With respect to race, the study will collect data from the main 3 ethnic groups in the country; Malays, Chinese and Indians. The Chinese are the wealthier and most entrepreneurial group (Abdullah et al., 2015). Their favourable economic status allows them to send their kin to the best universities both locally and overseas. This is exacerbated by new generational trends in the Chinese family business. Mosbah and Abd-Wahab (2018) show how Chinese descendants in Malaysia refuse to join the family firm, while in the same time owners/parents prefer to see their children become professionals rather than being involved in the businesses (Hing and Ping, 2001).

In contrary, Indians may be among the least economically empowered (Xavier and Gomez (2018). Indian and Malay students may have large propensities to borrow from the National fund for higher education (known as. PTPTN). In fact, Malays constituted the largest majority of loan defaulters (Chu, 2013). Within this condition, it is expected that difference in the intention to undertake a postgraduate degree may vary among races due to different reasons.

Malaysia's higher education industry is experiencing rigid competition (Wagner and Fard, 2009; Koe and starring, 2012). Within this scenario, private universities face more challenges to attract students given a lack of government support in the form of quotas. On the one hand, students may find it cheaper to enrol and further their studies in public universities because of their relative cheaper costs. On the other hand, private universities may be more attractive for two reasons: first, given recruitment pressures, private universities advertise and use social media extensively while they keep formulating strategies to attract students (Krishnan and

Sajilan, 2014). Being accessible targets, undergraduate students may be briefed and reminded about the advantages assisted with furthering the study. Second, through partnership with foreign universities, private universities provide recognized degrees and certificates. In sum, one cannot expect private and public students' intention for postgraduate study to be similar.

Therefore, based on the above discussions, the following hypotheses are formulated:

- H1: Attitude is positively related to intention to pursue postgraduate studies.
- H2: Perceived behavioural control is positively related to intention to pursue postgraduate studies.
- H3: Subjective norms are positively related to intention to pursue postgraduate studies.
- H4: Gender moderates the relationship between attitude, control, norms and intention to pursue postgraduate studies.
- H5: Race moderates the relationship between attitude, control, norms and intention to pursue postgraduate studies.
- H6: University type moderates the relationship between attitude, control, norms and intention to pursue postgraduate studies.

## Methods and measurement

A convenience sample of 330 students from a public university (145, 43.9%) and 185 (56.1) from a private university in Malaysia participated in the current study. Among the students, 176 (53.3) were females and 154 (46.7) were males, with mean age of 22.11 (SD=2.29). Most of our samples are Malay, 234 (70.9%), followed by Indians 45 (13.6%) and Chinese 43 (13%). As for their level of study, the majority of students are degree students, 253 (76.7%) and 77 (23.3%) are diploma students. Summary of demographic characteristics of the sample is presented in Table 1.

**Table 1:** Sample Characteristics

Sample Characteristics	Categories	Frequency	Percentage
Gender	Male	154	46.7
	Female	176	53.3
	Total	330	100.0
Nationality	Malaysian	323	97.9
	Non-Malaysian	7	2.1



	Total	330	100.0
Level of study	Diploma	77	23.3
	Degree	253	76.7
	Total	330	100.0
Race	Malay	234	70.9
	Chinese	43	13.0
	Indian	45	13.6
	Others	7	2.3
	Total	330	100.0
University	Public	145	43.9
	Private	185	56.1
	Total	330	100.0

### ***Measurement***

Given the lack of measures proper to TPB constructs in the postgraduate intention research, the measures used in this study were adjusted from (Liñán & Chen, 2009). Many studies in Malaysia have used the same source particularly in students' entrepreneurship intention. Each construct was gauged by 5 items, while all items were measured using a five-point Likert scale that ranges from 1 (totally disagree) to 5 (totally agree).

### **Data Analysis & Results**

Data was analysed using SPSS and Amos (V.22) for descriptive statistics, correlation, and hypotheses testing.

