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Entrepreneurial intentions among business undergraduates: The Malaysian case

Wendy Ming Yen Teoh^a (D), Siong Choy Chong^b (D), Yee Yen Yuen^c (D), Sumitha Ravichander^d, and Chin Wei Chong^e (D)

^aInstitut Pengurusan Teknologi dan Keusahawanan, Universiti Teknikal Malaysia Melaka, Durian Tunggal, Melaka, Malaysia; ^bFaculty of Business and Law, Taylor's University, Subang Jaya, Malaysia; ^cFaculty of Business, Multimedia University, Bukit Beruang, Malaysia; ^dFlex, Penang, Malaysia; ^eFaculty of Management, Multimedia University, Cyberjaya, Malaysia

ABSTRACT

This study aims to uncover the factors influencing entrepreneurial intention among business undergraduates in Malaysia. The theory of planned behavior suggests that personal attitude, subjective norms, perceived behavioral control, and entrepreneurial education influence entrepreneurial intentions. Questionnaires were disseminated to 400 respondents, with 200 valid responses considered for statistical analysis. The results of multiple linear regression suggest that personal attitude, perceived behavioral control, and entrepreneurial education significantly influence entrepreneurial intentions. The insignificant results obtained for subjective norms warrant further investigation. Theoretical and practical implications are discussed in light of the findings.

KEYWORDS

Entrepreneurial education; entrepreneurial intention; perceived behavioral control; personal attitude; subjective

Introduction

Entrepreneurship is seen as one of the principal panaceas to the problem of unemployment due to its significant contributions to the national economy in terms of decreasing unemployment. Involvement in entrepreneurship not only helps entrepreneurs acquire jobs but also the economy by lowering the unemployment rate (Shamsudin et al., 2017). This is in addition to its significance in creating market opportunities and wealth, as well as increasing the overall output of a country (Abdul Kadir et al., 2012).

From the standpoint of research, little is known about the entrepreneurial intentions of business students, particularly in Malaysia, although this topic has recently received significant research attention in other developing Middle Eastern countries, such as Yemen (Al-Qadasi et al., 2023), Saudi Arabia (Alshebami, 2022; Mohamed et al., 2023), and Lebanon (Dabbous & Boustani, 2023). While many researchers have focused on the entrepreneurial intentions of adults (Anwar & Abdullah, 2021; Jena, 2020; Vamvaka et al., 2020), there have also been studies that focused on young people (i.e., third- and fourth-year university students) from various study disciplines (Ashari et al., 2021; Bazkiaei

et al., 2021; Kowang et al., 2021; Porfírio et al., 2023; Samydevan et al., 2021) and not solely on business students. Among the studies on Malaysian students (e.g., Al-Jubari et al., 2023; Ashari et al., 2021; Bazkiaei et al., 2021), the focus has been on students of engineering and hospitality and tourism, and on qualitative nature (Law & Jaafar, 2024). Further, some of these studies (Almobaireek & Manolova, 2012; Krueger et al., 2000; Laukkanen, 2000; Marques et al., 2012; Obschonka et al., 2010; Ozaralli & Rivenburgh, 2016; Shook & Bratianu, 2010) have produced inconclusive results.

According to Neneh (2022), the future prosperity of any nation is reliant on the originality and character attributes of young entrepreneurs under the age of 25. Since Trading Economics (2019) revealed that 8.8% of 161,000 graduating Malaysian business students aged between 20 and 24 were unemployed, the outcomes may offer practical suggestions for developing and improving entrepreneurship programmes and activities for business students in higher education institutions to enhance their entrepreneurial intentions. This study also enables the government to foster a conducive environment that encourages entrepreneurship among Malaysian business students. This is in addition to contributing to the literature by

determining the findings in the context of the entrepreneurial intentions of business undergraduates in Malaysia.

The remainder of the paper is structured as follows. The next section discusses the literature on the topic of study. As a result, a research framework comprising a set of hypotheses is developed. This is followed by the methodology adopted in the study. The data collected is analyzed and interpreted before the results and their implications are discussed. The paper ends with some potential research directions.

Literature review

Definitions of entrepreneurial intentions

According to Carton et al. (2004), an individual decides to be self-employed when he or she embarks on an entrepreneurial venture. Entrepreneurial intention or 'intent', on the other hand, is commonly defined as a state of mind that directs the attention and action of an individual toward self-employment (Tarek, 2016). In other words, it is about exhibiting entrepreneurial-related behavior by making an expected and deliberate decision to become self-employed, including the intention to start a new entrepreneurial venture (Pillis & Reardon, 2007), acknowledging that it takes time and careful planning.

Intention, according to Alshebami et al. (2020), is the single most important determinant and motivator of entrepreneurial behavior and becoming an entrepreneur. An individual with a stronger entrepreneurial intention is likelier to establish an entrepreneurial venture and pursue entrepreneurship (Fatoki, 2010). This study defines entrepreneurial intention as a critical element in initiating an entrepreneurial venture that determines the success, growth, and survival of the new entrepreneurial venture.

Theory of planned behavior

Several studies have demonstrated the significance of the Theory of Planned Behavior (TPB) in better understanding the intention of an individual, including entrepreneurial intention, based on the personal and social factors of an individual (Amin et al., 2014; Barba-Sánchez et al., 2022; Finisterra do Paço et al., 2011; Hussain & Norashidah, 2015; Krueger et al., 2000; Sabah, 2016).

In fact, TPB is one of the most appropriate theories for discovering critical entrepreneurial insights among business students (Shaver & Scott, 1992; Sivarajah & Achchuthan, 2013). Among the key components of TPB include personal attitude, subjective (social) norms, perceived behavioral control, and behavioral intention (Azjen, 1991). Entrepreneurial education was also included as a component of the study as it has been recognized as a critical factor for potential individuals to become entrepreneurs (Fellnhofer, 2017). Although entrepreneurial education has been investigated in prior studies, no consistent conclusions have been reached on whether entrepreneurial education has a significant relationship or positive and negative correlations on entrepreneurial intention (Wang et al., 2023), making it a valuable topic for inclusion. These components are discussed in the following sub-sections.

