

## Entrepreneurial intention and university: A necessary relationship in regions with high levels of unemployment

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Received December, 2020

Accepted February, 2022

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### Abstract

**Purpose:** Although university entrepreneurship education as a predictor of entrepreneurial intention (EI) has been verified in the academic literature, few studies have analysed its influence in regions with low entrepreneurial activity. This research provides a new point of view by contrasting students' perceptions with what entrepreneurs consider most relevant. We propose an integrative and multi-perspective framework based on expectancy theory and the theory of planned behaviour, which includes the moderating effect of gender and family imprinting.

**Design/methodology:** A valid sample of 108 business students from the University of Huelva (Spain) served as the basis of the study, whose data were analysed using consistent partial least squares (PLSc) to validate the scales and subsequently test the hypotheses. In addition, 54 valid questionnaires from local entrepreneurs were used for the comparative analysis between entrepreneurs and students.

**Findings:** Our findings showed that the elements associated with university support have a significant, albeit negative, impact on students' intentions to become entrepreneurs. In terms of moderating variables, no significant differences were found by gender, but significant differences were found in the group with entrepreneurial parents. In relation to the determinants of entrepreneurial success, it was found that the students' conceptions of entrepreneurship were closer to those of the entrepreneurs in Huelva than to those of the successful entrepreneurs.

**Originality/value:** This paper contributes to the academic debate on whether universities in general, and business schools in particular, should promote entrepreneurship as the core of education. We believe that these results, despite the specific and limited scope of the study, may be of great interest for university staff in regions with high levels of structural unemployment and low rates of total early-stage entrepreneurial activity (TEA) to incorporate into their academic programmes.

**Keywords:** Entrepreneurial Intention, Higher Education, Partial Least Squares, Gender, Entrepreneurship

**Jel Codes:** A22, C52, M13

**To cite this article:**

Borrero-Sánchez, J.D., & Borrero-Domínguez, E. (2022). Entrepreneurial intention and university: A necessary relationship in regions with high levels of unemployment. *Intangible Capital*, 18(1), 120-143. <https://doi.org/10.3926/ic.1732>

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## 1. Introduction

The decimation of employment as an effect of the recent economic crises in Europe has reaffirmed the need for business creation as a means of generating wealth (Barba-Sánchez & Atienza Sahuquillo, 2017). However, despite numerous public policies to stimulate entrepreneurship, the number of entrepreneurs is still insufficient (Zapico, Nieto & Muñoz, 2008).

In particular, the development of youth entrepreneurship has a beneficial impact on a country's economy (Fatoki, 2010). Many studies have concluded that factors such as previous experiences, education, attitudes, personal traits, and social contexts influence entrepreneurship (Hunter & Lean, 2018; Oganisjana, 2015; Rubio-Bañón & Esteban-Lloret, 2016), but nevertheless, the results of these studies do not coincide: some argue that young entrepreneurs lack labour market experience or sufficient entrepreneurial decision-making skills, which affects their entrepreneurial intention; others conclude that entrepreneurial students have more skills in innovation and technology, which positively affects their perceived behavioural control and, consequently, their entrepreneurial intentions (Kautonen, Tornikoski & Kibler, 2011).

In this context of labour scarcity and globalisation, entrepreneurship is crucial to the economy and society. Thus, entrepreneurship education, entrepreneurship skills training, and other elements of entrepreneurship support have been recognised as crucial factors in developing positive perceptions towards entrepreneurial intention (Bustamante, Velez & Afcha, 2020; Zhao, Seibert & Hills, 2005), and the university is a key agent that can provide its students with the knowledge and skills they need to develop an entrepreneurial career (Sanz, Peris & Escámez, 2017).

Moreover, the entrepreneurial university phenomenon is associated with the growing challenges universities face in contributing to socioeconomic development (Etzkowitz, Ranga, Benner, Guarany, Maculan & Kneller, 2008) or in reducing the high mismatch between skills and unemployment, especially among young graduates (Berton, Devicienti & Grubanov-Boskovic, 2017).

Despite the interest in entrepreneurship, however, we did not find empirical research on how the actions carried out by universities located in regions with high unemployment are influencing the entrepreneurial rate of their students. Therefore, focusing the analysis on a region with a low and structural rate of entrepreneurial activity, such as the province of Huelva in southern Spain, this work studies the entrepreneurial intentions of university students, contributing to the academic and political debate on the entrepreneurial intentions of young people in general and university students in particular.

In addition to institutional (university support), an individual's biological (gender) or situational (family background, region) factors, personal or motivational traits (from personality or psychology) also influence their entrepreneurial intention (Castelao-Naval, González-Pascual, Jordán-Ramos & Ruiz-Pomeda, 2015; Omoredede, Thorgren & Wincent, 2015; Suárez-Álvarez & Pedrosa, 2016).

In this regard, we found few studies that related entrepreneurs' personality traits to success (Rauch & Frese, 2007; Zhao, Seibert & Lumpkin, 2010). Since most successful entrepreneurs have a higher education (MIT Technology Review in Spanish, 2015), not enough research has been done on whether these universities are teaching what successful entrepreneurs consider relevant for entrepreneurship. Similarly, whether these determinants for successful Spanish entrepreneurs are the same as those identified by entrepreneurs or university students in the area under study has not been investigated.

The novelty of the study lies in taking a multi-method approach, with the theoretical model and empirical data from those who have successfully developed an entrepreneurial project. The aim is, on the one hand, applying the theory of planned behaviour (Ajzen, 1991) to confirm whether students perceive that university support influenced their entrepreneurship intention and, on the other hand, applying expectancy theory (Vroom, 1964) to identify the skills and abilities a potential entrepreneur must possess that will lead to success in the business project, as well as determining whether university students value these defining entrepreneurial traits in the same way.

Moreover, as gender perspective and family background have been of interest in research on entrepreneurial intention models (Lerner & Malach-Pines, 2011; Lerner, Pines & Schwartz., 2010), a better understanding of these realities and their influence on the relationship between university support and entrepreneurial intention, little studied so far, may favour an improvement in the quality of university education for entrepreneurship.

Thus, this paper aims to advance the challenges posed by Fayolle and Liñán (2014) regarding the use of two or more procedures for research on entrepreneurial intention models.

The qualitative analysis carried out and the methodology applied provide a new perspective on the study of entrepreneurship by proposing the following research questions: (1) Do university business students perceive that their university reinforces their intention to become entrepreneurs? (2) Is there any significant difference by gender or by having parents who are or have been entrepreneurs? (3) Are the meaning of success and the factors inherent to entrepreneurship the same for the successful Spanish entrepreneur, the local entrepreneur, and the university student?

