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Article

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The role of contextual factors on predicting entrepreneurial intention among Vietnamese students

Dương Công Doanh

ABSTRACT

Objective: The objective of the article is to explore the specific underlying mechanisms in which contextual factors are internalised into students' cognitive process of entrepreneurship in Vietnam.

Research Design & Methods: A quantitative study with a meta-analysis was conducted by utilising structural equation modelling (SEM). The sample consisted of 2218 final-year students from fourteen universities located in two major regions in Vietnam who were surveyed using stratified random sampling.

Findings: Results revealed that social capital was not directly related to intention to become entrepreneurs, which had indirect and significant impact on start-up intention throughout attitude towards entrepreneurship, perceived behavioural control, and entrepreneurial self-efficacy. In addition, the regulatory dimension negatively affected entrepreneurial intention while the normative dimension positively promoted this intention. University education not only directly affected but also indirectly influenced entrepreneurial intention via antecedents of the theory of planned behaviour. The research also showed the mediating role of attitude towards entrepreneurship, perceived behavioural control, and entrepreneurial self-efficacy between contextual factors and entrepreneurial intention among Vietnamese students.

Implications & Recommendations: The study has several implications and practical recommendations for universities and policymakers in boosting business venturing activities among college students.

Contribution & Value Added: The empirical evidence of the research supported the theoretical arguments, which specified the detailed mechanisms that contextual factors affect the cognitive process of business venture.

Article type: research article

Keywords: regulatory and normative dimensions; social capital; university education; theory of planned behaviour

JEL codes: L26, M13

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INTRODUCTION

Recently, we witness a drastic change in the labour market (Meoli, Fini, Sobrero, & Wiklund, 2020). Working environment and traditional administrative structures transformed as a result of workforce diversity, increased internationalisation, and the rapid development of technologies, which results in a revolution in how people enact their career choices (Sullivan & Baruch, 2009). For the youth – especially university students – business venture as a career gains in popularity (Edelman, Manolova, Shirokova, & Tsukanova, 2016). Indeed, many policies fostering entrepreneurial activities – especially student entrepreneurship – have been proposed in both developed and developing countries, which translates into support policies and programmes by governments of many countries. Several policies showed positive effects, whereas other revealed only partial success (Baughn, Lim, Le, Neupert, & Woods, 2006). The different outcomes of such efforts might reflect the inadequate awareness of some policymakers, involving the necessary drivers of entrepreneurship in diverse country contexts (Baughn

et al., 2006). Thus, understanding why and how individuals seek or perform entrepreneurial behaviours might promote entrepreneurship activities more effectively and efficiently. Baugh *et al.* (2006) also emphasise that normative, social, and cognitive norms of business ventures derive from different contexts of countries in terms of historical, cultural, economics, and political perspectives.

The role of contextual variations in discovering entrepreneurial intention and behaviour is emphasised by many entrepreneurship scholars (e.g. Liñán & Chen, 2009; Mueller & Thomas, 2001; Hayton, George, & Zahra, 2002; Vancea & Utzet, 2017), while some agree that contextual factors are internalised by individuals to shape their cognitive process of business venture (Bercovitz & Feldman, 2008; Turker & Selcuk, 2009; Nguyen, Nguyen, & Nguyen, 2018). However, the detailed mechanisms in which individuals' cognitive processes internalise contextual factors did not receive a clear answer. For instance, although individuals' motives to engage in entrepreneurship activities could be multifaceted (Nguyen, Bryant, Rose, Tseng, & Kapasuwan, 2009), the question that still requires evident explanation is: how do contextual factors facilitate the process of a person's entrepreneurial cognitions? Indeed, Turker and Selcuk (2009) argue that most recent studies only focus on examining the role of some internal factors such as personal characteristics (Akanbi, 2013), individual motivations (Camelo-Ordaz, Dianeze-Gonzalez, & Ruiz-Navarro, 2016), and personal background (Bird & Brush, 2002; Camelo-Ordaz, Dianeze-Gonzalez, & Ruiz-Navarro, 2016), rather than investigating the influence of external factors on shaping entrepreneurial intention. Moreover, Henderson and Robertson (2000) state that an individual's entrepreneurial perception is mostly driven by their innate characteristics. However, scholars reached a consensus that entrepreneurial traits and business aptitude should be nurtured by external environments (Henderson & Robertson, 2000; Turker & Selcuk, 2009). Thus, contextual factors can play a crucial role in configuring entrepreneurial intentions, even actual business venture behaviours (Kruja-Demneri, 2020). Thus, this study integrates insights from the theory of planned behaviour (Ajzen, 1991), contextual factors (e.g. country institutional profile; Busenitz, Gomez, & Spencer, 2000), and the social learning theory (Bandura, 1977) to explore the specific mechanisms in which contextual factors are internalised into students' cognitive process of entrepreneurship in Vietnam. To the best of our understanding, no entrepreneurship literature examined the path from contextual factors to predict entrepreneurial self-efficacy and the cognitive process of entrepreneurship.

Particularly, this study considers the impact of two factors in the entrepreneurial ecosystem of educational environment (social capital and education university) and two other factors outside of the educational university environment (regulatory and normative dimensions) in shaping the cognitive process of business venture, which derives from attitude towards entrepreneurship, subjective norms, and perceived behavioural control to intention to become entrepreneurs among Vietnamese students. Besides discovering the effects of contextual factors – including the regulatory dimension – the normative dimension, capital, and university education on the cognitive process of entrepreneurship, this study also aims to discover the mediating roles of attitude towards entrepreneurship, subjective norms, and perceived behavioural control between contextual factors and entrepreneurial intention.

This study seeks to make three major contributions to entrepreneurship literature. *Firstly*, the study reveals that two antecedents of the educational environment in the entrepreneurial ecosystem – including educational university and social capital – play a significant role in the shaping of entrepreneurial self-efficacy, perceived behavioural control, and attitude towards entrepreneurship, then transformed into students' intention to become entrepreneurs. *Secondly*, the research shows that both dimensions of country profiles – regulatory and normative supports – are related to students' entrepreneurial intention. However, only normative norms promote entrepreneurial activities while the regulatory dimension impedes entrepreneurial intention among students. *Finally*, this study indicates that the theory of planned behaviour is effectively employed in transitional economies such as Vietnam.

The article conveys five main parts, which include introduction, literature review, materials and methods presentation, the elaboration of results and discussion, and a conclusion.