Personal attitude

Personal attitude refers to the degree to which an individual possesses an overall favorable or adverse personal evaluation of becoming an entrepreneur (Ali, 2021; Al-Jubari, 2019; Alshebami et al., 2020; Ozaralli & Rivenburgh, 2016). It provides an understanding of the cognition of an individual in terms of the desirability of engaging in a behavior.

Many studies have reported a significant positive relationship between personal attitude and entrepreneurial intentions (Gieure et al., 2019; Hussain & Norashidah, 2015; Kolvereid & Isaksen, 2006; Sabah, 2016; Tsordia & Papadimitriou, 2015; Utami, 2017). Abdul Kadir et al. (2012), in particular, found that the attitude of an individual has a significant relationship with the intention to pursue entrepreneurship as a career choice. However, Ozaralli and Rivenburgh (2016) found a negative association between personal attitude and entrepreneurial intentions, implying that the results are inconclusive. To determine whether personal attitude is a crucial factor influencing the entrepreneurial intentions of Malaysian business students, the following hypothesis is put forth:

H1: There is a significant relationship between personal attitude and entrepreneurial intentions.

Subjective norms

Subjective norms refer to the perceived social pressure to engage in a particular behavior due to peer influence (Azjen, 1991). Also known as social norms, it relates to the social influence concerning the approval and disapproval of an individual toward becoming an entrepreneur or establishing an entrepreneurial venture (Ali, 2021). Hence, subjective norms are predictors of the entrepreneurial intention of an individual,



as they can positively and negatively affect the way a person thinks (Alshebami et al., 2020).

Some studies have found a positive relationship between subjective norms and entrepreneurial intentions (Hussain & Norashidah, 2015; Kolvereid & Isaksen, 2006; Krueger et al., 2000; Obschonka et al., 2010; Sabah, 2016; Yordanova & Tarrazon, 2010), in that the support provided by social norms influences an individual to begin a venture or being involved in entrepreneurship (Arranz et al., 2019). In fact, Farrukh et al. (2019) found subjective norms to be one of the strongest predictors among the components of TPB. However, Shook and Bratianu (2010) discovered that subjective norms and entrepreneurial intention had a negative relationship, while other studies found no direct positive relationship (Almobaireek & Manolova, 2012; Krueger et al., 2000; Marques et al., 2012; Obschonka et al., 2010). The following hypothesis is proposed to confirm the inconclusive findings:

H2: There is a significant relationship between subjective norms and entrepreneurial intentions.

Perceived behavioural control

Perceived behavioral control is defined as the confidence and belief of an individual in his or her capacity to function as an entrepreneur and achieve control and success in entrepreneurial endeavors (Ajzen, 2002). According to Farrukh et al. (2019), perceived behavioral control or self-efficacy can be learned and developed over time, which explains the significant association between perceived behavioral control and entrepreneurial intentions.

Entrepreneurial self-efficacy, as noted by Krueger et al. (2000), has a significant influence on entrepreneurial behavior. Perceived behavioral control is concerned not only with the response of being an entrepreneur but also with the control of behavior (Ali, 2021). Hussain and Norashidah (2015) and Pihie (2009) discovered that an individual who scores higher on perceived behavioral control is far more likely to have a higher inclination toward becoming an entrepreneur or setting up a new entrepreneurial venture, which has received support from many other studies (Dabbous & Boustani, 2023; Finisterra do Paço et al., 2011; Sabah, 2016; Tsordia & Papadimitriou, 2015). To determine whether perceived behavioral control is a crucial factor influencing the entrepreneurial intentions of Malaysian business students, the following hypothesis is developed:

H3: There is a significant relationship between perceived behavioral control and entrepreneurial intentions.

Entrepreneurial education

Shamsudin et al. (2017) describe entrepreneurial education as the entrepreneurial environment of the students, which includes curriculum design that fulfills the desire of the students to become entrepreneurs. According to Alshebami et al. (2020), intention or behavior alone is insufficient for an individual to step forward. A solid education is required to support and enable students to engage in entrepreneurial activities with lesser risk.

While some studies found a direct and positive relationship between entrepreneurial education in fostering the entrepreneurial spirit in an individual to run an entrepreneurial venture or become an entrepreneur (Abbassi & Sta, 2019; Abdul Kadir et al., 2012; De Jorge-Moreno et al., 2012; Giacomin et al., 2011; Lee et al., 2005; Ooi et al., 2011; Saraih, 2019; Shahverdi et al., 2018; Turker & Selcuk, 2009), some studies found that entrepreneurial education could lessen the entrepreneurial desire of an individual (Laukkanen, 2000). To determine if entrepreneurial education is a crucial factor influencing the entrepreneurial intention of Malaysian business students, the following hypothesis is constructed:

H4: There is a significant relationship between entrepreneurial education and entrepreneurial intentions.

Figure 1 shows the research framework of the study.

Data and methodology

The population of the study consists of Malaysian undergraduate business students from three private and two public universities. In this study, undergraduate business students are selected because they are currently at a crucial stage in their career development, where they are exploring various career options,

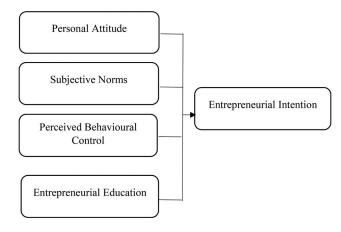


Figure 1. Research framework.

including entrepreneurship. Therefore, analyzing this group provides valuable insights into the early stages of entrepreneurial intention formation in young adults. This also helps researchers can better understand how to nurture and support the next generation of entrepreneurs.

The study also included multiple universities located in the central and southern regions to ensure a more balanced and comprehensive understanding of the research problem, rather than focusing on a single university. Additionally, the study prioritized bachelor's programmes to ensure that all respondents are at a similar educational level, minimizing variability due to academic differences.

