

Entrepreneurship education and entrepreneurial intentions of university students in Vietnam: the mediating roles of self-efficacy and learning orientation

Self-efficacy
and learning
orientation

115

Received 31 May 2020
Revised 23 August 2020
27 August 2020
Accepted 17 September 2020

Giang Hoang

*Faculty of Business Administration, Ton Duc Thang University,
Ho Chi Minh City, Vietnam*

Thuy Thu Thi Le and Anh Kim Thi Tran

Foreign Trade University, Hanoi, Vietnam, and

Tuan Du

KPMG Vietnam, Ho Chi Minh City, Vietnam

Abstract

Purpose – This study aims to explore the mediating roles of self-efficacy and learning orientation in the relationship between entrepreneurship education and entrepreneurial intentions of university students in Vietnam.

Design/methodology/approach – The data were collected from an online survey of 1,021 university students in Vietnam. The authors conducted a hierarchical regression analysis to test the hypotheses.

Findings – The results of hierarchical regression analysis reveal that entrepreneurship education positively affects entrepreneurial intentions, and this relationship is mediated by both learning orientation and self-efficacy.

Research limitations/implications – This study confirms the importance of entrepreneurship education in encouraging university students' entrepreneurial intentions.

Practical implications – This study offers practical implications for universities and policy makers.

Social implications – This study is one of the first to empirically examine the concept of entrepreneurship education and entrepreneurial intentions in an Asia-Pacific context.

Originality/value – This study emphasises the significance of entrepreneurship education and its effects on university students' entrepreneurial intentions. Furthermore, the findings confirm that self-efficacy and learning orientation play an important part in explaining how entrepreneurship education relates to entrepreneurial intentions.

Keywords Learning orientation, Vietnam, Self-efficacy, Entrepreneurship education, Entrepreneurial intentions

Paper type Research paper

1. Introduction

In recent decades, entrepreneurship has been attracting more attention from scholars and public policy makers, as it is considered as an important driver of economic development (Nowiński *et al.*, 2019). Entrepreneurship education has, therefore, emerged as a policy tool to stimulate entrepreneurial activities and encourage entrepreneurial intentions. However, there is no conclusive evidence regarding the contribution of entrepreneurship education to entrepreneurial intentions since scholars have found different research results on this issue. Although most of the previous research found a positive relationship between



Education + Training
Vol. 63 No. 1, 2021
pp. 115-133

© Emerald Publishing Limited
0040-0912
DOI 10.1108/ET-05-2020-0142

The authors sincerely thank the anonymous reviewer for the helpful and valuable comments on an earlier version of this article.

entrepreneurship education and entrepreneurial intentions (Nowiński *et al.*, 2019; Piperopoulos and Dimov, 2015; Wu and Wu, 2008), some authors found contradictory results (Díaz-Casero *et al.*, 2012; Oosterbeek *et al.*, 2010). Recent evidence suggested that entrepreneurship education may also have indirect effects on entrepreneurial intentions (De Clercq *et al.*, 2013; Piperopoulos and Dimov, 2015; Türk *et al.*, 2020). Regarding the positive effects of entrepreneurship education on entrepreneurial intentions, however, it remains unclear how this relationship is mediated by self-efficacy and learning orientation. This issue warrants further research on the mechanism through which entrepreneurship education contributes to encouraging entrepreneurial intentions, particularly the way it interacts with students' self-efficacy and learning orientation. Our study aims to bridge this gap by determining the direct effects of entrepreneurship education on entrepreneurial intentions and explaining how this relationship is mediated by self-efficacy and learning orientation. In this way, our findings are expected to contribute to the scholarly debate on the link between entrepreneurship education and entrepreneurial intentions.

Wu and Wu (2008) argued that the topic explored in this study has been well researched in the western context but is still under-researched in the Asia-Pacific literature. To test the hypotheses, we use data collected from Vietnamese university students. Since its renovation (*Doimoi*) in 1986, Vietnam, an emerging economy in Southeast Asia, has transformed from a command economy into a market-oriented economy (Nguyen *et al.*, 2016). In recent years, entrepreneurship in Vietnam has been growing rapidly and is considered as a key enabler of economic growth in the country. Despite numerous challenges, Vietnam has managed to evolve from a de-entrepreneurship to pro-entrepreneurship policy stance (Nguyen *et al.*, 2015). This has paved the way for a more favourable environment for entrepreneurship development in the country. It was not until 1986 that Vietnam began its essential reforms in agrarian, price and foreign trade (Van Arkadie and Mallon, 2004). From this point onwards, the reform agenda has continuously expanded to institutional improvement, business development and the balance between public and private sectors (Nguyen *et al.*, 2015). According to the Global Innovation Index (Cornell University, INSEAD and WIPO, 2019), Vietnam has been an innovation achiever for the past decade and is ranked as the top economy in the lower middle-income group. These have been credited for the emergence of entrepreneurship with the growing foundation of new firms. Realising the importance of fostering entrepreneurship in the country, a number of key factors have been proposed, one of which is entrepreneurship education. The Vietnamese government has implemented a number of actions to enhance entrepreneurship activities, particularly those of university graduates (Nguyen *et al.*, 2019). For instance, in 2017, the government has introduced a national program called "Supporting Student Entrepreneurship 2017–2020 with a Vision Towards 2025" to provide university students with knowledge and skills on entrepreneurship (OECD/ERIA, 2018). To propose effective suggestions for policy makers, we need to understand how entrepreneurship education contributes to entrepreneurial intentions.

This article is structured as follows. First, we review the existing literature on entrepreneurship education, self-efficacy, learning orientation and entrepreneurial intentions to formulate the hypotheses. We then discuss the research method that was used in this study. Subsequently, we report the results from the hierarchical regression analysis. Following this, we discuss the key findings and outline theoretical and practical implications. Finally, the limitations of this study and directions for future research are presented.

2. Literature review

2.1 Entrepreneurial intentions

Entrepreneurship plays an essential role in promoting the socio-economic development of a country, especially in the age of globalisation (Liñán and Chen, 2009; Zhang *et al.*, 2014). The

concept has various definitions because of the increasing interest shown by economists, sociologists and psychologists, ranging from simply a process of creative destruction to a broader level, namely, a work attitude that places emphasis on self-reliance, initiative and the degree of innovation and risk (Bruyat and Julien, 2001; Van Gelderen *et al.*, 2008). Overall, entrepreneurship can be regarded as a process or a series of actions to start a business that takes place over time (Liñán and Chen, 2009), and it can last for a long time (Lee and Wong, 2004). Bird (1988) viewed entrepreneurial intentions as the inaugural step in the above-mentioned process, marking the formation of the concept. In the past three decades, entrepreneurial intentions have been developed and become the focus of attention of many other scholars.

The definition of entrepreneurial intentions is strengthened by the premise that intention is ultimately the best predictor of behaviour through the theory of planned behaviour (Ajzen, 1991, 2002), in which the concept refers to an individual's attitude towards the behaviour, perceived social norms and perceived behavioural control (Piperopoulos and Dimov, 2015). Shane and Venkataraman (2000) provided further details about the two objectives of entrepreneurial intentions, namely, the development of a new organisation and the addition of value in existing organisations. To achieve these two objectives, entrepreneurial intentions play a role as a "cognitive representation of the actions" performed by individuals (Fini *et al.*, 2009, p. 5). This is supported by Moriano *et al.* (2012) and Do and Dadvari (2017), who described the concept as the conscious state of mind illustrating one's personal experience, perception and interest regarding planned entrepreneurial behaviours. In fact, there remains a gap between entrepreneurial intentions and reality, given that the former always leads to a start-up activity and the measured variance of action towards a start-up activity is lower than 30% (Armitage and Conner, 2001; Van Gelderen *et al.*, 2015). However, the vast majority of the literature still views entrepreneurial intentions as the most accurate antecedent of entrepreneurship (Cera *et al.*, 2020).