To answer these questions, we developed a conceptual framework that reflects the role of the university in supporting entrepreneurship within the context of the actual and potential entrepreneur rather than studying it in isolation. This should allow for a deeper and more meaningful analysis and understanding of the topic. In this framework, entrepreneurial intention (EI) represents the intention of a university student to create an enterprise (Krueger & Brazeal, 1994). Such an intention is a conscious state of mind that precedes action and directs attention towards the goal of establishing a new business (Bird, 1988). To understand how this intention is formed, we followed Shapero and Sokol (1982) in examining the impact of perceived feasibility on EI and Kraaijenbrink, Bos and Groen (2010) to conceptualise perceived university support (PUS) through two related constructs: perceived environmental support and perceived competence support. To gain a better understanding of the role of the university in the field of entrepreneurship in a specific region, the model was tested in a region with a low entrepreneurial rate, the province of Huelva (institutional and situational approach), and we analysed whether there were in gender or family background differences (biological and situational approach). Finally, to determine a profile, the conception of success and the determining factors for its achievement were compared between students and local and successful entrepreneurs.

Thus, the study is structured as follows: First, after a brief description of the socio-occupational situation, the existing literature on factors influencing entrepreneurial intention and entrepreneurship is reviewed, followed by a description of entrepreneurial intention and entrepreneur models. Thirdly, the data are presented, and the results are analysed and discussed. Finally, the implications for education, conclusions, and limitations of the study are presented.

## **2. The entrepreneurial ecosystem**

During the economic crisis that peaked in 2013 unemployment rates increased more than at any other time in recent history. In this context, business creation became imperative (Barba-Sánchez & Atienza Sahuquillo, 2017). This phenomenon of entrepreneurship becomes of particular interest when governments realise that the state alone is not capable of ensuring adequate levels of production and employment (Fernández-Serrano & Romero, 2012).

For a region to generate wealth and employment, it is necessary for local agents to mobilise the resources (economic, human, institutional, or cultural) at their disposal (Barba-Sánchez & Molina, 2014) and for people to be favourably predisposed towards entrepreneurship (Barba-Sánchez & Atienza-Sahuquillo, 2012; Isaksen 2001).

The effects of the economic crises of recent years have meant for Spain that the entrepreneurial activity rate, or proportion of the population that is entrepreneurial, went from 7.0% in 2008 to 4.3% in 2010 and, although the value has been recovering, it stabilised at around 6.1% in 2019 (Observatorio del Emprendimiento de España, 2021). This trend in our country's entrepreneurial activity indicator, together with the conclusions of the Hiscox study of recent years (Hiscox, 2017), which classified Spain as having the lowest entrepreneurial spirit, led us to reflect on the weakness of the Spanish entrepreneurial ecosystem.

Narrowed to a more local level, Andalusia was the region with the highest unemployment in Spain with an unemployment rate of 20.80% at the end of 2018, compared to the Spanish average of 14.38%, with Huelva being the Andalusian province with the greatest decrease in entrepreneurial activity (Table 1). We noted all this without considering the negative effect in terms of both unemployment and the number of companies, as well as the economic decline that the community has suffered since the start of the COVID-19 pandemic.

	2008	2009	2010	2011	2012	2013
<b>Spain</b>	3,422,239	3,355,830	3,291,263	3,250,576	3,199,617	3,146,570
<b>Andalusia</b>	522,815	510,072	498,579	492,341	482,334	471,521
<b>Huelva</b>	27,463	26,783	26,277	25,812	25,008	24,184
<b>Almería</b>	45,130	43,501	42,546	41,581	41,021	40,549
<b>Cádiz</b>	64,505	62,817	61,056	60,184	59,027	57,313
<b>Córdoba</b>	50,057	48,979	48,249	47,465	46,601	45,306
<b>Granada</b>	62,269	60,016	58,319	57,636	56,243	55,210
<b>Jaén</b>	37,368	36,557	35,758	34,945	34,000	33,172
<b>Málaga</b>	116,683	113,362	110,291	109,614	107,385	105,769
<b>Sevilla</b>	119,340	118,057	116,083	115,104	113,049	110,018

	2014	2015	2016	2017	2018	Growth
<b>Spain</b>	3,119,310	3,186,878	3,236,582	3,282,346	3,337,646	-2.47%
<b>Andalusia</b>	468,930	480,094	489,347	501,745	509,137	-2.62%
<b>Huelva</b>	23,532	23,776	23,953	24,424	24,668	-10.18%
<b>Almería</b>	39,530	40,327	41,212	42,329	42,931	-4.87%
<b>Cádiz</b>	56,944	57,813	58,658	60,169	60,690	-5.91%
<b>Córdoba</b>	45,261	45,985	46,290	47,101	47,209	-5.69%
<b>Granada</b>	54,404	55,740	56,884	58,436	59,115	-5.07%
<b>Jaén</b>	32,704	33,016	33,250	33,842	34,030	-8.93%
<b>Málaga</b>	107,851	111,792	115,447	119,512	123,109	5.51%
<b>Sevilla</b>	108,704	111,645	113,653	115,932	117,385	-1.64%

Table 1. Number of active companies by year and by province in Andalusia (Spanish Statistical Office-INE, [www.ine.es](http://www.ine.es)).

Authors such as Feather (1992), Klyver, Nielsen and Evald (2013), and Shapiro (2014) have found a relationship between the degree of unemployment and the growth rate of self-employment, implying that self-employment increases when wage employment opportunities are limited. Moreover, as Shapiro (2014) pointed out, economies with a higher share of self-employment show a faster economic recovery. Therefore, governments encourage the creation of new businesses, as they are a cornerstone of any initiative aimed at employment generation (Scott & Storper, 2007).

Thus, for the creation of an entrepreneurial ecosystem comprising the set of agents related to the entrepreneur and the environment in which these relationships occur, universities, in addition to governments, play a key role (Markkula & Kune, 2015).

### 3. The entrepreneurial model

Studies of students' entrepreneurial intention involve several individual and contextual predictors (Liñán & Fayolle, 2015). On the one hand, psychological factors and personality traits emerge as individual predictors of entrepreneurial intention (Baluku, Bantu & Otto, 2018; Sancho, Martín-Navarro & Ramos-Rodríguez, 2018; Watchravesringkan et al., 2013). On the other hand, entrepreneurship education, or the set of actions aimed at

developing entrepreneurial skills, is a main contextual predictor of students' entrepreneurial intention (Samo & Mahar, 2017).