LITERATURE REVIEW

Theory of planned behaviour

The theory of planned behaviour (TPB; Ajzen, 1991), which attempts to identify the cognitive determinants of behaviour, has been effectively implemented to estimate a variety of economic and special behaviours (Ajzen & Fishbein, 2005). In entrepreneurship literature, Krueger and Carsrud (1993) posit that the cognitive process of business venture can be explained by the TPB because behavioural intention needs an enactive process of cognition that refers to personal beliefs, perceptions, and several another exogenous variables, which transform into an intention to conduct action and then transfer into actual action. Meanwhile, Bird and Jelinek (1988) define start-up intention as the degree of cognitive awareness in regard with the process of launching a new business venture. Indeed, cognitive psychology defines intention as a state of cognition immediately preceding a behaviour. Liñán, Santos, and Fernández (2011) also argue that – based on the TPB (Ajzen, 1991) – people's entrepreneurial decisions are inspired by three motivational factors, including attitudes towards a behaviour, subjective norms, and perceived behavioural control. Firstly, the *attitude towards a behaviour* reflects the level to which a person has a favourable or unfavourable assessment of a particular behaviour, which also depends on an individual's evaluation of the expected results/outcomes of the behaviour. Secondly, *subjective norms* refer to the perception of social pressures by an individual to perform or not to perform a specific behaviour, which reflects an individual's perception about whether close people encourage or discourage to perform a particular behaviour. Finally, *perceived behavioural control* refers to beliefs about the ease or difficulty of performing a specific task. It also shows the perceptions of the availability of resources, supports, and barriers to conduct a behaviour. The TPB might be applied to any behaviours that require a specific amount of planning. Thus, the TPB has been consistently confirmed as robust in exploring intentions and behaviours in different research fields. The decision to engage in business venture is determined as an intricate one, which is also examined as the outcome of complex cognitive processes. Thus, according to this meaning, the TPB is frequently employed to investigate this mental process that results in entrepreneurial acts (Liñán, 2008).

Numerous studies on business ventures show the relationships between three attitudinal components (attitude towards business venture, subjective norms, and perceived behavioural control) and the intention to become an entrepreneur (Gorgievski, Stephan, Laguna, & Moriano, 2017). Nevertheless, existing literature on direct influences of subjective norms on start-up intention are rather inconsistent. While some studies argue that the link between subjective norms and entrepreneurial intention is significant (Othman & Mansor, 2012; Solesvik, 2013; Maresch, Harms, Kailer, & Wurm, 2015), other find this relationship lacking in empirical support (Miranda, Chamorro-Mera, & Rubio, 2017). Lortie and Castogiovanni (2015) postulate that scholars should explore these links. Thus, I formulate the following hypotheses:

- H1:** Entrepreneurial intention is positively affected by (a) attitude towards entrepreneurship, (b) subjective norms, and (c) perceived behavioural control.
- H2:** Attitude towards entrepreneurship is positively affected by perceived behavioural control.
- H3:** Subjective norms are positively affected by (a) attitude towards entrepreneurship and (b) perceived behavioural control.

Social learning theory

Self-efficacy is identified as a central concept in the social learning theory proposed by Bandura (1977; 1982). The fundamental proposition of the social learning theory (or the self-efficacy theory) is that individuals' beliefs about their capacities and abilities to generate desired impacts by their own behaviours (Bandura, 1977). In entrepreneurship literature, there is a growing emphasis on the importance of entrepreneurial self-efficacy in recent studies, such as entrepreneurial career preferences, intentions, behaviour, entrepreneurial performance, and social entrepreneurship (e.g. Hand, Iskandarova, & Blackburn, 2020; Marshall, Meek, Swab, & Markin, 2020; Mozahem, & Adlouni, 2020; To, Martínez,

Orero-Blat, & Chau, 2020; Yang, Li, & Wang, 2020). Entrepreneurial self-efficacy is defined from various viewpoints (Tsai, Chang, & Peng, 2014). Some define entrepreneurial self-efficacy as entrepreneurs' self-confidence in performing particular actions (Boyd & Vozikis, 1994), while others describe it as an individual's confidence in his/her own capacities to conduct and achieve success in a business venture (Segal, Borgia, & Schoenfeld, 2005). Some previous research shows that entrepreneurial self-efficacy has a strong impact on the intention to become entrepreneurs. For example, students with high entrepreneurial self-efficacy have a high intent to engage in business ventures (Liñán, Santos, & Fernández, 2011) and even higher business venturing behaviour (Neto *et al.*, 2018). Moreover, Boyd and Vozikis (1994) emphasise that entrepreneurial self-efficacy is an important factor that can explain the increase of intention to engage in business venture, but also the probability of transformation from intention to actual entrepreneurial behaviours.

Moreover, Bandura (1982) states that an individual's behaviour is significantly affected by his/her beliefs about the ability to perform actual action effectively, while control beliefs refer to attitude towards conducting a behaviour and perceived behavioural control (Ajzen, 1991). Thus, individuals with higher entrepreneurial self-efficacy can have an increased attitude towards entrepreneurship, perceived behavioural control, and intention to become entrepreneurs. Moreover, subjective norms demonstrate close peoples' approvals and supports (e.g. close friends, family, teachers), which refer to the performance of an actual behaviour (Ajzen, 1991; Liñán & Chen, 2009), whereas self-efficacy can motivate entrepreneurial activities (Tsai, Chang, & Peng, 2014). Thus, subjective norms may be connected with entrepreneurial self-efficacy. Gorgievski *et al.* (2017) and Tsai, Chang, and Peng (2014) postulate that scholars explore the correlation between entrepreneurial self-efficacy and three antecedents of the TPB. Thus, I formulate the following hypothesis:

- H4:** Entrepreneurial self-efficacy positively affects (a) attitude towards entrepreneurship, (b) subjective norms, (c) perceived behavioural control, and (d) entrepreneurial intention.

Contextual factors

The regulatory dimension is defined as legal, regulative, and governmental support for new business ventures, which also includes policies fascinating nascent entrepreneurs that decrease the risks of creating a new firm and acquiring the necessary resources for business activities (Busenitz, Gomez, & Spencer, 2000). Rule-setting, controlling, monitoring, and even approving activities are included in regulatory processes (Scott, 1995). Enterprises can take advantage of resources available through sponsored and/or supportive programmes of governments. Moreover, entrepreneurs can capture opportunities steaming from policies proposed governments (Rondinelli & Kasarda, 1992). Therefore, the government can encourage entrepreneurial activities through the policies which support nascent entrepreneurs and develop entrepreneurial ecosystem. In other words, viewed as the most formal of elements in the country institutional profile (Bruton & Ahstrom, 2003), the regulatory dimension can significantly affect individuals' cognitive processes of entrepreneurship and their entrepreneurial self-efficacy. Nguyen (2020) state that these relationships should be further analysed. Therefore, I formulate the following hypothesis:

- H5:** The regulatory dimension positively affects (a) attitude towards entrepreneurship, (b) perceived behavioural control, (c) entrepreneurial self-efficacy and (d) entrepreneurial intention.

