ENTREPRENEURIAL INTENTIONS IN AN INTERNATIONAL UNIVERSITY ENVIRONMENT

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ABSTRACT

Purpose – The purpose of this paper is to analyse the entrepreneurial intentions of international university students by applying the theory of planned behaviour (TPB). This paper presents a model that considers personal, social and environmental factors that potentially influence students' intentions to become entrepreneurs.

Design/methodology/approach – An extension of the TPB was proposed, including two additional constructs: entrepreneurial skills and university education. The target population of the study was national and international university students enroled in different universities. A validated survey (n ¼ 276) was used to collect the data. Structural equation modelling was used to test the hypotheses and the relationships between variables.

Findings – Students are more likely to acquire entrepreneurial skills through effective education and training. Entrepreneurial skills play a significant role in explaining entrepreneurial intentions because it is assumed that knowledge and training make people highly skilled. This raises people's propensity to start a business.

Originality/value – This study makes a unique contribution to the literature by considering the role of entrepreneurial skills that are commonly acquired at university. The primary conclusions relate to the acquisition of entrepreneurial skills within the university environment. These conclusions are of interest to practitioners and policymakers.

Keywords Entrepreneurial intention, Entrepreneurial education

INTRODUCTION

In recent years, entrepreneurship has become a key driver of employment and economic growth (Acs et al., 2005). Governments and educational institutions show an increasing interest in promoting entrepreneurship. Universities in particular find that investing in entrepreneurial education is paramount for the social and economic development of society. Such education can help develop students' knowledge, skills and intentions to

start a business (Ahmed et al., 2017; Fietze and Boyd, 2017; Garrido-Lopez et al., 2018; Ilonen et al., 2018).

From an academic perspective, a great deal of research has examined entrepreneurship and the factors that either push or pull entrepreneurs to start a business. But the majority of studies focus on established entrepreneurs, and little is known about younger adults and the factors that drive them to start a business (Henderson and Robertson, 2000; Turker and Sonmez Selçuk, 2009). Whilst some individuals are born entrepreneurs, others are made. They must acquire certain skills or capabilities that help them become entrepreneurs (Henderson and Robertson, 2000). Although there is debate over the effectiveness of entrepreneurship education for developing entrepreneurial intentions, universities and their entrepreneurship education programmes are seen as "critical for developing entrepreneurial skills, attitudes and behaviors" (Volkmann et al., 2009, p. 9). It is within the university environment where students can find initial inspiration that together with the education in business and management can generate entrepreneurial intentions.

Drawing on the theory of planned behaviour (TPB), which posits that entrepreneurship is not only intentional but also pre-planned (Kirby and Ibrahim, 2011), this paper studies the influence of personal attitudes, subjective norms, and perceived behaviour on university students' entrepreneurial intentions. This study enriches research based on the TPB model by considering students' entrepreneurial skills or capabilities, which are presumably acquired at university. Thus, the model presented herein contributes to the literature by incorporating the role of entrepreneurial education as well as the skills and capabilities that the students acquire. The paper shows that education might have an indirect effect on the development of entrepreneurial skills. This in turn fosters entrepreneurial intentions. In this context, the purpose of this paper is to analyse the entrepreneurial intentions of university students and the personal, social and environmental factors that influence their intentions to become entrepreneurs.

The paper continues as follows: the second section presents a brief review of the literatura on the factors that influence entrepreneurial intentions. The third section presents the method used to test the hypotheses. The fourth section presents the results and discusses the primary findings. Finally, the fifth section provides the conclusions of the study.

THEORETICAL FOUNDATION

According to Nabi et al. (2010), three models can be used to test entrepreneurial intentions: Shapero's model of the entrepreneurial event, Ajzen's TPB and Lüthje and Franke's model.

This study builds on Ajzen's TBP. The TPB is adopted in this paper because of its widespread acceptance among academics and its ability to predict human social behaviour (Ajzen, 2011). It also allows the measurement of entrepreneurial behaviour (Heuer and Kolvereid, 2014). The TPB considers three antecedents of intention, predicting that intentions depend on personal attitudes towards starting a new firm (behaviour), social influences (subjective norms) and perceived ability (perceived behavioural control). The TPB posits that an individual's intention to perform certain behaviours increases with perceived ability and that people start businesses if they believe they have the ability to do so and the activity is socially accepted (Kirby and Ibrahim, 2011). In this study, two additional variables are incorporated into this widely accepted model: the skills and capabilities of the study population and the entrepreneurial environment (i.e. university education). This proposed model enables analysis of whether

these five constructs encourage the entrepreneurial intentions of national and international university students.