Our study of the university entrepreneurial model fit with the multifaceted theory of motivation (Reiss, 2012), as other institutional and situational characteristics that determine the behaviour of potential entrepreneurs (geographic and family background) were added to the personality categories (intrinsic–extrinsic dualism).

### **3.1. The entrepreneurial intention model**

#### **3.1.1. Business intentions**

Entrepreneurship is seen as the process of creating enterprises while entrepreneurial intention (EI) is the link between ideas and action, fundamental to understanding the entrepreneurial process (Bird, 1988; Krueger & Carsrud, 1993). According to Ajzen (1991), intention captures the degree to which people show motivation and willingness to perform the desired behaviour, proving to be the best predictor of planned behaviour (Bagozzi, Baumgartner & Yi, 1989), especially when that behaviour is rare, difficult to observe, or involves unpredictable time delays (Bird, 1988; Krueger & Brazeal, 1994). As starting a business requires considerable idea maturation and planning, we consider entrepreneurship as a type of planned behaviour (Bird, 1988) for which intention models are appropriate.

In the present study, our understanding of EI was guided by the theory of planned behaviour (TPB) (Ajzen, 1991) and Shapero's entrepreneurial event (SEE) models (Shapero & Sokol, 1982). Earlier, Shapero (1975) proposed that the entrepreneurial event (defined as the initiation of entrepreneurial behaviour) depends on perceptions of desirability (understood as the attractiveness, both personal and social, of starting a business) and feasibility (understood as the degree to which a person feels capable of starting a business), and that these are the fundamental elements of EI (Douglas & Shepherd, 2002).

#### **3.1.2. Perceived University Support**

Entrepreneurial universities are valued for their economic output in the form of patents, licences, and spin-offs. However, despite the growing interest in entrepreneurship, we found little empirical research that can help universities to orient their academic and educational programmes towards entrepreneurship.

Recent research has shown significant relationships between education and entrepreneurship (Maresch, Harms, Kailer & Wimmer-Wurm, 2016; Ucbasaran, Westhead & Wright, 2008), and it is accepted that effective entrepreneurial support provided by universities is an appropriate way to motivate young people to pursue entrepreneurship careers (Hederson & Robertson, 2000). Some studies have also suggested that EI can be increased directly through university support (Chen, Greene & Crick, 1998; Krueger & Brazeal, 1994; Zhao, et al., 2005); indeed, entrepreneurial universities can play an important role in identifying and developing students' entrepreneurial traits and ability to initiate their own entrepreneurial ventures.

In this regard, previous research has suggested that certain university support policies and practices such as technology transfer offices, university incubators (Mian, 1996), or venture capital funds (Lerner, 2005) can foster entrepreneurial activities among students.

We also found studies that positively related skills such as the ability to identify entrepreneurial opportunities, leadership, problem solving, or knowledge in business management to EI (Baumol, 1990; Gifford, 1993; Holmes & Schmitz, 1990).

Although universities can support entrepreneurship in objectively measured ways, understanding the effect of such measures could be crucial to understanding how they might impact on students (Kraaijenbrink et al., 2010). This can be achieved by measuring students' perceptions of the university support they receive (PUS). Therefore, it can be inferred from these previous studies that the support provided by universities plays an important role in encouraging EI among their students.

Although this may be true, we think that, in universities located in environments with structurally low rates of entrepreneurial activity, students may perceive the opposite, since they maybe taught to manage risk by

minimising it, reinforcing their aversion to it. Therefore, an explanatory model was formulated with the following hypothesis:

*H1: In a university located in a region with high unemployment, perceived university support (PUS) in terms of (H1a) perceived environmental support (PUeS) and (H1b) perceived competence support (PUcS), negatively and directly influences students' entrepreneurial intention (EI).*

### 3.1.3. Differences between gender and family background

Previous research on entrepreneurship and motivation has argued that intentions also depend on social norms (Ajzen, 1991; Deci & Ryan, 1985). Therefore, it is conceivable that gender and family may moderate the relationship between PUS and EI.

In the case of gender, although there is no consensus on the differences between men and women in relation to entrepreneurship (Lim & Enwick, 2013), it is true that different studies (Observatorio del Emprendimiento de España, 2021) have proven the greater presence of the male gender in relation to entrepreneurial initiative and capacity (Gupta, Turban & Bhawe, 2008; Sánchez-Cañizares & Fuentes-García, 2013; Sánchez-Torné & Pérez-Suárez, 2019; Zambrano-Vargas & Vázquez-García, 2019), accentuated by causes extrinsic to women (Forson & Özbilgin, 2003) such as gender stereotypes (Gupta, Wieland & Turban, 2019) or the predominantly male character of the entrepreneurial culture (Adler, 2002; Gill & Ganesh, 2007; Hyde & Kling, 2001). Taking gender differences into account, the following hypothesis was derived:

*H2: Women, compared to men, exhibit different (and lower) intentions to become entrepreneurs.*

On the other hand, students have demonstrated that entrepreneurial intention is influenced by different external factors that may act on motivation, personal qualities, or perceived needs for entrepreneurship, including family (Castelao-Naval et al., 2015). Imprinting Theory explains how people develop characteristics from experiences and persistently reflect them despite the passage of time and environmental change (Marquis & Tilcsik, 2013; Mathias, Williams & Smith, 2015). Specifically, we explored whether family footprint influences the relationship between PUS and EI. Thus:

*H3: The group of students whose parents are entrepreneurs exhibit, compared to the rest, different (and higher) intentions to become entrepreneurs.*

The model of entrepreneurial intention validated in this study is depicted in Figure 1.

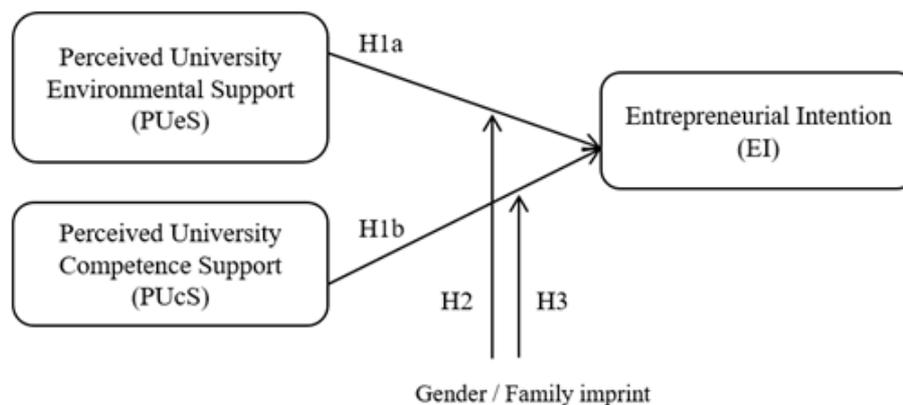


Figure 1. Entrepreneurial intention model

### 3.2. The entrepreneur model

Although studies on entrepreneurship have stressed that education, as well as other characteristics such as demographics or family background (Dyer, 1994; Hisrich & Brush, 1986;) determine the profile of the entrepreneur, these categories alone do not help to identify the determinants of a successful entrepreneur.