Entrepreneurial intentions can be classified into three types (Lans *et al.*, 2010). First, from the classical perspective, entrepreneurial intentions are defined as the intent to develop a new organisation, the determination to own a business and an individual's affirmed conviction for new venture creation and a clear plan to execute this action at a specific time in the future (Thompson, 2009). The second type is alternative entrepreneurial intentions, which refers to the continuation of operation of an inherited or acquired firm (Lans *et al.*, 2010). It is suggested that those who found a business are remarkably different from those who are promoted or recruited, while entrepreneurs who either inherit or buy an organisation are in between, implying a diversity of people in terms of primary drives and attitudes (Cooper and Dunkelberg, 1986). The third type of entrepreneurial intentions is defined as intrapreneurial intention by Lans *et al.* (2010), indicating the intention to become an intrapreneur or corporate entrepreneur. According to Fitzsimmons and Douglas (2011), entrepreneurial behaviour is likely to happen within the context of a corporate career. Corporate entrepreneurship, in turn, entails individuals to follow and drive the firm towards entrepreneurial behaviours. As such, each type of intention outlined above will be linked to different learning objectives and professional needs among entrepreneurs.

2.2 Entrepreneurship education

There is a wide variety of studies in the extant literature that identify factors that influence the creation of entrepreneurial intentions. Bird (1988) argued that there are two types of determinants: individual factors and contextual factors. The former consists of demographic factors, personal characteristics, psychological features, personal skills and prior knowledge and personal network and social ties, while the latter includes environmental support, environmental effects and organisational factors (Fini *et al.*, 2009). These introductory ideas have been expanded, and scholars continue to acknowledge more specifically influential

factors, namely, traits and personalities (Ciavarella *et al.*, 2004), gender (Marlow and McAdam, 2012), prior experience of entrepreneurship (Krueger, 1993) and attitudes towards self-employment (Movahedi *et al.*, 2013). Among such factors, in the context of an academic environment, entrepreneurship education is gaining increasing attention from scholars (Nowiński *et al.*, 2019; Zhang *et al.*, 2014). Entrepreneurs were once regarded as those with certain genes inherited from their previous generations; however, scholars nowadays acknowledge that with education and training, anyone can become an entrepreneur (Entrialgo and Iglesias, 2016; Nowiński *et al.*, 2019; Walter and Block, 2016). While education in general implies the impartation and inheritance of intellectual knowledge and skills, entrepreneurship education refers more specifically to the use of lectures and the curriculum, among others, to provide learners with knowledge, skills and even passion in entrepreneurship (Meyer and Allen, 1991). Learners with solid entrepreneurial intentions will leverage any opportunity to obtain the necessary knowledge and skills. Consequently, their entrepreneurship actions will include the intention to undertake available entrepreneurship education (Liñán and Chen, 2009). Adam and Fayolle (2015) described entrepreneurial education as educational programmes linked to techniques, understanding and ethics needed for students to become entrepreneurs. In the context of this paper, the authors follow the comprehensive definition of Alberti *et al.* (2004), which is that entrepreneurship education is the dissemination of the knowledge, skills and attitudes towards entrepreneurial competence that learners need to turn entrepreneurial ideas into start-up intentions and entrepreneurial behaviours.

Entrepreneurship education can be classified into three categories: education about entrepreneurship, education for entrepreneurship and education in entrepreneurship (Piperopoulos and Dimov, 2015). Education about entrepreneurship concentrates on the theoretical approach of building and operating an enterprise, which is linked to the traditional teaching methodology that prioritises theory as a means of education to help students understand the results of practice and actions (Nowiński *et al.*, 2019). Education for entrepreneurship focuses on the practical approach to establish and run a business (Watson and McGowan, 2019). This is associated with the activity-based teaching methodology, in which practice and actions are used to provide information, motivation and passion in aspiring entrepreneurs' behaviours, opportunity recognition and risk management in entrepreneurial surroundings (Harmeling and Sarasvathy, 2013). Education in entrepreneurship is associated with training for experienced entrepreneurs in certain areas, e.g. marketing strategy and product management, with a view to promoting business growth. This category is not limited to the start-up context but is open to learners who expect to have access to an enterprise approach regardless of the employment (Ismail *et al.*, 2018; Nowiński *et al.*, 2019). According to Hien and Cho (2018), Vietnam's entrepreneurship education consists of (1) curricular entrepreneurship programmes, (2) extracurricular entrepreneurship programmes and (3) social education in promoting entrepreneurship intentions.

While the concept of entrepreneurship education has developed, the details of training courses designed for students vary. This, in turn, increases the difficulty in determining the impact of entrepreneurship-related programmes on students as well as whether they share a common goal (Matlay, 2005; Nowiński *et al.*, 2019). In addition, there is variance in the teaching methods of entrepreneurship education, leading to learners and teachers being in conflict with each other (Neck and Greene, 2011). This remains a weak link of the concept, suggesting the need for more applicable studies to clarify its indistinct and ambiguous feature (Nowiński *et al.*, 2019).

Several studies have been conducted to evaluate the value and impact of entrepreneurship education programmes on entrepreneurial intentions (Stadler and Smith, 2017) at the primary school level, secondary school level (Huber *et al.*, 2014; Sánchez, 2013) and, especially,

university level (Nowiński *et al.*, 2019; Walter and Block, 2016; Zhang *et al.*, 2014), which play an important role in one's career choice. According to Donckels (1991) and Cho (1998), education is instrumental in boosting entrepreneurial intentions because of the relevant knowledge and techniques of entrepreneurship that foster one's motivation for new venture creation. In support of this view, Gorman *et al.* (1997) and Kuratko (2005) concluded that entrepreneurship can be taught and learnt via education, resulting in successful start-up attempts afterwards or better organisational performance (Zhang *et al.*, 2014). To be more specific, students who undertake entrepreneurship education display stronger entrepreneurial intentions (Wu and Wu, 2008). Other studies suggested a similar positive correlation among entrepreneurial education, entrepreneurial intentions and entrepreneurial activities (Nowiński *et al.*, 2019; Piperopoulos and Dimov, 2015; Wu and Wu, 2008). However, the link between entrepreneurship education and entrepreneurial intentions is generally under-researched in Asia in general and Vietnam in particular. Therefore, the authors formulated the first hypothesis on the direct impact of entrepreneurship education on entrepreneurial intentions, which is as follows:

- H1. Entrepreneurship education is positively related to Vietnamese university students' entrepreneurial intentions.

2.3 Self-efficacy

While numerous studies have shown a positive association between entrepreneurship education and entrepreneurial intentions (Nowiński *et al.*, 2019; Piperopoulos and Dimov, 2015; Wu and Wu, 2008), other studies have shown a contradictory result or indicate that the relationship is insignificant (Díaz-Casero *et al.*, 2012; Oosterbeek *et al.*, 2010). The reason for this is that entrepreneurship education may interact with other variables in the development of entrepreneurial intentions (Entrialgo and Iglesias, 2016).

