

Enhancing entrepreneurial intentions through education: The role of attitude, self-efficacy, and subjective norms in hospitality students

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ABSTRACT

Extensive research substantiates the positive impact of entrepreneurship education at the university level on students' entrepreneurial competencies and intentions. It consistently demonstrates that such education augments students' entrepreneurial knowledge, abilities, and attitudes, bolstering self-efficacy, creativity, and problem-solving skills, thus influencing their intent to engage in entrepreneurial pursuits. However, while these studies emphasise the positive outcomes, a notable research gap exists concerning the intricate interplay between entrepreneurship education and specific psychological factors—such as self-efficacy, attitude, and subjective norms. Hence, this study aims to identify the association between education, self-efficacy, student attitude, subjective norms, and students' intention toward entrepreneurship. The study was conducted among hospitality undergraduates and alumni who enrolled in an entrepreneur-related program at UiTM Kampus Puncak Alam. An online survey was distributed to final-year students and alumni via email and WhatsApp. Note that 116 responses were gathered and later analysed using SPSS ver. 29. The findings revealed that self-efficacy, entrepreneurship education, and subjective norms had significant moderate correlations of 0.611, 0.599, and 0.480, respectively, while attitude strongly correlated ($r = 0.804$, $p < 0.05$) with intention towards entrepreneurship. Meanwhile, attitude was the main predictor, with approximately 65% of the variance in respondents' intention towards entrepreneurship. The results highlight a significant and robust relationship between entrepreneurship education, self-efficacy, student attitudes, subjective norms, and students' intentions toward entrepreneurship. The observed

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strong correlation, evident in the regression analysis, underscores the substantial impact of these factors on shaping students' entrepreneurial aspirations. This insight offers tangible benefits for various stakeholders. Educators can leverage these findings to design targeted and effective entrepreneurship education programs emphasising academic knowledge and cultivating positive attitudes and self-efficacy. Policymakers can use this research to inform the development of strategies that foster an entrepreneurial ecosystem within educational institutions, thereby nurturing a pipeline of future entrepreneurs.

1. INTRODUCTION

Past studies indicated that Malaysian graduate students demonstrated an intention toward entrepreneurship and were quite positive about becoming entrepreneurs (Mustapha & Selvaraju, 2015; Che Embi et al., 2019; Hong et al., 2020). The Department of Statistics Malaysia [DOSM] (2023) reported that out of 5,917.8 thousand graduates, 82.25% are currently working. However, out of 4,867.4 thousand graduates, approximately 4.6% of them are self-employed, and slightly less than 1% are unpaid family workers. The findings indicate that the graduates' involvement in entrepreneurship is very minimal.

Tripathi et al. (2022) and Herman (2022) state that entrepreneurship encapsulates a dynamic process driving innovation and value creation through establishing novel enterprises involving creative ideation and calculated risk-taking. This entrepreneurial domain, recognised for its pivotal role in fostering economic growth and innovation, relies on entrepreneurs' abilities to identify market voids and introduce pioneering offerings (Nayak, 2022; Arslan et al., 2023).

The call for entrepreneurship education in universities has become increasingly apparent in Malaysia as the nation seeks ways to enhance innovation and the economy. Recognising that the business environment has shifted, Malaysian universities ensure that their students acquire basic knowledge of entrepreneurship, along with the corresponding skills and competencies. These institutions aim to enhance the students' entrepreneurial skills and promote entrepreneurship by offering curricula such as entrepreneurial competitions, incubators, and courses (Hassan et al., 2020; Liow & Wong, 2021). This approach aligns well with the government's agenda of encouraging and supporting entrepreneurship to grow the economic base and create employment opportunities (Ministry of Economic Affairs, 2019).

Studies show that university-level entrepreneurship education has enhanced students' entrepreneurial skills and orientation (Shah et al., 2020). Such education shows that it enhances students' awareness, competency, and attitude regarding entrepreneurship and adds value to students' entrepreneurship knowledge-stock, self-confidence, creativity, and critical-thinking capacity, propelling students toward their entrepreneurial dreams (Agung & Sutadji, 2023). Nevertheless, there is limited literature on the integration of psychological factors — such as self-efficacy, attitudes, and subjective norms — into the study of entrepreneurship education and students' entrepreneurial aspirations in Malaysian universities.

2. LITERATURE REVIEW

2.1 Student Intention

Student intention is defined as the innate disposition or preparedness of students to perform certain behaviours or achieve certain objectives. It includes the beliefs and intentions of learners regarding something, as well as their expected behaviour towards it. According to Ajzen and Kruglanski (2019), the intention is constructed from personal beliefs about the capacity to engage in purposeful behaviour and volitional resources that are available to regulate behaviour in fulfilment of specific goals. According to Ajzen's (1991) Theory of Planned Behaviour, one of the most important factors that determines behaviour is intention. The intention is shaped by personal beliefs, attitude, subjective norms, and perceived control over the behaviour.

Machado et al. (2022) concluded that an entrepreneurship education program promotes positive engagement and develops entrepreneurship skills among college learners. This study suggests that those who attend entrepreneurship classes tend to show higher levels of academic engagement and express a greater desire to engage in entrepreneurial endeavours. Moreover, exposure to structured entrepreneurship curricula has been shown to cultivate critical thinking, creativity, and opportunity-recognition abilities, which are essential components of entrepreneurial competence [Al Balushi et al., 2023; Dumitru & Halpern, 2023; Mehdizadeh et al., 2021]. Such programs also enhance students' entrepreneurial self-efficacy, motivating them to pursue innovative projects and business ideas with greater confidence (Costin et al., 2021). In addition, entrepreneurship education has been consistently linked to positive shifts in entrepreneurial mindset, leading students to develop stronger intentions toward venture creation and long-term entrepreneurial career pathways (Xanthopoulou et al., 2024).

With regards to motivation and self-efficacy, motivation is more meaningful for students' interest in entrepreneurship than self-efficacy (Herdiani & Hidayat, 2019). This underlines the significance of extrinsic motivation concerning entrepreneurial interest and indicates that motivation can be used to foster entrepreneurial intent. In a similar regard, Seema (2022) pointed out that students with an entrepreneurial background and training, having entrepreneurial aspirations, or receiving entrepreneurial training have high levels of the said intentions. Of these factors, subjective norms emerge as the strongest predictor, suggesting that students' perception of their environment plays a critical role in the development of their entrepreneurial aspirations. This emphasises that perceived social expectations and normative beliefs are pivotal in shaping their entrepreneurial intentions.