The “American dream” or the aspiration to achieve success in an environment of equal opportunities for all people is an ideal that is present in young people in our society and particularly in the field of entrepreneurship.

Research generally attempts to define the psychological profile of an entrepreneur to differentiate him or her from others (Karimi, Biemans, Mahdei, Lans, Chizari & Mulder, 2017; Naffziger, Hornsby & Kuratko, 1994; Uddin & Kanti, 2013). We found numerous regional studies that analysed the profile of the entrepreneur and the meaning of success, for example, from the USA (Baucus & Human, 1994; Gurley-Calvez, Biehl & Harper, 2009), Ireland (Lashley & Rowson, 2007; Mottiar, 2007), India (Singh, 1989), England (Tregear, 2005), Israel (Haber & Reichel, 2007), Germany (Eikhof & Hauerschild, 2006), and Spain (MIT Technology Review in Spanish, 2015; Veciana, 1989). These studies associated the following attributes with entrepreneurs: a desire for independence, a greater propensity for risk, a need for achievement, and a preference for innovation and creativity.

Similarly, another extensive line of research analysed the impact of motives or reasons for starting a business in terms of entrepreneurial growth (Edelman, Brush, Manolova & Greene, 2010; Carsrud & Brännback, 2011), need for achievement (Shane, Locke & Collins, 2003; Veciana, 1989), challenge setting (McClelland 1965, 1967), risk propensity (Observatorio del Emprendimiento de España, 2021; Johnson & Bishop, 2002; Veciana, 1989), perseverance (Sexton & Bowman, 1985), willingness to invest time in their business plan, interest in areas like strategy (Shane et al., 2003; Zanakis, Renko & Bullough, 2012), the business idea (Naffziger et al., 1994; Rubio, Cerdón & Agote, 1999), or control (European Union, 2012; Shane et al., 2003; Veciana, 1989).

In this research we considered the contribution of motivation theory (or rational intention theory) as significant, since in the motivation–decision process (Holland, 2011; Reinharth & Wahba, 1975; Shepherd, Williams & Patzelt, 2015) rational prioritisation influences the effect of individual intentions.

According to self-determination theory (Deci & Ryan, 1985), which focuses primarily on internal sources of motivation, people are motivated by their need to grow and change in order to pursue what interests them. Intrinsic motivations in the business setting include factors related to the work environment such as putting skills into practice (Ambrose, 1996; Dalton & Thompson, 1986; Naffziger et al., 1994; Schein, 1978), collaborating with others (Van Herpen, Van Praag & Cools, 2005), leading a group of people (Rubio et al., 1999), self-actualisation (Deci & Ryan, 1985; Maddi & Kobasa, 1981; Merchant, Van der Stede & Zheng, 2003), achieving personal goals (Naffziger et al., 1994), and power and prestige (Fisher & Govindarajan, 1992; McClelland, 1995), or principles (Besley & Ghatak, 2005). It can be considered that the intrinsic motivations of potential entrepreneurs for creating a company are more related to factors such as personal growth (European Union, 2012), passion (Shane et al., 2003), the desire to excel (Martínez & Rubina, 1998), creativity (Fernández & García, 2004), autonomy (Martín, Martín & Trevilla, 2009; Robichaud, McGraw & Roger, 2001), independence (European Union, 2012; Martínez & Rubina, 1998; Robichaud et al., 2001; Rubio et al., 1999; Shane et al., 2003; Veciana, 1989), self-employment (European Union, 2012; Fernández & García, 2004; Rubio et al., 1999), or achieving status or social notoriety (Observatorio del Emprendimiento de España, 2021).

However, extrinsic motivation, considered to be the set of monetary rewards (direct or indirect) that an individual receives in exchange for his or her work, can also be a powerful motivation for entrepreneurship (Martín, Martín & Trevilla, 2009; Robichaud et al., 2001), such as the profit motive (Observatorio del Emprendimiento de España, 2021; Martínez & Rubina, 1998; Rubio et al., 1999) or socioeconomic fulfilment (European Union, 2012; Fernández & García, 2004).

Expectancy theory (Vroom, 1964) refers to cognitive processes related to choice and defines motivation as the product of an individual's expectation that a given effort will lead to a desired performance, the instrumentality of this performance in achieving a given outcome, and the desirability of this outcome for the individual. Consequently, in a given situation, individuals will combine their needs with their beliefs and expectations of the likelihood of success. While many studies have explored the empirical application of expectancy theory in the field of entrepreneurship (Edelman et al., 2010; Gatewood, Shaver, Powers & Garner, 2002; Hsu, Shinnar & Powell, 2014; Locke & Baum, 2007; Manolova, Brush, Edelman & Shaver, 2012; Renko, Kroeck & Bullough, 2012), not all have demonstrated the interrelationships proposed by Vroom (1964). Hsu et al. (2014) examined university students enrolled in an introductory entrepreneurship course and found that expectancy theory predicted that a person will be motivated to invest the effort required for entrepreneurship if they believe that a

great effort will enable them to achieve desirable goals through business ownership (e.g., making more money, being independent, gaining high social status, etc.). Similarly, authors such as Gatewood et al. (2002) or Manolova et al. (2012) conceptualised entrepreneurship as a process based on the effort–performance–outcome model of entrepreneurial expectations, i.e., entrepreneurial motivation will depend on the expectation, instrumentality, and desirability of being self-employed/entrepreneurial or refer to the rewards obtained by being self-employed/entrepreneurial.

## 4. Method

### 4.1. Sample and scales

The information for this study was collected in several phases. First, the categories of the factors (intrinsic and extrinsic) relating to entrepreneurial intention and the concept of success taken from the literature review and reports served as the basis for a questionnaire tailored to local entrepreneurs and university students.

To eliminate possible ambiguities and ensure the internal validity of the survey, the second phase consisted of a pre-test with a panel of 10 experts (Cortez, 2001) from the field of entrepreneurship (5 university professors and 5 entrepreneurship technicians with more than 5 years of experience).

Subsequently, once the wording, the order of the questions, their size and flow had been reviewed, a pilot test was carried out with five entrepreneurs and five students, whose opinions allowed the questionnaire to be improved and ensured that it was well interpreted.

