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Do entrepreneurial self-efficacy, entrepreneurial motivation, and family support enhance entrepreneurial intention? The mediating role of entrepreneurial education

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Abstract

Purpose – Entrepreneurship is an important paradigm for enhancing the economic well-being of nations. However, despite heated debate about the significant role of entrepreneurial education (EE) in developing favourable entrepreneurial intention (EI), little is known about the role of individuals' entrepreneurial self-efficacy (ES), entrepreneurial motivation (EM) and family support (FS), which the authors investigated in this study.

Design/methodology/approach – This study has used a quantitative research design to collect data from 334 young people from various Malaysian higher education institutes using a purposive sampling technique and a deductive approach based on the theory of planned behaviour (TPB).

Findings – The findings revealed interesting insights into the criticality of young people's ES, EM and FS in learning methods, techniques and skills to start new enterprises. Moreover, EE was a significant mediator of the relationship between individual self-efficacy, FS, EM and EI.

Originality/value – This study is among the few to contribute to strategic management scholarship by designing a framework based on the idea that EE relies on diverse factors, particularly ES, EM and FS. These

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factors encourage Malaysian young people to seek the necessary education to develop favourable EI and launch successful businesses.

Keywords Entrepreneurial self-efficacy, Entrepreneurial motivation, Family support, Entrepreneurial education, Theory of planned behaviour

Paper type Research paper

1. Introduction

Entrepreneurship is an important strategic management paradigm that promotes economic growth in specific regions and countries (Hassan *et al.*, 2020a, 2020b; Karimi *et al.*, 2016). Entrepreneurs foster economic prosperity by developing ideas and turning them into commercial enterprises (Hutagalung *et al.*, 2017). The growth of diverse firms is significant and necessary because it creates jobs, drives innovation and improves efficiency in many economic areas (Rehan *et al.*, 2019). Entrepreneurship further helps to counter dynamic economic shifts in countries by reducing poverty and building a self-supporting philosophy that improves nations' overall well-being (Hasan *et al.*, 2017). Entrepreneurship is widely acknowledged as key to wealth and job creation, and several empirical studies have demonstrated its importance in promoting innovation, employment and economic growth (Hassan *et al.*, 2020b). Unlike in other economies, entrepreneurship is a strong pillar of Malaysian society that provides an essential foundation for economic development policies to support middle–high-income individuals (Hassan *et al.*, 2020b). The entrepreneurial spirit among Malaysian residents has produced enduring innovations that have helped Malaysia launch new products, services and research-oriented firms to help improve the quality of life of citizens (Wiklund *et al.*, 2019; Nasip *et al.*, 2017). Recent trends have called for more self-oriented and self-regulated business set-ups to combat economic downturns (Mamun *et al.*, 2017). The recent pandemic has led to an economic collapse in almost every world region (Hassan *et al.*, 2020b), and countries are now facing huge challenges in maintaining the financial balance of their regions. Malaysia is one of the economies that has been struggling to maintain a stable equilibrium, and a viable solution for overcoming the crisis is to promote entrepreneurship in the country (Hasan *et al.*, 2017).

However, despite significant efforts by the government and other entrepreneurial organisations, the drive towards entrepreneurship remains tenuous in Malaysia. Moreover, the recent pandemic has changed people's lifestyles and consumer behaviour (Mazhar *et al.*, 2021). Individuals have experienced massive setbacks in the form of job loss and business failure, which have drastically impacted the overall economy (Purbasari *et al.*, 2021). The concept of entrepreneurship is strongest among the country's young people (Hoang *et al.*, 2020), many of whom start businesses that, in turn, offer jobs for others (Wardana *et al.*, 2020). However, it is evident that most parents and educational institutes in Malaysia are not taking this seriously. The education sector is a primary hub for fostering and training young entrepreneurs (Hameed and Irfan, 2019), but it is not doing this effectively, being more interested in training students for job-oriented than entrepreneurial careers. Therefore, the overall motivation to launch entrepreneurial initiatives is low among Malaysian youngsters, which affects the country's prevailing economic conditions.

Previous strategic management studies have highlighted the importance of entrepreneurial initiatives in improving the country's economic conditions. For instance, Hoang *et al.* (2020) investigated the role of entrepreneurial education (EE) in enhancing self-efficacy, learning orientation and entrepreneurial intention (EI) among young people. Furthermore, (Ip *et al.*, 2021) investigated the important effects of different determinants of EI, providing fruitful findings to help educators nurture students' abilities to solve social problems and EE is important for developing their favourable entrepreneurial attitudes and mindsets (Wardana *et al.*, 2020). Past

strategic management studies have examined the role of opportunity recognition (Othman *et al.*, 2012) and demographic factors in EI (Hassan *et al.*, 2020a) and Embi *et al.* (2019) found perceived behavioural control and subjective norms to be significant indicators of willingness to launch entrepreneurship platforms. Additionally, a recent study found a significant relationship between EE and entrepreneurial self-efficacy (ES), entrepreneurial attitude and entrepreneurial mindset (Wardana *et al.*, 2020). However, the role of family support (FS), self-efficacy (SE) and entrepreneurial motivation (EM) in EE is under investigated and requires further study.

EE relies on different factors that must be considered to develop a more robust understanding of EI. Recent studies have called for the measurement of EI through different indicators (Duong *et al.*, 2021; Yousaf *et al.*, 2021), such as the role of FS in young people's desire to seek proper education (Le *et al.*, 2022) and EM as an important factor driving them to acquire EE for launching businesses in their areas (Hassan *et al.*, 2021b). To address these gaps, we aimed to investigate certain determinants of EE (SE, FS and EM) in enhancing the EI of young people in Malaysia. We used the theory of planned behaviour (TPB) to support the theoretical framework and examined the role of SE, EM and FS in heightening awareness of entrepreneurship launch pads. Young people are known to be greatly influenced by their family members and their university tutors (Othman *et al.*, 2012), and their motivation to do something different is a distinctive characteristic underpinning their EI. Therefore, these factors are essential for helping entrepreneurial educators to increase young people's awareness of entrepreneurship, develop their positive EI and avert the economic downfall of Malaysia.

This study contributes to the strategic management and entrepreneurship literature in the following ways. Firstly, we highlight that EE relies on certain factors, including SE, FS and EM. One study cited SE as a mediator of social EI (Ip *et al.*, 2021). However, we adopted a different approach by seeing SE and EM as determinants of EE and EI. We introduced these constructs primarily because of their high potential to enhance the intention to learn about entrepreneurial initiatives from recognised sources (educational institutes). Moreover, motivation is always an essential prerequisite for learning, but it has been largely neglected in the entrepreneurship management literature. Secondly, the FS determinant reflects students' social support for learning to do something uniquely different from a standard job-oriented career. These determinants are important and must be investigated to support an EE system that can provide entrepreneurial launch pads in Malaysia. Finally, the study has practical implications regarding the roles of family and educational institutes. The Malaysian Government, despite introducing national entrepreneurial policies, is struggling to raise awareness of the importance of entrepreneurship in the country. It is vital to develop forward-thinking national policies and support programmes for entrepreneurs, such as technical and entrepreneurship training and financial and credit assistance (Noor *et al.*, 2021; Khan *et al.*, 2016).