In their social learning theory, Bandura and Walters (1977) defined a link between career choice and self-perceptions of individual skills in task accomplishments that they referred to as self-efficacy. To be more specific, self-efficacy, as an inspirational source, pertains to one's conscious trust and belief in one's ability to achieve, which impacts one's cognitive degree (Kuo *et al.*, 2004), i.e. the concept is associated with self-assessment, which influences efforts and fortitude against challenges and towards decisions linked to actions to be executed. Consequently, a remarkable feature of self-efficacy is its preference for actions (Naktiyok *et al.*, 2010). Individuals achieve better performance on work in which they have a higher level of self-efficacy; conversely, they have a tendency to neglect work in which they have low self-efficacy due to failure anxiety (Piperopoulos and Dimov, 2015). Over time, this concept has become increasingly prominent, particularly in entrepreneurship-related studies (Chen *et al.*, 1998; Markman and Baron, 2003), in which self-efficacy is viewed as a prerequisite (Krueger and Brazeal, 1994). More importantly, in two of the major theories of entrepreneurial intentions, the theory of planned behaviour developed by Ajzen (1991) and the entrepreneurial event model developed by Krueger *et al.* (2000), self-efficacy is instrumental in the formation of entrepreneurial intentions (Nowiński *et al.*, 2019). Self-efficacy refers to a series of conscious thought processes on which entrepreneurs rely to identify their capacities and apply to obtain more favourable outcomes (Wang *et al.*, 2016). Such entrepreneurs are better prepared and more committed (Pinquart *et al.*, 2003). Furthermore, self-efficacy can help entrepreneurs to recognise new opportunities and act proactively accordingly because of their determination to address problems, passion in dealing with threats (Forbes, 2005), management capability and risk-taking attitude (Vesalainen and Pihkala, 1999; Wang *et al.*, 2016). Scholars have proved that there is a positive link between self-efficacy and entrepreneurial intentions in certain countries, such as the

USA, South Korea (Jung *et al.*, 2001), Poland (Kurczewska and Bialek, 2014) and Visegrad countries (Nowiński *et al.*, 2019), and across different academic domains (Lans *et al.*, 2010).

Likewise, in the social cognitive theory (Bandura and Walters, 1977), self-efficacy stems from four information sources: (1) mastery personal experiences (via performance achievement), (2) vicarious experiences (observation of experiences of others), (3) verbal persuasion and (4) physiological and emotional states. All four sources, or at least some of them, can, in turn, result from entrepreneurship education (Malebana and Swanepoel, 2014; Nowiński *et al.*, 2019; Zhao *et al.*, 2005). Specifically, throughout entrepreneurship courses and programmes, aspiring entrepreneurs are able to participate in hands-on projects, which will boost their self-efficacy through tangible outcomes and performance accomplishments, and even their own failures (Bandura, 2009; Krueger *et al.*, 2000). Regarding vicarious experiences, learners are able to discuss successful case studies of well-established entrepreneurs in the market and thus boost their confidence to establish a start-up venture (Malebana and Swanepoel, 2014). Through the learning curriculum and group interactions, students can be convinced that a career in entrepreneurship is attainable and within their capacity (Lavolette *et al.*, 2012). Finally, entrepreneurship educators can assist learners by providing physiological and emotional support, from which students can address their emotions and develop emotional states in a positive way (Krueger and Brazeal, 1994).

As the relationship between entrepreneurial education and self-efficacy and the relationship between self-efficacy and entrepreneurial intentions have been investigated in numerous studies, in this paper, we concentrate on the intervening effect of self-efficacy on the two other variables. The mediating role of self-efficacy in the relationship between entrepreneurship education and entrepreneurial intentions has been explored in several studies (Zhao *et al.*, 2005). According to Krueger and Brazeal (1994), entrepreneurship education improves learners' knowledge, boosts their confidence level and solidifies their self-efficacy. Accordingly, this increases their self-perception of the possibility of undertaking entrepreneurship attempts and strengthens their intention. Furthermore, Zhao *et al.* (2005) argued that self-efficacy lays a theoretical foundation for the link between education and entrepreneurial intentions. Based on the theoretical and empirical evidence, we propose the following hypothesis:

- H2. Self-efficacy positively mediates the relationship between entrepreneurship education and entrepreneurial intentions of Vietnamese university students.

2.4 Learning orientation

In addition to self-efficacy, it is necessary to take into account the role of learning orientation in relation to entrepreneurship education and the development of entrepreneurial intentions, especially from a practical perspective, as it is possible that general learning orientation will change over time depending on situational conditions and contexts (Ames and Archer, 1988; Dragoni *et al.*, 2009). Individuals may lean towards learning if they are faced with challenging obstacles or motivated to review their existing set of knowledge. Consequently, learning orientation pertains to individual characteristics despite its display of trait qualities (Van Hooft and Noordzij, 2009). For that reason, the concept can attract entrepreneurship educators, as it offers an opportunity to mediate and assist in the career choice, especially for the young (De Clercq *et al.*, 2013; Franke and Lüthje, 2004).

By definition, individual learning refers to a dialectical process consisting of the acquisition of new knowledge and the integration of such knowledge into one's current sets of understanding (Baum *et al.*, 2011), i.e. learning is the procedure of transforming new experiences into a mix of existing and new knowledge (De Clercq *et al.*, 2013; Joy and Kolb, 2009). This capacity to transform knowledge is linked to one's learning orientation or, in other words, the inclination to obtain new knowledge relentlessly (Dweck and Leggett, 1988).

Individuals with stronger learning orientation are more likely to participate in active experimentation, where they obtain new knowledge via exposure to real-life circumstances (Baum *et al.*, 2011). Consequently, learning orientation will boost individual ability in terms of problem-solving and risk management, as the continuous updates of new knowledge will bring about innovative solutions (De Clercq *et al.*, 2013). Therefore, these people will be better prepared to take advantage of the current knowledge, supported by new insights and diagnostic information (Dweck and Leggett, 1988).

Given that a career in entrepreneurship involves a high degree of uncertainty (Schoonhoven and Romanelli, 2009), learning orientation will activate the conversion of entrepreneurship ideas into an intention and the pursuit of a career as an entrepreneur (De Clercq *et al.*, 2013). Likewise, one of the most challenging obstacles in relation to a career in entrepreneurship is the possibility of its failure that requires entrepreneurs to minimise (Honig, 2004). A high level of learning orientation will enable entrepreneurs to leverage their relevant past and current experiences to be able to deal with difficulties better than those with a lower level of learning orientation (Türk *et al.*, 2020). Moreover, Dweck and Leggett (1988) highlighted that learning orientation makes people feel more open to both opportunities and difficulties to enhance their competencies, allowing them to master their tasks more effortlessly. Given those implications in the entrepreneurship setting, it is observed that learning orientation can play an important part in predicting entrepreneurial intentions. Furthermore, entrepreneurship education can equip learners with knowledge, skills and attitudes that can contribute to the pool of entrepreneurs, which they can use in their future entrepreneurial behaviours and entrepreneurship career. Such new knowledge and skills obtained from the learning curriculum and courses, together with the existing knowledge of learners, can increase the influence of learning orientation. Therefore, learning orientation can act as a mediator in the relationship between entrepreneurial intentions and entrepreneurship education.

Despite the role played by learning orientation, few scholars have studied the concept in more detail, especially in the context of entrepreneurship. The studies conducted by Zhao *et al.* (2005) took learning orientation into consideration when investigating people's willingness to broaden their new experiences, while Baum *et al.* (2011) discussed the impact of learning orientation on the practical intelligence of entrepreneurs. Having reviewed the extant literature, the authors believe that learning orientation can play an important role in mediating the relationship between entrepreneurship education and entrepreneurial intentions. We therefore hypothesise that:

H3. Learning orientation positively mediates the relationship between entrepreneurship education and entrepreneurial intentions of Vietnamese students.

Figure 1 summarises the conceptual model of our study. While previous research mostly focused on the mediating role of self-efficacy, our model extends previous models by considering the intervening roles of both self-efficacy and learning orientation in the relationship between entrepreneurship education and entrepreneurial intentions. In the next section, we discuss the methods that have been used in this study.