The sample size was determined using G* Power 3.1 (Hair et al., 2018), with 129 being the minimum sample size. In this study, a stratified sampling method was employed to ensure that each of the five universities was adequately represented. Each university was treated as a separate stratum, allowing for a balanced and comparative analysis across institutions. A total of 400 questionnaires were distributed across these universities, with the distribution reflecting considerations such as student population size, expected response rates, and the importance of each institution within the research objectives. Specifically, 120 questionnaires were allocated to University A, 100 each to University B and University C, and 40 each to University D and E. The data collection process yielded responses from 60, 50, 50, 21, and 19 students from each university respectively. These variations in response rates, such as the 50% response rate at University A and 52.5% at University D, highlight the different levels of student engagement and availability. Stratified sampling was chosen to manage this variability and ensure that each university's perspectives were adequately captured, regardless of the differences in sample sizes.

The research was conducted using a questionnaire divided into two major sections. Section A comprises seven questions designed to elicit demographic information from the respondents. Section B contains 25 statements intended to measure the independent and dependent variables (See Table 3). The items were adopted from previous research, with slight revisions to fit the Malaysian culture and this particular study, i.e., personal attitude, subjective norms, perceived behavioral control, entrepreneurial education, and entrepreneurial intention (Liñán & et al., 2011). The study employed a five-point Likert scale, with one being 'strongly disagree' and five being 'strongly agree', and three being the midpoint. Participants were asked for their consent regarding participation in the survey and informed all responses remained anonymous.

Table 1 shows that male respondents made up the majority of respondents surveyed. The age groups were somewhat spread, with the majority of them aged between 22 and 23. About 36.5% of the respondents belonged to the Malaysian Chinese ethnic group. All the respondents were single as the study focused on current business students. The bulk of respondents were third-year students (51.5%). Most of the respondents came from University A (30%), with 16.5%

Table 1. Demographic profiles of respondents.

Variables	Classification variables	n	%	Variables	Classification variables	n	%
Gender	Female	88	44.0	Major	Bachelor of Accounting	33	16.5
	Male	112	56.0		Bachelor of Accounting and	21	10.5
Age	Below 20	43	21.5		Finance		
	20 to 21	58	29.0		Bachelor of Business	6	3.0
	22 to 23	76	38.0		Administration (E-Commerce)		
	24 to 25	19	9.5		Bachelor of Business	16	8.0
	26 and above	4	2.0		Administration		
Ethnicity	Chinese	73	36.5		(Entrepreneurship)		
	Malay	69	34.5		Bachelor of Administration	23	11.5
	Indian	58	29.0		Bachelor of Knowledge	6	3.0
Marital Status	Single	200	100.0		Management		
					Bachelor of Human Resource	24	12.0
Year of Study	1 st Year	48	24.0		Management		
,	2 nd Year	29	14.5		Bachelor of International	27	13.5
	3 rd Year	103	51.5		Business		
	4 th Year	20	10.0		Bachelor of Marketing	33	16.5
Graduation	2020	116	58.0		Management		
Year	2021 or later	84	42.0		Bachelor of Economics	6	3.0
					Bachelor of Event Management and Marketing	5	2.5
University	Α				-	60	30.0
•	В					50	25.0
	C					50	25.0
	D					21	10.5
	E					19	9.5

coming from the Bachelor of Marketing Management and Bachelor of Accounting programmes.

Validity and reliability analysis

As illustrated in Table 2, the factor analysis explained 47.737% of the variance, which was less than 50%, indicating that there is no common method bias and that the data is ready for further analysis. Cronbach's alpha values for all the variables were greater than 0.60, showing that the constructs have reasonably high internal consistencies (Downing, 2004). In addition, all the constructs have composite reliability (CR > 0.60) and average variance extracted (AVE > 0.50), implying strong convergent validity. Discriminant validity was also demonstrated, with the AVE is larger than the squared correlation coefficient for all constructs.

Mean and standard deviation

Table 3 shows the mean and standard deviation scores for all the items clustered under each of the variables. In terms of the independent variables, entrepreneurial education scored the highest overall mean, followed by personal attitude, subjective norms, and perceived behavioral control. All the items are found to score above 3.50, including entrepreneurial intention. The standard deviation scores from all the constructs were below 1.0, indicating consistency in the responses provided.

The results of multiple linear regression between all the independent and dependent variables are shown in Table 4. With an R² value showing 80.5% of variances, personal attitude, perceived behavioral control, and entrepreneurial education were significantly associated with entrepreneurial intentions among Malaysian business students. As such, H1, H3, and H4 are accepted. Subjective norms, on the other hand, were not significantly associated with entrepreneurial intentions among Malaysian business students. Therefore, H2 is not accepted.

Discussion and implications

The mean and standard deviation scores (Table 3) reflect the importance of the TPB constructs and entrepreneurial education in determining the entrepreneurial intentions of Malaysian business students. Entrepreneurial education scored the highest overall mean, followed by personal attitude, subjective norms, and perceived behavioral control. The average mean scores of 3.91 to 4.04 imply that business students are inclined toward becoming entrepreneurs. This is

Table 2. Factor analysis, AVE, CR, Cronbach alpha and % of variance.

Variable	Loading	AVE	CR	Cronbach alpha	% of variance
					47.737
Personal attitude		.536	.852	.811	
Being an entrepreneur would entail great satisfaction for me.	.745				
A career as entrepreneur is attractive for me.	.709				
If I had the opportunity and resources, I would like to start a firm.	.755				
Being an entrepreneur implies more advantages than disadvantages to me.	708				
Among various options, I would rather be an entrepreneur.	.741				
Subjective norms		.528	.770	.627	
Your close family.	.756				
Your friends.	.758				
Your peers.	.661				
Perceived behavioral control		.600	.900	.878	
To start a firm and keep it working would be easy for me.	.805				
I am prepared to start a viable firm.	.754				
I can control the creation process of a new firm.	.738				
I know the necessary practical details to start a firm.	.768				
I know how to develop an entrepreneurial project.	.785				
If I tried to start a firm, I would have a high probability of succeeding.	.795				
Entrepreneurial education		.606	.885	.841	
Knowledge about the entrepreneurial environment.	.796				
Greater recognition of the entrepreneur's figure.	.794				
The preference to be an entrepreneur.	.768				
The necessary abilities to be an entrepreneur.	.760				
The intention to be an entrepreneur.	.775				
Entrepreneurial intention		.590	.896	.898	
I am ready to do anything to be an entrepreneur.	.788				
My professional goal is to become an entrepreneur.	.721				
I will make every effort to start and run my own firm.	.799				
I am determined to create a firm in the future.	.786				
I have very seriously thought of starting a firm.	.770				
I have the firm intentions to start a firm someday.	.742				

Table 3. Means and standard deviation.