2. Theoretical background and hypothesis development

2.1 Theory of planned behaviour

The TPB is based on three conceptual paradigms: attitudes, perception of social norms and perceived behavioural control. Social norms influence individual conduct through the impact of the social environment, and an individual's intention relates to how hard he or she is willing to attempt, plan and desire to act (Ajzen, 1991b; Ajzen, 2020). Perceived behavioural control is defined as the perceived ease or difficulty in performing a relevant behaviour (Ip *et al.*, 2021). EI is likely to develop based on the attitudes and behaviours of specific individuals (Jena, 2020). In general, new businesses are planned and unlikely to

be started without forethought; thus, we viewed entrepreneurship through a TPB lens as a planned behaviour predicted by EI.

The TPB provided a suitable theoretical foundation for investigating EI in our study (Ajzen, 1991a; Ajzen, 2020). Researchers have developed numerous models and ideas to explain purpose: Davidsson (1995) established the psychological economic model, which researchers have used extensively; Shapero and Sokol (1982) developed the entrepreneurial event model, which is a significant entrepreneurial paradigm; and Bae *et al.* (2014) conducted a meta-analysis on EE and EI that has provided an interesting mix of insights from different studies. Furthermore, a study based on the TPB showed that attitudes towards entrepreneurship and perceived behavioural control significantly enhanced EI, whereas subjective norms and EI were not significant (Duong, 2021). Recent studies have also claimed that EE is a significant element of SE that drives entrepreneurial attitudes towards developing favourable EI (Yousaf *et al.*, 2021).

In Asian countries, it is necessary to comprehend EI and the validity or otherwise of the TPB's antecedents for EI. This study differs from past studies in that we conceptually propose that EE relies on diverse factors that are necessary for building a more comprehensive understanding of EI phenomena. Past studies have mainly adopted EE as an antecedent that enhances individual self-efficacy (Yousaf *et al.*, 2021), subjective norms and perceived behavioural control (Duong, 2021). We adopted a different lens, seeing effective EE as depending on SE, which is an individual's belief in his or her capacity to execute the relevant behaviours. Furthermore, social support (which in this case refers to FS) is also important, marking another difference from past research. The role of the family is paramount in supporting entrepreneurial initiatives. Individuals who receive moral support from their families are likely to engage in EE. Finally, we introduce EM as an antecedent of EE, claiming that individuals who aim to achieve a self-oriented, independent position in society are likely to pursue entrepreneurial learning to develop operant skills. This study will contribute to the current body of knowledge about EI, and the results will support the development of EI to effectively boost entrepreneurship in Malaysia.

Appendix summarises the valuable insights of recent studies that have used different indicators to examine overall EI through different theoretical lenses, geographic settings and contexts. Moreover, we answer the call for future studies to extend the body of knowledge in the strategic management literature.

2.2 Entrepreneurial self-efficacy, entrepreneurial education and entrepreneurial intention

EE relies on a willingness to learn about new plans and techniques to launch an entrepreneurial platform (Hassan *et al.*, 2020a; Dissanayake, 2013). A person with high self-efficacy, which is the person's ability to mobilise cognitive resources and plan the actions necessary for a successful outcome (Yousaf *et al.*, 2021), is more inclined to learn about entrepreneurial methods and techniques (Chen *et al.*, 1998). Moreover, individuals who are self-oriented, independent and believe in their ability to take certain risks are more interested in learning about entrepreneurship mechanisms and potential operating techniques (Vaitoonkiat and Charoensukmongkol, 2020). Entrepreneurship education aims to foster the right set of strategies to launch independent businesses (Hassan *et al.*, 2021a), but entrepreneurial learning strategies rely on different factors, among which individuals' self-efficacy is an important antecedent (Hoang *et al.*, 2020). Individuals with high levels of motivation to plan their resources and actions tend to have more interest in learning new paradigms of entrepreneurship. The entrepreneurship literature reveals different perspectives on how ES is created (Kamal and Daoud, 2020). One school of thought holds that ES is an intrinsic and inborn characteristic of entrepreneurs that cannot be acquired or enhanced by education (Cope, 2005). Another holds that ES is acquired gradually through

education and substantially increases the degree and substance of people's ambitions, objectives and decisions (Bandura *et al.*, 2001). A past study investigated the relationship between EE and self-efficacy (Yousaf *et al.*, 2021), claiming that it is possible to anticipate a person's behavioural decisions based on his or her self-efficacy, persistence and effectiveness. However, in this study, we anticipated that education would rely on an individuals' self-motivation and ambition to achieve planned milestones in their lives. Further evidence suggests that ES is a significant determinant of EI (Affuso *et al.*, 2017). Zhao *et al.* (2005) discovered a link between formal learning and ES; thus, students' ES may increase their favourable attitudes towards EE, creating EI. By contrast, individuals who are less goal-oriented and rely primarily on others to carry their loads generally have little interest in EE.

ES is a key motivator in the entrepreneurial process because it requires individuals to embrace the uncertainty of the business environment, which requires preparation, hard work and tenacity (Bandura, 2006). According to Krueger and Dickson (1994), "high ESE levels are related to strategic risk-taking". Individuals with a strong sense of ES have greater internal motivation for entrepreneurial actions and interests. An individual with high ES is likely to expend significant effort for a longer period, persist through setbacks and develop more effective plans and strategies for the work, paving the path for success in their chosen venture (Hassan *et al.*, 2020a). Hence, we propose the following hypotheses (*Hs*):

H1. An individual's ES positively and significantly impacts EE.

H2. An individual's ES positively and significantly impacts EI.

2.3 Entrepreneurial motivation, entrepreneurial education and entrepreneurial intention

Motivation is an intrinsic stimulus that drives an individual's ability to achieve a desired outcome. Researchers in human psychology have argued that motivated individuals aim to learn new ideas and explore hidden opportunities in the market (Faghih *et al.*, 2021). The initiative to start an entirely new business requires prior knowledge and information (King, 2003). Individuals need to learn the appropriate techniques and explore new opportunities that will provide an advantage in starting their businesses. Those who are passionate and motivated to create independent businesses are likely to learn about market conditions (Stewart *et al.*, 2007), and institutes can play a vital role in providing EE to individuals who are willing to dedicate their time to an independent lifestyle (Thomassen *et al.*, 2019). However, learning initiatives are often associated with individual preferences and choices (Mahto and McDowell, 2018). Educational institutes, despite their immense efforts, cannot involve individuals in entrepreneurial learning activities who are not motivated or willing to launch local businesses (Tarigan *et al.*, 2022). Moreover, individuals who are motivated and courageous enough to take risks in building such businesses need knowledge and learning platforms to enhance their entrepreneurial skills (Kah *et al.*, 2022). Therefore, EM is extremely important because it drives individuals to acquire EE and develop positive EI to launch independent businesses.