Descriptive analysis is presented in Table 2. Mean values are moderately high in a scale of 5, intention recorded the highest mean ( $M = 3.87$ ,  $SD .86$ ), followed by attitude ( $M = 3.80$ ,  $SD .83$ ), perceived behavioural control ( $M = 3.75$ ,  $SD .80$ ) and lastly, lowest mean for subjective norms ( $M = 3.59$ ,  $SD .82$ ). The Pearson correlations analysis indicates that all the study variable has significant associations with one another. For example, the relationship between intention to pursue postgraduate studies and attitude was strongly correlated ( $r = .730$ ) followed by perceived behavioural control ( $r = .706$ ). The intention – subjective norms link was moderately correlated ( $r = .373$ ).

**Table 2:** Means, SD, Cronbach Alpha and Correlation

Variable	Attitude	Control	Norms	Intention
Attitude	1			
Perceived Behavioural Control	.789**	1		
Subjective Norms	.477**	.541**	1	
Intention to Pursue Study	.730**	.706**	.373**	1
Mean	3.80	3.75	3.59	3.87
SD	.83	.80	.82	.86

\*\*  $P < .01$ .

### **Measurement Model**

The measurement model was tested using Amos (V.22) in order to assess its reliability and validity. The initial measurement model yielded a good fit, except for the RMSEA (.083) which is slightly above the recommended cut-off point. The modification indices suggested to covary two error terms (e11 and e 12) of subjective norms. As depicted in Figure 1, the measurement model achieved a good fit for the data  $\chi^2 = 489.320$ ,  $df = 163$ ,  $CFI = .934$ ,  $RMSEA = .078$ . All factor loadings were greater than .70 and significant ( $P < 0.001$ , except for item 4 and 5 of subjective norms).

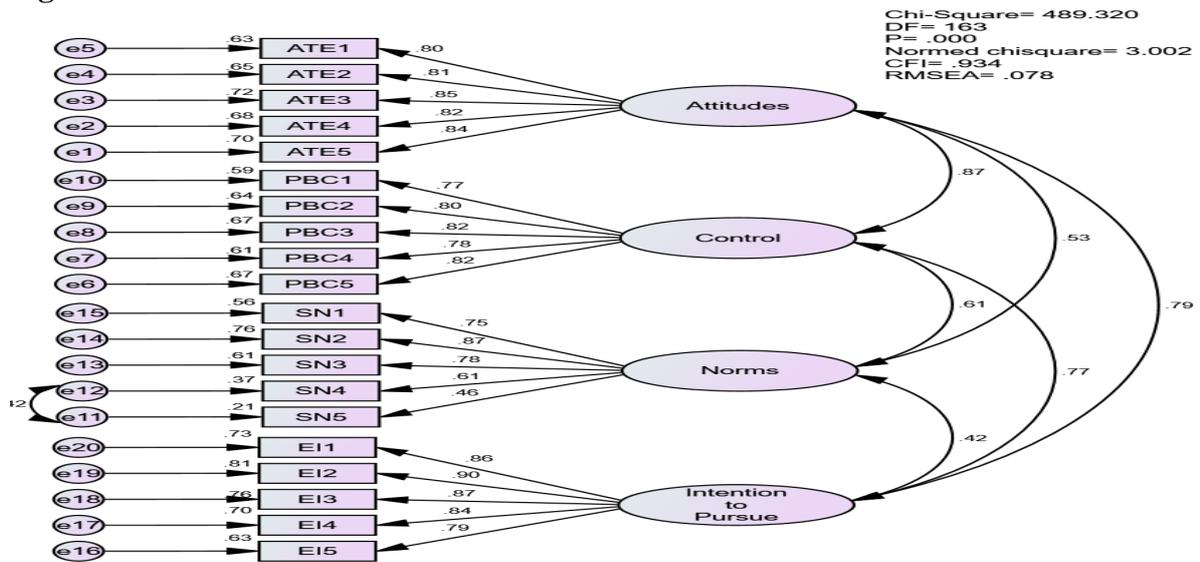
To assess the model reliability and validity, several tests were performed. For the reliability, Cronbach alphas and composite reliability showed good reliability of the study constructs. All variables show high reliabilities ranging from (.833) for subjective norms to (.929) for the intention to pursue study. Also, the composite reliability score met the criteria and values ranged from 0.828 (subjective norms to 0.929 (intention to pursue).