Normative support is defined as how much citizens admire business venturing activities, creativity, and innovation thinking. Moreover, it includes social norms, social beliefs, common values, and assumptions about human nature and behaviours that are socially assigned and performed (Busenitz, Gomez, & Spencer, 2000), which consists of 'social norms, values, beliefs, and assumptions about human nature and human behaviour that are socially shared and carried by individuals' (Alvarez & Urbano, 2012). Some prior studies confirm that the normative dimension affects business venture activities (Baughn *et al.*, 2006; Oftedal, Iakovleva, & Foss, 2017; Turulja, Veselunovic, Agic, & Pasic-Mesihovic, 2020). Spencer and Gomez (2004) suggest that the degree to which citizens respect business activities or admire entrepreneurs might predict entrepreneurship better than general dimensions of

culture. Therefore, normative support may play a significant role in shaping students' cognitive processes of entrepreneurship and their entrepreneurial self-efficacy. Furthermore, Nguyen *et al.* (2020) postulate that we should consider the effects of normative supports on the cognitive process of entrepreneurship. As a result, I formulate the following hypothesis:

H6: The normative dimension positively affects (a) attitude towards entrepreneurship, (b) perceived behavioural control, (c) entrepreneurial self-efficacy, and (d) entrepreneurial intention.

Social capital is not only likely to strengthen the tangible and intangible assets of nascent entrepreneurs but also helps them to share information, establish collaborative networks, build trust in business transactions, and obtain essential resources (Adler & Kwon, 2002). Nevertheless, the exact meaning of social capital was not clearly explained (Lang & Fink, 2019; Poon, Thai, & Naybor, 2012). Social capital reflects the supports from closest people – such as family and close friends – in order to help nascent entrepreneurs find the necessary resources to start own business (Davidsson & Honig, 2003). Moreover, social capital shows the value of social networks (Adler & Kwon, 2002). Therefore, social capital may be determined as the totality of supportive resources, consisting of both definite and potential supports that derive from long-term social relationships (Lang & Fink, 2019; Yoon, Sun, & Yulianti, 2015). Moreover, the links between social capital and intention to become entrepreneurs are explored by several previous studies (Ali & Yousuf, 2019; Chia & Liang, 2018; Mahfud, Triyono, Sudira, & Mulyani, 2002; Liñán & Santos, 2007). Social capital depicts such results as financial benefits and other entrepreneurial resources, meaning that people can be supported by social networks such as their family, friends, and relatives. Indeed, social capital is seen as a crucial factor in business opportunity recognition (Ali & Yousuf, 2019) and encouraging entrepreneurial careers (Mahfud *et al.*, 2020). To establish a new business, entrepreneurs are likely to access and acquire supportive resources from close relatives and social networks. The influence and support from close friends and family can be much more crucial than other cultural norms in shaping the cognitive process of entrepreneurship among nascent entrepreneurs and their entrepreneurial self-efficacy (Baughn *et al.*, 2006; Bhagavatula, Elfring, van Tilburg, & van de Bunt, 2010). Vuković, Kedmenec, Postolov, Jovanovski, and Korent (2017) postulate the investigation of correlations between social capital and the cognitive process of a business venture. Hence, I propose the following hypothesis:

H7: Social capital positively affects (a) attitude towards entrepreneurship, (b) perceived behavioural control, (c) entrepreneurial self-efficacy and (d) entrepreneurial intention.

Professional education in universities and institutions is seen as a great way to acquire essential knowledge about and necessary skills for entrepreneurship (Turker & Selcuk, 2008). However, in a study focusing on students' personality traits, Wang and Wong (2004) emphasise that many students' start-up dreams may be impeded by inadequate preparation and insufficient business knowledge. Much more importantly, students may be unwilling and inadequately prepared to take risks. Thus, academic education can play an important role in encouraging young people to consider business ventures as a career choice (Saeed, Yousafzai, Yani-de-soriano, & Muffatto, 2013). However, some argue that university education is too academic and insufficient to encourage entrepreneurship (Morris & Tsukanova, 2017). In order to promote entrepreneurial activities, many universities provide students with courses related to business and entrepreneurship to equip them with necessary knowledge and skills for business ventures (Turker & Selcuk, 2008). Moreover, university education can build a dynamic ecosystem that significantly influences students' cognitive processes of business venturing (Finì, Grimaldi, Marzocchi, & Sobrero, 2012). Uddin and Bose (2012) state that there is a strong link between university education and students' start-up intention. Meanwhile, Cox, Mueller, and Moss (2002) argue that university education can augment students' entrepreneurial self-efficacy via business courses and practical programmes. In Vietnam, a number of national programmes and actions were implemented by the government to promote business venture activities, for example 'Supporting students Entrepreneurship 2017-2020 with a vision towards 2025.' Hence, entrepreneurial education raised the interest of policymakers who seek to foster the country's enterprise development. Three elements are included in entrepreneurship education (Hoang, Le, Tran, & Du, 2020), including curricular entrepre-

neurship programmes, extracurricular entrepreneurship programmes, and social education in boosting entrepreneurial activities. Thus, entrepreneurship-related courses, such as new business venture creation, creativity, innovation, entrepreneurship, and new venture planning, were especially provided in programs at economic universities (Tung, Hung, Phuong, Loan, & Chong, 2020). These courses equip students with essential knowledge and skills to run their own businesses. Lavelle (2019) argues that the relationship between university education and the three antecedents of TPB should be investigated. Thus, I formulate the following hypothesis:

H8: University education positively affects (a) attitude towards entrepreneurship, (b) perceived behavioural control, (c) entrepreneurial self-efficacy, and (d) entrepreneurial intention

Therefore, in the light of prior studies, I propose the following conceptual framework (Figure 1) so as to investigate the particular underlying mechanisms internalised in students' cognitive processes of business ventures in Vietnam, i.e. the contextual variables of social capital, university education, regulatory dimension, and normative dimension.