Once the pilot test was completed, the questionnaire was distributed by email via web link during May 2018 by technicians from the Andalusian Entrepreneurship Centres (CADE Andalucía Emprende) in Huelva to the 234 active entrepreneurs with less than 3.5 years of experience running a company (Observatorio del Emprendimiento de España, 2021; Renko et al., 2012;) registered in their databases, obtaining a total of 54 valid questionnaires (returned and correctly completed), after being kept open for four weeks and with three reminders. This was a representative sample of Spanish entrepreneurs located in the province of Huelva (margin of error of  $\pm 3.1\%$  and a confidence level of 95%). Note that the population of Spanish entrepreneurs was extracted by applying the TAE average for the last 3 years to the active population.

Similarly, on the same date, the questionnaire was distributed by teachers at the University of Huelva to a final sample of 123 fourth-year Business Administration and Management (ADE), and Finance and Accounting FICO students, obtaining a response rate of 87.8% (108 valid responses), of which 41.7% came from women. Note that the curricula of the ADE and FICO degrees include the subject Business Creation in the fourth year. In the 2018-2019 academic year, 351 students were enrolled in the ADE degree and 102 in the FICO degree. This is a representative sample of Spanish university students located in Huelva (margin of error of  $\pm 3.1\%$  and a confidence level of 95%). Taking into account that the population of Spanish university students was extracted from <https://es.statista.com/estadisticas/479407/alumnos-matriculados-en-universidades-en-espana-por-tipo/>.

In addition to the sampling method we used to capture the heterogeneity of local employers and students (Assael & Keon, 1982), the reliability of the data was ensured by the size of the final sample, since according to the power table created by Green (1991), considering a mean effect, a probability of 95%, and a power of 0.80, the minimum sample size required to test the hypotheses was 66, although to achieve acceptable levels of statistical power, Reinartz, Haelein and Henseler (2009) suggested increasing the sample to at least 100 cases.

All questionnaire items relating to the entrepreneurial intention model were measured reflectively and scored on a 5-level Likert-type scale (1 = strongly disagree; 5 = strongly agree), except for those questions referring to gender and footprint, dichotomous categorical variables used in the study as moderating variables.

Perceived university support (PUS) was measured with the seven-item rating developed by Kraaijenbrink et al. (2010). The first three questions related to the enabling environment or climate, representing perceived environmental support (PUeS), while perceived competence support (PUcS) was represented by four items measuring mentoring support, motivation, competence development, and entrepreneurship skills.

A semantic differential scale with six general sentences indicating different aspects of intention, all adapted from Krueger, Reilly and Carsrud (2000) and Veciana, Aponte and Urbano (2005), served to measure entrepreneurial intention (EI).

Similarly, to define the concept of success, a semantic differential scale was constructed in seven sentences, all adapted from MIT Technology Review in Spanish (2015).

Finally, in relation to the internal factors for success in achieving entrepreneurship, based on previous empirical studies and the results of the pre-test phase with experts, a differential scale was developed consisting of the following nine items: Perseverance, Passion, Determination, Vision, Flexibility, Creativity, Sociability, Communication skills and Education.

## **4.2. Methodology**

The theoretical model of students' entrepreneurial intention was tested using partial least squares (PLS), a variance-based modelling technique.

This methodology, which does not assume multivariate normal distribution of the data or independent observations (Barroso, Cepeda & Roldan, 2010), has been recommended for application when prior theory is limited or information is scarce, as is often the case in the behavioural sciences (Real, Leal & Roldan, 2006).

Recent advances in methodology allow consistent PLS (PLSc) to be applied by correcting for over- or underestimation of reflective constructs (Dijkstra & Henseler, 2015a,b). For explanatory analysis, structural model validation, and gap analysis, the R software packages *matrixpls* and *plspm* (R Core Team, 2020) were used.

In structural equation modelling (SEM), which includes PLS analysis, hypothesis testing is carried out in two phases. In the first, the reliability and validity of the measurement scales are ensured, and in the second, the structural model is addressed with hypothesis testing. In this work, to study the differences between the levels of the moderating variables in the entrepreneurial intention of university students according to gender and family background, a third phase was carried out with two multi-group analyses.

Finally, together with the results of the entrepreneurs' questionnaires, a descriptive analysis was carried out at three levels: the concept of success, the internal factors that lead to success, and the entrepreneur's profile.

## **5. Results**

### **5.1. Results from the entrepreneurial intention model**

The information obtained from the university students through the questionnaires allowed the proposed hypotheses to be tested.

#### **5.1.1. Analysis of the measurement model**

In this phase, the reliability of the indicators and variables was tested as well as the validity, both convergent and discriminant, of the latent variables or constructs (Table 2).

The individual reliability of each indicator was assessed by analysing the simple correlations with its construct, which were found to be greater than 0.664, above the recommended threshold of 0.500 (Hair, Black, Babin, Anderson & Tatham, 2006).

Cronbach's  $\alpha$  coefficient, the composite reliability index (CR), and Dijkstra–Henseler's ( $\rho_A$ ) (DG.rho) indicator (Dijkstra & Henseler, 2015b) were used to assess the reliability of the latent variables, exceeding in all cases the recommended values ( $>0.7$ ) for "modest" reliability in early stages of research (Nunnally & Bernstein, 1994), so we concluded that the observable variables measured the same construct.

Convergent validity was estimated by the average variance extracted (AVE), accepting values above 0.5 (Fornell & Larcker, 1981).

Constructs (Items)	Factor loadings
<i>Perceived University Environmental Support (PUeS)</i> ( $\alpha=0.759$ ; CR= 0.832; DG.rho=0.863; AVE=0.676)	
PUeS1 The environment at my university inspires me to develop ideas for new businesses	0.849
PUeS2 At my university there is a favourable climate for me to become an entrepreneur	0.930
PUeS3 At my university, students are encouraged to participate in entrepreneurial activities	0.665
<i>Perceived University Competence Support (PUcS)</i> ( $\alpha=0.792$ ; CR=0.841; DG.rho=0.866; AVE=0.616)	
PUcS4 At university I have the opportunity to work in a team and run my own company	0.759
PUcS5 At university my mentors and tutors help me in the idea generation phase until the launch	0.834
PUcS6 My university allows me to improve the practical skills needed to set up a business	0.805
PUcS7 My university allows me to improve my competences to identify business opportunities	0.737
<i>Entrepreneurial Intention (EI)</i> ( $\alpha=0.802$ ; CR=0.900; DG.rho=0.872; AVE=0.751)	
EI1 I am willing to do anything to become an entrepreneur	0.832
EI2 My career goal is to become an entrepreneur	0.900
EI3 I will do my best to set up and run my own business	0.722
EI4 I am determined to set up a business one day	0.678
EI5 I have given serious thought to setting up a company	0.798
EI6 I have a firm intention to start a business one day	0.881

Table 2. Evaluation of the measurement model

Finally, discriminant validity was tested using the Fornell–Larcker criterion (1981) by verifying, on the one hand, that the square root of the AVE of each latent variable was greater than its correlations with the rest of the latent variables in the model and, on the other hand, by examining the cross-factor loadings (Barclay, Higgins & Thompson, 1995), verifying that no item loaded more strongly on a construct other than the one it is measuring.