3. Methods

3.1 Sample and data collection

Following the research design of previous studies that investigated entrepreneurship education and entrepreneurial intentions (Nowiński *et al.*, 2019; Wu and Wu, 2008), our hypotheses were tested with quantitative data collected from a sample of university students. According to De Clercq *et al.* (2013), university students are most suitable for entrepreneurial intention research as they are homogeneous regarding prior experience and have less actual

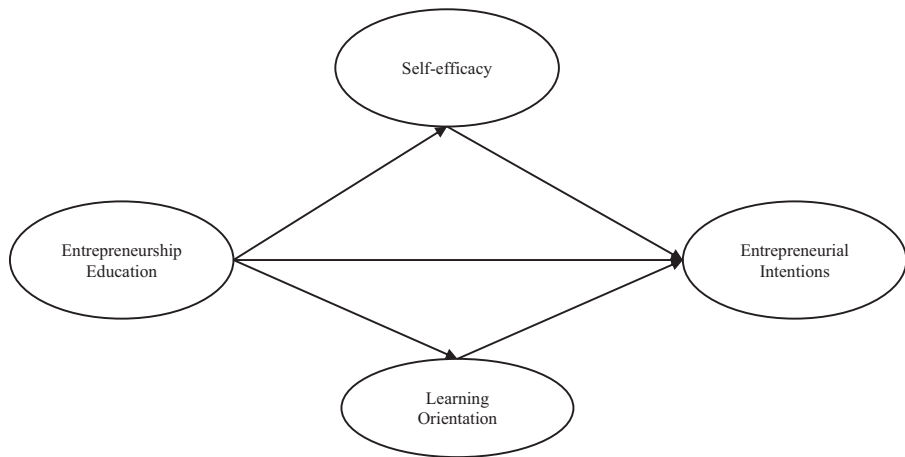


Figure 1.
Conceptual model

entrepreneurial experience than other adult samples. In addition, university students' desired career is usually uppermost in their mind.

Data were collected during the first quarter of 2020 through an online self-administered survey to assess students' entrepreneurship education, characteristics and career aspirations. We recruited students who are currently enrolled in different academic courses (i.e. business, economics, accounting, construction engineering and information technology) at three major Vietnamese universities. First, we approached the lecturers who are teaching undergraduate courses at these universities to seek their assistance in recruiting students and distributing the questionnaires. With the students' and lecturers' permission, an email containing the informed consent form and a survey link were sent to 1,620 students via their university email system. All respondents were informed that their participation was entirely voluntary, and that an interest in entrepreneurship was not compulsory to participate in this research. Furthermore, we emphasised that there was no right or wrong answer, and all the information provided by our respondents would be kept confidential and anonymous (Podsakoff *et al.*, 2003; Spector, 2006). By the due date, 1,042 questionnaires have been completed, giving a response rate of 64.32%. However, 21 questionnaires were excluded due to incompleteness, resulting in 1,021 useable questionnaires in the final sample (63.02%).

3.2 Measures

To measure the main concepts of interest, we adapted existing scales because they were found to be valid and reliable in previous studies. A five-point Likert scale was used in all items of the questionnaire, ranging from "1 = strongly disagree" to "5 = strongly agree".

To assess entrepreneurial intentions, the six-item scale created by Liñán and Chen (2009) was adopted. These items include "I am ready to do anything to be an entrepreneur" and "My professional goal is to become an entrepreneur" ($\alpha = 0.92$).

We adopted the four-item scale developed by Walter and Block (2016) ($\alpha = 0.81$) to assess entrepreneurial education. Sample items are "My school education helped me to gain a better understanding of the role of entrepreneurs in society" and "My school education made me interested in becoming an entrepreneur".

The measure for self-efficacy was adopted from Wang *et al.* (2016) study ($\alpha = 0.91$). These items include, "I can achieve most goals that I set for myself" and "When working on difficult tasks, I am certain that I will complete them".

To measure learning orientation, we used a six-item scale created by VandeWalle (1997) ($\alpha = 0.89$). Sample items are “I often look for opportunities to develop new skills and knowledge” and “I often read materials (articles, Internet, books) to improve my abilities”.

Following previous research (Nowiński *et al.*, 2019; Urban and Galawe, 2019), several key variables deemed to be related to entrepreneurial behaviour were controlled, including gender, study major, parent entrepreneurial background and year of study. By including these variables, we controlled for the potential impacts of students’ demographic differences, which may influence their entrepreneurial intentions (Piperopoulos and Dimov, 2015).

3.3 Analytic approach

SPSS and AMOS 25 were employed to test the hypotheses at the individual level. First, we verified the fit of the scales and identified the relation between observed variables and the latent factors by applying confirmatory factor analysis (CFA). To evaluate the model fitness, we employed a number of fit indices, including the comparative fit index (CFI), goodness-of-fit index (GFI), Tucker–Lewis index (TLI) and root mean square error of approximation (RMSEA). According to Hair *et al.* (2010), a CFI value above 0.90, a GFI value above 0.90, a TLI value above 0.90 and an RMSEA value below 0.05 indicate a good degree of fit. We then conducted a hierarchical regression analysis to test the hypotheses by adding the control variables and the main variables in different steps. To test the mediation effects of self-efficacy and learning orientation, we followed the method of mediation analysis suggested by Baron and Kenny (1986) that is widely used in behavioural research.

4. Results

4.1 Common method bias

Common method bias is a common problem in a behavioural study when the same respondents assess both predictor and criterion variables (Podsakoff *et al.*, 2003). To address the common method bias issue, we conducted Harman’s one-factor test (Mittal and Dhar, 2015). According to Podsakoff and Organ (1986), Harman’s one-factor analysis is a useful method to identify possible common method bias. Following the suggestion of Mittal and Dhar (2015), we entered all variables as one principal component factor in factor analysis. It is recommended that the outcome of un-rotated factor analysis has to be lower than 50% (Podsakoff *et al.*, 2003). The result of our Harman’s one-factor analysis was 33.89%. Therefore, common method bias is not a problem in this study.

4.2 Confirmatory factor analysis

Table 1 shows the descriptive statistics and correlations between the main factors and control variables. A reliability test was conducted to evaluate the internal consistency of the scales used in this study. The results show that the Cronbach’s alpha of all four factors is greater than 0.7, which is satisfactory (Table 1) (Nunnally, 1978).

The results of the analysis of the measurement model using CFA revealed a good model fit ($\chi^2/df = 4.277$, $p < 0.001$, CFI = 0.933, GFI = 0.915, TLI = 0.925 and RMSEA = 0.05). In addition, we tested four alternative models against this measurement model to evaluate the distinction of the constructs. These alternative models were formulated based on the theoretical similarities of the constructs (Hoang *et al.*, 2019). In the first three-factor model, self-efficacy and learning orientation were combined into one factor. In the second three-factor model, entrepreneurship education and self-efficacy were combined into one factor. In the third three-factor model, entrepreneurship education and learning orientation were combined into one factor. In the two-factor model, entrepreneurship education was combined with self-efficacy and learning orientation to form a single factor. In the one-factor model, all

Table 1.
Descriptive statistics
and correlations

	Mean	Standard deviation	Gender	Year of study	Major	Parent entrepreneurial background	Entrepreneurial intentions	Entrepreneurship education	Self-efficacy	Learning orientation
Gender	1.27	0.457	1							
Year of study	2.12	0.939	-0.008	1						
Major	1.21	0.484	0.403**	0.053	1					
Parent entrepreneurial background	0.20	0.398	0.074*	0.000	0.015	1				
Entrepreneurial intentions	3.2086	0.90466	0.220**	0.029	0.125**	0.129**	(0.92)			
Entrepreneurship education	3.6104	0.73288	0.015	0.001	0.039	0.025	0.411**	(0.79)		
Self-efficacy	3.5493	0.55764	0.046	0.081**	0.051	0.091**	0.392**	0.358**	(0.85)	
Learning orientation	3.7999	0.61623	0.104**	0.096**	0.025	0.104**	0.384**	0.316**	0.614**	(0.85)

Note(s): $N = 1,021$. Reliability coefficients for the scales are shown in parentheses along the diagonal. * $p < 0.05$; ** $p < 0.01$ (two-tailed)

variables were combined into one factor. Table 2 shows that the hypothesised model fitted the data better than other simplified models. Therefore, it was concluded that the constructs of entrepreneurship education, self-efficacy, learning orientation and entrepreneurial intentions were distinct. The CFA results are presented in Table 2.

