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UNIVERSITY STUDENT'S ENTREPRENEURSHIP:
AN INTEGRATED ANALYSIS OF ENTREPRENEURIAL INTENTION

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Abstract

Interest of the study

The interest of this research focuses mainly on the following aspects. First, we explore how the current literature on university student entrepreneurship focused on the Global University Entrepreneurial Spirits Students Survey (GUESSS), one of the largest related research projects, can contribute to research on university student entrepreneurship and help researchers to use this database. This is the first step in this work as it allowed as to identify the main gaps in the literature of university student's entrepreneurship. Second, we extend previous research on the entrepreneurial intention models (and succession intention) and we go beyond the intention on taking implementation intention as a closer step of behavior. And third, the results of this study would help give advice to universities, academics and policymakers to build an entrepreneurial university and in short, an entrepreneurial society.

Objectives

The main goal of this research is to contribute to the study of entrepreneurial intentions of university student's entrepreneurship. More specifically, the specific objectives of this work are related to 1) identify the core variables influencing university student's entrepreneurship in the entrepreneurship literature focused on the GUESSS project; 2) study the mediating effects of the components of the TPB between entrepreneurship education and entrepreneurial intention; 3) analyze the effect of entrepreneurship education considering the role of the university, family, and social context on the components of the TPB as antecedents of entrepreneurial intention; 4) reduce the intention-behavior gap by adding the middle stage of implementation intention and the moderating effects of goal orientation and 5) explore the succession intention phenomena.

Method

In our first study, in order to map the scientific production based on GUESSS we combined Bibliometric, Social Network and Content Analysis.

On the other hand, Partial Least Squares (PLS) regression method was used to test the entrepreneurial intention models. PLS is especially useful for testing complex models, some authors even refer to it as the "most fully developed and general system" (Henseler et al., 2016). More specifically, this method is especially useful for nonnormal data; small sample

sizes; and formatively measured constructs (Hair et al., 2014). PLS consists of two procedures: the measurement model and the structural model. To ensure that the indicators of each construction measure what they are supposed to measure, the measurement model is based on an analysis using a confirmatory factor analysis that checks the validity and reliability of each construct (Chen and Su, 2014). The structural model is based on an analysis that uses the squared multiple correlation of the dependent variable to examine the explanatory power of the model (Chen and Su, 2014). To run the different regression models, we used Smart PLS 3.3.2 software (Ringle et al., 2015).

Results

Our first study shows that the intention phase is the most studied stage of the entrepreneurial process. However, there are certain gaps that need to be addressed and that is exactly what we intend to achieve with the following studies. We found that Program Learning affects Entrepreneurial Intention through the components of the Theory of Planned Behavior (TPB). In this sense, it is important to highlight that Subjective Norms did not mediate the relation between Program Learning and Entrepreneurial Intention but influenced Entrepreneurial Intention through Attitudes toward Entrepreneurship and Perceived Behavioral Control (PBC). As for the effects of Entrepreneurship Education, we found this variable acts as a moderator, especially in the relationship between Attitudes towards Entrepreneurship and Entrepreneurial Intention, Subjective Norms and Entrepreneurial Intention, and Family Context and Subjective Norms. As we move through the entrepreneurial process, our results validated the Entrepreneurial Event Model (EEM) to predict entrepreneurial intentions and in addition, the Entrepreneurial career choice 5 years after completing studies moderated the relationship between Entrepreneurial intention and Implementation Intention. Finally, when analyzing Succession Intention in family firms, our findings showed the impact of Parental Support in Family Business Self-Efficacy and in commitment to the family firm. Furthermore, our results confirmed a positive impact of the commitment to the family firm on Succession Intention, especially the Normative Commitment.