Entrepreneurial intention

The field of entrepreneurial intention has attracted the attention of scholars in recent years. The literature distinguishes between two different lines of research. One arises from social psychology and analyses behaviours and the mental processes that occur when transforming attitudes and beliefs into effective action (Ajzen and Fishbein, 1980; Bandura, 1997). Following this first approach, Ajzen (1991) developed the TPB, which has become popular amongst social psychologists (Liñán and Fayolle, 2015) and has become one of the most influential models to explain human behaviour. The other line of research addresses entrepreneurship (Bird, 1988; Roy et al., 2017; Shapero, 1984; Shapero and Sokol, 1982) and defines an individual's entrepreneurial intention as a "self-acknowledged conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future" (Thompson, 2009, p. 676).
The TPB defines intentions as the key predictors of human behaviours. In other words, intentions can predict an individual's behaviour, so understanding the formation of entrepreneurial intentions provides insight into the venture creation process (Galanakis, and Giourka, 2017). Thus, intention-based models offer a great deal to entrepreneurship research because entrepreneurial activity is a planned behaviour and understanding intentions can help detect potential actions. This study, however, focuses exclusively on intentions because the majority of university students are still in the phase of learning and acquiring the knowledge and capabilities they will need in the future to pursue a career in business and management. Thus, the concept of behaviour is not considered in this study (Miralles et al., 2016; Trivedi, 2017).

Personal attitudes

Personal attitudes can be described as the extent of positive or negative evaluations of venture creation (Kyvik, 2018; Liñán et al., 2013). These attitudes are evaluations of specific behaviours that are attractive or advantageous. Depending on how individuals evaluate behaviours, their subsequent intentions are shaped in one form or another (Ajzen, 1991). Therefore, attitudes towards entrepreneurial behaviour such as starting one's own business vs working as an employee can be regarded as an antecedent of entrepreneurial intention. Liñán et al. (2011) found that high entrepreneurial intentions lead to a positive attitude towards starting a business. This finding is supported by Lortie and Castogiovanni (2015),who reviewed a number of relevant papers on this topic and found 16 articles that confirm a positive relationship between attitudes and intentions. Thus, the first hypothesis is formulated as follows:

H1. Personal attitudes positively influence entrepreneurial intention.

Subjective norms

Subjective norms are an individual's perceptions of the values that others consider important regarding that individual's choice to create a venture. For some, subjective norms are the weakest predictors of intentions (Liñán et al., 2013). Scholars have reported that the direct effect of subjective norms on intention is weak or non-existent (Autio and Acs, 2010; Krueger et al., 2000; Miralles et al., 2017). However, Liñán and Chen (2009) and Kolvereid and Isaksen (2006) have reported that subjective norms appear to affect attitude and perceived behavioural control. Whilst entrepreneurial values from society can affect an individual's own beliefs and perceptions, so can social norms from family,

friends or other relations. These in turn can affect attitudes and perceptions of control (Benavides-Espinosa and Roig, 2011). Strong perceptions of social pressure to be an entrepreneur might be reflected in a more constructive attitude towards entrepreneurship and in greater behavioural control in starting and establishing a firm (Albulescu and Tămăşilă, 2016). Thus, the second hypothesis is formulated as follows:

H2. Subjective norms positively influence entrepreneurial intention.

Perceived behavioural control

Perceived behavioural control is defined as the "perceptions of the respondent that he/she can execute specific behaviour/s" (Bird, 2015, p. 154). It refers to the individual's control over the actions that are necessary to perform behaviours. It usually comprises evaluations of skills, intellectual capability and the ability to overcome setbacks or effectively deal with barriers. According to Ajzen (2002, p. 667), "a high level of perceived control should strengthen a person's intention to perform the behaviour, and increase effort and perseverance". Perceived behavioural control can provide useful information about the actual control a person exercises over the situation. It can therefore be used as a direct predictor of behaviour. Related to this concept are the perceptions of the behaviour's feasibility, considered an essential predictor of the behaviour. Individuals typically choose to adopt behaviours that they believe they will be able to control and master. Thus, the third hypothesis is formulated as follows:

H3. Perceived behavioural control positively influences entrepreneurial intention.