Zhu et al. (2022) have identified that college students' sustainable entrepreneurial intentions are dependent on local environment factors and opportunities. For instance, urban areas are generally more advantageous in terms of resources, networks, and diverse markets for entrepreneurial opportunities (Zhou et al., 2020; Liedtke et al., 2021). On the other hand, students from rural areas may face barriers like inadequate resources and limited market access (Zhou et al., 2020; Liedtke et al., 2021). Apart from the technological factors, social and cultural factors that affect perceptions were also revealed by Mahfud et al. (2020) as well as Bullough et al. (2022). Such contextual dynamics emphasise the necessity for the further advancement of the contexts that influence entrepreneurship education and support programs, as well as students' challenges and opportunities from the geographic context.

2.2 Entrepreneurship Education and Students' Entrepreneurial Intention

Teaching entrepreneurial skills might increase entrepreneurial activity and, simultaneously, facilitate the development of an entrepreneurial mindset and value creation among people (Maaravi et al., 2020). Entrepreneurship education is crucial in creating employment opportunities and promoting a culture of innovativeness. However, due to the lack of clear learning outcomes for this type of learning, the task of designing and structuring effective curricula is very difficult (Wong & Chans, 2021). Thus, the development of curricula is justified for the implementation of educational programs and the achievement of goals (Abdullah et al., 2023).

A carefully planned curriculum for entrepreneurship education comprises three core components: opportunity recognition, resource mobilisation and commitment, and the creation and management of business organisations (Kourilsky, 1995). Currently, entrepreneurship education has expanded to include modes focused on the application of entrepreneurship theory and practice (Huang, 2020). Of them, the most notable is the competency-based education framework, which infuses behavioural and business competencies into students' entrepreneurial thinking and behaviour (Vías & Rivera-Cruz, 2020). In addition, universities have adopted various measures such as entrepreneurship programs, incubation programs, and intensive coaching for intending entrepreneurs (Hao, 2020).

It is important for universities to promote and foster an entrepreneurship mindset and career aspirations among students (Abidi et al., 2021). All these are part of the processes of technology transfer, business formation, and economic development (Guerrero & Legazkue, 2018). Consequently, when universities embed entrepreneurship education into their programmes, students develop a more positive perception of entrepreneurship as a viable career path, reinforcing the broader role of higher education in shaping entrepreneurial intentions (Mikić et al., 2019). It has been established that engagement in entrepreneurship programs has a direct impact on the level of entrepreneurial aspirations and further actual entrepreneurial venturing (Lv et al., 2021). Furthermore, integrating the entrepreneurship paradigm across various fields of study and exposing students to real-life, practical entrepreneurial experiences remains paramount in shaping students' desire to participate in business-related endeavours (Cervantes-Guzmán, 2021). It enhances students' entrepreneurial capabilities and fosters a broader definition of entrepreneurship (Wang et al., 2019).

With an entrepreneurial mindset, students are likely to develop solutions for unemployment and build careers (Wesarat et al., 2022). On this basis, this study posits that entrepreneurship education, curricula, teaching approaches, and institutional roles positively and significantly affect students' entrepreneurial intentions. Accordingly, the following hypothesis is proposed:

H1: There is a relationship between entrepreneurship education and students' entrepreneurial intention

2.3 Self-Efficacy and Student's Entrepreneurial Intention

Considerable research has focused on self-efficacy, defined as an individual's belief in their ability to acquire knowledge and perform tasks to a certain standard. This perception influences their choice of tasks, the effort they invest, their perseverance, and ultimately, their learning outcomes (Fidan & Tuncel, 2021). According to Campos and Madrigal (2020), self-efficacy is defined as the potency of self-predictions regarding academic motivation in students, making it a measure of perceived abilities and skills in task performance. Within academia, the extent to which individuals believe they can successfully perform

assigned tasks significantly influences their motivation (Bandura, 1997; Zimmerman, 2000). Thus, the relationship between self-efficacy and academic motivation reemphasises the need to develop perceived capability and confidence to promote students' motivation and learning achievement.

Next, a number of recent investigations have underscored the importance of perceived self-efficacy in achieving outcomes and maintenance of behaviour. Griffiths et al. (2021) post that certain after-school activities correlate with self-efficacy in university students. Self-efficacy is positively associated with motivation and participation in entrepreneurial activities, as higher levels of self-efficacy are associated with greater motivation and participation (Gielnik et al., 2020). On the other hand, low self-esteem is strongly connected with negative psychological consequences like depression, shyness, loneliness, and feelings of isolation (Fernandes et al., 2022). Furthermore, it has implications across all domains of functioning and affects career achievement, work output, and daily well-being (Popoola & Fagbola, 2021). Low self-esteem is likely to make affected individuals face many difficulties in enhancing their capability to function optimally in their careers and other aspects of life. Both aspects of self-esteem are specific to mental health and essential to achieving a fulfilling life (Wyland & Shaffer, 2019).

In contrast, entrepreneurial self-efficacy acts as a moderator between some factors and entrepreneurial intentions (Ciuchta & Finch, 2019). According to Pushkarskaya et al. (2020), entrepreneurial self-efficacy is one's expectancy regarding his or her capacity to accomplish relevant tasks and assumed responsibilities of a venture creator, and is the most reliable indicator of entrepreneurial behaviour and outcomes. Newman et al. (2019) affirm that self-efficacy enhances the intention of pursuing an entrepreneurship task.

H2: There is a relationship between self-efficacy and students' entrepreneurial intention

2.4 Students' Attitude and Students' Entrepreneurial Intention

Attitude has been a topic of interest among scholars from different fields of study. Cognitive, affective, and behavioural attitudes are critical to the analysis of people's beliefs and behaviours (Wolf et al., 2020). Attitudes have been defined as psychological entities that consist of beliefs, feelings, or emotions towards objects, persons, or other entities (Smith, 2019). TRA and TPB also show that attitudes play a crucial role in predicting human behaviours (Ajzen, 1985, cited in Ndubisi & Sinti, 2016). This research framework suggests dimensions of attitudes, including money attitudes, change attitudes, and competitiveness attitudes.