Resumen

Interés del estudio

El interés de esta investigación se centra fundamentalmente en los siguientes aspectos. En primer lugar, exploramos cómo la literatura actual sobre el espíritu emprendedor de los estudiantes universitarios centrada en la "Global University Entrepreneurial Spirits Students Survey" (GUESSS), uno de los mayores proyectos de investigación relacionados, puede contribuir a la investigación sobre el espíritu emprendedor de los estudiantes universitarios y ayudar a los investigadores a utilizar esta base de datos. Este es el primer paso de este trabajo, ya que permitió identificar las áreas menos estudiadas en la literatura sobre el espíritu emprendedor de los estudiantes universitarios. En segundo lugar, ampliamos las investigaciones anteriores sobre los modelos de intención emprendedora (y la intención de sucesión) y vamos más allá de la intención al tomar la intención de implementación como un paso más cercano del comportamiento. Y, en tercer lugar, los resultados de este estudio ayudarían a dar consejos a las universidades, a los académicos y a los responsables políticos para construir una universidad emprendedora y, en definitiva, una sociedad emprendedora.

Objetivos

El objetivo principal de esta investigación es contribuir al estudio de las intenciones emprendedoras de los estudiantes universitarios. Más concretamente, los objetivos específicos de este trabajo están relacionados con 1) identificar las variables centrales que influyen en el emprendimiento de los estudiantes universitarios en la literatura sobre emprendimiento centrada en el proyecto GUESSS; 2) estudiar los efectos mediadores de los componentes de la TPB entre la educación emprendedora y la intención emprendedora; 3) analizar el efecto de la educación emprendedora teniendo en cuenta el papel de la universidad, la familia y el contexto social en los componentes de la TPB como antecedentes de la intención emprendedora; 4) reducir la brecha intención-conducta añadiendo la etapa intermedia de la intención de implementación y los efectos moderadores de la orientación a la meta y 5) explorar el fenómeno de la intención de sucesión.

Método

En nuestro primer estudio, para mapear la producción científica basada en el GUESSS combinamos el Análisis Bibliométrico, de Redes Sociales y de Contenido.

Por otra parte, se utilizó el método de regresión de mínimos cuadrados parciales (PLS) para probar los modelos de intención empresarial. El PLS es especialmente útil para probar modelos complejos, incluso algunos autores se refieren a él como el "sistema más completo y general" (Henseler et al., 2016). Más concretamente, este método es especialmente útil para datos no normales; tamaños de muestra pequeños; y constructos medidos formativamente (Hair et al., 2014). El PLS consta de dos procedimientos: el modelo de medición y el modelo estructural. Para garantizar que los indicadores de cada constructo miden lo que se supone que deben medir, el modelo de medición se basa en un análisis mediante un análisis factorial confirmatorio que comprueba la validez y la fiabilidad de cada constructo (Chen y Su, 2014). El modelo estructural se basa en un análisis que utiliza la correlación múltiple al cuadrado de la variable dependiente para examinar el poder explicativo del modelo (Chen y Su, 2014). Para ejecutar los diferentes modelos de regresión, utilizamos el software Smart PLS 3.3.2 (Ringle et al., 2015).

Resultados

Nuestro primer estudio muestra que la fase de intención es la etapa más estudiada del proceso empresarial. Sin embargo, existen ciertas áreas que deben ser abordadas y eso es precisamente lo que pretendemos conseguir con los siguientes estudios. Encontramos que el Aprendizaje del Programa afecta a la Intención Emprendedora a través de los componentes de la Teoría de la Acción Planificada (TAP). En este sentido, es importante destacar que las Normas Subjetivas no mediaron la relación entre el Aprendizaje del Programa y la Intención Emprendedora, sino que influyeron en la Intención Emprendedora a través de las Actitudes hacia el Emprendimiento y el Control Conductual Percibido (CCP). En cuanto a los efectos de la Educación Emprendedora, encontramos que esta variable actúa como moderadora, especialmente en la relación entre Actitudes hacia el Emprendimiento e Intención Emprendedora, Normas Subjetivas e Intención Emprendedora, y Contexto Familiar y Normas Subjetivas. A medida que avanzamos en el proceso emprendedor, nuestros resultados validaron el Modelo de Acontecimiento Emprendedor (MAE) para predecir las intenciones emprendedoras y, además, la elección de carrera emprendedora 5 años después de terminar los estudios moderó la relación entre la Intención Emprendedora y la Intención de Implementación. Por último, al analizar la

Intención de Sucesión en las empresas familiares, nuestros resultados mostraron el impacto del Apoyo Parental en la Autoeficacia de la Empresa Familiar y en el compromiso con la empresa familiar. Además, nuestros resultados confirmaron un impacto positivo del compromiso con la empresa familiar en la Intención de Sucesión, especialmente el Compromiso Normativo.