Entrepreneurial skills

Cheng et al. (2009) affirm that entrepreneurship education has commonly been narrowly defined as education that provides the necessary skills to launch a business. When the purpose of the educational programme is to provide students with the entrepreneurial skills required for work, the best type of education and training will be acquired from a business (Hytti and O'Gorman, 2004; Mahto and McDowell, 2018; Olugbola, 2017). Ultimately,entrepreneurship programmes are designed to have a positive impact on entrepreneurial intentions and instil entrepreneurial knowledge and skills in individuals.
Kolvereid and Isaksen (2006) found that students who went through entrepreneurship programmes and activities displayed stronger entrepreneurial attitudes and intentions than those who did not participate in entrepreneurship programmes. The same study also showed that individuals who completed entrepreneurship programmes rated themselves as more creative, more analytical, more capable of motivating others to gain support and assistance in realising opportunities, better networkers, and more capable of adapting to situations and handling different situations with ease.
Baron and Markman (2000) observed specific social skills such as the ability to assess others, adapt to changing or diverse social situations, initially and consistently make a Good impression on others and successfully persuade others. Thus, the fourth hypothesis is formulated as follows:

H4. Entrepreneurial skills positively influence entrepreneurial intention.

Entrepreneurial environment: university education

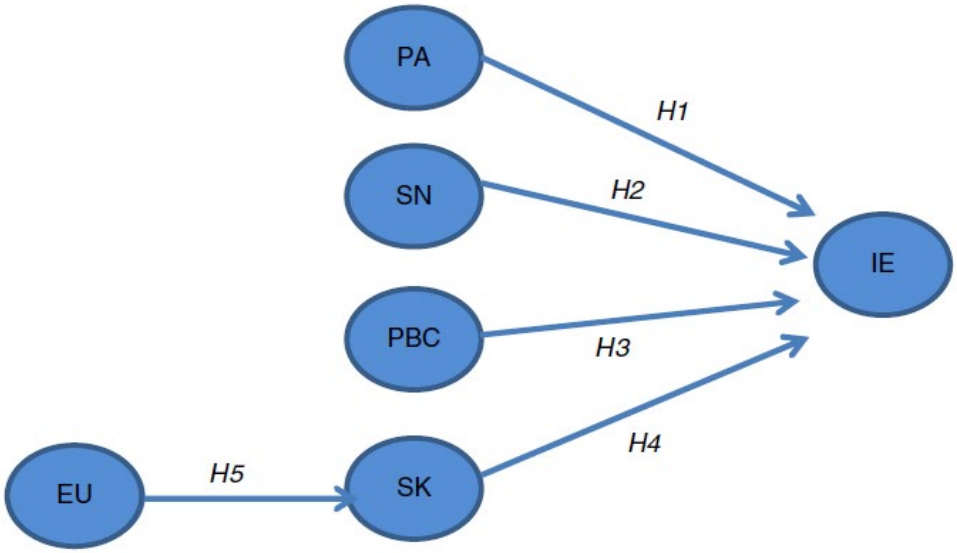
University education provides members of society with the knowledge and competencias they need to develop professional careers. Teaching and research are the cornerstones of university education, but the progress of society and the influence of globalisation has

added a third mission, namely economic development, to the university domain (Stauvermann and Kumar, 2017). Aligning these three missions is crucial for building an entrepreneurial university (Etzkowitz et al., 2000; Ribeiro et al., 2010) where entrepreneurship is central to the progress of the economy and society (Audretsch et al., 2005; Sanz et al., 2017; Weber, 1978).

According to Franke and Lüthje (2004), students who perceive a positive environment and who are enroled in entrepreneurship programmes at university develop more entrepreneurial intentions. Other scholars have also acknowledged that an entrepreneurial educational environment has a significant impact on entrepreneurial intentions (Cheng et al., 2009; Martínez-Climent et al., 2018; Packham et al., 2010; Schwarz et al., 2009; Kabók et al., 2017). Thus, universities today must incorporate this type of education in their curricula because doing so can have a direct effect on skills development, which ultimately exerts an indirect, positive effect on entrepreneurial intentions. Thus, the following hypothesis is formulated (Figure 1):

H5. University environment has a direct, positive influence on skills development.