General attitudes are crucial in entrepreneurship. Similarly, Autio et al. (1997) established that attitudes towards success, independence, profit, flexibility, and entrepreneurship influence confidence in the ease of starting and running an enterprise. Nevertheless, they failed to provide evidence of a correlation between competitiveness and entrepreneurial conviction. On the other hand, Widyanti et al. (2023) concluded that a positive attitude toward change, money, and entrepreneurship increases the likelihood of becoming an entrepreneur among students at Universitas Islam Kalimantan MAB Banjarmasin. In the same manner, Pidduck et al. (2021) and López et al. (2020) found that positive attitudes towards money are positively associated with higher levels of entrepreneurial self-orientation. On the other hand, Douglas et al. (2021) stated that the most influential factors include profit, social, and innovation, whereas income is relatively less influential. Urbig et al. (2021) have also postulated that there is a positive relationship between the competitive attitude as a trait and an individual's decision to become an entrepreneur, with the aim of achieving success.

Greenberg (2019) pointed out that intending entrepreneurs who often consider starting a business but do not for various reasons are risk-takers with an inclination toward business challenges and ownership rather than employment. Martínez-Gregorio and Oliver (2022) noted that attitude towards entrepreneurship was the most significant predictor of entrepreneurial intention among secondary school students. In a similar vein, Yohana (2021) noted that entrepreneurial intention is a function of the attitude towards entrepreneurship, mediated by personality factors that incline towards risk-taking and internal control. This implies that self-employed people are likely to have a positive attitude, willingness to take risks, and perceived self-control. Therefore, mental traits make an essential contribution to promoting specific business objectives, while psychological factors are involved in developing entrepreneurial interests. It is hypothesised that students' attitude is positively correlated with their entrepreneurial intentions.

H3: There is a relationship between student's attitude and student's entrepreneurial intention

2.5 Subjective Norms and Students' Entrepreneurial Intention

Subjective norms, defined as the perceived social pressure to engage or refrain from a particular behaviour (Ajzen, 1991), are recognised as a significant factor of entrepreneurial intention (Lopes et al., 2022). Social pressure towards enacting the role of an entrepreneur may come from family members, friends, teachers, and people whom one admires. As Abbasianchavari and Moritz (2020) pointed out, role models play an important role in shaping the path toward entrepreneurial passion. Likewise, Burke and Young (2021) stressed that subjective norms are also important in explaining human behaviour, as people attend to what others expect of them.

In terms of career, entrepreneurship is significantly influenced by perceptions of the values attached to it. Social factors, such as family and friends, as well as role models, have a strong influence on the decision to become an entrepreneur (Swain & Patoju, 2022). Similarly, Atiq et al. (2020) established a strong correlation between social factors, personality characteristics, and the choice of an entrepreneurial career. According to Kowang et al. (2021), the subjective norms significantly predicted entrepreneurial intention among students. They emphasised that students' social environment, and thus their perceived norms and expectations, help mould their entrepreneurial selves and desires, as the presence, expectations, and approval of others matter. On the other hand, Duong (2021) noted that perceived subjective norms had little influence on students' entrepreneurial intention in specific settings, suggesting that other factors significantly affect specific groups. This variation shows that the antecedents of entrepreneurial intentions are not fixed.

Subjective norms related to entrepreneurship, therefore, involve parental orientation, which may be defined as the set of beliefs, attitudes, and values that parents instil in their children (Petrovska, 2020). A study by Palmer et al. (2019) found that parental support and encouragement positively influenced subjective norms regarding views and intentions toward new ventures. Georgescu and Herman (2020) also found that students with an entrepreneurial family background have a higher level of entrepreneurial interest than those without that background.

Subjective norms are also influenced by peers via social comparison and the general tendency to follow trends (Gavrilets, 2021). Mahmood et al. (2019) found that peers' perceived entrepreneurial attitudes and behaviours significantly influence an individual's subjective norms. This shift in perceived norms, in turn, enhances the individual's entrepreneurial intention. Students consider fellow students as active providers of support and potential sources of funding for business initiatives (Berk & Custin, 2019).

Cultural factors also influence subjects' perceived norms regarding entrepreneurship. Fritsch et al. (2019) showed that cultural favourability, such as historical self-employment rates, is positively related to entrepreneurial personality and business creation and innovation. Amofah et al. (2020) found that cultural factors, including perceived social support for entrepreneurship and perceived probabilities for success, strongly influence perceived subjective norms either towards or against entrepreneurship. These cultural settings, in a way, influence attitudes and intentions towards entrepreneurship. Hence, the following hypothesis was proposed:

H4: There is a relationship between subjective norms and students' entrepreneurial intention.

3. RESEARCH METHODOLOGY

3.1 Research Design, Population, and Sampling Method

The study employed a quantitative cross-sectional research design, focusing on graduating hospitality students and graduates who participated in an entrepreneurship-related program at UiTM Kampus Puncak Alam, Selangor [a specific campus of UiTM, UiTM Puncak Alam branch, a higher education institution in Selangor]. The sample size of the study was obtained by utilising Daniel Soper's calculation (<https://www.danielsoper.com/statcalc/calculator.aspx?id=1>). Considering an effect size of 0.15 and a statistical power level of 0.90, a minimum sample size of 108 is required for this study. However, the total eligible population for this study comprised 79 full-time final-year undergraduates and 157 alumni. Given the small population, this study employed a census sampling approach. Data were collected from the entire population rather than selecting a representative sample. This method was chosen to ensure complete coverage and to eliminate sampling error.

3.2 Instrumentation

The questionnaire was developed based on past studies (Kabir et al., 2017; Rengiah, 2013) and was segmented into six sections. The first section of the questionnaire covered the demographic profiles of the respondents (7 items), in which they were asked to choose only one answer that best reflected their background. Next, the following five sections (Sections B to F) comprised items on education (6 items), self-efficacy (5 items), attitude (5 items), subjective norms (5 items), and the student's intention towards entrepreneurship (5 items). Sections B to F utilised a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

A pilot study was conducted among 30 entrepreneur undergraduates at UiTM Kampus Dungun and hospitality undergraduates at Universiti Malaysia Kelantan (UMK) to assess the instrument's reliability. The overall Cronbach's alpha obtained was 0.95, while the Cronbach's alpha values for Sections B to F ranged between 0.735 and 0.925. Therefore, it can be concluded that the instrument used was reliable (Cerri, 2023) and suitable for actual data collection.