4.3 Hypothesis testing

A hierarchical regression analysis was conducted to test the hypotheses by adding the main variables and control variables in the regression model step by step. The results of the hierarchal regression analysis are shown in Table 3.

H1 proposed that entrepreneurship education is positively associated with entrepreneurial intentions. As shown in Table 3, entrepreneurship education has a positive effect on entrepreneurial intentions ($\beta = 0.40, p < 0.01$, Model 6). Therefore, H1 is confirmed.

To test H2 and H3, we employed the method of mediation analysis suggested by Baron and Kenny (1986). According to this method, a mediation effect is established if these three conditions are satisfied: “[f]irst, the independent variable must affect the mediator in the first equation; second, the independent variable must be shown to affect the dependent variable in the second equation; and third, the mediator must affect the dependent variable in the third equation” (Baron and Kenny, 1986, p. 1,177).

In terms of H2, as shown in Table 3, entrepreneurship education has a significant positive effect on self-efficacy ($\beta = 0.35, p < 0.01$, Model 2). Therefore, Baron and Kenny’s Condition 1 was satisfied. In addition, the result of Model 7 provides support for Condition 2 because self-efficacy is positively associated with entrepreneurial intentions ($\beta = 0.26, p < 0.01$, Model 7). Condition 3 was also met because, as shown in Model 7, the relationship between entrepreneurship education and entrepreneurial intentions became significant when self-efficacy was added to the model ($\beta = 0.31, p < 0.01$). Therefore, H2 is confirmed.

In terms of H3, Table 3 shows that entrepreneurship education has a positive effect on learning orientation ($\beta = 0.31, p < 0.01$, Model 4). Therefore, Baron and Kenny’s Condition 1 was satisfied. The result of Model 8 provides support for Condition 2 as learning orientation has a positive effect on entrepreneurial intentions ($\beta = 0.16, p < 0.01$, Model 8). Moreover, Condition 3 was satisfied by the result shown in Model 8, where the association between entrepreneurship education and entrepreneurial intentions became significant when learning orientation was added to the model ($\beta = 0.29, p < 0.01$). Therefore, H3 is confirmed.

CFA models	χ^2/df	CFI	GFI	TLI	RMSEA
Four-factor model: baseline model	4.277	0.933	0.915	0.925	0.050
<i>Three-factor model</i>					
Combine self-efficacy and learning orientation	6.774	0.881	0.852	0.867	0.075
Combine entrepreneurship education and self-efficacy	7.778	0.860	0.839	0.844	0.082
Combine entrepreneurship education and learning orientation	8.255	0.850	0.829	0.833	0.084
<i>Two-factor model</i>					
Combine entrepreneurship education, self-efficacy and learning orientation	11.495	0.780	0.777	0.759	0.101
<i>One-factor model</i>					
Combine all variables	21.399	0.572	0.546	0.531	0.141

Table 2.
CFA results

Table 3.
Hierarchical multiple
regression results

Dependent variable	Self-efficacy		Learning orientation		Entrepreneurial intentions			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
<i>Control variables</i>								
Gender	0.03	0.03	0.11**	0.11**	0.19**	0.20**	0.19**	0.17**
Year of study	0.08*	0.08**	0.10**	0.10**	0.03	0.03	0.01	0.00
Major	0.04	0.02	-0.02	-0.04	0.04	0.03	0.02	0.03
Parental entrepreneurial background	0.09**	0.08**	0.10**	0.09**	0.11**	0.10**	0.08**	0.08**
<i>Independent variable</i>								
Entrepreneurship education		0.35**		0.31**		0.40**		0.29**
<i>Mediators</i>								
Self-efficacy							0.26**	0.17**
Learning orientation								0.16**
F-value	4.493**	33.835**	7.864**	29.886**	17.241**	59.570**	67.720**	62.310**
R ²	0.017	0.143	0.030	0.128	0.064	0.227	0.286	0.301
Adjusted R ²	0.014	0.014	0.026	0.124	0.060	0.223	0.282	0.296
ΔR ²	0.017	0.125	0.030	0.098	0.064	0.163	0.059	0.015
Note(s): *p-value < 0.05, **p-value < 0.01								

5. Discussion

The aim of this study was to examine the association between entrepreneurship education and entrepreneurial intentions and the mediating effects of self-efficacy and learning orientation on this relationship. The findings show that entrepreneurship education has a direct effect on Vietnamese university students' entrepreneurial intentions. In addition, self-efficacy and learning orientation play significant mediating roles in the association between entrepreneurship education and entrepreneurial intentions. While self-efficacy has been identified as an antecedent of entrepreneurial intentions in a number of studies (Nowiński *et al.*, 2019; Piperopoulos and Dimov, 2015; Zhao *et al.*, 2005), the literature on learning orientation is limited. To the best of our knowledge, the present study is the first to find a positive mediating effect of learning orientation on the association between entrepreneurship education and entrepreneurial intentions in a Vietnamese context. In the following sections, the theoretical and practical contributions of this study will be discussed.

5.1 Theoretical contributions

This study confirms the importance of entrepreneurship education in encouraging university students' entrepreneurial intentions. Our findings are consistent with the observation of Donckels (1991) and Cho (1998), who emphasised that education can be used as an instrument for motivating entrepreneurial intentions by providing relevant knowledge and techniques of entrepreneurship that encourage one's motivation for new venture creation. In support of the theoretical views of Gorman *et al.* (1997) and Kuratko (2005), the findings of our study confirm that entrepreneurship education can result in students' entrepreneurial intentions, which may lead to successful start-up attempts after graduation (Peterman and Kennedy, 2003; Zhang *et al.*, 2014).

Our research makes a strong point by investigating the mediation effects of self-efficacy and learning orientation on the association between entrepreneurship education and entrepreneurial intentions in a Vietnamese context. The study contributes to expanding two of the major theories of entrepreneurial intentions, the theory of planned behaviour developed by Ajzen (1991) and the entrepreneurial event model developed by Krueger *et al.* (2000). In line with these theories, our empirical findings confirm that self-efficacy is an important factor in the formation of entrepreneurial intentions, particularly in the context of an Asia-Pacific country. Our study indicates that entrepreneurship-oriented courses might exert fundamental effects on entrepreneurship by encouraging students to choose an entrepreneurial career and stimulating students' intrinsic motivation.

Finally, this study is the first to investigate the role of learning orientation in mediating the association between entrepreneurship education and entrepreneurial intentions. In their study, Dweck and Leggett (1988) found that a higher degree of learning orientation is likely to result in one's positive attitude towards opportunities and difficulties to enhance one's competencies. Given those implications in an entrepreneurship setting, our findings confirm that learning orientation can play an important part in stimulating entrepreneurial intentions. This is in line with the findings of Zhao *et al.* (2005), who identified a link between learning orientation and willingness to broaden new experiences. Moreover, our study supports the findings of Baum *et al.* (2011) regarding the impact of learning orientation on the practical intelligence of entrepreneurs. We, therefore, suggest that it would be valuable to explore the effect of learning orientation on the relationship between entrepreneurship education and entrepreneurial intentions in a wider context.