These factors motivate individuals to strive for an independent entrepreneurial set-up so that they can enjoy freedom of expression and independent wealth creation (Levine and Gilad, 1986). Entrepreneurs are recognised for their perseverance and dedication to highly creative ideas, complex timings and success (Barba-Sánchez and Atienza-Sahuquillo, 2018). This high level of task achievement motivation plays an important role in building individuals' positive EI (Hassan *et al.*, 2021a). Entrepreneurs encourage dedicated people to commit to a project and strive for success because they can persuade others with their ideas

and inventions. EM is undoubtedly a significant component in maintaining energy and inventiveness (Barba-Sánchez and Atienza-Sahuquillo, 2017), and it is reasonable to argue that the motivation to develop business start-ups is critical to their success. Therefore, we concluded that EM is the primary factor motivating a person to acquire information about entrepreneurship (EE) and increase their EI (Faghih *et al.*, 2021). Motivated entrepreneurs can better understand and retain their passion for establishing a business and encourage people to buy into their concept. Hence, we propose the following:

H3. An individual's EM positively and significantly impacts EE.

H4. An individual's EM positively and significantly impacts EI.

2.4 Family support, entrepreneurial education and entrepreneurial intention

FS is the level of emotional, social and financial sustenance given to launch an entrepreneurial platform (Klyver *et al.*, 2020; Lansberg and Astrachan, 1994). Many young people are motivated to achieve something different in their lives (Edelman *et al.*, 2016), and it is clear that most entrepreneurial platforms are launched by young people (Hu *et al.*, 2021; Newbert *et al.*, 2013). FS is one of the most important indicators in the entrepreneurship literature, but it has received little attention (Steier, 2009). Most young people rely on their families and tutors for emotional support to achieve their dreams (Hu *et al.*, 2021), but their dreams may be shattered if they are forced to choose a regular job against their wishes. Family members may be reluctant to support their children in choosing a career that includes risk (Boldureanu *et al.*, 2020), preferring them to rely on safe jobs, regardless of their children's inclinations. This attitude may create a negative impression among children, having a devastating effect on their energy to start businesses (Mungai and Velamuri, 2011). Conversely, families with a high degree of cohesion share common rules, customs, knowledge of one another and emotionally strong relationships (Edelman *et al.*, 2016). Cohesion generates unity and devotion, fosters a feeling of belonging and involves a moral imperative to assist family members. Consequently, cohesive families generally offer their members emotional support (Boldureanu *et al.*, 2020) that can develop favourable EI for launching a new initiative for economic well-being. Family financial assistance may also provide capital for fledgling businesses. It is dynamic, readily converted into complementary resources, and therefore useful in building a new business and carrying out the main start-up operations required for the formation of a new company (Manolova *et al.*, 2019).

Family financial support can also act as a safeguard against unexpected adverse events, enabling nascent entrepreneurs to engage in more capital-intensive efforts (Cetindamar *et al.*, 2012; Cooper *et al.*, 1994). Financial resources can enable fledgling entrepreneurs to pursue several start-up activities concurrently, such as building a new product while also conducting market research, thereby broadening the scope of start-up operations. These positive benefits of family in the form of entrepreneurial support and financial assistance allow young people to learn new entrepreneurial skills and develop strong positive intentions to launch independent businesses. Hence, we propose the following:

H5. FS positively and significantly impacts EE.

H6. FS positively and significantly impacts EI.

2.5 Mediating role of entrepreneurial education

EE is defined as "an educational program or practices that foster entrepreneurial attitudes and abilities" (Hutagalung *et al.*, 2017), and it is critical for students' entrepreneurial development (Anwar *et al.*, 2020). As Hassan *et al.* (2020a) explained, EI is a direct, quantifiable outcome of EE, and it is predicted to strengthen students' attitudes towards entrepreneurship (Anwar *et al.*, 2020). EE entails teaching graduates to thrive in their careers after launching new companies (Hasan *et al.*, 2017). It can support entrepreneurship and inventiveness by cultivating entrepreneurial attitudes and developing necessary skills, such as critical thinking, teamwork and decision-making.

Additionally, creativity, problem-solving ability and communication skills are required to be a successful entrepreneur (Cho and Lee, 2018). EE can encourage individuals to pursue entrepreneurial professions (Hassan *et al.*, 2020a) since it can evoke hidden entrepreneurial potential in children. According to Farashah (2013), completion of an entrepreneurship course increases the likelihood of EI by 1.3 times. Moreover, EE in higher education strengthens students' fundamental entrepreneurial competencies, amplifying the effect of an individual's behavioural attitude towards entrepreneurship and ES, and thus reinforcing EI.

Studies have indicated that motivation is associated with EE and enhances EI (Faghih *et al.*, 2021). According to Shane *et al.* (2003), motivation arises when individuals feel self-assured and competent in their professions. EM motivates people to pursue EE, which may inspire students to pursue entrepreneurship as a career. During their early careers, most individuals, even entrepreneurs, do not consider entrepreneurship a viable career option (Farhangmehr *et al.*, 2016). However, entrepreneurial drive and education can develop people's self-determination and give them enough proficiency to start their own firms (Faghih *et al.*, 2021; Fishbein and Ajzen, 2011).

Additionally, researchers have discovered that positive views of FS improve intentions to learn about entrepreneurship (i.e. EE), which supports the conversion of an individual's EI into actions (Edelman *et al.*, 2016). According to Hutagalung *et al.* (2017), education is a deliberate effort undertaken by the family, community and government to prepare learners for acceptable roles in society in the future based on supervision, training and teaching. Purnamawati *et al.* (2020) portrayed EE as a learning process that influences students' attitudes and mindsets towards pursuing entrepreneurial careers. According to Hutagalung *et al.* (2017), FS is significantly connected to EE, resulting in successful businesses. Hence, we propose the following hypotheses:

H7. EE has a positive and significant impact on EI.

H8. EE mediates the relationship between ES and EI.

H9. EE mediates the relationship between EM and EI.

H10. EE mediates the relationship between FS and EI.

3. Methodology

3.1 Study design

The present study was based on a positivist philosophical paradigm and a quantitative design. We used a deductive research approach and collected data using a cross-sectional time-horizon (i.e. data were collected at one point in time from multiple respondents). The generalisability of the results demands a representative sample from the large set of population that is mostly performed using the quantitative closed-ended questionnaires. Therefore, we used a purposive sampling technique to attract respondents from leading

universities in Malaysia in different cities and to ensure diversity in the data. The shortlisted for participation in the study only respondents who were interested in achieving entrepreneurial outcomes. We established initial exclusion criteria to screen the respondents by asking initial screening questions, some of which were as follows: *Does your FS you in starting a new business in Malaysia? Do you believe that you will achieve your desired objectives and milestones in life? Are you interested in and motivated to learn new ideas to launch a new entrepreneurial platform?* Those who responded "yes" were shortlisted for the final data collection. These initial screening questions were designed to ensure bias-free responses from the pool of selected participants. The data were collected in different time frames, mostly on weekends, so that the respondents would feel relaxed and provide bias-free responses. We collected data between December 2021 and March 2022 and contacted the respondents through email and phone calls to confirm their availability. We gave the respondents a brief overview of the study and an estimated time for the completion of the questionnaire, which took around 10 min. A total of 564 questionnaires were distributed among different students in Malaysia, and we received 345 completed questionnaires. We performed initial screening to exclude incomplete and biased responses (i.e. 11 questionnaires), resulting in a final 334 completed questionnaires that were appropriate for analysis.