3.3 Data Collection Method

The validated set of questionnaires was created using Google Forms. The link was then distributed to all eligible respondents via email and WhatsApp between October 2023 and December 2023.

3.4 Data Analysis

All gathered data were then analysed using SPSS version 29 (SPSS Inc.) for descriptive statistics and inferential statistics.

3.5 Ethical Considerations

Ethical approval was obtained from the Faculty Board of Ethics Research Committees (FBERC) before conducting a pilot study and actual data collection (Ref. no. FPHP/FREC/527/2023).

4. RESULTS

4.1 Demographic Profile

Table 1 shows the demographic profile of the respondents. A total of 116 responses were gathered, representing approximately a 7% increase over the minimum required sample size of 108. The majority of respondents were female (76.3%), reflecting the one-to-five (1:5) male-to-female enrollment ratio in the hospitality entrepreneurship programme. As shown in Table 1, almost all respondents (97.4%) were between 21 and 25 years old. This distribution aligns with the programme structure, in which final-year students typically range from 21 to 23 years old, while graduates are primarily between 24 and 25 years old. Importantly, the programme is relatively new, with only three cohorts having graduated since its inception. The first cohort graduated in 2021, which explains and reinforces the younger age profile of the respondents.

As shown in Table 1, almost 90% of the respondents reported enrolling in a hospitality-entrepreneurship program of their own choice. Regarding family background, only 30% or fewer came from business-oriented families (either one or both parents involved in business), and more than 50% are from rural areas.

Table 1. Profiles of respondents (n = 116)

Variables	Categories	Frequency	Percentage %
Gender	Male	27	23.3
	Female	89	76.3
Age	21-25 years old	113	97.4
	26-30 years old	3	2.6
Semester	Five	46	39.7
	Six	31	26.7
	Alumni	39	33.6
Choice of Study Program	Parent choice	12	10.3
	Own choice	104	89.7
Father's working status	Business	29	25.0
	Wage Earner	42	36.2
	Not working	45	38.8
Mother's working status	Business	16	13.8
	Wage Earner	29	25.0
	Not working	71	61.2
Business-oriented family	Yes	34	29.3
	No	82	70.7
Place of Origin	Urban	56	48.3

Rural	60	51.7
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4.2 Descriptive Statistics

Mean and standard deviation analyses were performed on the independent variables (Entrepreneurship Education, Self-Efficacy, Student Attitude, and Subjective Norms) and the dependent variable (Student Intention Towards Entrepreneurship).

Dependent Variable: Student Intention Towards Entrepreneurship

Table 2 presents key insights into respondents' intentions toward entrepreneurship with an overall mean score of 4.119 (SD 0.587). The item "My professional objective is to establish myself as an entrepreneur" was shown to have the highest mean score (4.241 ± 0.718), followed by the item "I am willing to take any necessary steps to become an entrepreneur" (4.207 ± 0.716) and "I am committed to putting forth a maximum effort to initiate and manage my own business" (4.155 ± 0.667). The item "I have given substantial thought to the idea of launching my own business" scored the lowest (3.948 ± 0.756). The findings align with those of Phong et al. (2020), who found that students had strong intentions of becoming entrepreneurs but lacked the confidence to run their own businesses. Although the study demonstrated a generally positive intention towards entrepreneurship, the students did not exhibit uniform levels of commitment or consideration in their decisions. As mentioned by Zhao and Xie (2020) and Caputo and Pellegrini (2019), these variations in considerations may be due to various circumstances and perspectives of the students, such as emotional, moral, or practical aspects of their commitment. In addition, the study demonstrated students' careful evaluation of their own decisions, behaviours, and beliefs about becoming successful entrepreneurs (Sasseti et al., 2022).

Table 2: Mean and Standard Deviation for Student Intention Towards Entrepreneurship (n = 116)

Statement	Mean	SD ^a
I am willing to take any necessary steps to become an entrepreneur	4.207	0.717
My professional objective is to establish myself as an entrepreneur.	4.241	0.718
I am committed to putting forth a maximum effort to initiate and manage my own business.	4.155	0.667
I have a strong determination to establish a company in the future.	4.043	0.739
I have given substantial thought to the idea of launching my own business.	3.948	0.756
Overall Mean and Standard Deviation	4.119	0.587

^aNote: SD refers to the standard deviation

Entrepreneurship Education

Table 3 delves into the assessment of the independent variable, Entrepreneurship Education, to provide valuable insights into respondents' perceptions. This comprehensive exploration allows us to understand respondents' nuanced perspectives regarding its aspects.

As shown in Table 3, the mean score distribution for the Entrepreneurship Education variable reveals positive perceptions among the respondents (4.198 ± 0.486). Items "The entrepreneurship course aligns with the curriculum requirements" and "The instructor ensures that this entrepreneurship course can be effectively applied to real-world situations" with mean scores of 4.224 (SD 0.576) and 4.216 (SD 0.670),

respectively. These were the two most agreed-upon by the respondents: that courses offered at the university are aligned with curriculum requirements and are effective in real-world applications of entrepreneurship. These high mean scores suggest a strong consensus among participants regarding the relevance and practicality of the entrepreneurship course.

The subsequent items, reflecting the ideal learning environment, engaging subject matter, experienced instructors, and university support, also demonstrate positive mean scores ranging from 4.164 to 4.216. These results collectively indicate a favourable view of the entrepreneurship education provided, with minimal variability as suggested by the relatively low standard deviations. These dynamics lead to conclusions that reflect positively on entrepreneurship education in that they strongly align with the curriculum requirements and their practical application. This includes learning through projects or workshops featuring various approaches conducive to engaging learning experiences and university resources for support.