Figure1. The proposed research model



METHOD

This section describes the study design, the validation of the measurement instruments and the method used to test the hypotheses.

Empirical study design

There is growing interest in entrepreneurship and entrepreneurial intention. This study examines entrepreneurial intention in a university context. Prior studies that have also examined entrepreneurship within universities include those by Fayolle et al. (2006), Franke and Lüthje (2004), Guerrero and Urbano (2012), Pittaway and Cope (2007) and Zhang et al. (2014). A questionnaire was used to collect the data for this study. This

questionnaire was built following a review of different models that have used measurement scales, including those developed by Franke and Lüthje (2004), Liñán et al. (2013), Liñán and Chen (2009), Lortie and Castogiovanni (2015), Pruet et al. (2009), Spreitzer (1995) and Zhao et al. (2005).

The questionnaire had four sections. The first section collected general respondent details. These data were used to calculate descriptive statistics for the sample. The second section had 20 items that formed the scales for entrepreneurial intention, personal attitudes, subjective norms and perceived behavioural control. The third section comprised 12 items on entrepreneurial skills. The fourth section comprised 13 items on university environment. All responses were recorded on a five-point Likert scale.

Several approaches were used to obtain the sample for this study. For international students, an online questionnaire and emails in English and Spanish were used. This procedure yielded 276 valid questionnaires, some of which were removed from the data set because they were incomplete. Students from 74 universities across 34 countries participated in the survey (see Appendix 1). Regarding the gender of respondents, 53.98 per cent were women and 46.02 per cent were men. The age range was 17–55 years. The median age was 22 years.

Measurement instruments

Existing scales were used to measure the variables entrepreneurial intention, personal attitudes, subjective norms and perceived behavioural control (Liñán et al., 2013; Liñán and Chen, 2009; Pruet et al., 2009). For the variables entrepreneurial skills and university environment, specific scales were developed for this study based on a review of the theory on these variables. This procedure enabled specification of the domain and dimensions of each construct.

The measurement scales were tested for reliability and validity. Chin and Marcolin (1995) affirm that these psychometric properties should be confirmed for each model because the reliability and validity of constructs can change depending on the theoretical model that is employed.

However, the items were filtered to simplify the model. Justification for the underlying models of the scales has already been provided, so reliability of the proposed scales was tested using Cronbach's α, as per Churchill's (1979) recommendations.

Analysis of reliability

The most widely used measure of reliability is Cronbach's α (Cronbach, 1951), which enables confirmation of the degree of internal consistency[1]. Calculating Cronbach's α for each factor separately does not consider the influence on the reliability of the other constructs. As Table I shows the values were greater than 0.7 for all scales except the personal attitudes scale. Cronbach's α for personal attitudes was close to 0.7, so this scale was kept in the model. This practice is supported by the literature and prior studies.

To obtain the necessary data to check for composite reliability (CR) and convergent validity, confirmatory factor analysis was first performed in EQS 6.1. Maximum likelihood estimation was used for the confirmatory factor analysis. The GFI was examined and the model was interpreted. This analysis showed that several items needed to be removed to achieve a good fit. Table I displays the results of the reliability analysis. Table I confirms that the CR for all factors was greater than 0.7. The CR can also be tested using Fornell and Larcker's (1981) average variance extracted (AVE) procedure. The values for the AVE were all greater than 0.5, so they were deemed acceptable.

Validity of the measurement instrument

Content validity is defined as the degree to which the scale covers all dimensions of the concept it is supposed to measure. The items that make up the scale (Vila et al., 2000) should provide a representative measure of the contents of the concept that is measured (Sánchez and Sarabia, 1999). There is a lack of consensus as to how to determine whether a measure has content validity. This process largely depends on the literature review and the researcher's judgement, so no specific indicator can be stated in this case.