5.2 Practical contributions

Our study offers practical implications for universities and policy makers. We suggest that the Vietnamese government could support universities by creating an institutional

framework to facilitate university students' access to entrepreneurship education (Nghia *et al.*, 2019; Tung *et al.*, 2020). Although a government report showed that the majority of Vietnamese students have access to higher education, previous research found that a lack of institutional solutions might limit entrepreneurship education to several fields of study (Nguyen *et al.*, 2019). Furthermore, we recommend that including entrepreneurship education at the higher education level would progressively increase the graduates' intention to choose an entrepreneurial career. It is also worth noting that universities should consider including entrepreneurship in their curriculum design and teaching method as instruments to enhance students' learning orientation and entrepreneurial self-efficacy. We suggest that universities not only focus on the theoretical approach of building and operating an enterprise, but also apply the activity-based teaching methodology to stimulate the entrepreneurial behaviours and opportunity recognition of the students (Phan *et al.*, 2019). In addition, universities can go beyond entrepreneurship education by offering support to their students in starting a business either before or after graduation.

6. Conclusions

This study contributes to expanding our understanding of the influences of entrepreneurship education on the development of entrepreneurial intentions. Our findings show that entrepreneurship education in the Vietnamese context could directly affect entrepreneurial intentions. It also has indirect effects on entrepreneurial intentions via self-efficacy and learning orientation. Our findings highlight the importance of entrepreneurship education and suggest that the government of Vietnam and the universities should facilitate university students' access to entrepreneurship education.

We acknowledge that this study may have some limitations, however. First, it does not control for study levels, curriculum design and teaching methods. Furthermore, it only concentrates on three predictors of entrepreneurial intentions, of which only entrepreneurship education can be managed by public policy. We suggest that future studies should investigate other predictors of entrepreneurial intentions, e.g. student competencies, personality and passion, in motivating graduate entrepreneurship. To align entrepreneurship education with the specific needs of university students in different countries, future studies could examine the mediating effect of learning orientation on the relationship between entrepreneurship education and entrepreneurial intentions in various contexts. In the fast-changing world, this study only reports the findings from a cross-sectional approach. We suggest that other scholars could conduct a longitudinal study to test the proposed theoretical model.

References

- Adam, A.F. and Fayolle, A. (2015), "Bridging the entrepreneurial intention-behaviour gap: the role of commitment and implementation intention", *International Journal of Entrepreneurship and Small Business*, Vol. 25 No. 1, pp. 36-54.
- Ajzen, I. (1991), "The theory of planned behavior", *Organizational Behavior and Human Decision Processes*, Vol. 50 No. 2, pp. 179-211.
- Ajzen (2002), "Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior I", *Journal of Applied Social Psychology*, Vol. 32 No. 4, pp. 665-683.
- Alberti, F., Sciascia, S. and Poli, A. (2004), "Entrepreneurship education: notes on an ongoing debate", *Proceedings of the 14th Annual Int Ent Conference*, University of Napoli Federico II, Italy.
- Ames, C. and Archer, J. (1988), "Achievement goals in the classroom: students' learning strategies and motivation processes", *Journal of Educational Psychology*, Vol. 80 No. 3, p. 260.

- Armitage, C.J. and Conner, M. (2001), "Efficacy of the theory of planned behaviour: a meta-analytic review", *British Journal of Social Psychology*, Vol. 40 No. 4, pp. 471-499.
- Bandura, A. (2009), "Social cognitive theory goes global", *The Psychologist*, Vol. 22 No. 6, pp. 504-506.
- Bandura, A. and Walters, R.H. (1977), *Social Learning Theory*, Prentice-hall, Englewood Cliffs, NJ, Vol. 1.
- Baron, R.M. and Kenny, D.A. (1986), "The moderator–mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations", *Journal of Personality and Social Psychology*, Vol. 51 No. 6, p. 1173.
- Baum, J.R., Bird, B.J. and Singh, S. (2011), "The practical intelligence of entrepreneurs: antecedents and a link with new venture growth", *Personnel Psychology*, Vol. 64 No. 2, pp. 397-425.
- Bird, B. (1988), "Implementing entrepreneurial ideas: the case for intention", *Academy of Management Review*, Vol. 13 No. 3, pp. 442-453.
- Bruyat, C. and Julien, P.A. (2001), "Defining the field of research in entrepreneurship", *Journal of Business Venturing*, Vol. 16 No. 2, pp. 165-180.
- Cera, G., Mlouk, A., Cera, E. and Shumeli, A. (2020), "The impact of entrepreneurship education on entrepreneurial intention. A quasi-experimental research design", *Journal of Competitiveness*, Vol. 12 No. 1, pp. 39-56.
- Chen, C.C., Greene, P.G. and Crick, A. (1998), "Does entrepreneurial self-efficacy distinguish entrepreneurs from managers?", *Journal of Business Venturing*, Vol. 13 No. 4, pp. 295-316.
- Cho, B. (1998), "Study of the effective entrepreneurship education method and its process", *Business Education Research*, Vol. 2 No. 1, pp. 27-47.
- Ciavarella, M.A., Buchholtz, A.K., Riordan, C.M., Gatewood, R.D. and Stokes, G.S. (2004), "The Big Five and venture survival: is there a linkage?", *Journal of Business Venturing*, Vol. 19 No. 4, pp. 465-483.
- Cooper, A.C. and Dunkelberg, W.C. (1986), "Entrepreneurship and paths to business ownership", *Strategic Management Journal*, Vol. 7 No. 1, pp. 53-68.
- Cornell University, INSEAD and WIPO (2019), *The Global Innovation Index 2019: Creating Healthy Lives–The Future of Medical Innovation*, Fontainebleau, and Geneva, Ithaca.
- De Clercq, D., Honig, B. and Martin, B. (2013), "The roles of learning orientation and passion for work in the formation of entrepreneurial intention", *International Small Business Journal*, Vol. 31 No. 6, pp. 652-676.
- Díaz-Casero, J.C., Ferreira, J.J.M., Mogollón, R.H. and Raposo, M.L.B. (2012), "Influence of institutional environment on entrepreneurial intention: a comparative study of two countries university students", *The International Entrepreneurship and Management Journal*, Vol. 8 No. 1, pp. 55-74.
- Do, B.R. and Dadvari, A. (2017), "The influence of the dark triad on the relationship between entrepreneurial attitude orientation and entrepreneurial intention: a study among students in Taiwan University", *Asia Pacific Management Review*, Vol. 22 No. 4, pp. 185-191.
- Donckels, R. (1991), "Education and entrepreneurship experiences from secondary and university education in Belgium", *Journal of Small Business and Entrepreneurship*, Vol. 9 No. 1, pp. 35-42.
- Dragoni, L., Tesluk, P.E., Russell, J.E. and Oh, I.-S. (2009), "Understanding managerial development: integrating developmental assignments, learning orientation, and access to developmental opportunities in predicting managerial competencies", *Academy of Management Journal*, Vol. 52 No. 4, pp. 731-743.
- Dweck, C.S. and Leggett, E.L. (1988), "A social-cognitive approach to motivation and personality", *Psychological Review*, Vol. 95 No. 2, p. 256.
- Entrialgo, M. and Iglesias, V. (2016), "The moderating role of entrepreneurship education on the antecedents of entrepreneurial intention", *The International Entrepreneurship and Management Journal*, Vol. 12 No. 4, pp. 1209-1232.