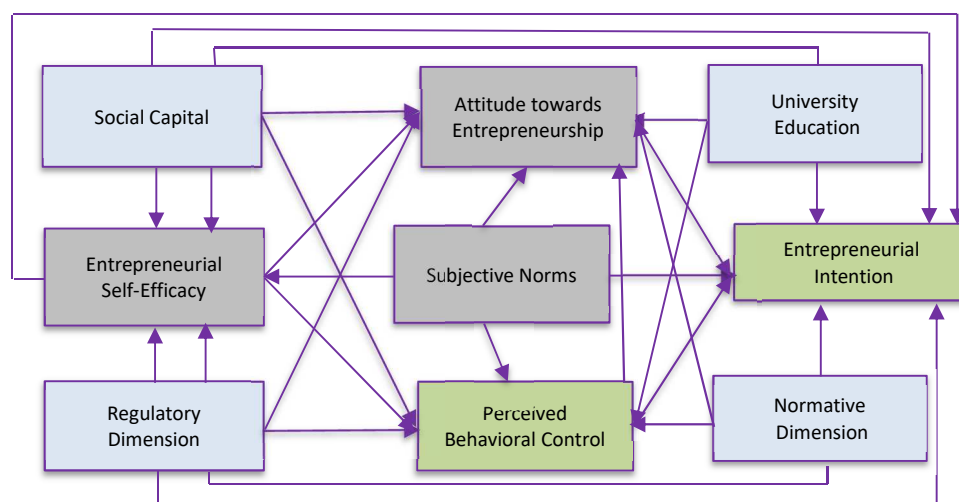


Figure 1. The conceptual model

Source: own elaboration.

RESEARCH METHODOLOGY

Data collection and sample

The sample consisted of 2218 undergraduate students recruited from 14 universities in Vietnam using stratified random sampling in a four-stage procedure. At the first stage, two main regions of Vietnam were selected, including the Northern and Southern areas with the demarcation line in Quang Tri province. Following the report of the Ministry of Education and Training (2018), 1 707 025 students were studying in 224 universities in Vietnam. Moreover, there were 123 universities located in the Northern and 101 in the Southern area. The second sampling stage randomly selected eight universities in the Northern region (National Economics University, Dai Nam University, Foreign Trade University, the University of Transport and Communications, Hanoi Open University, the National University of Civil Engineering, Thuongmai University, and the Hanoi University of Science and Technology) and six universities in the Southern region (Quy Nhon University, Hue University, the Da Nang University of Technology, Saigon University, the University of Economics Ho Chi Minh City, Dong Thap University), which followed university entrance scores per each region, that based on national university entrance exam. At the third stage, two to four classes each university were sampled in terms of fields of study. At the final sampling stage, research participants were recruited in the questionnaire directly distributed to college students aged 18 to 24 years. The participants were clearly informed about voluntary participation in the survey, that their responses would be confidential and secure, and the data would only be used for academic purposes.

The majority of participants were studying and working part-time (45.9%) or just studying (31.5%). Only 5.7% participants were studying and running own businesses. There were 52.2% women and 54.6% students of economics. A large percentage of participants were in their final year (36.2%), followed by second year (26.6%), and third year (22.8%). Most parents of participants had no relationship with business (56.1%).

Table 1. Characteristics of participants

Variables	Characteristics	Frequency	%
Gender	Male	1061	47.8
	Female	1157	52.2
Fields of study	Economics	1212	54.6
	Non-economics	1006	45.4
Years of study	First year of college	320	14.4
	Second year of college	589	26.6
	Third year of college	505	22.8
	Final year of college	804	36.2
Types of current professional activity	Only studying	699	31.5
	studying and participating in a part-time work	1018	45.9
	Studying and launching a business	126	5.7
	Studying and searching for a secure job	375	16.9
Mother's occupation	Self-employed	608	27.4
	Staff in an organization	294	13.3
	Manager in an organization	71	3.2
	Others	1245	56.1
Father's occupation	Self-employed	575	25.9
	Staff in an organization	261	11.8
	Manager in an organization	137	6.2
	Others	1245	56.1

Source: own elaboration.

Measures and Questionnaire Development

All scales used in the study were adopted from prior studies, including social capital (Davidsson & Honig, 2003; Baughn *et al.*, 2006), university education (Turker & Selcuk, 2008), regulatory and normative dimension (Busenitz, Gomez, & Spencer, 2000), attitude towards entrepreneurship, perceived behaviour control and entrepreneurial intention (Liñán & Chen, 2009), subjective norms (Liñán & Chen, 2009), and entrepreneurial self-efficacy (Liñán, 2008; Tsai, Chang, & Peng, 2014). I employed a five-point Likert-type format rated from 1 (*strongly disagree*) to 5 (*strongly agree*) in each construct. The final scales that extracted unsatisfactory items are represented in Table 2. Because the respondents are Vietnamese students, the observed variables (items) were first translated into Vietnamese from the original English version. Furthermore, some words have been modified to be better suit Vietnamese culture and context. Then, the questionnaire instrument was back translated into English to guarantee consistency between the original version and the translated one.

Analyses

A regression analysis was employed to evaluate the impact of contextual factors on students' cognitive processes in business ventures and the roles of mediators such as attitude towards business venture, subjective norms, and perceived behavioural control between environmental factors and students' intention to engage in a business venture. *Firstly*, the study examined the Cronbach's alpha and conducted explorative factor analysis (EFA) so as to scrutinise the internal consistency reliability of constructs in the conceptual framework. All constructs were likely to be satisfactory when the values of Cronbach's alpha exceeded 0.63 (Nunnally & Bernstein, 1994). Simultaneously, the corrected item-total correlation of each observed variable (item) had to exceed 0.3 (Hair, Black, Babin, & Anderson, 2010). *Secondly*, confirmatory factor analysis (CFA) was utilised to estimate the reliability and validity

of the variables (scales), which was adopted since this approach could have been employed to examine whether measures of constructs with the nature of that scales are appropriate or not (Nunnally & Bernstein, 1994), which has been broadly utilised in studies of the social field (Hair *et al.* 2010; Tsai, Chang, & Peng 2014). *Finally*, structural equation modelling (SEM) was used to estimate path coefficients for each hypothesised link in the research model. Goodness of fit of the measurement model was considered using χ^2 (Chi-square Statistics), χ^2/DF (Chi-Square/Degree of Freedom), CFI (Comparative Fit Index), TLI (Tucker-Lewis Index), GFI (Goodness-of-Fit). However, χ^2 and χ^2/DF were impressionable to sample size (Jöreskog & Sörbom 1993), thus, the CFI, TLI, and RMSEA were utilised. A CFI of over 0.90 is ideal (Bentler & Bonett, 1980), while one exceeding 0.95 is an excellent fit (Hu & Bentler, 1999). RMSEA value lower than 0.05 demonstrates a good fit, while between 0.05 and 0.08 indicates a reasonable fit (Browne & Cudeck, 1993). Moreover, the indirect effects or the mediating roles were examined utilising a bootstrapping approach with 6000 replications and the confidence degree of 90% (Shrout & Bolger, 2002; Preacher & Hayes, 2008).