3.2 Measures

We adapted scales from previous literature to measure the constructs of the study. We measured EI through six items adapted from Hassan *et al.*(2020a), EE through five items adapted from Hassan *et al.*(2020a), EM through ten items adapted from Faghih *et al.*(2021), FS through five items adapted from Edelman *et al.*(2016) and ES through six items adapted from Hassan *et al.*(2020a).

3.3 Sample characteristics

We conducted a preliminary analysis of the respondents' profiles, which revealed that most of the respondents (51.5%) were female, 57.5% were single, and the dominant age group was 20–25 years (63.2%). As indicated in Table 1, Malays comprised 69.2% of the respondents, while Chinese and Indians comprised 21.6% and 9.3%, respectively. Table 1 shows the detailed demographic information.

Demographic variables	Category	Frequency	(%)
Gender	Female	162	48.5
	Male	172	51.5
Marital Status	Married	142	42.5
	Single	192	57.5
Age Group	18–20	21	6.3
	21–25	211	63.2
	26–30	97	29.0
	Above 30	5	1.5
Ethnicity	Malay	231	69.2
	Chinese	72	21.6
	Indian	31	9.3

Note: $N = 334$

Table 1. Profile of the respondents

4. Analysis and results

4.1 Common-method variance

We used Harman's single-factor method as a statistical means to assess common-method variance (CMV) in the data, running principal component analysis with varimax rotation in SPSS 25 following Hair *et al.*'s (2010) recommendation. The findings revealed that a single factor emerged in 36.41% of the covariance, which was well below the norm of 50%, showing that there was no CMV issue in the data.

4.2 Measurement model analysis

We used the partial least square - structural equation modeling (PLS-SEM) measurement model to conduct confirmatory factor analysis to refine and confirm the latent construct items and constructs themselves in the model. Firstly, we evaluated the measurement model to analyse the relevance of a construct's indicator loadings using PLS-SEM. Reliability confirms a measurement instrument's consistency in measuring a specific construct, whereas validity demonstrates an instrument's ability to measure the construct it claims to measure (Sekaran and Bougie, 2010). Secondly, in the outer model, we established a relationship between latent and observable constructs. In this step, we examined three criteria:

(1) convergent validity;

(2) internal consistency reliability; and

(3) discriminant validity (Hair *et al.*, 2016).

4.2.1 Measurement model evaluation: internal consistency reliability and convergent validity. We checked the internal consistency among the components of each construct using Cronbach's alpha (α) scores. Table 2 reveals that all α values were higher than the Nunnally threshold of 0.7 (Iacobucci and Duhachek, 2003) and varied from 0.901 to 0.949. Although composite reliability (CR) ratings for all constructs ranged from 0.850 to 0.941, all CR values were higher than the recommended value of 0.7 (Hair *et al.*, 2016). The tests, as shown in Table 2, revealed the internal consistency of these constructs: ES (α = 0.868, CR = 0.901, AVE = 0.603), FS (α = 0.880, CR = 0.912, AVE = 0.675), EM (α = 0.939, CR = 0.949, AVE = 0.649), EE (α = 0.885, CR = 0.916, AVE = 0.685) and EI (α = 0.920, CR = 0.938, AVE = 0.716). Convergent validity measures the degree to which two measures assumed to be related appear to be related even after analysis. According to Hair *et al.* (2014), AVE is commonly used to determine convergent validity, and (Hair *et al.*, 2020) defined AVE as the degree of common variance between latent variable indicators. Fornell and Larcker (1981) recommended an acceptable level of AVE of >0.50 for research studies. The minimum acceptable criteria were obtained with AVE values of 0.60–0.71, as shown in Table 3, establishing convergent validity in this study. Furthermore, we considered item loadings, for which 0.70 or higher was the acceptable level for adequate loadings (Fornell and Larcker, 1981). We obtained values >0.70 for all items, as shown in Table 2.

4.2.2 Discriminant validity. Fornell and Larcker (1981) criterion determine how much a construct varies from other constructs within its components (Bagozzi and Yi, 1988). The square root of the AVE for each construct had the highest value compared to the other correlation values, showing a link with the other variables. Furthermore, as measured by construct correlations, the variance shared between constructs was less than the variance shared by a concept and its indicators. We also used other metrics, such as the heterotrait–monotrait (HTMT) ratio of correlations, to establish discriminant validity. We used Henseler *et al.* (2015) HTMT approach to assess discriminant validity. The HTMT values

Name	Codes and items	Loading	C-Alpha	CR	AVE
Entrepreneurial intention	*EI1* – I am ready to make anything to be an entrepreneur	0.876	0.920	0.938	0.716
	EI2 – My professional goal is to become an entrepreneur	0.812			
	EI3 – I will make every effort to start and run my own firm	0.837			
	EI 4 – I am determined to create a firm in the future	0.853			
	EI5 – I have very seriously thought of starting a firm	0.917			
	EI6 – I have got the firm intention to start a firm someday	0.772			
Entrepreneurial education	*EE1* – Knowledge about the entrepreneurial environment	0.846	0.885	0.916	0.685
	EE2 – Greater recognition of the entrepreneur's figure	0.832			
	EE3 – The preference to be an entrepreneur	0.851			
	EE4 – The necessary abilities to be an entrepreneur	0.853			
	EE5 – The intention to be an entrepreneur	0.753			
Entrepreneurial motivation	*EM1* – I do business out of necessity and job scarceness, and because there is no other option in the labour market	0.803	0.939	0.949	0.649
	EM2 – I launched this business out of necessity, but with my friends' suggestion	0.873			
	EM3 – I do this just because of interest and for entertainment	0.804			
	EM4 – I do this because this is my family business	0.860			
	EM5 – I do this because our policymakers are devising a plan for support such businesses in the future	0.842			
	EM6 – I do this to save my previous income	0.745			
	EM7 – I do this because there is less competition in this business	0.803			
	EM8 – I do this to increase my own income	0.750			
	EM9 – I do this to implement innovative ideas that, no doubt, will afford the public demand	0.820			
	EM10 – I do this to bring health and/or to build high income for people	0.743			
Family support	*FS1* – My parents/family provide me with debt capital	0.863	0.880	0.912	0.675
	FS2 – My parents/family provide me with equity capital	0.836			
	FS3 – The capital provided by my parents/family has favourable and flexible conditions	0.829			

(*continued*)

Table 2. Measurement model evaluation factor loading, Cronbach's alpha, composite reliability and AVE of the latent constructs

Name	Codes and items	Loading	C-Alpha	CR	AVE
	FS4 – My parents/family provide me with contacts to people that might help me with pursuing an entrepreneurial career	0.859			
	FS5 – My parents/family introduce me to business networks, providing contacts to potential business partners and/or customers	0.710			
Entrepreneurial self-efficacy	*ESE1* – I can control the creation process of a new business	0.748	0.868	0.901	0.603
	ESE2 – If I tried to start a business, I would have a high probability of success	0.772			
	ESE3 – Starting a business and keeping it functional would be easy for me	0.797			
	ESE4 – I know the necessary practical details to start a business	0.761			
	ESE5 – I am prepared to start a viable business	0.727			
	ESE6 – I know how to develop an entrepreneurial project	0.848			

Table 2.