Table 3: Mean and Standard Deviation for Entrepreneurship Education (n = 116)

Statement	Mean	SD ^a
The entrepreneurship course aligns with the curriculum requirements.	4.224	0.576
The instructor ensures that this entrepreneurship course can be effectively applied to real-world situations.	4.216	0.670
I believe the university is the ideal environment for students to receive entrepreneurship training.	4.181	0.730
I find the subject of entrepreneurship highly engaging due to its interactive learning approach.	4.216	0.602
The instructors possess considerable experience in teaching entrepreneurship courses.	4.164	0.697
The university offers valuable resources to support students in their entrepreneurial endeavors.	4.190	0.709
Overall Mean and Standard Deviation	4.198	0.486

^aNote: SD refers to the standard deviation

Self-Efficacy

Table 4 presents data on the independent variable of self-efficacy, emphasising respondents' perceptions of entrepreneurial ability. The information offers details on respondents' evaluation of their entrepreneurial skills. This analysis helps to assist in examining respondents' perspectives on their entrepreneurial confidence.

Table 4: Mean and Standard Deviation for Self-Efficacy (n = 116)

Statement	Mean	SD ^a
I am confident in my ability to accomplish all the entrepreneurial goals I have established.	3.974	0.665
I am capable of handling unforeseen circumstances that may arise.	3.785	0.695
I remain calm when facing challenges as I believe in my own skills.	3.888	0.732

I feel self-assured about participating in new ventures and exploring innovative ideas.	3.948	0.696
I am confident that I can typically identify multiple solutions when faced with challenges.	4.095	0.590
Overall Mean and Standard Deviation	3.938	0.532

^aNote: SD refers to the standard deviation

As shown in Table 4, the mean score distribution reveals participants' varying levels of confidence in their entrepreneurial abilities. While all mean scores fall above the mid-point, indicating a generally positive outlook, there are subtle differences in confidence levels across different aspects. Item "I am confident that I can typically identify multiple solutions when faced with challenges" had the highest mean score of 4.095 (SD 0.5895), while item "I am capable of handling unforeseen circumstances that may arise" had the lowest mean score of 3.785 (SD 0.695). These two responses contradict one another. They indicate a positive outlook related to problem-solving when facing challenges. However, they become less confident in the face of unforeseen circumstances. The remaining items, which involve their ability to accomplish entrepreneurial goals, remain calm during challenges, and feel self-assured in new ventures, have mean scores ranging from 3.888 to 3.974.

Student Attitude

Table 5 presents the means and SDs for items related to respondents' attitudes toward entrepreneurship. The mean score distribution indicated a positive attitude towards entrepreneurship among participants, with an overall mean score of 4.188 (SD 0.586). The item "I can work for myself if I start my own business" had the highest mean score (4.293 ± 0.710), indicating students' positive attitude towards their ability to work. Meanwhile, the item "I am resolved to start a business in the future" had the lowest mean score (4.103 ± 0.715). This statement signifies ensuring they will embark on business as their future. Overall, the data reflected a positive attitude toward entrepreneurship among participants, with variations in attitudes across different aspects.

Table 5: Mean and Standard Deviation for Student Attitude (n = 116)

Statement	Mean	SD ^a
I am enthusiastic about starting a business.	4.129	0.752
Being an entrepreneur would provide me with much satisfaction.	4.147	0.689
Being an entrepreneur will propel me to success.	4.267	0.549
I can work for myself if I start my own business.	4.293	0.710
I am resolved to start a business in the future.	4.103	0.715
Overall Mean and Standard Deviation	4.188	0.586

^aNote: SD refers to the standard deviation

Subjective Norms

Table 6 examines the means and SDs related to participants' perceptions of the norms and support from significant individuals and cultural factors toward entrepreneurship. The country's culture of promoting and valuing the young generation to embark on entrepreneurial activities was strongly agreed upon by the

respondents. Both items scored 4.221 (SD 0.661) and 4.147 (SD 0.650), respectively. However, support from both parents to embark on an entrepreneurial career was higher for the mother (4.216 ± 0.643) than for the father (4.104 ± 0.817). Unfortunately, the item regarding friends' appreciation for entrepreneurship exhibits the lowest mean score of 3.914 (SD 0.860). The overall mean and standard deviation for subjective norms are 4.109 (SD 0.519), underlining positive perceptions with moderate participant variability.

Table 6: Mean and Standard Deviation for Subjective Norms (n = 116)

Statement	Mean	SD ^a
My father shows strong support and encouragement for my future career as an entrepreneur.	4.043	0.817
My mother expresses significant support and motivation for my upcoming career as an entrepreneur.	4.216	0.643
The culture in my country strongly promotes entrepreneurial activities.	4.224	0.661
The culture in my country strongly values entrepreneurial activities.	4.147	0.650
My friends have a greater appreciation for entrepreneurship than other activities and career choices.	3.914	0.860
Overall Mean and Standard Deviation	4.109	0.519

^aNote: SD refers to the standard deviation

4.3 Relationship between independent and dependent variables

Table 7 summarises the Pearson product-moment correlation coefficient analyses (r) output in determining the relationship between independent variables (entrepreneurial education, self-efficacy, subjective norms, and attitude) and students' intentions toward entrepreneurship. The result indicates that student attitudes had the strongest correlation with their intention towards entrepreneurship ($r = 0.804$, $p < 0.05$), followed by self-efficacy ($r = 0.611$, $p < 0.05$). However, entrepreneurship education ($r = 0.599$, $p < 0.05$) and subjective norms ($r = 0.480$, $p < 0.05$) were shown to be moderately correlated with students' intention towards entrepreneurship.

Table 7: The table of hypotheses for the student intention with entrepreneurship education, self-efficacy, student attitude, and subjective norms.