RESULTS AND DISCUSSION

Measure assessment

The Cronbach's alpha of all constructs was tested. Initial results indicated that ATE1 was extracted due to the corrected item-total correlation being lower than 0.3, while EI1 and EI2 were removed because their values of Cronbach's alpha were higher than that of the 'entrepreneurial intention' construct. After extracting unmoderated items, the Cronbach's alpha of all scales varied from 0.761 (Normative dimension-ND) to 0.918 (Entrepreneurial intention-EI). Moreover, all corrected item-total correlation of each item in scales were higher than 0.3.

Initially, the total of 36 items of all variables were used in the exploratory factor analysis (EFA) with principal axis factoring (Promax), while the initial results of testing the reliability of scales by EFA revealed that KMO = 0.907; Sig. of Bartlett's Test of Sphericity = 0.000 < 0.05; Cumulative (%) = 65.740 > 50%; and Eigenvalues = 1.053 > 1. However, factor loadings of PBC5, PBC6, SC1, and ESE1 were lower than 0.5. Thus, these items were extracted from constructs before conducting confirmatory factor analysis (CFA). The final results of EFA represented that KMO = 0.888, Sig. of Bartlett's Test of Sphericity = 0.000 < 0.05; Cumulative (%) = 68.228 > 50%; and Eigenvalues = 1.019 > 1. Thus, the validity of all scales were confirmed after extracting unsatisfactory items. The final results of Cronbach's alpha and pattern matrix is presented in Table 2.

Table 2. Cronbach's Alpha and Pattern Matrix after extracting unmoderated items

Items	Factor									Cronbach's alpha
	F1	F2	F3	F4	F5	F6	F7	F8	F9	
Regulatory Dimension (RD)										0.874
RD4. The government sponsors organizations that help new business develop	0.810									0.836
RD2. The government set aside government contracts for new and small businesses	0.794									0.840
RD3. Local and national governments have special support available for individual who want to start a new business	0.769									0.848
RD1. Government organization in this country assist individuals with starting their own business	0.733									0.853
RD5. Even after failing in an earlier business, the government assists entrepreneurs in starting again	0.711									0.858
Social Capital (SC)										0.811
SC5. If I started a business, my friends would help me to succeed		0.777								0.761

Items	Factor									Cronbach's alpha
	F1	F2	F3	F4	F5	F6	F7	F8	F9	
SC4. My friend would want me to start my own business		0.676								0.774
SC2. If I started a new business, my family members with help me to succeed		0.637								0.774
SC3. If I started a new business, some members my family would work with me		0.685								0.779
SC6. If I started a business, some of my friends would work with me		0.586								0.785
Perceived Behavioural Control (PBC)										0.820
PBC3. I can control the creation process of a new firm			0.790							0.734
PBC2. I am prepared to start a viable firm			0.846							0.745
PBC4. I know the necessary practical details to start a firm			0.600							0.799
PBC1. To start a firm and keep it working would be easy for me			0.631							0.809
Attitude Towards Entrepreneurship (ATE)										0.826
ATE4. Being an entrepreneur would entail great satisfactions for me				0.835						0.759
ATE5. Among various options, I would rather be an entrepreneur				0.761						0.765
ATE2. A career as an entrepreneur is attractive for me				0.733						0.780
ATE3. If I had an opportunity and resources, I'd like to start a firm				0.661						0.816
Entrepreneurial Self-efficacy (ESE)										0.840
ESE4. I can see new market opportunities for new products and services					0.843					0.780
ESE3. I can develop and maintain favourable relationships with potential investors					0.838					0.786
ESE5. I can develop a working environment that encourages people to try out something new					0.669					0.801
ESE2. I show great aptitude for leadership and problem-solving					0.549					0.819
University Education (UE)										0.846
UE1. The education in university encourages me to develop creative ideas for being an entrepreneur						0.862				0.753
UE2. My university provides the necessary knowledge about entrepreneurship						0.798				0.794
UE3. My university develops my entrepreneurial skills and abilities						0.754				0.807
Normative Dimension (ND)										0.761
ND2. In this country, innovative and creative thinking is viewed as the routes to success							0.846			0.647
ND3. Entrepreneurs are admired in this country							0.709			0.702
ND4. People in this country tend to greatly admire those who start their own business							0.575			0.728
ND1. Turning new ideas into businesses is an admired career path in this country							0.541			0.736
Subjective Norms (SN)										0.851
SN2. If I decided to create a firm, my closest friends would approve of that decision								0.837		0.758

Items	Factor									Cronbach's alpha
	F1	F2	F3	F4	F5	F6	F7	F8	F9	
SN3. If I decided to create a firm, people who are important to me would approve of that decision								0.772		0.792
SN1. If I decided to create a firm, my closest family would approve of that decision								0.795		0.827
Entrepreneurial Intention (EI)										0.918
EI5. I have very seriously thoughts of starting a firm									0.952	0.874
EI6. I have a firm intention to start a firm someday									0.822	0.892
EI4. I am determined to create a firm in the future									0.898	0.895
EI3. I will make every effort to start and run my own firm.									0.765	0.911
Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy							0.907			
Sig. (Bartlett's Test of Sphericity)							0.000			
Cumulative (%)							68.228%			
The Value of Initial Eigenvalue							1.019			

Source: own study.