Resum

Interés de l'estudi

L'interés d'esta investigació se centra fonamentalment en els següents aspectes. En primer lloc, explorem com la literatura actual sobre l'esperit emprenedor dels estudiants universitaris centrada en la “Global University Entrepreneurial Spirits Students Survey” (GUESSS), un dels majors projectes d'investigació relacionats, pot contribuir a la investigació sobre l'esperit emprenedor dels estudiants universitaris i ajudar els investigadors a utilitzar esta base de dades. Este és el primer pas d'este treball, ja que va permetre identificar les àrees menys estudiades en la literatura sobre l'esperit emprenedor dels estudiants universitaris. En segon lloc, ampliem les investigacions anteriors sobre els models d'intenció emprenedora (i la intenció de successió) i anem més enllà de la intenció al prendre la intenció d'implementació com un pas més pròxim del comportament. I, en tercer lloc, els resultats d'aquest estudi ajudarien a donar consells a les universitats, als acadèmics i als responsables polítics per a construir una universitat emprenedora i, en definitiva, una societat emprenedora.

Objetius

L'objectiu principal d'esta investigació és contribuir a l'estudi de les intencions emprenedores dels estudiants universitaris. Més concretament, els objectius específics d'este treball estan relacionats amb 1) identificar les variables centrals que influïxen en l'emprendimiento dels estudiants universitaris en la literatura sobre emprendimiento centrada en el projecte GUESSS; 2) estudiar els efectes mediadors dels components de la TPB entre l'educació emprenedora i la intenció emprenedora; 3) analitzar l'efecte de l'educació emprenedora tenint en compte el paper de la universitat, la família i el context social en els components de la TPB com a antecedents de la intenció emprenedora; 4) reduir la bretxa intenció-conducta afegint l'etapa intermèdia de la intenció d'implementació i els efectes moderadors de l'orientació a la meta i 5) explorar el fenomen de la intenció de successió.

Mètode

En el primer estudi, per a fer un mapeig de la producció científica basada en GUESSS, combinem l'Anàlisi Bibliomètrica, de Xarxes Socials i de Contingut.

D'altra banda, per a posar a prova els nostres models sobre intenció emprenedora, es va utilitzar el mètode de regressió de mínims quadrats parcials (PLS). El PLS és especialment útil per a provar models complexos, inclús alguns autors es referixen a ell com el “sistema més complet i general” (Henseler et al., 2016). Més concretament, este mètode és especialment útil per a dades no normals; grandàries de mostra xicotets; i constructes mesurats formativament (Hair et al., 2014). El PLS consta de dos procediments: el model de mesurament i el model estructural. Per a garantir que els indicadors de cada constructe mesuren el que se suposa que han de mesurar, el model de mesurament es basa en una anàlisi mitjançant una anàlisi factorial confirmatòria que comprova la validesa i fiabilitat de cada constructe (Chen i El seu, 2014). El model estructural es basa en una anàlisi que utilitza la correlació múltiple al quadrat de la variable dependent per a examinar el poder explicatiu del model (Chen i El seu, 2014). Per a executar els diferents models de regressió, utilitzem el programari Smart PLS 3.3.2 (Ringle et al., 2015).