The validity was assessed using two approaches: reliability values and average variance extracted. When the cronbach alpha and composite reliability exceed .70, and average variance extracted (AVE), then the variable shows convergent validity. In the case of this study, all variables met these requirements as presented in Table 3. As a result of fitting and validating the model, a structural equation model was tested.

**Table 3:** Model Reliability and Validity Results

Constructs	Items	Standardized Loading	Cronbach Alpha	CR	AVE
Attitude	ATE5	0.835	.912	0.912	0.676
	ATE4	0.824			
	ATE3	0.847			
	ATE2	0.807			
	ATE1	0.796			
Perceived behavioural control	PBC5	0.82	.895	0.896	0.634
	PBC4	0.778			
	PBC3	0.816			
	PBC2	0.799			
	PBC1	0.767			
Subjective norms	SN5	0.457	.833	0.828	0.502
	SN4	0.609			
	SN3	0.78			
	SN2	0.87			
	SN1	0.751			
Intention to pursue	EI5	0.793	.929	0.930	0.727
	EI4	0.839			
	EI3	0.869			
	EI2	0.9			
	EI1	0.857			

**Figure 1.** Measurement Model



**The structural model**

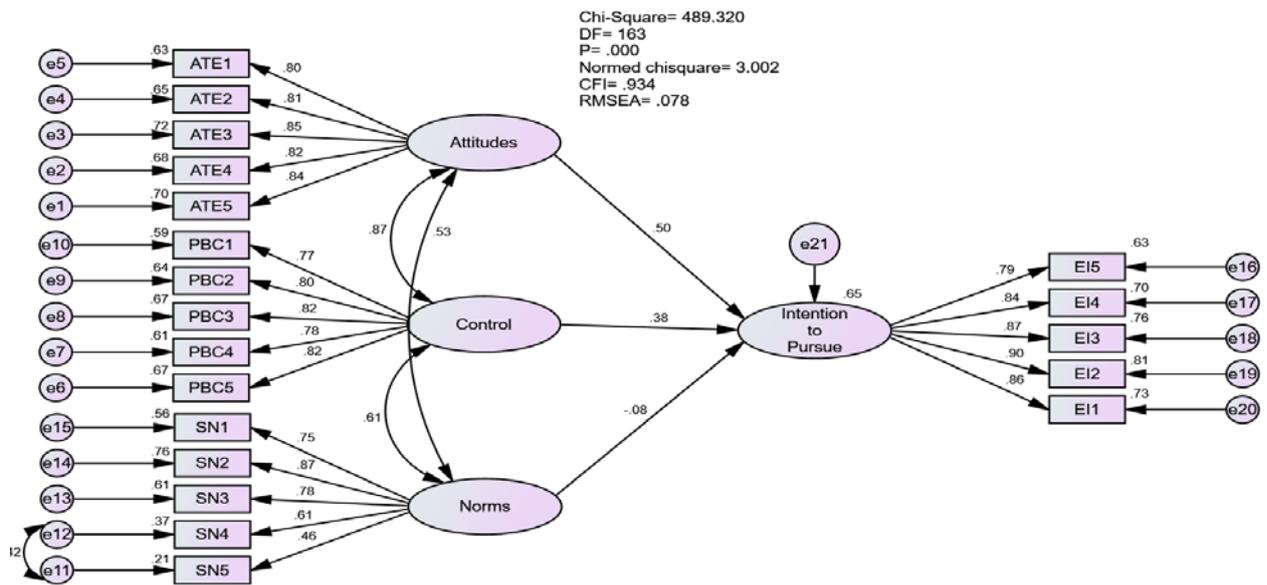
After having fitted the measurement model, the next step is to construct a structural model to test the hypothesized relationships. The intention to pursue study as an outcome and attitude, subjective norms and perceived behavioural control as predictors. As depicted in Figure 2,

the results of the structural model indicated a good fit to the data:  $\chi^2 = 489.320$ ,  $df = 163$ ,  $CFI = .934$ ,  $TLI = .923$ ,  $RMSEA = .078$ . As shown in Figure 2 and Table 4, two out of three hypotheses were supported. The path coefficients of attitude  $\rightarrow$  intention to pursue was significant, H1, ( $\beta = .50$ ,  $z = 4.708$ ,  $p = 0.000$ ), perceived behavioural control  $\rightarrow$  intention, H2, ( $\beta = .38$ ,  $z = 3.382$ ,  $p = 0.000$ ). The subjective norms  $\rightarrow$  intention coefficient was ( $\beta = -.08$ ,  $z = -1.486$ ,  $p = .137$ ), which is not significant and thus H3 was not accepted.