Notes: EE: entrepreneurial education; EI: entrepreneurial intention; EM: entrepreneurial motivation; FS: family support; ESE: entrepreneurial self-efficacy

Variables	EE	EI	EM	ESE	FS
EE	*0.828*				
EI	0.538	*0.846*			
EM	0.565	0.448	*0.806*		
ESE	0.456	0.407	0.422	*0.776*	
FS	0.555	0.461	0.483	0.418	*0.821*

Table 3.
Discriminant validity (Fornell and Larcker)

Notes: EE: entrepreneurial education, EI: entrepreneurial intention, EM: entrepreneurial motivation, FS: family support, ESE: entrepreneurial self-efficacy; Diagonal values are higher than the inter-construct correlation which shows the model has achieved the discriminant validity

Variables	EE	EI	EM	ESE	FS
EE					
EI	0.591				
EM	0.610	0.475			
ESE	0.510	0.446	0.461		
FS	0.609	0.479	0.516	0.465	

Table 4.
Discriminant validity (HTMT)

Notes: EE: entrepreneurial education, EI: entrepreneurial intention, EM: entrepreneurial motivation, FS: family support, ESE: entrepreneurial self-efficacy

demonstrated that the inter-construct ratios were <0.85, and the confidence intervals did not include a value of 1.0 (Henseler *et al.*, 2015). As indicated in Tables 3 and 4, all the latent constructs achieved the required discriminant validity.

4.3 Structural model and hypothesis testing

4.3.1 Model fit tests. We used the standardised root mean square residual (SRMR), the squared Euclidean distance (d-ULS) and the geodesic distance (d-G) to assess the normed fit index (NFI) for the model. The findings indicated that the suggested structural model fitted the data well, as evidenced by SRMR = 0.060, d-ULS = 1.888, d-G = 0.899 and NFI = 0.804. The SRMR value fell below the 0.08 cut-off (Henseler *et al.*, 2016). The NFI value was greater than the proposed value of 0.8, indicating that the structural model satisfied the criteria.

4.4 Structural model evaluation

4.4.1 Path relationship evaluations. We applied a bootstrapping process using Smart PLS 3.0 and integrated 500 samples to determine the path coefficients' significance for testing the hypothesised relationships. Chin (2010) indicated that 200–1,000 bootstrapping samples present reasonable estimates for standard errors. We used regression coefficients to assess the direct and indirect associations among the constructs. Additionally, we used the bootstrapping process and *t*-values to determine the significance of β values in indirect connections between constructs. Hair *et al.* (2014) determined that a path relationship is significant at the 10%, 5% and 1% significance levels when the *p*-values are less than 0.10, 0.05 and 0.01, respectively.

4.4.1.1 Direct relationships. The results showed that ES, EM and FS significantly influenced EE. For instance, *H1* (β ES $\geq E$ = 0.182, t = 3.191, p = 0.002), *H2* (β EM $\geq$ EE = 0.335, t = 6.351, p = 0.000) and *H3* (β FS $\geq$ EE = 0.317, t = 5.899, p = 0.000) demonstrated a positive and significant relationship between SE, EM, FS and EE. Similarly, the relationship

Hypotheses	Path	Beta	STDEV	T-values	P-values	Decision
H1	ESE → EE	0.182	0.057	3.191	0.002	Accepted
H2	EM → EE	0.335	0.053	6.351	0.000	Accepted
H3	FS → EE	0.317	0.054	5.899	0.000	Accepted
H4	EE → EI	0.304	0.060	5.069	0.000	Accepted
H5	ESE → EI	0.141	0.048	2.923	0.004	Accepted
H6	EM → EI	0.136	0.062	2.195	0.029	Accepted
H7	FS → EI	0.169	0.059	2.858	0.004	Accepted

Notes: EE: entrepreneurial education, EI: entrepreneurial intention, EM: entrepreneurial motivation, FS: family support, ESE: entrepreneurial self-efficacy

Table 5. Direct relationships results

Hypotheses	Path	Beta	STDEV	T-values	P-values	Decision
H8	ESE → EE → EI	0.055	0.020	2.835	0.005	Accepted
H9	EM → EE → EI	0.102	0.028	3.691	0.000	Accepted
H10	FS → EE → EI	0.096	0.026	3.646	0.000	Accepted

Notes: EE: entrepreneurial education, EI: entrepreneurial intention, EM: entrepreneurial motivation, FS: family support, ESE: entrepreneurial self-efficacy

Table 6. Mediation results

between EE and EI was found to be significant (β EE $\geq$ EI = 0.304, t = 5.069, p = 0.000), showing that undergraduate students' EE positively and significantly influenced their EI. Subsequently, we tested direct relationships between ES, EM, FS and EI, and the results revealed a significant and positive relationship between EM, FS and EI; thus, *H5*, *H6* and *H7* were supported. The detailed results are presented in Table 5.

4.4.1.2 Indirect relationships. The indirect (mediation) results revealed that the relationship between ES and EI was significantly mediated by EE (β ESE $\geq$ EE $\geq$ EI = 0.055, t = 2.835, p = 0.005). Similarly, the relationship between EM and EI was significantly mediated by EE (β EM $\geq$ EE $\geq$ EI = 0.102, t = 3.691, p = 0.000). Moreover, the relationship between FS and EI was significantly mediated by EE (β FS $\geq$ EE $\geq$ EI = 0.096, t = 3.646, p = 0.000), showing that *H8*, *H9* and *H10* were accepted and statistically significant. Table 6 presents a summary of the detailed results for *H7*, *H8* and *H9*.