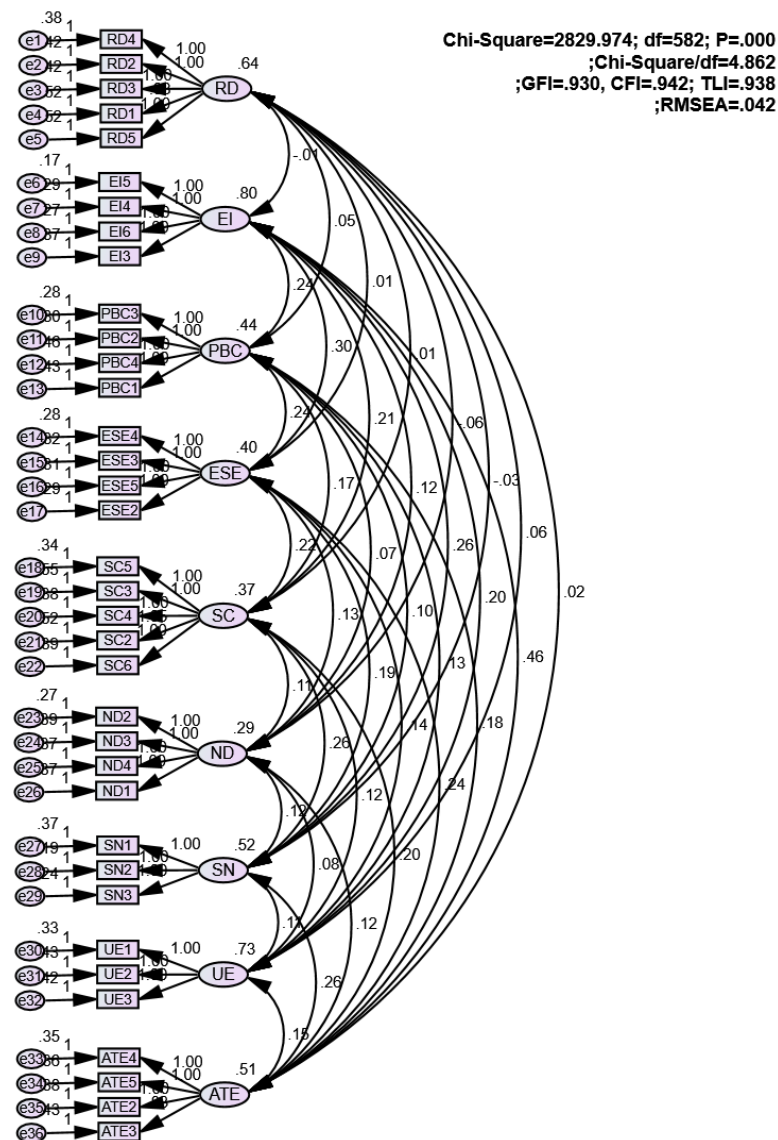


Figure 2. The results of confirmatory factor analysis

Source: own elaboration.

Then, the reliability, convergent validity, and discriminant validity of each construct was examined by utilising confirmatory factor analysis (CFA). A number of highly recommended indices were considered to examine the model's fitness. The fit indices represented the model fit data reasonably well (CMIN/DF = 4.862 < 5; GFI = 0.930; CFI = 0.942; TLI = 0.938 > 0.9; and RMSEA = 0.042 < 0.5; Browne & Cudeck, 1993; Hu & Bentler, 1999).

I tested the average variance extracted (AVE), composite reliability (CR), and maximum shared variance (MSV) to show the reliability, convergent validity, and discriminant validity of the constructs (Anderson & Gerbing, 1988; Hair *et al.*, 2010). As indicated in Table 3, CR values for all variables were demonstrated to be higher than 0.70, the lowest CR value was witnessed in the normative dimension (0.769). Furthermore, all the AVE values were within their recommended level with a value higher than 0.45. Moreover, the MSV values of all constructs were lower than their AVE (Hair *et al.*, 2010). The results of confirmatory factor analysis (CFA) also indicated that all items had a standardised regression weight higher than 0.5, with only SC3 having the lowest value at 0.634.

Table 3. The reliability, convergent and discriminant validity of variables

Variables	CR	AVE	MSV	MaxR(H)	ATE	RD	EI	SC	ND	SN	UE	PBC	ESE
ATE	0.829	0.549	0.523	0.833	0.741								
RD	0.876	0.585	0.020	0.877	0.027	0.765							
EI	0.922	0.746	0.523	0.926	0.723	-0.009	0.864						
SC	0.813	0.466	0.346	0.816	0.460	0.014	0.396	0.683					
ND	0.769	0.454	0.150	0.770	0.320	-0.140	0.255	0.351	0.674				
SN	0.855	0.663	0.346	0.861	0.511	-0.046	0.398	0.588	0.314	0.814			
UE	0.848	0.650	0.070	0.849	0.245	0.092	0.257	0.234	0.183	0.179	0.806		
PBC	0.830	0.551	0.329	0.834	0.382	0.099	0.410	0.421	0.201	0.218	0.233	0.742	
ESE	0.839	0.566	0.332	0.840	0.540	0.018	0.534	0.576	0.387	0.427	0.264	0.574	0.753

Note: ATE: Attitude towards entrepreneurship; SN: Subjective norms; PBC: Perceived behavioural control; EI: Entrepreneurial intention; RD: Regulatory dimension; ND: Normative dimension; ESE: Entrepreneurial self-efficacy; SC: Social capital; UE: University education.

Source: own study.

Structural model

The structural model was conducted to validate the conceptual framework and estimate the relationships in the research model. Similar to the confirmatory factor analysis (CFA) – determined as the measurement model – the structural model fully corresponded with the observed dataset as its fitted indication appeared within the accepted degrees: CMIN/DF = 5.474; GFI = 0.926; CFI = 0.935; TLI = 0.928; and RMSEA = 0.046 (Browne & Cudeck, 1993; Hu & Bentler, 1999). A satisfactory predictive validity was achieved by the conceptual framework as well.

Research results revealed that the total of 26 correlations were tested. Twenty out of 26 hypotheses were statistically significant, six of them were not significantly supported by the research dataset.

In terms of direct relationship, the results showed that attitude towards entrepreneurship had the strongest effect on students' intention to engage in business venturing ($\gamma = 0.791$; $p < 0.001$), followed by start-up self-efficacy ($\gamma = 0.268$; $p < 0.001$), and perceived behavioural control ($\gamma = 0.145$; $p < 0.001$). University education was positively linked to the intention to become an entrepreneur, but the effect level was rather weak ($\gamma = 0.062$; $p = 0.002 < 0.01$). However, the regulatory dimension negatively affected entrepreneurial intention ($\gamma = -0.058$; $p = 0.008 < 0.01$). Besides, there appeared no statistical significance to indicate that subjective norms, social capital, and normative dimension correlates with entrepreneurial intention ($p > 0.05$). These results are similar to previous studies that tested the relationship between attitude towards entrepreneurship (Liñán, Nabi, & Krueger, 2013; Dinc & Budic, 2016), subjective norms (Liñán, 2008; Maes Leroy, & Sels, 2014), perceived behavioural control (Liñán & Chen, 2009; Traikova, Manolova, Mollers, & Buchenrieder, 2017), entrepreneurial self-efficacy (Tsai, Chang, & Peng, 2014), and entrepreneurial intention.