Resultats

El nostre primer estudi mostra que la fase d'intenció és l'etapa més estudiada del procés empresarial. No obstant això, existeixen unes certes llacunes en la literatura que han de ser abordades i això és precisament el que pretenem aconseguir amb els següents estudis. Trobem que l'Aprenentatge dels Programes Formatius afecta a la Intenció Emprenedora a través dels components de la Teoria de l'Acció Planificada (TAP). En aquest sentit, és important destacar que les Normes Subjectives no van mediar la relació entre l'Aprenentatge dels Programes Formatius i la Intenció Emprenedora, sinó que van influir en la Intenció Emprenedora a través de les Actituds cap a l'Emprenedoria i el Control Conductual Percebut (*CCP). Quant als efectes de l'Educació Emprenedora, trobem que aquesta variable actua com a moderadora, especialment en la relació entre Actitud cap a l'Emprenedoria i Intenció Emprenedora, Normes Subjectives i Intenció Emprenedora, i Context Familiar i Normes Subjectives. A mesura que avancem en el procés emprenedor, els nostres resultats van validar el Model d'Esdeveniment Emprenedor (*MAE) per a predir les intencions emprenedores i, a més, l'elecció de carrera emprenedora 5 anys després d'acabar els estudis va moderar la relació entre la Intencions Emprenedora i la Intenció d'Implementació. Finalment, en analitzar la Intenció de Successió en les empreses familiars, els nostres resultats van mostrar l'impacte del Suport Parental en l'Autoeficàcia de l'Empresa Familiar i en el compromís amb l'empresa familiar. A més, els nostres resultats van confirmar un impacte positiu del compromís amb l'empresa familiar en la Intenció de Successió, especialment el Compromís Normatiu.

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1 Introduction

1.1. Introduction

Entrepreneurship has been related to development and economic growth and the understanding of the role of entrepreneurs in developing economic prosperity has been widely studied in the literature (Bowen and De Clercq, 2008; Huggins and Thompson, 2015; Liñán et al., 2011; Urbano et al., 2019). The literature has highlighted the role of entrepreneurship as one of the main drivers of economic development (Coulibaly et al., 2018) as it contributes to job creation, improves productivity, economic growth and social welfare (Coulibaly et al., 2018; Guerrero et al., 2008; Malchow-Møller et al., 2011). However, even though there is no doubt of the importance of enhancing entrepreneurship to generate economic development and rise employment rates, the entrepreneurial resource is scarce (Liñán et al., 2011; Parastuty and Bögenhold, 2019). In fact, according to the Global Entrepreneurship Monitor (GEM) report (Bosma and Kelley, 2019), in 2019, the Total Entrepreneurial Activity (TEA), which represents the percentage of the working-age population who are either nascent entrepreneurs or owner-managers of a new business was around 10% in the European countries and around 6.1% in the Spanish case.

Consequently, there is an extended agreement regarding how important is to promote entrepreneurship, in particular, among students (Hahn et al., 2020; Wright et al., 2017). According to the Global University Entrepreneurial Spirit Students' Survey (GUESSS) 2018 global report, only 9% percent of all students intend to be an entrepreneur directly after studies while 34.7% plan to be entrepreneurs 5 years after completion of studies. Promoting entrepreneurship among students is important due to the following reasons. First, young people and specially university students, hold an increasing interest in pursuing an entrepreneurial career (Bergmann et al., 2016; Newman et al., 2019; Zellweger et al., 2011). Second, research undertaken at universities can lead to the formation of innovative new firms as it is a source of knowledge that creates new business opportunities (Bergmann et al., 2016; Fischer et al., 2020). And third, although students do not tend to set up their own business right after completing their studies, they might do so later on in their professional career (Lanero et al., 2016; Sorgner and Fritsch, 2018). Therefore, entrepreneurial experiences during studies are important because they contribute to the creation of subsequent entrepreneurial projects and startups (Bergmann et al., 2016).

Entrepreneurship can be considered as a planned behavior and all planned behaviors must be intentional (Krueger, 2019). In the psychological field, studies assume that intentions are the best predictors of behavior (Bagozzi et al., 1989) and several studies have confirmed the predictive validity of intentions on behavior (Lee et al., 2011; Sheeran, 2002). Therefore, entrepreneurial intention can be seen as the first step in the entrepreneurship process that ultimately leads to business creation (Krueger, 2019).