- Fini, R., Grimaldi, R. and Sobrero, M. (2009), "Factors fostering academics to start up new ventures: an assessment of Italian founders' incentives", *The Journal of Technology Transfer*, Vol. 34 No. 4, pp. 380-402.
- Fitzsimmons, J.R. and Douglas, E.J. (2011), "Interaction between feasibility and desirability in the formation of entrepreneurial intentions", *Journal of Business Venturing*, Vol. 26 No. 4, pp. 431-440.
- Forbes, D.P. (2005), "Are some entrepreneurs more overconfident than others?", *Journal of Business Venturing*, Vol. 20 No. 5, pp. 623-640.
- Franke, N. and Lüthje, C. (2004), "Entrepreneurial intentions of business students—a benchmarking study", *International Journal of Innovation and Technology Management*, Vol. 1 No. 3, pp. 269-288.
- Gorman, G., Hanlon, D. and King, W. (1997), "Some research perspectives on entrepreneurship education, enterprise education and education for small business management: a ten-year literature review", *International Small Business Journal*, Vol. 15 No. 3, pp. 56-77.
- Hair, J., Anderson, R., Babin, B. and Black, W. (2010), *Multivariate Data Analysis: A Global Perspective*, Pearson Upper, Saddle River, NJ, Vol. 7.
- Harmeling, S.S. and Sarasvathy, S.D. (2013), "When contingency is a resource: educating entrepreneurs in the Balkans, the Bronx, and beyond", *Entrepreneurship: Theory and Practice*, Vol. 37 No. 4, pp. 713-744.
- Hien, D.T.T. and Cho, S.E. (2018), "Relationship between entrepreneurship education and innovative start-up intentions among university students", *International Journal of Entrepreneurship*, Vol. 22 No. 3, pp. 1-16.
- Hoang, G., Wilson-Evered, E. and Lockstone-Binney, L. (2019), "Leading innovation among tourism small and medium enterprises", *The Leadership and Organization Development Journal*, Vol. 40 No. 5, pp. 647-666.
- Honig, B. (2004), "Entrepreneurship education: toward a model of contingency-based business planning", *The Academy of Management Learning and Education*, Vol. 3 No. 3, pp. 258-273.
- Huber, L.R., Sloof, R. and Van Praag, M. (2014), "The effect of early entrepreneurship education: evidence from a field experiment", *European Economic Review*, Vol. 72, pp. 76-97.
- Ismail, A.B., Sawang, S. and Zolin, R. (2018), "Entrepreneurship education pedagogy: teacher-student-centred paradox", *Education + Training*, Vol. 60 No. 2, pp. 168-184.
- Joy, S. and Kolb, D.A. (2009), "Are there cultural differences in learning style?", *International Journal of Intercultural Relations*, Vol. 33 No. 1, pp. 69-85.
- Jung, D.I., Ehrlich, S.B., De Noble, A.F. and Baik, K.B. (2001), "Entrepreneurial self-efficacy and its relationship to entrepreneurial action: a comparative study between the US and Korea", *Management International*, Vol. 6 No. 1, p. 41.
- Krueger, N. (1993), "The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability", *Entrepreneurship: Theory and Practice*, Vol. 18 No. 1, pp. 5-21.
- Krueger, N.F. Jr and Brazeal, D.V. (1994), "Entrepreneurial potential and potential entrepreneurs", *Entrepreneurship: Theory and Practice*, Vol. 18 No. 3, pp. 91-104.
- Krueger, N.F. Jr, Reilly, M.D. and Carsrud, A.L. (2000), "Competing models of entrepreneurial intentions", *Journal of Business Venturing*, Vol. 15 Nos 5-6, pp. 411-432.
- Kuo, F.Y., Chu, T.H., Hsu, M.H. and Hsieh, H.S. (2004), "An investigation of effort-accuracy trade-off and the impact of self-efficacy on Web searching behaviors", *Decision Support Systems*, Vol. 37 No. 3, pp. 331-342.
- Kuratko, D.F. (2005), "The emergence of entrepreneurship education: development, trends, and challenges", *Entrepreneurship: Theory and Practice*, Vol. 29 No. 5, pp. 577-597.
- Kurczewska, A. and Bialek, J. (2014), "Is the interplay between self-efficacy and entrepreneurial intention gender-dependent?", *Argumenta Oeconomica*, Vol. 2 No. 33, pp. 23-38.

- Lans, T., Gulikers, J. and Batterink, M. (2010), "Moving beyond traditional measures of entrepreneurial intentions in a study among life-sciences students in The Netherlands", *Research in Post-Compulsory Education*, Vol. 15 No. 3, pp. 259-274.
- Laviolette, E.M., Lefebvre, M.R. and Brunel, O. (2012), "The impact of story bound entrepreneurial role models on self-efficacy and entrepreneurial intention", *International Journal of Entrepreneurial Behavior and Research*, Vol. 18 No. 6, pp. 720-742.
- Lee, S.H. and Wong, P.K. (2004), "An exploratory study of techno preneurial intentions: a career anchor perspective", *Journal of Business Venturing*, Vol. 19 No. 1, pp. 7-28.
- Liñán, F. and Chen, Y.W. (2009), "Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions", *Entrepreneurship: Theory and Practice*, Vol. 33 No. 3, pp. 593-617.
- Malebana, M. and Swanepoel, E. (2014), "The relationship between exposure to entrepreneurship education and entrepreneurial self-efficacy", *Southern African Business Review*, Vol. 18 No. 1, pp. 1-26.
- Markman, G.D. and Baron, R.A. (2003), "Person-entrepreneurship fit: why some people are more successful as entrepreneurs than others", *Human Resource Management Review*, Vol. 13 No. 2, pp. 281-301.
- Marlow, S. and McAdam, M. (2012), "Analyzing the influence of gender upon high-technology venturing within the context of business incubation", *Entrepreneurship: Theory and Practice*, Vol. 36 No. 4, pp. 655-676.
- Matlay, H. (2005), "Entrepreneurship education in UK business schools: conceptual, contextual and policy considerations", *Journal of Small Business and Enterprise Development*, Vol. 12 No. 4, pp. 627-643.
- Meyer, J.P. and Allen, N.J. (1991), "A three-component conceptualization of organizational commitment", *Human Resource Management Review*, Vol. 1 No. 1, pp. 61-89.
- Mittal, S. and Dhar, R.L. (2015), "Transformational leadership and employee creativity: mediating role of creative self-efficacy and moderating role of knowledge sharing", *Management Decision*, Vol. 53 No. 5, pp. 894-910.
- Moriano, J.A., Gorgievski, M., Laguna, M., Stephan, U. and Zarafshani, K. (2012), "A cross-cultural approach to understanding entrepreneurial intention", *Journal of Career Development*, Vol. 39 No. 2, pp. 162-185.
- Movahedi, R., Latifi, S. and Sayyar, L.Z. (2013), "The factors affecting agricultural students' attitude towards self-employment and entrepreneurship", *The International Journal of Agriculture and Crop Sciences*, Vol. 5 No. 16, pp. 1813-1819.
- Naktiyok, A., Karabey, C.N. and Gulluce, A.C. (2010), "Entrepreneurial self-efficacy and entrepreneurial intention: the Turkish case", *The International Entrepreneurship and Management Journal*, Vol. 6 No. 4, pp. 419-435.
- Neck, H.M. and Greene, P.G. (2011), "Entrepreneurship education: known worlds and new frontiers", *Journal of Small Business Management*, Vol. 49 No. 1, pp. 55-70.
- Nghia, T.L.H., Hoang, G. and Quyen, V.P. (2019), "At-home international education in Vietnamese universities: impact on graduates' employability and career prospects", *Higher Education*, Vol. 78 No. 5, pp. 817-834.
- Nguyen, Q.A., Sullivan Mort, G. and D'Souza, C. (2015), "Vietnam in transition: SMEs and the necessitating environment for entrepreneurship development", *Entrepreneurship and Regional Development*, Vol. 27 Nos 3-4, pp. 154-180.
- Nguyen, A., Nguyen, T. and Hoang, G. (2016), "Trade facilitation in ASEAN countries: harmonisation of logistics policies", *Asian-Pacific Economic Literature*, Vol. 30 No. 1, pp. 120-134.
- Nguyen, A., Do, T.H.H., Vu, T.B.T., Dang, K.A. and Nguyen, H.L. (2019), "Factors affecting entrepreneurial intentions among youths in Vietnam", *Children and Youth Services Review*, Vol. 99, pp. 186-193.