No	Items	Mean	SD
Personal attitude		3.949	0.701
1	Being an entrepreneur would entail great satisfaction for me.	3.90	0.948
2	A career as entrepreneur is attractive for me.	4.07	0.842
3	If I had the opportunity and resources, I would like to start a firm.	3.93	0.891
4	Among various options, I would rather be an entrepreneur.	3.93	0.903
5	Being an entrepreneur implies more advantages than disadvantages to me.	3.84	0.921
Subjective norms		3.933	0.727
1	Your close family.	3.99	0.862
2	Your friends.	4.09	0.836
3	Your peers.	3.71	0.853
Perceived behavioral control		3.908	0.729
1	To start a firm and keep it working would be easy for me.	3.87	0.900
2	I am prepared to start a viable firm.	3.96	0.923
3	I can control the creation process of a new firm.	3.95	0.837
4	I know the necessary practical details to start a firm	3.89	0.881
5	I know how to develop an entrepreneurial project.	3.88	0.898
6	If I tried to start a firm, I would have a high probability of succeeding.	3.90	0.924
Entrepreneurial education		4.035	0.742
1	Knowledge about the entrepreneurial environment.	4.00	0.902
2	Greater recognition of the entrepreneur's figure.	4.11	0.895
3	The preference to be an entrepreneur.	4.00	0.830
4	The necessary abilities to be an entrepreneur.	4.02	0.850
5	The intention to be an entrepreneur.	4.04	0.896
Entrepreneurial intention		3.923	0.713
1	I am ready to do anything to be an entrepreneur.	3.90	0.862
2	My professional goal is to become an entrepreneur.	4.02	0.850
3	I will make every effort to start and run my own firm.	3.95	0.849
4	I am determined to create a firm in the future.	3.86	0.948
5	I have very seriously thought of starting a firm.	3.92	0.884
6	I have the firm intentions to start a firm someday.	3.89	0.859

Table 4. Results of multiple linear regression.

Model	Unstandardised coefficients		Standardised coefficients		
	В	Std. Error	Beta	t	Sig.
(Constant)	.188	.137		1.369	.173
Personal attitude	.230	.064	.225	3.572	.000
Subjective norms	.051	.053	.052	.954	.341
Perceived behavioral control	.405	.069	.414	5.836	.000
Entrepreneurial education	.259	.059	.268	4.394	.000

Notes: F = 201.181(p = 0.000); $R^2 = 0.805$.

confirmed further by the mean scores for all the items measuring entrepreneurial intention. However, the results of multiple linear regression (Table 4) suggested a slightly different order. Perceived behavioral control scored the highest Beta value, followed by entrepreneurial education, personal attitude, and subjective norms.

In terms of hypotheses, personal attitude showed a significant relationship with entrepreneurial intention, providing support to H1. The findings are consistent with prior studies (Ali, 2021; Al-Jubari, 2019; Alshebami et al., 2020; Gieure et al., 2019; Hussain & Norashidah, 2015; Kolvereid & Isaksen, 2006; Sabah, 2016; Tsordia & Papadimitriou, 2015; Utami, 2017) and confirm the study by Abdul Kadir et al. (2012) that personal attitude has a significant relationship with the intention to pursue entrepreneurship as a career choice. A business student who has a favorable attitude toward entrepreneurship in terms of perceiving it with higher attractiveness, satisfaction,

and more advantages than disadvantages as evident from the mean scores, seems to be more likely to have entrepreneurial intentions and therefore a higher likelihood to commence an entrepreneurial venture.

Likewise, perceived behavioral control has a significant relationship with entrepreneurial intention, confirming H3 and previous studies (Ali, 2021; Farrukh et al., 2019; Finisterra do Paço et al., 2011; Hussain & Norashidah, 2015; Krueger et al., 2000; Muhammad Sadat & Lin, 2020; Pihie, 2009; Sabah, 2016; Tsordia & Papadimitriou, 2015). The findings lend support to the argument by Farrukh et al. (2019) that business students could have been exposed to self-efficacy during their studies, hence leading to somewhat high mean scores (3.91 out of 5). The results of multiple linear regression also suggest concurrence with Pihie (2009) and Muhammad Sadat and Lin (2020), where business students who score high on perceived behavioral control are far more likely to have a higher inclination to become entrepreneurs. In fact, it confirms the study by Muhammad Sadat and Lin (2020) who found that perceived behavioral control is the most substantial influence on the intention of an individual to become an entrepreneur. It implies that if a business student is confident of his or her capability to start a new venture and control its processes, he or she is more likely to engage in entrepreneurship.

The study has also confirmed H4 and prior studies where entrepreneurial education is significantly associated with entrepreneurial intention (Abbassi & Sta, 2019; Abdul Kadir et al., 2012; De Jorge-Moreno et al., 2012; Giacomin et al., 2011; Lee et al., 2005; Ooi et al., 2011; Saraih, 2019; Shahverdi et al., 2018; Shamsudin et al., 2017; Turker & Selcuk, 2009). The findings imply that business students have been exposed to knowledge about the entrepreneurial environment and skills to become one. The high mean score is not unexpected, since the government has made entrepreneurship a compulsory subject in all degree programmes in the country.

However, the study found that the relationship between subjective norms and entrepreneurial intentions was not significant, hence H2 was not accepted. While it contradicts prior studies on the positive relations between the two (Arranz et al., 2019; Farrukh et al., 2019; Finisterra do Paço et al., 2011; Hussain & Norashidah, 2015; Kolvereid & Isaksen, 2006; Krueger et al., 2000; Obschonka et al., 2010; Pago, 2011; Sabah, 2016; Yordanova & Tarrazon, 2010), it also contradicts with the negative relationship found (Shook & Bratianu, 2010). The findings seem to suggest that close family, friends, and peers do not play an influential role in their quest toward becoming entrepreneurs, leading to Finisterra do Paço et al. (2011) excluding subjective norms from their model. While the study found consistency with some studies (Almobaireek & Manolova, 2012; Krueger et al., 2000; Marques et al., 2012; Obschonka et al., 2010, the high mean scores call for future research to confirm the findings.