Convergent validity was tested by examining the t-statistics for the factor loadings. If all loadings measured the same construct, they would be statistically significant (Anderson and Gerbing, 1988). Table II provides the results of the confirmatory analysis. As shown, all variables in the model were validated. The non-significant items were eliminated from the confirmatory factor analysis, keeping those that were significant. The results in Table II show that the estimates were good and had a high level of significance. All t-statistics were greater than 3.291. They were therefore significant for $p<0.001$. The standardised values were high. All standardised values were greater than 0.5.

All goodness-of-fit (GFI) indicators were greater than 0.8 and close to 0.9. The only indicator that did not meet the optimal criteria was the SRMR. The value for the SRMR was between 0.05 and 0.08, which is considered acceptable, although the optimal value is less than 0.05.

Table 1. Cronbach's α and comparison between CR and AVE

Factors	No. of items	Cronbach's α	No. of items	CR	AVE	Items
Entrepreneurial intention, F1	4	0.849	2	0.818683	0.69338	V3, V4
Personal attitudes, F2	3	0.697	1	1.000000	1.000000	V7
Perceived behavioural control, F3	4	0.718	3	0.805025	0.585092	V9, V10, V11
Subjective norms, F4	3	0.768	2	0.794502	0.662273	V12, V13
Entrepreneurial skills, F5	11	0.808	4	0.882525	0.655603	V21, V22, V23, V24
University environment, F6	13	0.884	9	0.941455	0.645782	V28, V31, V32, V33, V34, V35, V36, V37, V38

Discriminant validity indicates the degree to which a given construct differs from other constructs in the same model. For discriminant validity to hold, any given construct should correlate weakly with other latent variables that measure different phenomena (Sánchez and Sarabia, 1999). Three criteria can be used to test discriminant validity. One of these is the confidence interval test (Anderson and Gerbing, 1988).

Table II. Confirmatory factor analysis of the model

Variable	Standardised λ	t
V3 F1	0.798	16.200
V4 F1	0.866	18.887
V7 F2	0.825	13.928
V9 F3	0.861	22.567
V10 F3	0.590	11.493
V11 F3	0.816	19.924
V12 F4	0.905	20.736
V13 F4	0.711	13.367
V21 F5	0.892	21.076
V22 F5	0.901	21.551
V23 F5	0.689	13.455
V24 F5	0.735	14.831
V28 F6	0.615	12.217
V31 F6	0.810	20.077
V32 F6	0.600	11.768
V33 F6	0.761	17.572
V34 F6	0.799	19.463
V35 F6	0.858	23.272
V36 F6	0.861	23.465
V37 F6	0.941	13.928
V38 F6	0.915	28.470
Goodness-of-fit indicators		Values
Bentler–Bonett normed fit index		0.833
Bentler–Bonett non-normed fit index		0.871
Comparative fit index (CFI)		0.887
Lisrel GFI fit index		0.872
Lisrel AGFI fit index		0.840
Standardised RMR		0.079
χ^2 (185 degrees of freedom) = 499.87		

The correlations between the six variables were studied. Variables F3 and F4 were very highly correlated. F3 was also quite highly correlated with F5 and F2. Therefore, the results indicate that discriminant validity did not hold, so the model needed simplifying. F3 was removed from the model, and the correlation matrix was recalculated. The highest correlation was between F1 and F4 (0.881). The confidence interval was calculated by taking this value plus or minus two times the standard error. The standard error was 0.044. Thus:

Lower limit = 0:881-(2 * 0:044) = 0:793;
Upper limit = 0:881+(2 * 0:044) = 0:969:

The value 1 lay outside the interval, thereby confirming discriminant validity.
Finally, a scale has nomological validity when the construct that is measured is capable of revealing relationships with other constructs that conceptually or theoretically should exist. This step was carried out for the structural model.

Analysis of the structural model

The causal relationships described by the hypotheses were analysed using structural equation modelling (SEM). During this stage, the parameters of the specified model were estimated and statistically tested. First, the GFI was studied to evaluate how well the data fit the proposed model (Luque, 1999).

The two most widely used measures are the $\chi 2$ statistic or likelihood ratio and the GFI index. The likelihood ratio only indicates the significance of the overall model. A significance of $p < 0.05$ for the value $\chi 2$ indicates that the observed covariance matrix and the estimated covariance matrix differ significantly and that the model should therefore be rejected. Given the limitations of the likelihood ratio, however, the standard recommendation is not to restrict the analysis exclusively to this overall fit index (Cea, 2002). It is instead advisable to complement this statistic with other statistics, such as those shown in Table III.