- Nowiński, W., Haddoud, M.Y., Lančarič, D., Egerová, D. and Czeglédi, C. (2019), "The impact of entrepreneurship education, entrepreneurial self-efficacy and gender on entrepreneurial intentions of university students in the Visegrad countries", *Studies in Higher Education*, Vol. 44 No. 2, pp. 361-379.
- Nunnally, J.C. (1978), *Psychometric Theory*, 2d ed., McGraw-Hill, New York.
- OECD/ERIA (2018), *SME Policy Index: ASEAN 2018: Boosting Competitiveness and Inclusive Growth*, *SME Policy Index*, OECD Publishing, Paris/ERIA.
- Oosterbeek, H., Van Praag, M. and Ijsselstein, A. (2010), "The impact of entrepreneurship education on entrepreneurship skills and motivation", *European Economic Review*, Vol. 54 No. 3, pp. 442-454.
- Peterman, N.E. and Kennedy, J. (2003), "Enterprise education: influencing students' perceptions of entrepreneurship", *Entrepreneurship: Theory and Practice*, Vol. 28 No. 2, pp. 129-144.
- Phan, H.L.T., Tran, L.T. and Blackmore, J. (2019), "Internationalization, student engagement, and global graduates: a comparative study of Vietnamese and Australian students' experience", *Journal of Studies in International Education*, Vol. 23 No. 1, pp. 171-189.
- Pinquart, M., Juang, L.P. and Silbereisen, R.K. (2003), "Self-efficacy and successful school-to-work transition: a longitudinal study", *Journal of Vocational Behavior*, Vol. 63 No. 3, pp. 329-346.
- Piperopoulos, P. and Dimov, D. (2015), "Burst bubbles or build steam? Entrepreneurship education, entrepreneurial self-efficacy, and entrepreneurial intentions", *Journal of Small Business Management*, Vol. 53 No. 4, pp. 970-985.
- Podsakoff, P.M. and Organ, D.W. (1986), "Self-reports in organizational research: problems and prospects", *Journal of Management*, Vol. 12 No. 4, pp. 531-544.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, p. 879.
- Sánchez, J.C. (2013), "The impact of an entrepreneurship education program on entrepreneurial competencies and intention", *Journal of Small Business Management*, Vol. 51 No. 3, pp. 447-465.
- Schoonhoven, C.B. and Romanelli, E. (2009), "The next wave in entrepreneurship research", *Entrepreneurial Strategic Content (Advances in Entrepreneurship, Firm Emergence and Growth)*, Vol. 11, pp. 225-259.
- Shane, S. and Venkataraman, S. (2000), "The promise of entrepreneurship as a field of research", *Academy of Management Review*, Vol. 25 No. 1, pp. 217-226.
- Spector, P.E. (2006), "Method variance in organizational research: truth or urban legend?", *Organizational Research Methods*, Vol. 9 No. 2, pp. 221-232.
- Stadler, A. and Smith, A.M. (2017), "Entrepreneurship in vocational education: a case study of the Brazilian context", *Industry and Higher Education*, Vol. 31 No. 2, pp. 81-89.
- Thompson, E.R. (2009), "Individual entrepreneurial intent: construct clarification and development of an internationally reliable metric", *Entrepreneurship: Theory and Practice*, Vol. 33 No. 3, pp. 669-694.
- Türk, S., Zapkau, F.B. and Schwens, C. (2020), "Prior entrepreneurial exposure and the emergence of entrepreneurial passion: the moderating role of learning orientation", *Journal of Small Business Management*, Vol. 58 No. 2, pp. 225-258.
- Tung, D.T., Hung, N.T., Phuong, N.T.C., Loan, N.T.T. and Chong, S.C. (2020), "Enterprise development from students: the case of universities in Vietnam and the Philippines", *International Journal of Management in Education*, Vol. 18 No. 1, p. 100333.
- Urban, B. and Galawe, J. (2019), "The mediating effect of self-efficacy on the relationship between moral judgement, empathy and social opportunity recognition in South Africa", *International Journal of Entrepreneurial Behavior and Research*, Vol. 26 No. 2, pp. 349-372.
- Van Arkadie, B. and Mallon, R. (2004), *Viet Nam: A Transition Tiger?*, ANU E Press, Canberra.

- Van Gelderen, M., Brand, M., Van Praag, M., Bodewes, W., Poutsma, E. and Van Gils, A. (2008), "Explaining entrepreneurial intentions by means of the theory of planned behaviour", *Career Development International*, Vol. 13 No. 6, pp. 538-559.
- Van Gelderen, M., Kautonen, T. and Fink, M. (2015), "From entrepreneurial intentions to actions: self-control and action-related doubt, fear, and aversion", *Journal of Business Venturing*, Vol. 30 No. 5, pp. 655-673.
- Van Hooft, E.A. and Noordzij, G. (2009), "The effects of goal orientation on job search and reemployment: a field experiment among unemployed job seekers", *Journal of Applied Psychology*, Vol. 94 No. 6, p. 1581.
- VandeWalle, D. (1997), "Development and validation of a work domain goal orientation instrument", *Educational and Psychological Measurement*, Vol. 57 No. 6, pp. 995-1015.
- Vesalainen, J. and Pihkala, T. (1999), "Entrepreneurial identity, intentions and the effect of the push-factor", *Academy of Entrepreneurship Journal*, Vol. 5 No. 2, pp. 1-24.
- Walter, S.G. and Block, J.H. (2016), "Outcomes of entrepreneurship education: an institutional perspective", *Journal of Business Venturing*, Vol. 31 No. 2, pp. 216-233.
- Wang, J.H., Chang, C.C., Yao, S.N. and Liang, C. (2016), "The contribution of self-efficacy to the relationship between personality traits and entrepreneurial intention", *Higher Education*, Vol. 72 No. 2, pp. 209-224.
- Watson, K. and McGowan, P. (2019), "Rethinking competition-based entrepreneurship education in higher education institutions", *Education + Training*, Vol. 62 No. 1, pp. 31-46.
- Wu, S. and Wu, L. (2008), "The impact of higher education on entrepreneurial intentions of university students in China", *Journal of Small Business and Enterprise Development*, Vol. 15 No. 4, pp. 752-774.
- Zhang, Y., Duysters, G. and Cloodt, M. (2014), "The role of entrepreneurship education as a predictor of university students' entrepreneurial intention", *The International Entrepreneurship and Management Journal*, Vol. 10 No. 3, pp. 623-641.
- Zhao, H., Seibert, S.E. and Hills, G.E. (2005), "The mediating role of self-efficacy in the development of entrepreneurial intentions", *Journal of Applied Psychology*, Vol. 90 No. 6, p. 1265.

About the authors

Giang Hoang (PhD, Victoria University, Australia) is a Research Fellow at Ton Duc Thang University, Ho Chi Minh City, Vietnam. His research focuses on entrepreneurship, innovation and leadership. His work has appeared in peer-reviewed journals such as *Higher Education*, *Leadership and Organization Development Journal* and *Employee Relations*. Giang Hoang is the corresponding author and can be contacted at: hoangtruonggiang@tdtu.edu.vn

Thuy Thu Thi Le (PhD, Foreign Trade University, Vietnam) is an Associate Professor of Management and Chair of University Council at Foreign Trade University, Vietnam. Her research interests include strategic management and leadership. Thuy has published her work in a number of peer-reviewed journals.

Anh Kim Thi Tran (PhD, Foreign Trade University, Vietnam) is an Associate Professor of Accounting and Dean of Faculty of Accounting and Auditing at Foreign Trade University, Vietnam. Anh's main area of research expertise relates to accounting and auditing education. Anh has published her work in a number of peer-reviewed journals.

Tuan Du (MSc, University College Dublin, Ireland) is currently the Manager of Deal Advisory, Strategy, KPMG Vietnam. Tuan's research interests include strategy and investment. He intends to pursue his PhD in the near future.

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgrouppublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com

Reproduced with permission of copyright owner. Further reproduction prohibited without permission.