The results have theoretical and practical implications as discussed in the following sub-sections.

Research implications

The study used a valid and reliable instrument (Table 2), with the TPB as a foundation. However, it has incorporated entrepreneurial education on top of the existing key components of TPB. According to Ajzen (2020), TPB is open to the inclusion of additional predictors. The mean and standard deviation scores, as well as the R² value, provide confirmation to prior research on the significance of TPB in understanding entrepreneurial intention (Amin et al., 2014; Barba-Sánchez et al., 2022; Finisterra do Paço et al., 2011; Hussain & Norashidah, 2015; Krueger et al., 2000; Sabah, 2016; Shaver & Scott, 1992; Sivarajah & Achchuthan, 2013), including the roles of entrepreneurial education on business students.

This study is likely one of the few that focused on business students, adding to the literature on earlier studies regarding the entrepreneurial intention of adults and the few conducted in the Malaysian setting. This research was predicated on the assumption that business students have the 'natural' tendency to become entrepreneurs, which corroborates the findings. This study has attempted to ensure a wider representation of different ethnicities and types of institutions (Table 1) to generate an overall picture of the topic under investigation, given that Malaysia is a multi-ethnic country. Data was collected from business students of both public and private institutions on the assumption that they had already been exposed to the compulsory subject of entrepreneurship regardless of their programmes of study. The sample size is deemed acceptable, given the larger sample size obtained when compared to the figure estimated by G* Power 3.1.

Besides the constructs related to TPB, this study has also included entrepreneurial education. Taking the cue from Alshebami et al. (2020) that intention alone is insufficient where a solid education is required to support and enable business students to engage in entrepreneurial activities with lesser risk. This notion is proven in this study. However, the findings on the relationship between subjective norms and entrepreneurial intentions showed otherwise, which was not reflected by the mean score. It was found that family members, friends, or peers do not influence these business students to become entrepreneurs, but rather the students themselves. This has implications on their education, personal attitude, and perceived behavioral control. Any planned intervention should be based on these three components.

Practical implications

The findings offer some practical insights to higher education institutions, policymakers, and even the business students. The findings suggest that higher education institutions can play an essential role in enhancing the entrepreneurial intentions of their business students. While the mean scores suggest that the current entrepreneurial education is adequate, continuous review and enhancement of the entrepreneurship curriculum are critical. The institutions should begin thinking of taking further steps, such as by involving successful entrepreneurs in curriculum design and delivery, as well as establishing a comprehensive entrepreneurial ecosystem. Institutions that do not have incubators should consider investing in one so that students can incubate their ideas. Industry coaches could be appointed to complement the academic staff in the delivery of entrepreneurship subjects. The usual final year project, which could be replaced by other subjects, could also be substituted by startup projects with real impact, to the extent that the students establish their companies with real key performance indicators before they are eligible to graduate. Various units within the institution could play their roles to support these student startups. For example, the commercialization unit could play a role in supporting the students to bring their ideas to the marketplace, venture capitalists, or angel investors; the makerspace unit could help the students in turning their ideas into prototypes; the legal unit could assist the students on legal matters; and the marketing or public relations unit could help the students with promotional materials. These efforts will build the capacity for innovation, versatility, and ingenuity for the students to develop a positive attitude toward entrepreneurship, the perception of being in control, and the ability to seize opportunities (Bygrave & Zacharakis, 2004; Drucker, 1985; Timmons & Spinelli, 2004).

The government, on the other hand, should provide more incentives to students to become entrepreneurs. A better entrepreneurial atmosphere with greater access to education for students is critical since it might promote the development of new initiatives to improve their entrepreneurial intentions (Ismail et al., 2009). Student entrepreneurs could be given the opportunity to be involved in small-byte projects funded by the government, or to work with the government as a strategic partner to bid on some projects. Certain tax breaks could be given to them. This will foster a favorable attitude toward entrepreneurship and allow students to believe that they are capable and in control of their businesses, in addition to developing their experience and skills.

For the students themselves, the constructs might act as a self-check to determine how prepared they are to become entrepreneurs and the support they are getting from their institutions and the government. They should realize that one source of employment is self-employment, which will not only help the economy of the country to flourish but will also provide a source of employment for other graduates.

Conclusion and future research

The study has achieved its overall objective of determining the entrepreneurial intention among Malaysian business students. It is hoped that the recommendations will enable more students to become successful entrepreneurs at a young age and contribute to the economy of the country. It is also hoped that the recommendations could be beneficial to countries dealing with similar problems of unemployment or launching an entrepreneurship initiative for their students.

The study was designed to collect data from five institutions. It is possible that the findings may be different, challenging the belief on 'natural' tendency if more institutions (including their types) are considered. Future studies should be undertaken in universities throughout Malaysia to produce more reliable results. Besides universities, there are local colleges, polytechnics, community colleges, and foreign universities with branch campuses in Malaysia in which business students are also exposed to the subject of entrepreneurship. It is intriguing to consider data from these different types of institutions as a moderating variable. This will provide targeted strategies to enhance entrepreneurship among students of these institutions.

This research involved 200 business students. Future studies with a larger sample size, including undergraduates of different disciplines, are possible. A comparative study of undergraduates of different disciplines and countries may yield fascinating results. Adding to this are the variables used in future studies. Understanding family backgrounds, culture, and personality traits, among others, could improve understanding of the current and future student generations. A longitudinal, rather than a cross-sectional study, may also lead to interesting insights. As in any study where limitations are unavoidable, future research with the aforementioned in mind will allow for more accurate conclusions and recommendations to be generated.