Entrepreneurial self-efficacy significantly correlated with both attitude towards entrepreneurship ($\gamma = 0.345$; $p < 0.001$) and perceived behavioural control ($\gamma = 0.540$; $p < 0.001$). Thus, high entrepreneurial self-efficacy can augment individuals' attitude towards entrepreneurship and perceived behavioural control and then enhance their entrepreneurial intention ($\gamma_{\text{indirect ESE-EI}} = 0.404$). This study confirmed that start-up self-efficacy and perceived behavioural control were two different variables because the influencing degrees of these constructs on other factors were totally different (Tsai, Chang, & Peng, 2014).

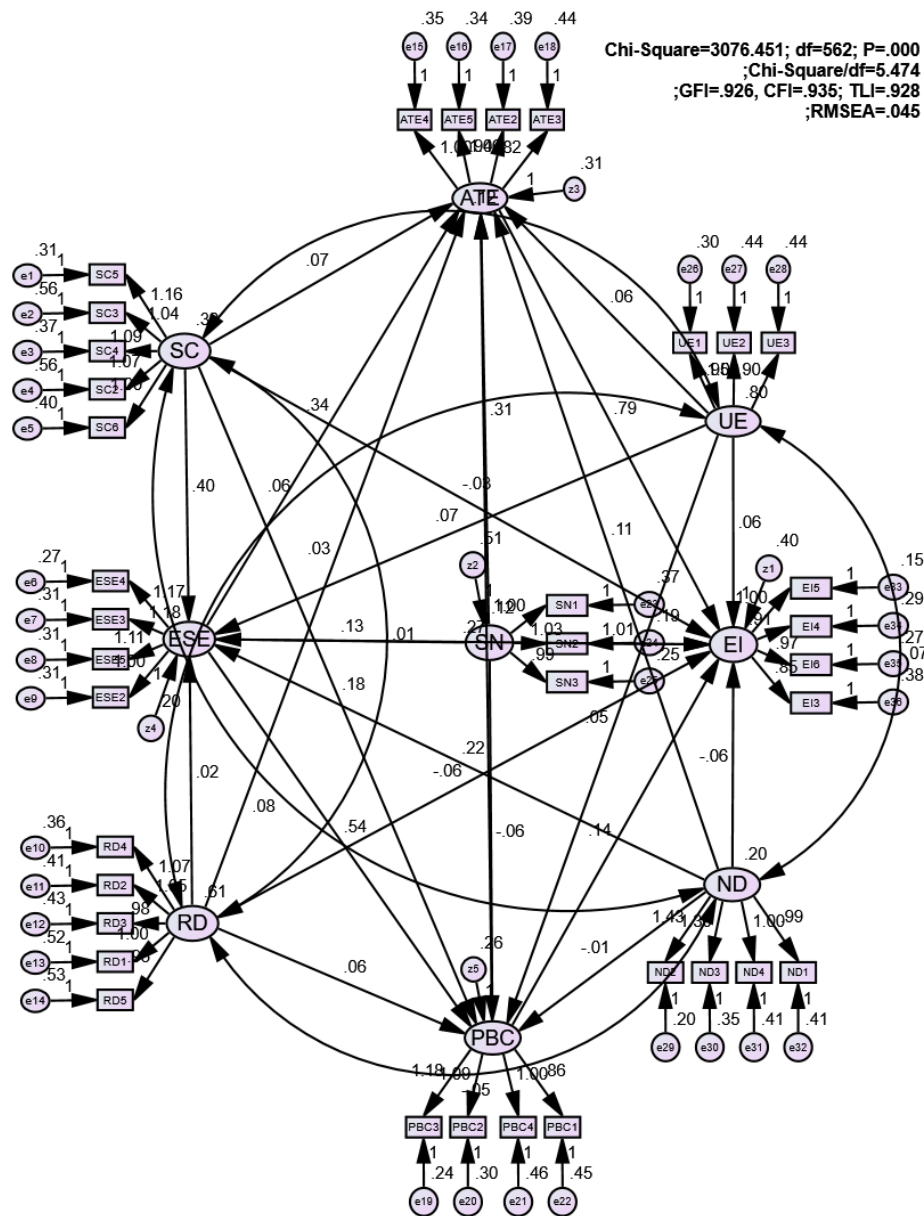


Figure 3. Structural model (standardised estimates)

Source: own elaboration.

From close entrepreneurial supports aspects, even though social capital was not directly related to entrepreneurial intention, it had indirect effects on attitude towards entrepreneurship and entrepreneurial intention throughout entrepreneurial self-efficacy and perceived behavioural control ($\gamma_{\text{indirect SC-ATE}} = 0.188$; $\gamma_{\text{indirect SC-EI}} = 0.373$). Thus, support from close friends and family can boost start-up self-efficacy, attitude towards entrepreneurship, perceived behavioural control, and then increase intentions to become entrepreneurs among students. These results reflect the important role

of social capital in shaping entrepreneurial self-efficacy and the cognitive process of business venture (Baughn *et al.*, 2006; Vuković *et al.*, 2017).

Table 4. The results of structural path analysis

Hypotheses				Estimates	S.E	C.R	P-value	Description
H1a	ATE	→	EI	0.791	0.037	21.300	***	Supported
H1b	SN	→	EI	0.007	0.027	0.257	0.798	Not supported
H1c	PBC	→	EI	0.145	0.036	4.037	***	Supported
H2	PBC	→	ATE	0.123	0.032	3.864	***	Supported
H3a	SN	→	ATE	0.313	0.023	13.525	***	Supported
H3b	SN	→	PBC	-0.062	0.020	-3.157	0.002	Supported
H4a	ESE	→	ATE	0.345	0.043	8.051	***	Supported
H4b	SN	→	ESE	0.128	0.017	7.490	***	Supported
H4c	ESE	→	PBC	0.540	0.038	14.278	***	Supported
H4d	ESE	→	EI	0.268	0.049	5.470	***	Supported
H5a	RD	→	ATE	0.025	0.019	1.300	0.194	Not supported
H5b	RD	→	PBC	0.062	0.018	3.487	***	Supported
H5c	RD	→	ESE	0.024	0.016	1.540	0.124	Not supported
H5d	RD	→	EI	-0.058	0.022	-2.653	0.008	Supported
H6a	ND	→	ATE	0.108	0.039	2.769	0.006	Supported
H6b	ND	→	PBC	-0.009	0.036	-0.241	0.810	Not supported
H6c	ND	→	ESE	0.225	0.032	7.083	***	Supported
H6d	ND	→	EI	-0.061	0.044	-1.397	0.162	Not supported
H7a	SC	→	ATE	0.073	0.035	2.107	0.035	Supported
H7b	SC	→	PBC	0.184	0.032	5.777	***	Supported
H7c	SC	→	ESE	0.403	0.027	14.676	***	Supported
H7d	SC	→	EI	-0.032	0.039	-0.834	0.405	Not supported
H8a	UE	→	ATE	0.058	0.018	3.229	0.001	Supported
H8b	UE	→	PBC	0.047	0.016	2.865	0.004	Supported
H8c	UE	→	ESE	0.068	0.014	4.799	***	Supported
H8d	UE	→	EI	0.062	0.020	3.077	0.002	Supported

Note: *** < 0.001; ATE: Attitude towards entrepreneurship; SN: Subjective norms; PBC: Perceived behavioural control; EI: Entrepreneurial intention; RD: Regulatory dimension; ND: Normative dimension; ESE: Entrepreneurial self-efficacy; SC: Social capital; UE: University education.