All the results obtained from the reliability and validity analyses indicated the appropriateness of the measurement model.

### 5.1.2. Analysis of the structural model

The  $\beta$  coefficients (paths or relationships between constructs) showed the same signs (negative) as those postulated in the hypotheses:  $-0.029$  for  $PUeS \rightarrow IE$  and  $-0.323$  for  $PUcS \rightarrow IE$ .

To test the statistical significance of each of the paths, a non-parametric technique of repeated random sampling with replacement of the original sample (bootstrapping) was performed (Hair, Ringle & Sarstedt, 2011) with 5000 sub-samples and a 1-tailed Student's t-distribution with 4999 degrees of freedom, with the  $PUcS \rightarrow IE$  relationship being significant. Thus, based on the F-test values, hypothesis H1b is accepted.

The explained variance ( $R^2$ ) of the model, which was 0.118 and higher than the minimum value of 0.1 (Falk & Miller, 1992), also indicated an acceptable explanatory level of the model.

The results of the structural model evaluation and hypothesis testing are shown in Figure 2.

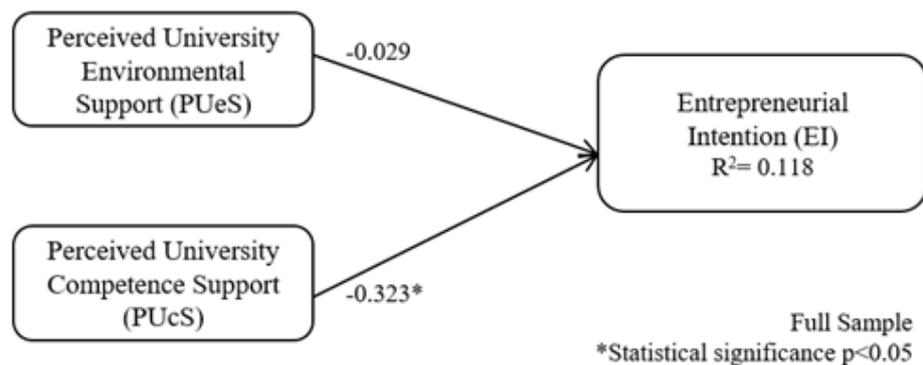


Figure 2. Results of the structural model (N=108)

### 5.1.3. Analysis of the differences

To determine the moderating impact of gender and direct family history, two multi-group analyses were conducted. Since a sample with a non-normal distribution was available, a non-parametric method based on permutations was used (Chin & Dibbern, 2010), which performs a group comparison test where the null and alternative hypotheses to be tested are: (H0) the path coefficients are not significantly different; and (H1) the path coefficients are significantly different. As can be seen in Tables 3 and 4, no significant differences were found between the relationships in the gender sub-samples (H2), although significant differences were found in the family footprint sub-samples (H3). Moreover, the relationships were stronger in the group of male students and in the family footprint students.

In the case of students with entrepreneurial parents (26.1%), they were more critical of the acquisition of skills than students in the other group, but perhaps more appreciative of the favourable climate towards entrepreneurship than the rest.

Therefore, although the results did not show moderation by gender, they partially did so with H3 (PUcS → EI), i.e., when the entrepreneurial role models were the parents.

Hip.	Men	Women	Sig. 0.05
H2: PUcS → EI	-0.1451	-0.0508	No
H3: PUcS → EI	-0.2470	-0.1856	No

Table 3. Non-parametric multi-group analysis: Gender

Hip.	Footprint	No footprint	Sig. 0.05
H2: PUcS → EI	0.0810	-0.1097	No
H3: PUcS → EI	-0.6971	-0.1210	Yes

Table 4. Non-parametric multi-group analysis: family footprint

## 5.2. Results from the entrepreneur model

### 5.2.1. Analysis of the concept of success

Interestingly, the students surveyed associated success with profit, while the Huelva entrepreneurs associated success with business growth and sustainability, both of which are indicators of economic achievement (Figure 3).

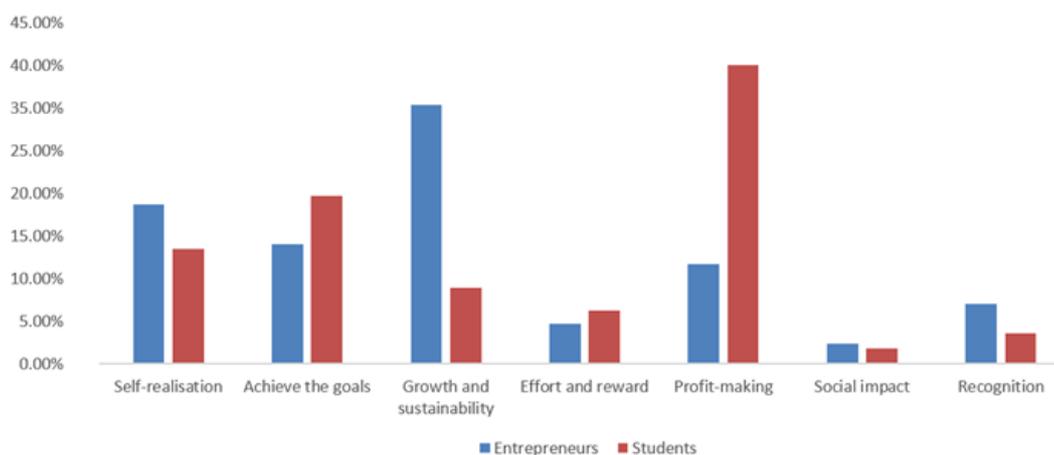


Figure 3. Results on the concept of success for entrepreneurs and students in Huelva

### 5.2.2. Analysis of internal factors for success in entrepreneurship

All the analyses highlighted perseverance, or the ability to maintain constancy in a project, as the most important inherent factor of the entrepreneur (Table 5). Passion was also an intrinsic factor highly valued by both entrepreneurs and students. Apart from these two factors, university students showed greater similarities with the

local entrepreneurs than with the successful entrepreneurs in the MIT Technology Review study in Spanish (2015).