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ORCID

Wendy Ming Yen Teoh http://orcid.org/0000-0001-7861-7228

Siong Choy Chong http://orcid.org/0000-0003-4519-2301 Yee Yen Yuen http://orcid.org/0000-0003-2257-8906 Chin Wei Chong (b) http://orcid.org/0000-0002-9294-8450

References

- Abbassi, R., & Sta, N. (2019). The effect of self-esteem, entrepreneurial education and entrepreneurial tradition of the family on the entrepreneurial intention among students. Journal of Business and Management Research, 12, 235-245.
- Abdul Kadir, M. B., Salim, M., & Kamarudin, H. (2012). The relationship between educational support and entrepreneurial intentions in Malaysian higher learning institutions. In Proceedings of the International Conference on Education and Educational Psychology (ICEEPSY). Procedia - Social and Behavioral Sciences, 69, 2164-2173. https://doi.org/10.1016/j.sbspro.2012.12.182
- Ajzen, I. (2002). Perceived behavioural control, self-efficacy, locus of control and theory of planned behaviour. Journal of Applied Social Psychology, 32(4), 665-683. https://doi. org/10.1111/j.1559-1816.2002.tb00236.x
- Ajzen, I. (2020). The theory of planned behaviour: Frequently asked questions. Human Behavior and Emerging Technologies, 2(4), 314-324. https://doi. org/10.1002/hbe2.195
- Ajzen, I., & Fishbein, M. (2000). Attitudes and the attitudes behaviour relation: Reasoned and automatic processes. European Review of Social Psychology, 11(1), 1-33. https:// doi.org/10.1080/14792779943000116
- Al-Jubari, I. (2019). College students' entrepreneurial intention: Testing an integrated model of SDT and TPB. Sage Open, 9(2), 1-15. https://doi.org/10.1177/2158244019853467
- Al-Jubari, I., Mosbah, A., & Anor Salim, F. A. (2023). Motivational and attitudinal determinants of entrepreneurial intention: Hospitality and tourism students' perspectives. Journal of Hospitality & Tourism Education, 35(2), 97–107. https://doi.org/10.1080/10963758.2021.196
- Almobaireek, W. N., & Manolova, T. S. (2012). Who wants to be an entrepreneur? Entrepreneurial intentions among Saudi university students. African Journal of Business Management, 6(11), 4029-4040.
- Al-Qadasi, N., Zhang, G., Al-Awlaqi, M. A., Alshebami, A. S., & Aamer, A. (2023). Factors influencing entrepreneurial intention of university students in Yemen: The mediating role of entrepreneurial self-efficacy. Frontiers in Psychology, 14, 1111934. https://doi.org/10.3389/ fpsyg.2023.1111934
- Alshebami, A. S. (2022). Psychological features and entrepreneurial intention among Saudi small entrepreneurs during adverse times. Sustainability, 14(13), 7604. https:// doi.org/10.3390/su14137604

- Alshebami, A. S., Al-Jubari, I., Alyoussef, I. Y., & Raza, M. (2020). Entrepreneurial education as a predicator of community college of Abqaiq students' entrepreneurial intention. Management Science Letters, 10, 3605-3612. https://doi.org/10.5267/j.msl.2020.6.033
- Amin, H., Rahim Abdul Rahman, A., & Abdul Razak, D. (2014). Consumer acceptance of Islamic home financing. International Journal of Housing Markets and Analysis, 7(3), 307-332. https://doi.org/10.1108/IJHMA-12-2012-0063
- Anwar, G., & Abdullah, N. N. (2021). Inspiring future entrepreneurs: The effect of experiential learning on the entrepreneurial intention at higher education. International Journal of English Literature and Social Sciences, 6(2), 183-194. https://doi.org/10.22161/ijels.62.26
- Arranz, N., Arroyabe, M. F., & Arroyabe, J. C. (2019). Entrepreneurial intention and obstacles of undergraduate students: The case of the universities of Andalusia. Studies in Higher Education, 44(11), 2011–2024. https://doi.org/ 10.1080/03075079.2018.1486812
- Ashari, H., Abbas, I., Abdul-Talib, A. N., & Mohd Zamani, S. N. (2021). Entrepreneurship and sustainable development goals: A multigroup analysis of the moderating effects of entrepreneurship education on entrepreneurial intention. Sustainability, 14(1), 431. https://doi.org/10.3390/su14010431
- Azjen, I. (1991). The theory of planned behaviour. Organization Behaviour and Human Decision Processes, 50(2), 179-211.
- Bakar, R., Islam, M. A., & Lee, J. (2014). Entrepreneurship education: Experiences in selected countries. International Education Studies, 8(1), 88-99. https://doi.org/10.5539/ ies.v8n1p88
- Barba-Sánchez, V., Mitre-Aranda, M., & Brío-González, J. (2022). The entrepreneurial intention of university students: An environmental perspective. European Research on Management and Business Economics, 28(2), 100184. https://doi.org/10.1016/j.iedeen.2021.100184
- Bazkiaei, H. A., Khan, N. U., Irshad, A-u., & Ahmed, A. (2021). Pathways toward entrepreneurial intention among Malaysian universities' students. Business Process Management Journal, 27(4), 1009-1032. https://doi. org/10.1108/BPMJ-01-2021-0021
- Bygrave, W., & Zacharakis, A. (2004). The portable MBA in entrepreneurship (3rd ed.). John Wiley & Sons.
- Carton, R., Hofer, C. W., & Meeks, M. D. (2004). The entrepreneur and entrepreneurship: Operational definitions of their role in society (pp. 1-12). The University of Georgia Terry College of Business.
- Cunningham, J. B., & Lischeron, J. (1991). Defining entrepreneurship. Journal of Small Business Management, 29(1), 45-61.
- Dabbous, A., & Boustani, N. M. (2023). Digital explosion and entrepreneurship education: impact on promoting entrepreneurial intention for business students. Journal of Risk and Financial Management, 16(1), 27. https://doi. org/10.3390/jrfm16010027
- De Jorge-Moreno, J., Laborda Castillo, L., & Sanz Triguero, M. (2012). The effect of business and economics education programs on students' entrepreneurial intention. European Journal of Training and Development, 36(4), 409-425. https://doi.org/10.1108/03090591211220339
- Department of Statistics Malaysia. (2023). Graduate statistics 2021. Retrieved August 3, 2022, from https://www.dosm.