Indicator	Hypothesis	Pearson Correlation (r)	P-value ($p < 0.05$)
H1	There is a relationship between entrepreneurship education and student intentions toward entrepreneurship.	0.599	0.001
H2	There is a relationship between self-efficacy and student intentions toward entrepreneurship.	0.611	0.001
H3	There is a relationship between student attitudes and student intentions toward entrepreneurship.	0.804	0.001
H4	There is a relationship between subjective norms and student intentions toward entrepreneurship.	0.480	0.001

The correlation findings for each variable were in accordance with past studies. Rauf et al. (2022), Pulka et al. (2015) and Pihie and Akmaliah (2009) also showed a significant correlation between attitude and entrepreneurial intention. Douglas and Shepherd (2000) further assert that the decision to become an entrepreneur is influenced by utility-maximising career choices, where individuals may prioritise factors like income, independence, and perceived benefits associated with traditional employment over entrepreneurship. Several studies have investigated the role of self-efficacy in influencing entrepreneurial intentions (Putra & Sari, 2022; Adji Susanto & Usman, 2019; Santoso & Oetomo, 2018; Saraih et al., 2018). Research has also examined the role of family, friends, and society on students' entrepreneurial aspirations (Aditya, 2020; Sandi & Nurhayati, 2020; Pulka et al., 2015). In a further analysis using an independent t-test comparing entrepreneurial intention scores between those from business-oriented families and those not, there was no significant difference in their scores, $t(114) = 0.261$, $p = 0.798 > 0.05$. However, Sandi and Nurhayati (2020) opined that family support may not be the only factor promoting entrepreneurship. On the other hand, Andika and Madjid (2012) and Aldrich (2012) discovered that the component of subjective norms slightly influenced entrepreneurial intentions.

Moreover, a multiple regression analysis was employed to test the impact of the predictor variables, which included entrepreneurial education, self-efficacy, subjective norms, attitude, and perceived behavioural control on intentions to engage in entrepreneurship among respondents (Table 8). The model was statistically significant, $F(4, 111) = 56.321$, $p < 0.001$, and accounted for 65.8% of the variance in the outcome variable ($R^2 = 0.658$). Results indicated that both self-efficacy ($\beta = 0.198$, $t(111) = 2.507$, $p < 0.05$) and attitude ($\beta = 0.665$, $t(111) = 7.48$, $p < 0.001$) were significant predictors of student's intention towards entrepreneurship, while education ($\beta = 0.020$, $t(111) = 0.206$, $p > 0.05$) and subjective norms ($\beta = 0.036$, $t(111) = 0.041$, $p > 0.05$), were not. The overall model suggests that self-efficacy and attitude contribute significantly to the prediction of students' intention toward entrepreneurship. Assumption checks revealed no violations of linearity, multicollinearity, or homoscedasticity. Nevertheless, the normality of the residuals assumption was slightly violated, suggesting caution in interpreting the results.

Further analyses were then conducted to assess the normality of the residuals assumption. The Kolmogorov-Smirnov ($p = 0.0000$) and Shapiro-Wilk ($p = 0.001$) tests indicate a statistically significant departure from normality. However, it is important to note that these tests are sensitive to a large sample size. Therefore, visual inspection of the Normal Q-Q plot of the standardised residuals was observed. The Q-Q plot demonstrated that the residuals largely follow the expected normal distribution line, with only minor deviations observed at the tails. Additionally, the skewness (-0.200) and kurtosis (0.782) values fall within acceptable ranges, further supporting the approximate normality of residuals. Given the sample size ($N = 116$) and the robustness of multiple linear regression to minor violations of normality assumptions, the regression results are considered valid and reliable.

Table 8: A multiple linear regression analysis output between dependent and independent variables

Predictor	B (Unstandardized Coefficient)	SE B (Std. Error)	β (Standardised Coefficient)	t-value	p-value
Education	0.020	0.096	0.016	0.206	0.477
Self-efficacy	0.198	0.079	0.179	2.507	0.585
Attitude	0.665	0.089	0.664	7.480	0.378
Subjective Norms	0.041	0.075	0.036	0.549	0.680

Model Summary: R = 0.818, R² 0.67, Adjusted R² = 0.658, F(4, 111) = 56.321, p < 0.001

5. DISCUSSION

5.1 Entrepreneurship Education

The results presented in Table 3 underscore a positive perception among respondents regarding the Entrepreneurship Education variable. Mean scores ranging from 4.164 to 4.224 signify a favourable view of the provided entrepreneurship education, indicating alignment with curriculum requirements, effective real-world application, an ideal learning environment, engaging subject matter, experienced instructors, and university support. The overall mean of 4.198 further reinforces a consistent positive perception among participants.

Our study's positive findings resonate with research by Pulka et al. (2015), where a significant relationship was found between Entrepreneurship Education and students' intention to become entrepreneurs. This alignment supports the notion that Entrepreneurship Education acts as a catalyst for attitude and behaviour change, emphasising its transformative role in shaping students' perceptions of entrepreneurial entry as both feasible and desirable. In considering additional insights, Rauf et al. (2022) reported a significant, positive impact of Entrepreneurship Education on the entrepreneurial intentions of Management Study Program students at Universitas Negeri Makassar. Our findings indicate that the impact of entrepreneurship education could differ according to academic programs and institutions.

Nevertheless, our results differ from those of Sandi and Nurhayati (2020) and Kusumojanto et al. (2020), who found no significant effect of entrepreneurship education on students' interest in entrepreneurship. The variation suggests disparities in the impact of present programs in forming students' perceptions of entrepreneurship and raises the query of whether the content of the programs is sufficient to achieve the intended goals. Likewise, Mukhtar et al. (2021) pointed out that it is probable that entrepreneurship education may not sufficiently compel students towards entrepreneurship careers. This perspective suggests more intricate factors, suggesting that other factors beyond education may significantly influence students' entrepreneurial intentions.

In conjunction with existing literature, our study underscores the complex relationship between entrepreneurship education and respondents' entrepreneurial aspirations. While our findings align with studies highlighting advantageous effects, conflicting results suggest the need for a more nuanced understanding of the role education plays and the influence of other factors. Such an understanding is essential for improving entrepreneurship education programs to appropriately guide students toward entrepreneurship.

5.2 Self-Efficacy

The analysis of the mean score distribution for the self-efficacy variable, as presented in Table 4, indicates a somewhat favourable view of entrepreneurial abilities among participants. All mean scores exceed the mid-point, demonstrating moderate assurance, though minor variations are evident across different aspects of self-efficacy. The overall mean of 3.938, accompanied by a standard deviation of 0.532, suggests a generally constructive attitude with moderate variability among participants. These results provide noteworthy points into the specific features of entrepreneurial self-efficacy. They can inform specific plans to enhance self-belief in specific areas, contributing to a stronger entrepreneurial attitude.