Considered one of the most critical factors in the development and creation of new ventures (Nguyen et al., 2019), entrepreneurial intention refer to the desire to set up a new business (Bae et al., 2014; Crant, 1996; Krueger et al., 2000). Entrepreneurial intention is a consolidated field of study within the entrepreneurship literature (Fayolle and Liñán, 2014; Krueger, 2017; Ruiz-Alba et al., 2020), with an increasing number of studies in recent years (Bogatyreva, Edelman, Manolova, et al., 2019; Gubik and Bartha, 2018; Laguía-González et al., 2019; Lopez and Alvarez, 2019). Entrepreneurial intention is mainly influenced by personal or individual factors and by environmental factors (Altinay et al., 2012). One of the environmental factors that has been broadly recognized to influence entrepreneurial intention, aside from the issue of succession, is family background (Carr and Sequeira, 2007; Gubik and Farkas, 2016; Schröder and Schmitt-Rodermund, 2011; Zellweger et al., 2011). For this reason, we consider that the distinction between individuals who have an entrepreneurial background and those who do not, is especially important and that a proper analysis of entrepreneurial intention must include a study on the succession intention.

To explain the formation of entrepreneurial intention, several models have been proposed. One of the first theoretical frameworks to explain entrepreneurial intention is the Entrepreneurial Event Model (EEM) proposed by Shapero and Sokol (1982). According to their model, the decision to set up a new business requires a pre-existing belief that such an activity is desirable and feasible, coupled with some personal propensity to act on the opportunities and some kind of precipitating factor, that is, it depends on perceived feasibility, perceived desirability, and propensity to act. More specifically, perceived feasibility refers to the degree to which an individual feels capable to start a new business and considers that becoming an entrepreneur is feasible (Shapero and Sokol, 1982). Perceived desirability for its part, refers to the extent to which an individual is attracted to the idea of starting a new business and reflects individual preferences for such behavior (Shapero and Sokol, 1982). Finally, propensity to act, can be defined as the willingness to act upon one's decisions (Shapero and Sokol, 1982) and depends the perception of control and a propensity to gain control by taking appropriate actions (Krueger Jr et al., 2000; Schlaegel and Koenig, 2014).

Although Shapero and Sokol's EEM present a step forward in the entrepreneurial behavior literature, several authors such as Autio et al. (2001); Krueger et al. (2000); Moriano et al. (2011); Tkachev and Kolvereid (1999) and Van Gelderen et al. (2008) stated that they have not been as influential as Ajzen's (1991) Theory of Planned Behavior (TPB) which is the second theoretical framework we want to highlight. TPB posits that behavior is explained by the individual's intention to perform such behavior (Ajzen, 2005). Individual's intentions are explained, in turn, by their attitudes toward behavior and subjective norms, which refer to perceived desirability, and Perceived Behavioral Control (PBC), which refers to perceived feasibility. According to Ajzen (2005), attitudes towards a certain behavior refer to the extent to which an individual evaluates how favorable or unfavorable is a specific behavior. They affect individual intention and behavior at the same time (Ajzen, 2011). In other words, attitudes play a key role in the development of intentions and are determinant in the formation of entrepreneurial behaviors (Mahfud et al., 2020; Nguyen et al., 2019). Subjective norms are composed by the beliefs of relevant others, such as family, friends and fellows, about performing or not performing a certain behavior (Ajzen, 2005). Perceived behavioral control (PBC), for their part, refer to the perceived ability to successfully performing a certain behavior and the level of controllability, that is, self-efficacy and locus of control (Ajzen, 1991). The main difference between both models is subjective norms, but there is little evidence of the impact of this variable on entrepreneurial intention and there are empirical studies that even did not find a significant relationship (Fitzsimmons and Douglas, 2011; García-Rodríguez et al., 2020; Krueger et al., 2000; Li, 2007; Liñán and Chen, 2009).

Apart from the study of the direct antecedents of entrepreneurial intention, the analysis of entrepreneurship in a contextual perspective is also relevant. In particular, social, university and family context are very important and determining aspects to shape entrepreneurial intention in university students, due, among others, to their little professional experience. Understanding these contextual factors and their influence is very important to understand the conditions under which entrepreneurship can be fostered in students.