	Successful entrepreneurs	Local entrepreneurs	Local university students
Perseverance	1	1 (11.98%)	1 (14.38%)
Passion	2	2 (11.77%)	3 (11.79%)
Determination	3	5 (11.14%)	5 (10.84%)
Vision	4	3 (11.50%)	2 (11.87%)
Flexibility	5	7 (10.54%)	9 (09.44%)
Creativity	6	9 (10.45%)	4 (11.28%)
Sociability	7	4 (11.35%)	8 (09.76%)
Communication skills	8	8 (10.60%)	7 (09.82%)
Education	9	6 (10.69%)	6 (10.82%)

Table 5. Internal factors inherent to the entrepreneurs, value (%). (Results adapted from the MIT Technology Review report in Spanish (2015) for the successful entrepreneurs and from the questionnaires for the Huelva entrepreneurs and students)

### 5.2.3. The entrepreneur's profile

In this section, a comparative analysis is made between the results of the MIT Technology Review study in Spanish (2015) on successful Spanish entrepreneurs and the Global Entrepreneurship Monitor (GEM) study on the Spanish entrepreneur (Observatorio del Emprendimiento de España, 2021), and the empirical results of our own study carried out by means of questionnaires.

The data (Table 6) showed that successful entrepreneurs were younger and better educated than the average Spanish entrepreneur, with an average age for the successful entrepreneur of 37.5 years compared to 40 years for the Spanish average. In terms of education, the study of successful entrepreneurs showed that 56% had a master's degree or doctorate, while less than 10% of Spanish entrepreneurs had postgraduate studies. The results for the study carried out in Huelva were more in line with the GEM results: 35% of Huelva entrepreneurs were between 31 and 40 years old (46% over 40) and only 22% had a postgraduate level of education.

On the other hand, 85% of successful entrepreneurs were men (with only 15% women). This result in favour of the male gender was also repeated in the Huelva entrepreneur sample (61%) and was consistent with the gender gap detected by the GEM analysis, although this gap was narrowed because in 2004 2.9% of women compared to 7.4% of men were in an initial stage of entrepreneurship, while in 2017 the difference was much smaller (5.8% of women compared to 6.8% of men). The survey of students showed no significant gender differences in entrepreneurial intention, reinforcing the idea of this narrowing of the gender gap.

Half or more than half of the entrepreneurs had a family background (60% in successful entrepreneurs and 50% in those from Huelva), in line with the results of previous studies (Dyer, 1994; Hisrich & Brush, 1986).

All levels of analysis (successful entrepreneurs, Spanish entrepreneurs, and Huelva entrepreneurs) agreed that, although entrepreneurship had a negative impact on the availability of free time, none of them regretted their decision (99% of successful entrepreneurs and 89% of Huelva entrepreneurs), basically because it brought them greater personal satisfaction and self-confidence.

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Finally, a trait of successful entrepreneurs was optimism, pushing them to mobilise resources and capabilities towards the achievement of challenging goals, even in unfavourable situations (Xie, 2014). This propensity for optimism found in successful entrepreneurs was a difference with the Huelva entrepreneur, as only 37% of Huelva entrepreneurs expressed a positive attitude towards the 2008 crisis, compared to 76% of successful entrepreneurs.

<b>Age</b>		
>50	6	11.11%
41-50	19	35.19%
31-40	19	35.19%
20-30	10	18.52%
<b>Studies carried out</b>		
PhD	1	59.26%
Master's degree	11	
Engineer/Architect	4	
Bachelor's Degree	10	
Diploma/Technical Engineer	6	
Vocational Training	9	
Secondary and high school	2	
Primary education	11	
<b>Company courses carried out</b>		
Yes	26	48.15%
No	28	51.85%
<b>Gender</b>		
Man	33	61.11%
Woman	21	38.89%
<b>Family background</b>		
Yes	27	50.00%
No	27	50.00%
<b>Would start again</b>		
Yes	48	88.89%
No	6	11.11%
<b>Happiness</b>		
Yes	35	64.81%
No	19	35.19%
<b>Affects personal life</b>		
Yes	44	81.48%
No	10	18.52%
<b>Degree of optimism</b>		
Positive	20	37.04%
Negative	34	62.96%

Table 6. Descriptive statistics of the entrepreneurs

## 6. Discussion

The entrepreneurial intention model defined in this study adequately explained perceived university support, as demonstrated by the validity and reliability of the items and the significance of the relationships between the latent variables. The model test reaffirmed the predictive power of education on students' entrepreneurial intentions, corroborating what has been reported in previous studies (Ajzen, 1991; Liñán, 2008; Sancho et al., 2018). The desire of these young people to become self-employed has increased globally, as pointed out by the GEM study (Observatorio del Emprendimiento de España, 2021). Although most studies showed a positive and significant relationship between education and entrepreneurial intention, other studies, while considering skills to be important, considered that the role of the university was not decisive in the intention (Gieure, del Mar Benavides-Espinosa & Roig-Dobón, 2019) as the university environment did not directly influence the development of entrepreneurial skills. From the analysis carried out we can conclude, for this case study, that the current university education (PUS) was not revealed as a driver for university entrepreneurship, even offering a negative and statistically significant relationship in university support competence (PUCS→EI). This means that the activity carried out by these universities does not currently contribute to the creation of employment and wealth in their area of influence.

In the opinion of the university students, among the many personal qualities necessary for entrepreneurship, perseverance stood out, a characteristic directly related to determination and responsibility. People with an entrepreneurial spirit possess levels of responsibility, self-esteem, and self-knowledge that allow them to assess risks and opportunities, acting with a confidence and determination (Castelao-Naval et al., 2015) that makes them persevere.

As in other studies, creativity (Rauch & Frese, 2007; Zhao et al., 2010) was also perceived as a key to entrepreneurship. Thus, creativity is a transversal competence (Castelao-Naval et al., 2015), like the previous ones, playing an important role in detecting entrepreneurial opportunities (López-Núñez, Rubio Valdehita, Díaz Ramiro & Martín Seoane, 2021).

Although a higher propensity towards entrepreneurship was detected for the male gender over the female gender, consistent with the GEM data (Observatorio del Emprendimiento de España, 2021), the multi-group analysis also showed no significant differences in the estimates of the relationships between the latent variables according to gender. Despite the literature supporting the contrary (Gupta et al., 2008; Sánchez-Cañizares & Fuentes-García, 2013; Sánchez-Torné & Pérez-Suárez, 2019; Zambrano-Vargas, & Vázquez-García, 2019), there have also been studies showing a similar response between genders in the university population (Sánchez-Torné, Pérez-Suárez, García-Río & Baena-Luna, 2021). This result should not come as a surprise, given the social trend of decreasing differences between women and men.