**Table 4:** Hypothesis Testing results

Path	Estimates	Critical Ratio	P-value	Findings
Direct Effect relationships				
Attitude $\rightarrow$ intention	.497	4.708	***	Supported
Perceived Control $\rightarrow$ Intention	.384	3.382	***	Supported
Subjective Norms $\rightarrow$ Intention	-.081	-1.486	.137	Not Supported

**Figure 2.** The Structural Model



### Multigroup Analysis

Three separate multigroup analysis (MGA), using Amos software, were performed to assess the significance of the moderating effects of gender, race and type of university in the relationships of attitude, perceived behaviour control and subjective norms as predictors and intention to pursue as an outcome variable (Table 5). The  $\Delta\chi^2$  statistics were used to test the model's invariance. The model is regarded invariant across groups when  $\Delta\chi^2$  ( $p > .05$ ) is

reported. The results of the MGA indicate that these three variables of gender, race and university did not play a moderation role as the models were not statistically invariant across groups. Therefore, hypotheses 4, 5 and 6 were not supported.

**Table 5:** Multigroup Results

Invariance Test	Gender as a Moderator	Race	University
$\Delta\chi^2$	14.867	22.569	14.969
df	14	28	14
<i>P</i>	0.387	0.754	0.380

## Discussion and conclusion

This study was interested in applying the TPB constructs in postgraduate research. In particular, the study aimed at investigating whether TPB proximal determinants (attitude, subjective norms, and perceived behavioural control) affect Malaysian graduate students' intention to enrol in postgraduate studies in public and private universities. Besides, race, gender, and type of university were all tested for their possible moderating effects on the relationship between the proximal determinants and intention. Previous research on postgraduate studies were very little and hasn't applied TPB, although this theory has been tested in many behavioural disciplines and showed great consistency.

Overall, the results showed support for the TPB application in an education context, particularly intention to pursue postgraduate education, where 65% of variance was explained by the proximal determinant of intention, albeit the absence of a significant effect from subjective norms. In line with studies from other disciplines, attitude towards a behaviour was most influential followed by perceived behavioural control (e.g., Al-Jubari, Hassan, & Hashim, 2017; Almobaireek & Manolova, 2012; Farooq et al., 2018; Liñán & Chen, 2009; Alharbi, Almahdi, & Mosbah, 2018).

At first, this implies that students accept postgraduate programs toward which they develop positive attitudes. While, this could be the result of their experience in the same university, it can also be the outcome of the sum of feedbacks received from students involved in postgraduate courses. Sometimes, it is perhaps their belief on the advantages associated with such study upgrading, or industry requirements that shape the formation of these perceptions. This being the case however, universities are required to pay further attention to students' attitudes and search for possible avenues to foster them. Additionally, students' perception of their ability to engage in the postgraduate study was positively associated with the formation



of intention in this study. The reasons for this probably reflect students' awareness on the requirement and challenges of the postgraduate program and that they will be able to succeed in such activities.

However, although the influence of close circles, such as family, peers and colleagues, on people behaviour is well-documented, it seems not to be an important predictor of intention to pursue higher education, in the Malaysian context. Perhaps this has to do with not having to comply with the norms of people surrounding them, but rather putting more value and concern on their preferences and perception of their ability that they think such commitment is perceived positively, and that they would have control of their studies. This result is in line with some studies that found that subjective norms can moderately influence behavioural intention (e.g., Su & Lu, 2013), though they reported that such an effect is contingent on personal interdependence.

This study built on the TPB which is not free of shortcomings (Sniehotta et al., 2014). Thus, future researchers need to consider other determinants that are not available in the Malaysian literature and investigate whether the proximal factors of TPB mediates other motivational, economic and inspirational factors and intention.

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