Table III. Recommended values for the goodness of fit

Indicators	Level of acceptance
Bentler–Bonett normed fit index	Close to 0.9
Bentler–Bonett non-normed fit index	Close to 0.9
Comparative fit index (CFI)	Close to 1.0
Lisrel GFI fit index	Close to 0.9
Lisrel AGFI fit index	Close to 0.9
Standardised RMR	Less than 0.05

Source: Uriel and Aldás (2005)

The GFI indices of the theoretical model did not meet the criteria for acceptance, so the next step was to proceed with the analysis of the model. As discussed earlier with respect to the analysis of the discriminant validity, perceived behavioural control was eliminated from the model because of its high correlations with most other variables. Accordingly, it was impossible to test H3.

There was a relationship with respect to F5 given by the Lagrange multiplier. This relationship is theoretically justified, so the variable was included in the model. Furthermore, university environment does not have a direct relationship but rather offers a context in which capabilities are developed. Therefore, the fit of the re-specified theoretical model, here referred to as the revised model, was evaluated.

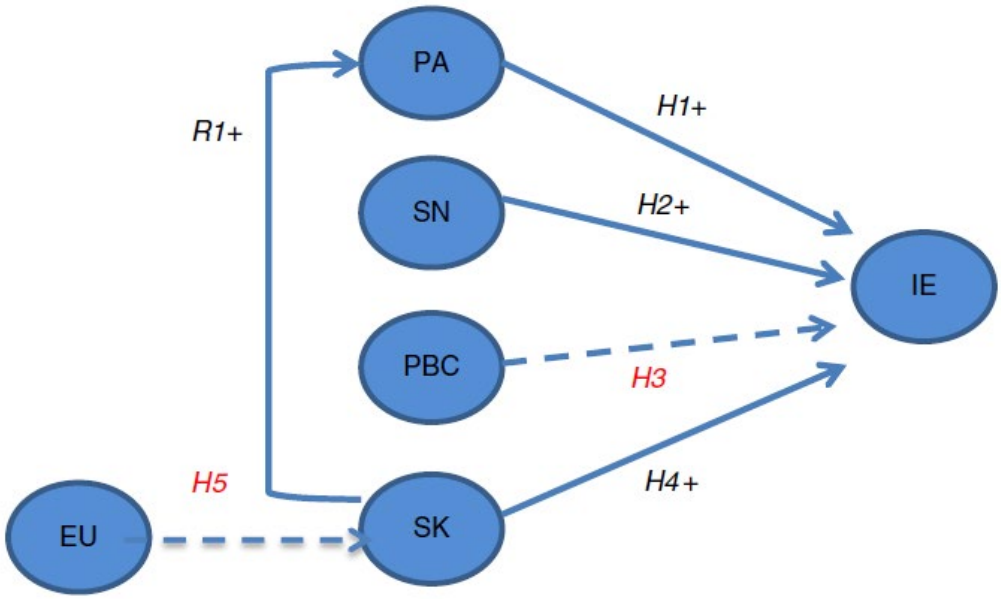
As Table IV shows the GFI indices for the revised model improved with respect to the theoretical model. These values were considered acceptable (Figure 2).

Table IV. Comparison of the goodness-of-fit índices for both models

	χ^2	df	p	GFI	AGFI	SRMR
Theoretical model	484.37	97	0.000	0.822	0.750	0.081
Revised model	202.57	96	0.000	0.912	0.875	0.064

Notes: GFI: close to 0.9; AGFI: close to 0.9; SRMR: less than 0.05

Figure 2. The revised model



RESULTS AND DISCUSIÓN

This section presents a discussion of the results that were obtained for the revised model. The results show that H1 was significant. The t-value was 2.032 and the standardised loading was 0.981. Thus, the results show that personal attitudes directly and positively influence entrepreneurial intention, as justified by the theoretical framework.

H2 had a high level of significance. The t-value was 6.824 and the standardised loading was 0.982. The results thereby show that subjective norms also directly and positively influence entrepreneurial intention, as justified by the theoretical framework.