On the other hand, family background moderated the PUCS→EI relationship, also in a negative direction, reinforcing the negative perception of the role of the university. This negative perception of the usefulness of the skills acquired at university was reinforced more in male students and in those with entrepreneurial parents.

The model test revealed that students with entrepreneurial family members showed greater disagreement with the role of university competence support than those with no family background. This is because these students experience entrepreneurship-related life experiences in their close family circle and are therefore more aware of what they consider to be the key competences for entrepreneurship or believe more in their skills and have support from their close contacts (Armstrong, 2014; Horváth & Nováky, 2016; Tittel & Terzidis, 2020).

However, the aspects that weakened the entrepreneurial profiles of these groups of students (woman and without a background) can be minimised or overcome if universities take psychological aspects into account in their teaching and student support strategies. Some ways of doing this would be by reducing the use of teaching methodologies that promote social comparison or through assignments with a progressive degree of difficulty to help students manage difficult and unexpected changes and challenges that often occur in business life (Newman, Obschonka, Schwarz, Cohen & Nielsen., 2019; Samo & Mahar, 2017; Sekti, Soetjningsih & Setiawan, 2019; Setiawan, 2014).

In relation to the perspective of those who are already entrepreneurs, we observed that successful Spanish entrepreneurs are younger, optimistic, and more educated than those from Huelva, which may mean that believing in one's own capabilities can lead students to entrepreneurship, also in line with the work of Xie (2014). Just as self-efficacy goes hand in hand with entrepreneurial attitude, increasing confidence in one's own entrepreneurial capabilities, entrepreneurship education strengthens the relationship between self-efficacy and entrepreneurial intention (Hassan, Saleem, Anwar & Hussain, 2020).

Although the comparative analysis among entrepreneurs also showed some similarities such as perseverance as the most important factor for success, the biggest differences were found in the concept of success. While successful entrepreneurs placed more emphasis on transcendental elements such as purpose or self-fulfilment (MIT Technology Review in Spanish, 2015), relegating profit to last place, the Huelva entrepreneur (and the Huelva student) associated the meaning of success with profit, in line with the results of studies on entrepreneurship that attributed more value to material aspects such as profitability, wealth achieved, and level of turnover (Claire, 2011). At this point, we recommend that the university support the student more towards purpose and optimism than towards results or economic achievement.

## **7. Conclusions, implications, and limitations**

In this study we tested a model of entrepreneurial intention that, first, analysed the student's perception of the support provided by the business faculty of a university located in a region with a high unemployment rate and a low rate of entrepreneurship, such as Huelva, and, second, described the distinctive characteristics of successful entrepreneurs and compared them with the perceptions of the entrepreneur and the student in Huelva.

The work we proposed sought to test hypotheses in the opposite direction to that formulated in the literature. Furthermore, our analysis was based on a sample of university business students who, a priori, should be interested in business (desirability) and who should be taught how to create and manage companies (feasibility). It was particularly interesting to discover that the family background played a moderating role between the competence relationship and entrepreneurial intention, exposing these students to more practical knowledge of the entrepreneurial world that led them to perceive the negativity (or non-usefulness) of their university's actions towards entrepreneurship in a more pronounced way than the rest of the students. This revealed the importance of including reference models in teaching as an element that enhances EI.

Despite these results, we are aware of the fundamental role of the university in creating an innovative ecosystem (Etzkowitz, Webster, Gebhardt & Cantisano Terra, 2000) and training future entrepreneurs. As we have already discussed, the university under study is failing to satisfactorily support and develop the necessary entrepreneurial competences according to the perceptions and assessments of students and entrepreneurs. We believe that these small universities in regions with low entrepreneurship rates have a great opportunity to devise actions that will have an impact on entrepreneurship training, favouring the development of students' personal skills and attitudes that will foster their innovative spirit and, consequently, entrepreneurship (Castelao-Naval et al., 2015). The key is making entrepreneurship a transversal competence in all degrees and developing an ecosystem implicated in the social and business reality of their immediate environment.

In addition to skills, students did not perceive that there was an adequate environment to guide or help them with entrepreneurial intentions. In this sense, we propose more specialised university lecturers with business experience to assume the roles of mentors and motivators, as well as spaces conducive to innovation.

Although with COVID-19 there has been a tendency to keep certain academic activities virtual, in order to generate learning, innovation, and social and economic development, the intervention of the teaching staff in the classroom, the interrelation between teachers and students from different disciplines, as well as improvements in the business internship programme, are still key.

We believe that these results have important practical implications. Although there are a few students who decide to start a business before starting university, in many cases the time spent at university and the labour market situation trigger the decision to start a business. We believe, like other authors, that focusing specific entrepreneurship education programmes around the group with a high level of entrepreneurial initiative is most

effective (Lyons & Zhang, 2018; Obschonka & Stuetzer, 2017), while developing educational programmes focused on entrepreneurial skills and attitudes for the rest of the student body.

These findings imply a need to change university teaching models if they are to have a positive impact on entrepreneurial intention. However, although the research methodology applied in the structural equation model assigned a high reliability to the results obtained, researchers should not attribute absolute value to the results obtained and, although important, they should be interpreted with caution. In this sense, to avoid bias, considering larger samples from other universities or other degrees as well as broadening the constructs and the scope of the measures are recommendations for future work.

We should bear in mind that applying the results of this study to other realities may not be appropriate, given that the profiles of entrepreneurs, students, and universities may vary significantly depending on the cultural and socioeconomic characteristics and the public policies applied to promote business creation in the region. For this reason, we also recommend extending the multi-group analysis to the different categories of universities according to their locations.

We conclude by proposing to move forward, as Fayolle and Liñán (2014) did, by further investigating the relationships of other variables related to education, such as the profile (professional and background) of the teaching staff, as well as the effect of the pedagogy and methodology of the programmes on entrepreneurial intention.

Despite the limitations, this study contributes to the formulation of educational policies that will generate a favourable climate for entrepreneurship. We are confident that this study will help not only universities but also administration and business leaders to make decisions that will lead to the development of an entrepreneurial ecosystem necessary to activate the economies of these regions.

Finally, this study opens the debate on whether the education model implemented in this type of university, the profile of the teaching staff, the university spirit, or the culture of the environment that produces risk aversion.

### **Declaration of Conflicting Interests**

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### **Funding**

The authors received no financial support for the research, authorship, and/or publication of this article.

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