The social context refers to the socio-cultural values shared in a certain society (García-Rodríguez et al., 2017). As a result, the prevailing values in the social context shape entrepreneurial decisions (Hayton et al., 2002; Pinillos and Reyes, 2011). More societal focus on individualistic values are related to greater entrepreneurial activity (Liñán and Fayolle, 2015). As a result, the decision to become an entrepreneur is independent of one's personal values and attitudes. On the other hand, the absence of social recognition of

entrepreneurship, has a negative impact on entrepreneurial decisions when values related to aspects such as creativity and success interfere with conventional cultural values.

Regarding university context, we can affirm that universities play a very important role in education and research (Roper and Hirth, 2005), as well as in promoting and developing activities related to innovation, social change and industry competitiveness (Siegel and Wright, 2015). These rises what is known as the third mission of universities or "entrepreneurial university" (Etzkowitz et al., 2000) and "academic entrepreneurship" (Rothaermel et al., 2007).

Universities operate at the following levels. In regional ecosystems, they act as one of the key components and at the same time, they operate their own ecosystems (Isenberg, 2011; Morris et al., 2017). At this level, there are several factors that seem to be important in developing and nurturing student's entrepreneurial spirit such as the spirit of the educational environment, its shared values and norms, its leadership, and the internal infrastructure including curricular and co-curricular programming (Morris et al., 2017; Rideout and Gray, 2013). At the same time, universities may differ considerably in the degree to which they support entrepreneurship as an academic discipline or a major field of study, as well as in their relative investment in developing learning environments that encourage entrepreneurship (Matlay, 2008; Morris et al., 2013).

Universities contribute to the entrepreneurial spirit by offering entrepreneurship education (curricular programming), organizing networking events, business plan competitions and by providing mentoring (co-curricular programming) or even financial assistance (Edelman et al., 2020). Curricular programming at universities may help in gaining important and valuable knowledge to the potential founders of new ventures (Morris et al., 2017). Entrepreneurship education affects positively human capital, beliefs, the ability to identify and exploit opportunities and entrepreneurship knowledge (Martin, McNally, et al., 2013; Volery et al., 2013). What is more, entrepreneurship education can also increase the student's ability to acquire the needed resources to set up a new business (Morris et al., 2017). Certain start-up activities such as identifying new business opportunities, talking to customers and working on the business plans can be required to pass the entrepreneurship course. These skills and abilities can impact positively the entrepreneurial process as they contribute to a higher level of accomplishment of students (Van Gelderen et al., 2018).

Co-curricular programming for its part, can provide students with the needed social networks including teachers, entrepreneurs and other professionals (Beliaeva et al., 2017). During this process, students are able to build their own social capital, as they have access

to a great number of resources such as investors, suppliers and potential customers (Florin et al., 2003). What is more, students who benefit from the resources provided by university in terms of entrepreneurship, are in contact with other students with the same attitudes and expectations towards entrepreneurship. This context not only strengthen the sense of belonging but contribute to the development of social networks that could not be established otherwise (Anderson et al., 2012; McKeever et al., 2015).

Finally, financial assistance is specially and important issue in the start-up phase (Albort-Morant and Oghazi, 2016; Roman et al., 2018). For this reason, the number of universities offering financial assistance including equity and anon-equity investments, loans and grants is growing (Colombo and Piva, 2020; Shirokova et al., 2017). Students should therefore be particularly sensitive to the seed funding available via university entrepreneurship programs (and the associated criteria relevant to such funding) (Morris et al., 2017). If students know that such financial support is available, they will be more likely to pursue entrepreneurial activities while if they do not know it, they can perceive it as a barrier to become an entrepreneur (Morris et al., 2017).