4.5 Predictive capability assessment

Testing the predictive relevance of a research model is an important element in evaluating SEM. We used the coefficient of determination (R^2 value) to determine predictive accuracy since it represented the amount of change explained by each endogenous variable (Hair *et al.*, 2019). According to Hair *et al.* (2019), an R^2 value of 0–1 suggests a good level of predictive accuracy, with a higher R^2 value indicating a higher level of predictive accuracy. The R^2 value for EE was 0.448, suggesting a high degree of predictive accuracy, whereas the R^2 value for the other latent variable (EE) was 0.359 (>0.33), indicating a moderate level of predictive accuracy (Henseler *et al.*, 2009). However, for the evaluation of predictive relevance, we relied on the blindfolding technique to determine the Q^2 value using Smart PLS 3.0. According to Hair *et al.* (2014), a value of $Q^2 > 0$ confirmed the predictive importance of endogenous variables in the model. According to the statistical results, all the Q^2 values provided for each construct were positive, implying that the proposed model had sufficient predictive significance, as shown in Table 7.

5. Discussion, practical implications, agenda for future research and conclusion

5.1 Discussion of findings and theoretical implications

Entrepreneurs are essential for the growth of any economy (Yousaf *et al.*, 2021), and it is critical to develop initiatives to create an entrepreneurial culture (Wardana *et al.*, 2020) because new enterprises make significant contributions to countries' gross domestic products and are vital for job creation. Hence, we considered it necessary to investigate the factors that can lead to individuals' EI (Martínez-Gregorio *et al.*, 2021). In this study, we conceptualised the role of entrepreneurial factors that stimulate individual motivation to launch entrepreneurial platforms. The entrepreneurship literature has highlighted the role of EE using a TPB lens (Duong *et al.*, 2021). Consequently, we demonstrated the significant and positive role of ES, EI, FS and EE in students' efforts to start new business endeavours. EE, in particular, may serve as a stepping stone for students who want to pursue entrepreneurial careers (Ahmed *et al.*, 2020; Duong, 2021). Previous studies have examined the

Table 7.
R^2 and Q^2 of latent exogenous variables

Exogenous variables	R^2	Q^2
Entrepreneurial Education	0.448	0.302
Entrepreneurial Intention	0.359	0.248

Notes: R^2 = co-efficient of determination; Q^2 = predictive relevance

importance of entrepreneurial characteristics, such as EE (Zhang *et al.*, 2014), previous entrepreneurial experience (Brunel *et al.*, 2017) and exposure to role models, for the probability of developing entrepreneurial desire (BarNir *et al.*, 2011). The results of this study align with previous contributions, in which SE, EM and FS proved significant for learning new paradigms of entrepreneurship and starting businesses. The present study examined the substantial and positive role of EM, revealing that strong EI can turn into actual behaviour for grabbing a potential business opportunity, initiating an entrepreneurial journey, and thus launching a successful entrepreneurial career. This conclusion is consistent with Faghih *et al.* (2021), despite the paucity of research on EI and EM. We further examined the role of SE in students' learning about different avenues of entrepreneurship. The results showed significant outcomes in line with Hassan *et al.*'s (2020a) study, which explained that an individual's belief in his or her skills and abilities enhances his or her EI.

Moreover, we intended to gauge the positive effect of FS on EE and EI. The results revealed that FS substantially impacts EE and ambition among students. Young entrepreneurs' views of FS (social and financial) shape their desire to pursue EE to improve their business knowledge. In line with Edelman *et al.* (2016), financial and social support from parents can lead students to engage in entrepreneurial activities. We discovered a strong relationship in terms of social and financial assistance that provides external "business support", such as important social and commercial contacts or access to the family's already established business networks. FS is an important factor that may play a vital role in improving young people's chances of starting new businesses. Conversely, parents' lack of interest or fear of their children taking risks can deter their children from creating entrepreneurial platforms in Malaysia.

Finally, we highlighted the importance of EE in Malaysia, where educational institutes must educate young students to start entrepreneurial initiatives. The mediating role of EE explains a significant effect whereby EM is likely to increase EI when entrepreneurship education is delivered appropriately and adequately (Hutagalung *et al.*, 2017). The mediating role of EE between FS and EI shows that students with a strong understanding of business and corporate endeavours can strengthen their EI if they have FS. We have established the high relevance of EE in mediating the relationship between SE and EI, implying that EE increases individuals' SE by strengthening their trust in their entrepreneurial capabilities, which, in turn, strengthens the relationship between ES and EI.

Theoretically, this study contributes to the strategic management literature in the following ways. Firstly, we investigated different antecedents that can enhance EE and EI among young people using an overarching TPB lens. Past studies have used the TPB to develop theoretical frameworks with valuable inputs for both theory and practice. For instance, EE is an important indicator that significantly affects individuals' subjective norms and attitudes towards EI (Duong, 2021). Moreover, EE positively drives individuals' SE (Yousaf *et al.*, 2021). Martínez-Gregorio *et al.* (2021) meta-analysis provided important insights confirming that most EE and EI studies have used an overarching TPB lens. This study extends the discussion by revealing that EE relies on several factors, among which FS, EM and SE are important antecedents driving behaviour to acquire knowledge about entrepreneurship. Our framework is unique in that we have enhanced the understanding that individuals with high levels of EM, FS and SE tend to be more interested in acquiring new knowledge regarding entrepreneurship launch pads. Secondly, this study investigated the mediating role of EE, which constitutes a novel contribution to the strategic management literature. Past studies have measured the mediating role of SE, learning orientation, perceived social support, EM, attitude towards entrepreneurship and social responsibility between EE, individual entrepreneurial orientation and EI (Duong, 2021; Hoang *et al.*, 2020; Hassan *et al.*, 2021b; Ip *et al.*, 2021; Wardana *et al.*, 2020; Yousaf *et al.*, 2021). This study has investigated the important and unique mediating role of EE, confirming that education is an important construct

that significantly and indirectly mediates the relationships among FS, EM, SE and EI. Individuals, despite having proper support and the motivation and efficacy to achieve their entrepreneurial goals, will inevitably face setbacks if they are unable to learn about the market and efficiently use their resources for successful outcomes.

5.2 Managerial implications

The present study, along with theoretical interventions, has several implications for Malaysian management. Firstly, the role of entrepreneurship in enhancing economic well-being is paramount. The present study has identified an essential role of ES, EM and FS in seeding positive EI among Malaysia's young people. The findings provide valuable insights, showing that young people must be given proper social support to start their businesses. Secondly, our findings are valuable in highlighting the significant role of EE. Government officials, despite providing opportunities for entrepreneurship, are not considering this economic driver. The government should revise its current strategies and entrepreneurship policies to educate young people and shed light on the long-term benefits of independent entrepreneurial careers. Finally, given the importance of entrepreneurship in contributing to Malaysia's economic growth, university managers and lecturers must pay special attention to talks, seminars and conferences that may inspire students to become entrepreneurs