- gov.my/v1/index.php?r=column/pdfPrev&id=N0w0QU95 YklKRDFoQWhSV3F6N3NHQT09
- Downing, S. M. (2004). Reliability: On the reproducibility of assessment data. Medical Education, 38(9), 1006-1012. https://doi.org/10.1111/j.1365-2929.2004.01932.x
- Drucker, P. (1985). Innovation and entrepreneurship. Harper Collins.
- Farrukh, M., Lee, J., Sajid, M., & Waheed, A. (2019). Entrepreneurial intentions: The role of individualism and collectivism in perspective of theory of planned behaviour. Education + Training, 61(7/8), 984-1000. https:// doi.org/10.1108/ET-09-2018-0194
- Fatoki, O. O. (2010). Graduate entrepreneurial intention in South Africa: Motivation and obstacles. International Journal of Business and Management, 5(9), 87-89.
- Fayed, A. (2021). The impact of TPB on entrepreneurial intentions. Eurasian Journal of Management & Social Sciences, 1(3), 1–7.
- Fellnhofer, K. (2017). Entrepreneurship education revisited: Perceived entrepreneurial role models increase perceived behavioural control. International Journal of Learning and Change, 9(3), 260-283. https://doi.org/10.1504/ IJLC.2017.086856
- Finisterra do Paço, A. M., Ferreira, J. M., Raposo, M., Rodrigues, R. G., & Dinis, A. (2011). Behaviours and entrepreneurial intention: Empirical findings about secondary students. Journal of International Entrepreneurship, 9(1), 20–38. https://doi.org/10.1007/s10843-010-0071-9
- Giacomin, O., Janssen, F., Pruett, M., Shinnar, R. S., Llopis, F., & Toney, B. (2011). Entrepreneurial intention, motivations and barriers: Differences among American, Asian and European students. International Entrepreneurship and Management Journal, 7(2), 219-238. https://doi. org/10.1007/s11365-010-0155-y
- Gieure, C., Benavides-Espinosa, M. d M., & Roig-Dobón, S. (2019). Entrepreneurial intentions in an international university environment. International Journal of Entrepreneurial Behavior & Research, 25(8), 1605-1620. https://doi.org/10.1108/IJEBR-12-2018-0810
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). Multivariate data analysis (8th ed.). Cengage Learning.
- Hussain, A., & Norashidah, B. H. (2015). Impact of entrepreneurial education on entrepreneurial intention of Pakistan students. Journal of Entrepreneurship and Business Innovation, 2(1), 43-53. https://doi.org/10.5296/ jebi.v2i1.7534
- Ismail, M., Khalid, S. A., Othman, M., Jusoff, H. K., Rahman, N. A., Kassim, K. M., & Zain, K. M. (2009). Entrepreneurship intention among Malaysian undergraduates. International of Biometrics, 4, 54-60.
- Jena, R. K. (2020). Measuring the impact of business management Student's attitude towards entrepreneurship education on entrepreneurial intention: A case study. Computers in Human Behaviour, 107, 106-275.
- Joseph, I. (2017). Factors influencing international student entrepreneurial intention in Malaysia. American Journal of Industrial and Business Management, 07(04), 424-428. https://doi.org/10.4236/ajibm.2017.74030
- Kolvereid, L., & Isaksen, E. (2006). New business startup and subsequent entry into self-employment. Journal of Business Venturing, 21(6), 866-885. https://doi. org/10.1016/j.jbusvent.2005.06.008

- Kowang, T. O., Apandi, S. Z. A., Ong, C. H., Goh, C. F., Saadon, M. S. I., & Othman, M. R. (2021). Undergraduates entrepreneurial intention: Holistic determinants matter. International Journal of Evaluation and Research in Education (IJERE), 10(1), 57-64. https://doi.org/10.11591/ ijere.v10i1.20733
- Krueger, N., Reilly, M., & Carsrud, A. (2000). Competing models of entrepreneurial intentions. Journal of Business Venturing, 15(5-6), 411-432. https://doi.org/10.1016/ S0883-9026(98)00033-0
- Laukkanen, M. (2000). Exploring alternative approaches in high-level entrepreneurship education: Creating micromechanisms for endogenous regional growth. Entrepreneurship & Regional Development, 12(1), 25-47. https://doi.org/10.1080/089856200283072
- Law, K., & Jaafar, N. (2024). A qualitative study of factors that influence entrepreneurial intention among students of private higher education institutions in Selangor. International Journal of Management, Finance and Accounting, 5(1). https://doi.org/10.33093/ijomfa.2024.5.1.10
- Lee, S. M., Chang, D., & Lim, S. B. (2005). Impact of entrepreneurial education: A comparative study of the U.S. and Korea. The International Entrepreneurship and Management Journal, 1(1), 27-43. https://doi.org/10.1007/ s11365-005-6674-2
- Liñán, F., Rodríguez-Cohard, J. C., & Rueda-Cantuche, J. M. (2011). Factors affecting entrepreneurial intention levels: A role for education. *International Entrepreneurship* and Management Journal, 7(2), 195-218. https://doi. org/10.1007/s11365-010-0154-z
- LüThje, C., & Franke, N. (2003). The 'making' of an entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT. R&D Management, 33(2), 135–147. https://doi.org/10.1111/1467-9310.00288
- Lüthje, C., Franke, N. (2002). Fostering entrepreneurial through university education and training: Lessons from Massachusetts Institute of Technology. Proceedings of the European Academy of Management 2nd Annual Conference on Innovation Research in Management (pp. 9-11), Stockholm, May 2002.
- Marques, C. S., Ferreira, J. J., Gomes, D. N., & Gouveia Rodrigues, R. (2012). Entrepreneurship education. Education + Training, 54(8/9), 657-672. https://doi. org/10.1108/00400911211274819
- Mohamed, M. E., Elshaer, I. A., Azazz, A. M. S., & Younis, N. S. (2023). Born not made: The impact of six entrepreneurial personality dimensions on entrepreneurial intention: Evidence from healthcare higher education students. Sustainability, 15(3), 2266. https://doi. org/10.3390/su15032266
- Muhammad Sadat, A., & Lin, M. L. (2020). Examining the student entrepreneurship intention using TPB approach with gender as moderation variable. International Journal of Innovation, Creativity and Change, 13(6), 193-207.
- Neneh, B. N. (2022). Entrepreneurial passion and entrepreneurial intention: The role of social support and entrepreneurial self-efficacy. Studies in Higher Education, 47(3), 587–603. https://doi.org/10.1080/03075079.2020.1770716
- Obschonka, M., Silbereisen, R. K., & Schmitt-Rodermund, E. (2010). Entrepreneurial intention as development outcome. Journal of Vocational Behavior, 77(1), 63-72. https://doi.org/10.1016/j.jvb.2010.02.008