As mentioned earlier, perceived behavioural control was highly correlated with entrepreneurial intention and personal attitudes. Perceived behavioural control was therefore removed from the model, rendering it impossible to test H3. Other empirical studies have also been unable to test this variable (e.g. Kolvereid and Isaksen, 2006; Lortie and Castogiovanni, 2015; Simon and Kim, 2017).

For H4, the t-value of 2.155 was also significant. The standardised loading in this case was 0.840. Furthermore, an additional relationship (R1) indicates that the entrepreneurial skills variable also influences personal attitudes, as reflected by the t-value of 10.839 and the standardised loading of 0.738.

The personalities and characteristics of entrepreneurs may vary considerably. However, all entrepreneurs seem to have in common certain entrepreneurial skills and a willingness to take risks (Wach and Wojciechowski, 2016). Through effective entrepreneurship education, students can learn these skills. This learning can act as a springboard to help these students become successful entrepreneurs (Rae, 2006). Entrepreneurial skills were found to be important in this model. They influence entrepreneurial intention directly and positively whilst influencing personal attitudes, which also influence entrepreneurial intention.

H5, however, was non-significant. This hypothesis was therefore rejected. Entrepreneurial skills can stem from the university context as well as the ability to explore

future job opportunities (Guerrero and Urbano, 2012; Veciana, 1999), and the university plays a prominent role. However, this role is not decisive. The reason for this finding, in this case, is that the university environment does not directly influence the development of entrepreneurial capabilities, although it does so indirectly through courses and seminars.

This study drew upon the standardised model and validated scales from the literature. The analysis was performed using SEM in EQS 6.1, which offers a robust analysis tool. The results of the analysis were satisfactory, although perceived behavioural control had to be removed from the model. However, the entrepreneurial skills variable added considerable value to the model. This variable was included in the model because it captures the development of capabilities and knowledge acquisition of future entrepreneurs that are enroled in university programmes. The university context is an excellent environment in which to train future entrepreneurs. For this reason, the university environment was also included in the model, although the influence of this variable was less direct.

The entrepreneurial skills variable was a critical variable in the model because it exerted a direct influence on entrepreneurial intention, as well as an indirect influence through personal attitudes. This finding has practical implications for policymakers and especially university management because it shows the importance of offering high-quality entrepreneurial education and training. The educational environment should perhaps be subject to further examination.

CONCLUSIONS

For each individual, entrepreneurial intention is an intuitive process. But individuals need the right capabilities to fully pursue this entrepreneurial intention. This variable was therefore included in the model. Furthermore, the university provides an excellent environment for individuals to develop the capabilities that others are born with. One of the strengths of this study is the inclusion of this variable in the model. Surprisingly, however, university environment was non-significant, implying that this type of environment does not exert a direct influence, although the university context is important for university students to develop their capabilities. Universities should perhaps play a much more dynamic and practical role in entrepreneurial development in the classroom.

For instance, universities should consider including courses on business creation as it raises students' attitudes towards becoming entrepreneurs. These courses provide students with practical knowledge as they learn from real-world scenarios and with theoretical knowledge on business creation. Additionally, incorporating business-oriented teaching techniques that provide business creation training will positively foster entrepreneurial intentions. For example, according to Costin et al.'s (2018) teaching experience, business simulations can help develop entrepreneurial skills. Simulations can replicate real-world scenarios, and "are useful to learn about the complexities of running a small firm where the application, not the definitions, of business concepts, functions, and operations are most important" (p. 138).

This study has certain limitations that provide opportunities for future research. Following Liñán et al. (2013), this study has examined the antecedents of intention that serve as precursors for business start-up (Krueger and Day, 2010). Future research should also examine the entrepreneurial behaviour of those students who intend to start a business and are about to do it or have recently started. Considerable attention has been paid to the students' intentions to start a business but little is known about the next step where a student actually go a step further and become an entrepreneur. Since the survey of this

study collected data only from students, an extension of the study could include other university actors who are also involved in the entrepreneurial process.