5.3 Limitations and future directions

Despite several theoretical and practical contributions, the present study has many limitations. Although we identified the role of three entrepreneurial indicators in awakening EI among Malaysia's young people, we overlooked financial concerns. Sustainable development goals (SDGs) are extremely important for enhancing economic and social sustainability and driving markets. Therefore, future studies should explore financial perspectives by integrating SDGs with entrepreneurial initiatives to address this gap (Jan *et al.*, 2022, 2021b). Secondly, service recovery plays an essential role in entrepreneurial launches pads. Individuals who take the entrepreneurial initiative must develop the necessary service recovery strategies to avoid failure during their entrepreneurial journeys. Therefore, future researchers should develop an integrated conceptual framework using qualitative methods to conceptualise the relationship between EE, its antecedents, and entrepreneurial service recovery strategies to overcome entrepreneurial failure (Mazhar *et al.*, 2022; Mazhar *et al.*, 2021). Thirdly, the roles of experiential value, value creation and value co-creation have rarely been investigated in the context of EI or EE. Future research studies should develop a conceptual framework by considering how different

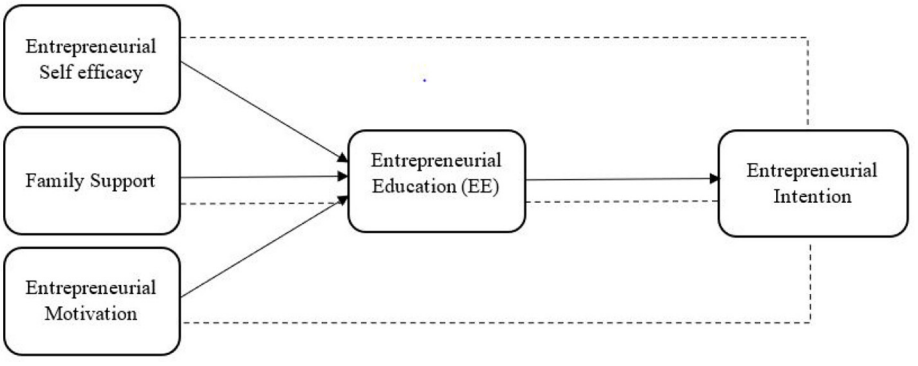
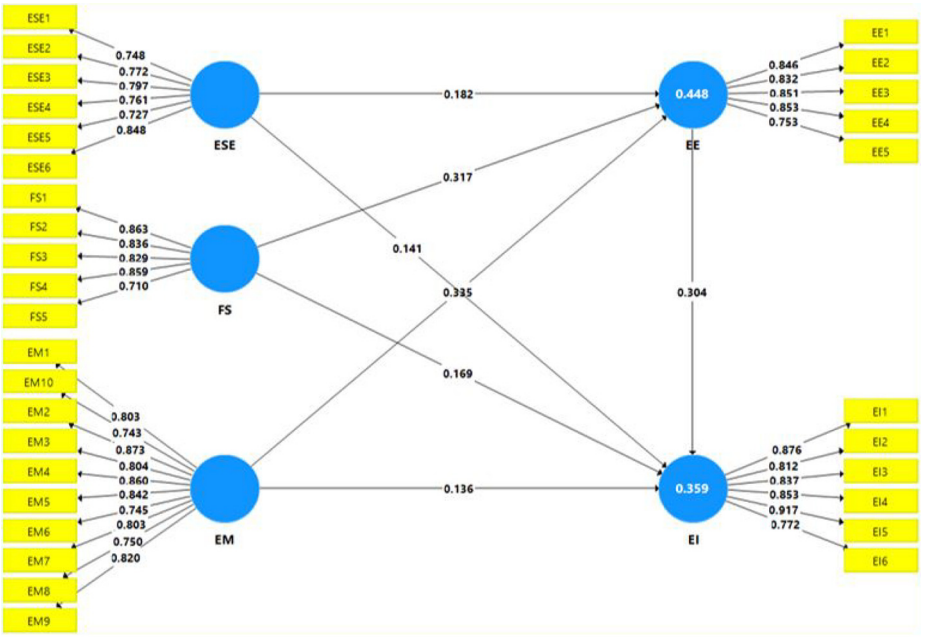


Figure 1.
Research framework



Notes: EE: entrepreneurial education, EI: entrepreneurial intention, EM: entrepreneurial motivation, FS: family support, ESE: entrepreneurial self-efficacy

Figure 2.
Measurement model of the study

entrepreneurship strategies can be designed and re-designed to promote value creation, value co-creation and experiential value for customers through entrepreneurial initiatives (Abid *et al.*, 2022a, 2022b; Shamim *et al.*, 2021; Siddique *et al.*, 2021; Shamim *et al.*, 2022; Hussain *et al.*, 2023). Fourthly, researchers from other developing nations may need to construct country-specific models for similar EE based on the findings of this study, thus boosting the model's generalisability. Fifthly, the inclusion of trust and commitment with different drivers of technology is missing in measuring EI. Therefore, future research could examine the trust-commitment factors as a business driver to initiate entrepreneurial launches in different geographic settings and contexts. See Abid *et al.* (2022a, 2022b) for further reference. Finally, the data were acquired using a cross-sectional design, and this approach could have limited the study. Longitudinal research would be beneficial in future studies. The current study focused solely on the favourable effects of EE on EI among university graduates. However, for various reasons, the concept of entrepreneurship education may have different effects on EI for school dropouts and mature adults. Future research should conduct this comparison for more robust outcomes.

5.4 Conclusion

Entrepreneurship is an important pillar of strategic management that enhances the well-being of nations. This study has contributed to the body of strategic management knowledge by introducing ES, EM and FS as important antecedents that enhance the EE and EI of Malaysia's young people. The findings explicitly emphasise that EE must be delivered with due diligence. Furthermore, this study concludes that EE relies on antecedents that are necessary for motivated individuals to start new businesses in Malaysia. Additionally, EE is vital for enhancing and

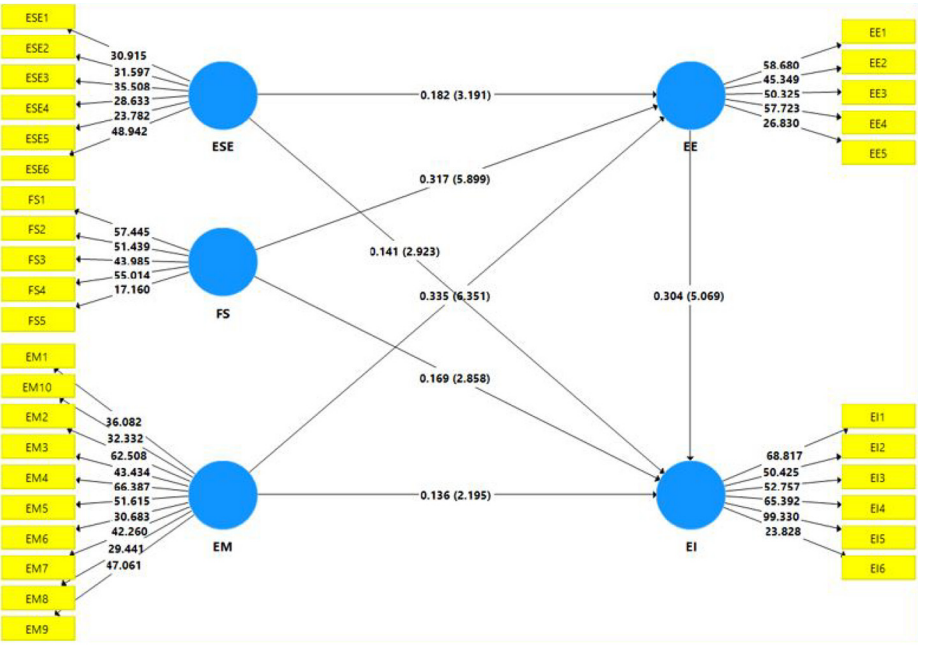


Figure 3.
Structural model of the study

Notes: E: entrepreneurial education, EI: entrepreneurial intention, EM: entrepreneurial motivation, FS: family support, ESE: entrepreneurial self-efficacy