- Ooi, Y. K., Selvarajah, C., & Meyer, D. (2011). Inclination towards entrepreneurship among university students: An empirical study of Malaysian university students. International Journal of Business and Social Science, 2(4), 206-220.
- Ozaralli, N., & Rivenburgh, N. K. (2016). Entrepreneurial intention: Antecedents to entrepreneurial behaviour in the U.S.A. and Turkey. Journal of Global Entrepreneurship Research, 6(1), 1-32. https://doi.org/10.1186/s40497-016-0047-x
- Pihie, Z. A. L. (2009). Entrepreneurship as a career choice: An analysis of entrepreneurial self-efficacy and intention of university students. European Journal of Social Sciences, 9(2), 338-349.
- Pillis, E., & Reardon, K. K. (2007). The influence of personality traits and persuasive messages on entrepreneurial intention: A cross-cultural study. Career Development International, 12(4), 382-396. https://doi. org/10.1108/13620430710756762
- Porfírio, J. A., Felício, J. A., Carrilho, T., & Jardim, J. (2023). Promoting entrepreneurial intentions from adolescence: The influence of entrepreneurial culture and education. Journal of Business Research, 156, 113521. https://doi. org/10.1016/j.jbusres.2022.113521
- Sabah, S. (2016). Entrepreneurial intention: Theory of planned behaviour and the moderation effect of start-up experience. In M. Franco (Ed.), Entrepreneurship practice-oriented perspectives (pp. 87-101). InTechOpen.
- Samydevan, V., Mohd Amin, M. R. B., & Piaralal, S. K. (2021). Determinants of entrepreneurial intention among school students in Malaysia: An empirical study. Journal of Education for Business, 96(6), 359-365. https://doi.org /10.1080/08832323.2020.1837057
- Saraih, N. (2019). Understanding the relationship between entrepreneurial education, entrepreneurial implementation and entrepreneurial intention: An empirical investigation. Asia Proceedings of Social Sciences, 4(2), 139-142. https:// doi.org/10.31580/apss.v4i2.766
- Sekaran, U. (2010). Research methods for business: A skill building approach (5th ed.). John Willey and Sons.
- Shahverdi, M., Ismail, K., & Qureshi, M. (2018). The effect of perceived barriers on social entrepreneurship intention in Malaysian universities: The moderating role of education. Management Science Letters, 8(5), 341-352. https:// doi.org/10.5267/j.msl.2018.4.014
- Shamsudin, S. F. F., Mamun, A. A., Che Nawi, N., Md Nasir, N. A., & Zakaria, M. N. (2017). Factors affecting entrepreneurial intention among the Malaysian university students. The Journal of Developing Areas, 51(4), 423-431. https://doi.org/10.1353/jda.2017.0111
- Shaver, K. G., & Scott, L. R. (1992). Person, process, choice: The psychology of new venture creation. Entrepreneurship Theory and Practice, 16(2), 23-46. https://doi. org/10.1177/104225879201600204

- Shook, C. L., & Bratianu, C. (2010). Entrepreneurial intent in a transitional economy: An application of the theory of planned behaviour to Romanian students. International Entrepreneurship and Management Journal, 6(3), 231–247. https://doi.org/10.1007/s11365-008-0091-2
- Sivarajah, K., & Achchuthan, S. (2013). Entrepreneurial intention among undergraduates: Review of literature. European Journal of Business and Management, 5(5), 172-186.
- Tarek, B. E. N. (2016). Explaining the intent to start a business among Saudi Arabian university students. International Review of Management and Marketing, 6(2), 345-353.
- Timmons, J. A., & Spinelli, S. (2004). New venture creation: Entrepreneurship for the 21st century (6th ed.). McGraw-Hill.
- Trading Economics. (2019). Malaysia unemployment rate. Retrieved July 5, 2022, from https://tradingeconomics. com/malaysia/unemployment-rate
- Trading Economics. (2023). Malaysia unemployment rate. Retrieved April 2, 2023, from https://tradingeconomics. com/malaysia/unemployment-rate
- Tsordia, C., & Papadimitriou, D. (2015). The role of theory of planned behaviour on entrepreneurial intention of Greek business students. International Journal of Synergy and Research, 4(1), 23-37. https://doi.org/10.17951/ ijsr.2015.4.1.23
- Turker, D., & Selcuk, S. S. (2009). Which factors affect entrepreneurial intention of university students? Journal of European Industrial Training, 33(2), 142-159. https:// doi.org/10.1108/03090590910939049
- Ukil, M. I., & Jenkins, A. (2023). Willing but fearful: Resilience and youth entrepreneurial intentions. Journal of Small Business and Enterprise Development, 30(1), 78-99. https://doi.org/10.1108/JSBED-03-2022-0154
- Utami, C. W. (2017). Attitude, subjective norms, perceived behaviour, entrepreneurship education and self-efficacy toward entrepreneurial intention university student in Indonesia. University Ciputra. European Research Studies Journal, 20(2), 475-495.
- Vamvaka, V., Stoforos, C., Palaskas, T., & Botsaris, C. (2020). Attitude toward entrepreneurship, perceived behavioural control, and entrepreneurial intention: Dimensionality, structural relationships, and gender differences. Journal of Innovation and Entrepreneurship, 9(1), 1-26. https://doi.org/10.1186/s13731-020-0112-0
- Wang, X. H., You, X., Wang, H. P., Wang, B., Lai, W. Y., & Su, N. (2023). The effect of entrepreneurship education on entrepreneurial intention: Mediation of entrepreneurial self-efficacy and moderating model of psychological capital. Sustainability, 15(3), 2562. https://doi.org/10.3390/su15032562
- Yordanova, D. I., & Tarrazon, M. (2010). Gender differences in entrepreneurial intentions: Evidence from Bulgaria. Journal of Developmental Entrepreneurship, 15(03), 245-261. https://doi.org/10.1142/S1084946710001543