The study conducted by Adji Susanto and Usman (2019) contributes empirical evidence supporting the proposition that self-efficacy substantially influences entrepreneurial interest. The positive regression coefficient of 0.546 indicates that a unitary increase in self-efficacy corresponds to a noteworthy 0.522 increase in entrepreneurial interest. Significantly, the calculated t-value of 8.348 exceeds the established threshold, affirming the substantial impact of self-efficacy on entrepreneurial interest and validating the research hypothesis. The study's lower significance value ($0.000 < 0.05$) further underscores the robustness of this observed relationship. In alignment with these findings, Saraih et al. (2018) establish a positive and statistically significant correlation between students' self-efficacy and entrepreneurial intention. This underscores the relevance of fortifying self-efficacy levels in students to shape their career trajectories. Additionally, Santoso and Oetomo (2018) contribute to the discourse by demonstrating self-efficacy and motivation's significant and positive impact on entrepreneurial intention. The collective insights from these studies substantiate and enrich our research findings, reinforcing self-efficacy's consistent and influential role in fostering entrepreneurial aspirations.

While the research of Adji Susanto and Usman (2019) consistently supports the positive link between self-efficacy and entrepreneurial interest, the study Pihie and Akmaliah (2009) introduces a contrasting perspective. Pihie and Akmaliah (2009) reveal moderate mean scores for both entrepreneurial self-efficacy and perceived behavioural control, advocating for the incorporation of entrepreneurship courses to enhance entrepreneurial intention, aligning with the recommendations of Peterman and Kennedy (2003) and Souitaris et al. (2007). However, this view contradicts Putra and Sari (2022), who state that self-efficacy does not impact entrepreneurial attitudes and intentions. Such a difference shows that the effect of self-efficacy on entrepreneurial attitude and intention is inconsistent across studies or contexts. Our results are in line with the existing literature, indicating a strong association between self-efficacy and entrepreneurial intentions. However, both perspectives appear to be crucial and should be incorporated to give an understanding of the nature of self-efficacy influencing entrepreneurial intentions.

In conclusion, this work explores the relationship between self-efficacy and students' entrepreneurial intentions and highlights the study's contribution. The results indicate that self-efficacy is a fixed moderate variable with a high impact on the development of entrepreneurial mindsets. These findings are in support of those obtained in other studies that have been conducted to confirm the credibility of self-efficacy (Adji Susanto & Usman, 2019; Santoso & Oetomo, 2018; Saraih et al., 2018). However, it is necessary to admit that there are contrasting opinions, for instance, those of Pihie and Akmaliah (2009), in order to respect contextual conditionality. These findings can be applied in designing educational interventions and specific practice approaches with an increased focus on enhancing particular aspects of self-efficacy to enrich the delivery of entrepreneurship education.

5.3 Student Attitude

Table 5 indicates that the mean score distribution for the independent variable “Student Attitude” has a tendency towards a positive attitude towards entrepreneurship among the participants. The findings indicate that mean scores above the midpoint indicate a relatively more positive attitude. Specifically, the mean scores of 4.129 and 4.147, indicating interest in starting a business and expectations of satisfaction as an entrepreneur, suggest a consistent trend. Similarly, higher mean scores of 4.267 and 4.293 for items related to success as an entrepreneur and the ability to work independently further affirm this positive trend. Despite a slightly lower mean score of 4.103 for the resolve to start a business in the future, the overall pattern indicates a favourable attitude towards entrepreneurship.

Several articles support the findings of the current study. Rauf et al. (2022) present significant evidence of a positive impact of entrepreneurial attitude on entrepreneurial intentions among students, with a high mean rating of 4.560. This underscores the correlation between favourable attitudes and increased entrepreneurial intentions, aligning with our observed positive attitude trend. Additionally, Pulka et al. (2015) establish a significant positive relationship between students’ attitudes toward entrepreneurship and their entrepreneurial intention, emphasising the importance of fostering positive attitudes for desired outcomes in concordance with our research.

However, specific studies do not fully concur with our findings. For instance, Pihie and Akmaliah (2009) observed that students’ attitudes toward entrepreneurial careers tend to be moderate, indicating a moderate preference for entrepreneurship. Similarly, Douglas and Shepherd (2000) argue that entrepreneurial decisions are shaped by career optimisation factors, where factors such as income, independence, and the perceived advantages of traditional employment may take precedence over entrepreneurial pursuits.

In conclusion, our results show that participants tend to view entrepreneurship positively. This is consistent with studies showing the influence of entrepreneurial attitudes on intentions. However, there is literature that states that students possess less severe attitudes, which proves that there is a need to gain better knowledge of entrepreneurial thinking. They enhance the scope and depth of knowledge of the international literature on attitudes and intentions toward entrepreneurship.

5.4 Subjective Norms

The understanding of the mean score distribution of the independent variable of subjective norms in this study gives insight into participants’ beliefs about support and cultural norms in entrepreneurship. The mean scores for the parental support items are between 4.043 and 4.216. The cultural norm items range from 4.147 to 4.224. The overall mean score signifies the overall tendency of Subjective Norms. Therefore, the tendency of overall positive perception is 4.109. However, there is a small variation with regard to friends’ appreciation of entrepreneurship, as captured by the mean score of 3.914.

Our research is in line with Aditya (2020) who underlines the significant influence of subjective norms on intention for being an entrepreneur. In his response, Aditya also enunciates the importance of community support in the development of qualities of student entrepreneurship. Likewise, Pulka et al. (2015) affirm the relationship between subjective norms and business intentions to show how family, social, and societal norms impact business intentions.

Moreover, this study highlighted that mothers play a more important role than fathers in supporting their children's entrepreneurial intention. As indicated in the demographic profile, female respondents dominated this study, underscoring the prominent influence of maternal figures in shaping entrepreneurial paths. This aligns with findings by Sarfati and Ulreich (2025), who, through interviews with 22 female entrepreneurs, revealed that many pursued entrepreneurship as a means of fulfilling their mothers' unrealised ambitions, carrying forward dreams their mothers were unable to achieve. Soares et al. (2023) emphasised that maternal figures tend to exhibit deeper emotional attachment and provide more consistent support to their children compared to paternal figures. This supportive influence is significantly amplified when parents, particularly mothers, are directly engaged in entrepreneurial activities, as noted by Hayward et al. (2023), thereby fostering a more conducive environment for children to develop entrepreneurial aspirations and capabilities. Nevertheless, not all studies corroborate this relationship. Andika and Madjid (2012) found that subjective norms did not significantly influence entrepreneurial intentions among students, disputing the claim that such norms consistently play a vital role. Furthermore, Sandi and Nurhayati (2020) suggest that familial support alone may not influence students' entrepreneurial interests, indicating the need to consider additional factors beyond family relationships.