broadening the vision of individuals who are interested in launching independent entrepreneurial careers in Malaysia. Finally, this study provides practical, actionable policy suggestions for Malaysian officials to address Malaysian young people's lack of proper EE. Despite strong motivation towards entrepreneurial careers, young people may face restrictions from their families and associates. Therefore, the proper education of parents is vital for allowing young people to develop positive EI in Malaysia.

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Appendix

Table A1.
Valuable insights from the past literature (bridging the gap)

S. no.	Objectives	Key findings	Theoretical foundation	References	Research gap
1	This study aims to investigate the efficacy of entrepreneurial education among student samples with pre-post test samples and control groups using a meta-analytic approach	1. Statistically insignificant average of entrepreneurial education (EE) for intervention groups on most outcome measures 2. Only statistically significant average effect of EE for the intervention groups on entrepreneurial intention and self-efficacy scores	Theory of planned behaviour	Martínez-Gregorio *et al.* (2021)	Should investigate in-depth procedures through which entrepreneurial education impacts entrepreneurial outcomes
2.	To explore the mediating role of self-efficacy and learning orientation between entrepreneurial education and entrepreneurial intentions	1. The findings of hierarchical regression reveal that entrepreneurial education positively impacts entrepreneurial intention 2. This positive relationship is further mediated by learning orientation and self-efficacy	Theory of planned behaviour Social learning theory Social cognitive theory	Hoang *et al.* (2021)	Should explore different predictors of entrepreneurial intention
3.	To integrate the prediction from entrepreneurship education with the theory of planned behaviour to build a conceptual framework	1. Attitude towards entrepreneurship and perceived behavioural control were strongly associated with entrepreneurial intention 2. The relationship between subjective norms and entrepreneurial intention was insignificant 3. The direct relationship between entrepreneurial education and entrepreneurial intention is insignificant. Still, it increases entrepreneurial intention through attitude towards entrepreneurship and perceived behavioural control 4. Education fields moderate the relationship between study predictors and entrepreneurial intention	Theory of planned behaviour Entrepreneurship theory	Duong *et al.* (2021)	Should investigate personal factors such as family support and family background which affect entrepreneurial intentions

(*continued*)

Table A1.

S. no.	Objectives	Key findings	Theoretical foundation	References	Research gap
4.	To operationalize a framework for entrepreneurship development by measuring participants' intentions towards entrepreneurship	1. The findings reveal that entrepreneurship education, self-efficacy and attitude towards starting a new business significantly impact entrepreneurial intention 2. Sequential mediation exists between entrepreneurial education and entrepreneurial intention through entrepreneurial self-efficacy level that develops a favourable attitude towards starting a new business	Regulatory focus theory Conservation of resource theory	Yousaf *et al.* (2021)	1. Personal factors should be investigated to see their impact on entrepreneurial intention 2. Should investigate the impact of entrepreneurial education on entrepreneurial intention in different educational contexts
5.	This study aims to analyse the effect of college students' entrepreneurship education and self-efficacy on entrepreneurial intention	1. College students' entrepreneurship education has a significant impact on entrepreneurship intention 2. College students entrepreneurship education has an insignificant impact on entrepreneurship attitude 3. Entrepreneurial self-efficacy has as significant impact on entrepreneurial intention and entrepreneurship attitude 4. There is a partial mediating role of entrepreneurship attitude between entrepreneurial self-efficacy and entrepreneurial intention	Theory of planned behaviour	Liu *et al.* (2019)	1. Should analyse the effect of the influence mechanism of entrepreneurial education on attitude and intention in different educational backgrounds

(*continued*)

Table A1.

S. no.	Objectives	Key findings	Theoretical foundation	References	Research gap
6.	This study aims to establish a conceptual model to analyse the effect of entrepreneurship education on entrepreneurship intention	1. The findings have revealed that entrepreneurial teaching, business plan competition and entrepreneurial practice support positively influence entrepreneurial competence 2. There is a significant mediating role of entrepreneurial competence between entrepreneurial teaching, business plan competition, entrepreneurial practice support and entrepreneurial intention	Theory of planned behaviour	Lv *et al.* (2021)	Future research should explore entrepreneurship education with some global indicators, such as the culture and social environment of a specific country, as each country has different implications and designs regarding education
7.	This study aims to analyse the effect of entrepreneurial education on entrepreneurship using four specific indicators, i.e. entrepreneurship education, attitude towards entrepreneurship, perceived social norms and perceived entrepreneurial capacity	1. The findings revealed significant management students' entrepreneurship education, attitude towards entrepreneurship and entrepreneurial intention	Theory of planned behaviour	Boubker *et al.* (2021)	1. Future research studies should adopt different other factors such as personal characteristics, emotional intelligence and socio-cultural background to see their impact on entrepreneurial intention
8.	This study aims to analyse the relationship between entrepreneurship education, culture and entrepreneurial intention with moderating role of entrepreneurial mindset	1. Entrepreneurial mindset significantly enhances entrepreneurial intention among university students 2. Entrepreneurial culture has a partial impact on entrepreneurship education and entrepreneurial intention	Social cognitive theory	Mukhtar *et al.* (2021)	Should consider a large sample size in a different educational context to enhance the generalisability of the findings

(*continued*)

S. no.	Objectives	Key findings	Theoretical foundation	References	Research gap
9.	This study aims to investigate the role of determinants of entrepreneurial education, specifically self-efficacy, family support and entrepreneurial motivation, in enhancing the entrepreneurial intention of youth in Malaysia using an overarching lens of the theory of planned behaviour	1. The findings have revealed interesting insights where the role of entrepreneurial self-efficacy, entrepreneurial motivation and family support towards learning new methods, techniques and skills to start an entrepreneurial platform in the market are very important 2. The mediating role of entrepreneurial education was also found significant, which explicates that entrepreneurial education plays an important role between individual self-efficacy, family support, entrepreneurial motivation and entrepreneurial intention	Theory of planned behaviour	Present study	1. Should conceptualise the role of sustainable development goals to enhance entrepreneurial intentions in different geographic settings and contexts 2. Should conceptualise and empirically validate the important role of value co-creation, value creation, experiential value and co-creation experience in online entrepreneurship management

Table A1.