There are interesting implications for both academics and policymakers. The university environment plays a critical role today in shaping students' attitudes and behaviours. In increasingly unpredictable environments, entrepreneurs have to be better prepared for today's challenges and continuous changes. The university can provide a platform to explore the drivers of entrepreneurial intentions but more importantly it can help to develop entrepreneurial capacities. It is within the university environment where students and prospective entrepreneurs can ignite their entrepreneurial spirit.

Note

1. The value of this coefficient ranges from 0 to 1. Cronbach's αvalue that is greater than or equal to 0.7 is acceptable during experimental or preliminary stages of research. In basic research, this threshold is 0.8. In applied research, this threshold is 0.9 (Nunnally and Bernstein, 1994). Hair et al. (1999) report that the generally accepted minimum value for Cronbach's α is 0.7 or even 0.6 for exploratory research.

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Further reading

Guerrero, M., Urbano, D. and Fayolle, A. (2016), "Entrepreneurial activity and regional competitiveness: evidence from European entrepreneurial universities", Journal of Technology Transfer, Vol. 41, No. 1, pp. 105-131.

Appendix 1

Europe		America		Asia		Africa	
Belgium	3	Argentina	1	China	2	Equatorial Guinea	1
Bulgaria	1	Bolivia	1	Japan	1	Morocco	1
Croatia	2	Brazil	1	The Philippines	1		
Finland	1	Chile	1	Russia	1		
France	3	Colombia	6	Turkey	1		
Germany	5	Ecuador	8				
Ireland	1	Honduras	1				
Italy	2	Nicaragua	1				
Moldova	1	Peru	1				
The Netherlands	1	The USA	1				
Poland	1	Venezuela	4				
Romania	1						
Spain	11						
Switzerland	1						
UK	3						
Ukraine	3						
16 countries		11 countries		5 countries		2 countries	
40 universities		26 universities		6 universities		2 universities	
Total: 34 countries; 74 universities							

Appendix 2. Items in the questionnaire distributed to students

(1) Starting a firm and keeping it viable would be easy for me.
(2) A career as an entrepreneur is totally unattractive to me.
(3) My friends would approve of my decision to start a business.
(4) I am ready to do anything to be an entrepreneur.
(5) I believe I would be completely unable to start a business.
(6) I will make every effort to start and run my own business.
(7) I am able to control the creation process of a new business.
(8) My immediate family would approve of my decision to start a business.
(9) I have serious doubts about ever starting my own business.
(10) If I had the opportunity and resources, I would love to start a business.
(11) My colleagues would approve of my decision to start a business.
(12) Amongst various options, I would rather be anything but an entrepreneur.
(13) I am determined to create a business venture in the future.
(14) If I tried to start a business, I would have a high chance of being successful.
(15) Being an entrepreneur would give me great satisfaction.
(16) It would be very difficult for me to develop a business idea.
(17) My professional goal is to be an entrepreneur.
(18) Being an entrepreneur implies more advantages than disadvantages to me.
(19) I am able to recognise a business opportunity.
(20) I have creativity for business.
(21) I have some abilities for problem solving.
(22) I have the capacity for leadership and communication skills.
(23) I know how to develop new products and services.
(24) I know how to make new professional contacts.
(25) In my family, there is a tradition of creating/starting new businesses.
(26) Creating my own business, is for me, a form of personal self-fulfilment to fulfil my dreams.
(27) I have a high entrepreneurial spirit.
(28) My capacity to take risks has increased inasmuch as I have undertaken more training.
(29) I like being my own boss, being independent.
(30) Fear of failure does not prevent me from taking initiatives.
(31) The creative atmosphere inspires us to develop ideas for new businesses.
(32) My university promotes seminars that generate business ideas and identify business opportunities.
(33) My university brings businessmen who motivate me to consider other business ideas.
(34) The university promotes different skills that I need to become an entrepreneur.

(35) The courses provide me with the necessary knowledge to start a business.
(36) My university supports forming student teams for the creation of businesses.
(37) I have participated in projects for the implementation of new businesses at the university.
(38) The university fosters actively the process of business creation.
(39) The university offers a network of new venture capitalists.
(40) There are people, at my university, who offer technical advice/counselling to start my business idea.
(41) At the university there are enough resources to develop my business idea.
(42) The university provides access to incubators, platforms, etc. to start my business idea.
(43) The university provides access to organisations that facilitate the starting of my business idea.