Source: own study.

Table 5. Total effects of variables using bootstrapping (6000 replications)

Dependent variables	Effects	Independent variables							
		ND	UE	RD	SC	ESE	SN	PBC	ATE
ESE	Direct	0.225	0.068	0.000	0.403	0.000	0.128	0.000	0.000
	Indirect	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Total	0.225	0.068	0.000	0.403	0.000	0.128	0.000	0.000
PBC	Direct	0.000	0.016	0.062	0.184	0.540	-0.062	0.000	0.000
	Indirect	0.121	0.037	0.000	0.217	0.000	0.069	0.000	0.000
	Total	0.121	0.053	0.062	0.401	0.540	0.007	0.000	0.000
ATE	Direct	0.108	0.058	0.025	0.073	0.345	0.313	0.123	0.000
	Indirect	0.091	0.034	0.017	0.188	0.066	0.045	0.000	0.000
	Total	0.199	0.092	0.042	0.261	0.411	0.358	0.123	0.000
EI	Direct	0.000	0.062	-0.058	0.000	0.268	0.000	0.145	0.791
	Indirect	0.235	0.103	0.051	0.373	0.404	0.318	0.097	0.000
	Total	0.235	0.165	-0.007	0.373	0.672	0.318	0.145	0.791

Note: ATE: Attitude towards entrepreneurship; SN: Subjective norms; PBC: Perceived behavioural control; EI: Entrepreneurial intention; RD: Regulatory dimension; ND: Normative dimension; ESE: Entrepreneurial self-efficacy; SC: Social capital; UE: University education.

Source: own study.

In terms of the relationship between country institutional profile and the cognitive process of entrepreneurship, the normative dimension is not directly related to entrepreneurial intention but strongly affects the intention to become an entrepreneur through entrepreneurial self-efficacy and perceived behavioural control ($\gamma_{\text{indirect ND-EI}} = \gamma_{\text{total ND-EI}} = 0.235$). The normative dimension appeared as also directly and indirectly related to attitude towards entrepreneurship ($\gamma_{\text{direct ND-ATE}} = 0.108$; $\gamma_{\text{indirect ND-ATE}} = 0.091$; $\gamma_{\text{total ND-ATE}} = 0.199$). Moreover, the regulatory dimension – although lacking a direct influence on entrepreneurial self-efficacy – slightly affected the attitude towards entrepreneurship ($\gamma_{\text{direct RD-PBC}} = 0.062$) and perceived behaviour ($\gamma_{\text{direct RD-ATE}} = 0.025$). Moreover, university education had a strong and positive impact on entrepreneurial self-efficacy ($\gamma_{\text{direct UE-ESE}} = 0.068$). It also had a direct and indirect effect on perceived behavioural control ($\gamma_{\text{total UE-PBC}} = 0.053$), attitude towards entrepreneurship ($\gamma_{\text{total UE-ATE}} = 0.092$), and entrepreneurial intention ($\gamma_{\text{total UE-EI}} = 0.165$).

CONCLUSIONS

Although prior studies interested in exploring the impacts of individual and environmental factors on the intention to become an entrepreneur, few studies integrated these variables into a single framework (Clercq, Lim, & Oh, 2011; Nguyen, 2020). Moreover, some researchers argue that environmental factors are internalised by individual characteristics to shape a nascent entrepreneurs' process of entrepreneurship (Nguyen *et al.*, 2018). However, the mechanisms underlying peoples' cognitive process of entrepreneurship that internalise environmental factors have not been adequately explained. Thus, this study combined the theory of planned behaviour (Ajzen, 1991) and the social learning theory (Bandura, 1977) with contextual factors so as to discover these mechanisms.

Thus, this study contributes to entrepreneurship literature by, *firstly*, revealing that attitude towards entrepreneurship has the strongest effect on entrepreneurial intention, followed by start-up self-efficacy and perceived behavioural control. The study finds that subjective norm is not directly related to entrepreneurial intention, but it has an indirect impact on the intention to become an entrepreneur through attitude towards entrepreneurship and perceived behavioural control. In other words, start-up self-efficacy, attitude towards business venturing, and perceived behavioural control play mediating roles in the correlation between subjective norms and entrepreneurial intention. *Secondly*, this research reveals the links between social capital and the intention to engage in business venture, which however is not statistically significant and is mediated by attitude towards business venture, subjective norms, and perceived behavioural control. *Thirdly*, university education appears to not only directly shape entrepreneurial intention but also affect the three antecedents of TPB. *Fourthly*, while the normative dimension is not related to entrepreneurial intention, the relationship between the regulatory dimension and entrepreneurial intention is rather weak. Moreover, attitude towards entrepreneurship mediates the link between normative dimension and entrepreneurial intention but does not mediate the regulatory dimension and intention to become an entrepreneur. *Finally*, the findings of this study helps policymakers in ameliorating the entrepreneurship ecosystem – including regulatory and normative support – in order to promote business venturing activities among the youth, especially college students. Furthermore, universities and institutions should design entrepreneurial courses and practical programmes that will support students in acquiring the necessary knowledge and skills to run own businesses after graduation. With an effective supporting scheme, university education can enhance students' attitude towards entrepreneurship, self-efficacy, perceived behavioural control, and then foster entrepreneurial intention, even their future start-up behaviour.

This research has several limitations. *Firstly*, the number of universities selected to distribute questionnaires was not sufficiently large (only 14 universities and institutions), so future research should survey wider. *Secondly*, the study only examined factors that affect entrepreneurial intention, without scrutinising the correlation between entrepreneurial intention and actual entrepreneurial behaviour. Future studies should consider this relationship. *Moreover*, due to resource limitations, this study examined the influence of contextual factors – such as social capital, university education,

regulatory and normative support – on entrepreneurial intention, while there are many other environmental factors. Thus, future studies should extend the research model or apply another theory so as to contribute to the entrepreneurship literature.

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Conflict of Interest

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