In summary, our findings align with existing research demonstrating a strong relationship between subjective norms and students' entrepreneurial intentions. However, divergent perspectives in the literature suggest the value of examining diverse factors beyond subjective norms. Our study provides insights into the diversity of perceptions and support levels associated with subjective norms among participants. The moderate variability observed in our data underscores the complexity of the subjective norms construct and its role in shaping entrepreneurial intentions.

5.5 Relationship between Independent and Dependent Variables

The correlation analysis demonstrated that all independent variables (namely, entrepreneurial education, self-efficacy, subjective norms, and attitude) were significantly associated with entrepreneurial intention. However, the multiple regression results revealed that only attitude and self-efficacy remained significant predictors when all factors were considered simultaneously. This apparent discrepancy arises because correlation examines the bivariate relationship between each predictor and the outcome variable, whereas regression estimates the unique contribution of each predictor after controlling for the variance shared with other variables. Thus, while education and subjective norms are positively related to entrepreneurial intention, their predictive power diminishes once the more dominant influences of attitude and self-efficacy are taken into account. These findings suggest that the shared variance between entrepreneurial education and subjective norms likely overlaps with that of attitudes and self-efficacy in predicting entrepreneurial intention. Studies by Otache et al. (2025), Ying and Yaakob (2025) and Wardana et al. (2020) among undergraduates with various backgrounds showed that entrepreneurial education influenced intention indirectly by shaping attitudes and self-efficacy. A consistent pattern was observed for subjective norms, aligning with previous studies demonstrating the significant influence of family, friends, and other important referents on students' intentions to enrol in various activities.

Additionally, this finding is theoretically consistent with the Theory of Planned Behaviour (TPB) (Ajzen, 1991), which identifies attitudes and perceived behaviour control (which is closely linked to self-efficacy) as the most influential determinants of intention. By contrast, subjective norms often exert indirect or weaker effects on intention, while educational experiences may shape entrepreneurial mindsets primarily through enhancing attitudes and efficacy beliefs. Accordingly, the results suggest that entrepreneurial

education and social influences play important background roles, but it is the students' internal beliefs, namely their attitudes towards entrepreneurship and confidence in their own capabilities, that most strongly drive entrepreneurial intention.

6. CONCLUSION AND RECOMMENDATIONS

The study reveals a positive and significant relationship between entrepreneurship education, self-efficacy, students' attitudes, subjective norms, and entrepreneurial intention. The results derived from the correlation analysis affirm the significant influence of these factors on the formation of entrepreneurial intentions. However, applying a multiple linear regression analysis in this study strengthens the results by identifying the unique contribution of each predictor variable while controlling for the influence of others, thereby offering a more precise and comprehensive understanding of the factors that significantly drive entrepreneurial intention.

The findings of this study are not generalisable to other entrepreneurial programmes, as the focus is limited to students and alumni of the foodservice entrepreneurship undergraduate programme. Nonetheless, they may provide valuable insights for relevant stakeholders. They are useful for academic planners to tailor potential entrepreneurship education in a way that addresses academic content while also addressing aspects of attitude development and self-efficacy. Although the study revealed that entrepreneurship education showed a moderate correlation, it was not a significant predictor in the regression model. This outcome suggests a need to shift from theoretical instruction to practical hands-on approaches such as mentorship programmes, business incubation and start-up competitions. Policymakers can utilise the information to push forward Malaysia policy under the National Entrepreneurship Policy (DKN 2030) that highlights the importance of personal mindset and skills development, as well as to promote the emergence of an entrepreneurial culture in educational institutions to produce a constant source of potential entrepreneurs. Organisations may also reap the advantages of a skilled employee with entrepreneurial aptitudes that may improve the business.

Meanwhile, one of the main limitations of the present study is a lack of elaborated information concerning the types of businesses owned by the parents of students. While the influence of parents' entrepreneurial experience is recognised, one cannot but wish for more refined information, for instance, whether the parents are involved in new technology ventures or running a store. Likewise, for parents who are engaged in full or part-time employment, the study is limited in its capacity to determine whether the parents' occupations fit into the various specified entrepreneurial sectors. These constraints limit an understanding of the contextual factors that shape students' entrepreneurial intentions. Nonetheless, the study's relevant findings are based on existing data, adding value to the wider study of factors influencing entrepreneurship among students.

In light of the above findings, this research unveils further avenues that can be explored by other researchers in the future in order to discover more determinants of intentions to become an entrepreneur. Other determinants that may play a significant role in influencing entrepreneurial intention among students include psychological factors, financial access and social capital, personal values and moral obligations, and the cultural and environmental context. Thus, this research serves as an exploratory investigation of these dynamics as it also outlines real-world concerns and future research avenues.

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8. CONFLICT OF INTEREST STATEMENT

The authors declare that there is no conflict of interest regarding the publication of this paper.

9. DATA AVAILABILITY/SUPPLEMENTARY MATERIALS

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

10. ABOUT THE AUTHORS

Author 1 is an Associate Professor at Universiti Teknologi MARA (UiTM) with expertise in food microbiology, food safety, nutrition, and foodservice management. Her research centres on nutrition and food security, consumer behaviour, halal food purchasing decisions, food safety perceptions, and food waste management. Her work enhances food safety procedures, nutrition policy, and technological integration within the foodservice sector, helping both academia and the food business in Malaysia.

Authors 2 and 3 are graduates of the Bachelor of Science (Hons.) in Foodservice Management with Entrepreneurship program at Universiti Teknologi MARA (UiTM) Kampus Puncak Alam. With a strong foundation in foodservice operations, hospitality management and entrepreneurship, both authors have developed skills and knowledge relevant to the foodservice and hospitality industries. Their academic background reflects a strong commitment to understanding and improving food safety, quality, and customer service standards, while also fostering entrepreneurial thinking and leadership values across various food-related settings.

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