Regarding family context, individuals growing up in a family with an entrepreneurial background present a particular context that affects to professional career intention (Zellweger et al., 2011). Having parents entrepreneurs provides a more reliable and friendly basis of support to entrepreneurial activities (Ranwala, 2016). When shaping beliefs, attitudes, personality, and intentions of an individual, being raised in a family firm context have a greater impact on entrepreneurial intention than in families without an entrepreneurial background (Carr and Sequeira, 2007; Schröder and Schmitt-Rodermund, 2011). It is not difficult to find literature affirming that if parents are perceived as positive role models, the next-generation members will be more likely to set up their own business (BarNir et al., 2011; Laguía-González et al., 2019; Y. Zhang et al., 2014). The reason behind that fact could be that the family support in terms of resources, knowledge and perceptions about being an entrepreneur have a positive impact on the next-generation memebers' Perceived Behavioral Control (PBC) (Zellweger et al., 2011). Family members, and more specifically parents may be seen as relevant others given that they act as altruistic parents and owner-mangers of the family firm (Zellweger et al., 2011). According to Bandura's Social Cognitive Theory (Bandura, 1997), family could affect next-generation members' locus of control and self-efficacy.

Family background is important not to encourage entrepreneurial spirit of the incumbents but to impact on the family business succession intention. Succession is one of the most important issues to ensure the continuation and sustainability of the family business

(Ljubotina and Vadnjal, 2018). According to Nordqvist et al. (2013), succession refers to the 'process in which new owners, from within or outside the owner family, enter the business as owners and add new capital and resources that have con-sequences for firm processes and outcomes such as innovation, entrepreneurial orientation and growth'. During this process, parents transfer power to the potential successor (Dyer and Handler, 1994; Porfírio et al., 2020).

Potential successors have one of the main roles without any doubt. As they have an additional option compared to the individuals without a family entrepreneurial background, potential successors face a trilemma when deciding their professional career. They can look for a job in an established company, run their own business and become entrepreneurs or continue the family firm (Ljubotina and Vadnjal, 2018).

Several key factors have been identified to family business succession such as self-efficacy, commitment to the family firm and parental support among others, and scholars have made a big effort to understand the key challenges of the topic (Garcia et al., 2019; Ibrahim et al., 2001; Le Breton-Miller et al., 2004; Shepherd and Zacharakis, 2000). To this point, we can group the current literature of family business succession in the following categories: characteristics of successors and founders, succession processes, and the influence of other family members on succession (Blumentritt et al., 2013).

According to Sieger et al. (2016), individuals with family business background feel confident regarding their entrepreneurial skills. However, when talking to continue the family firm, they are more pessimistic because of the perception of autonomy loss (Zellweger et al., 2011). On the other hand, individuals who decide to continue the family business because there are in line with the business demonstrate high levels of performance (Dawson et al., 2015). When normative commitment is high, that is, the perceived obligation to continue the family firm, performance is even stronger (Dawson et al., 2014).

When moving from intention to action, there is a middle phase called the volitional phase (Adam and Fayolle, 2016; Gollwitzer and Brandstatter, 1997). This phase refers to implementation intention and it is the phase when individuals plan how they are going to enact their intentions. Even though implementation intentions are not addressed in the intention models, they are part of the process of performing a behavior (Adam and Fayolle, 2016). In this sense, several authors in the literature (Bogatyreva, Edelman, and Manolova, 2019; Kautonen et al., 2013; Shirokova et al., 2016), stated that behavior is actually explained by approximately 30% of the variance of entrepreneurial intentions. In this context, authors such as Gielnik et al. (2014) found that the relationship between

entrepreneurial intentions and new venture creation is moderated by the degree of detail in the planning of actions. The planning of actions is composed by mental simulations that define the sub-steps of how to achieve a certain goal (Frese et al., 2007). According to Locke and Latham (2002), goals are the objects or purposes of an action, that is, intentions within a given time period to achieve a certain standard. In this sense, Goal-setting Theory of Locke and Latham (1990) states that difficult and challenging goals lead to greater level of performance than easy or vague goals, or not setting any goal (Latham, 2016). In the field of entrepreneurship, the pursue an entrepreneurial professional career will lead to greater commitment and persistence on the venture creation as the individual will be more goal oriented (Ramos-Rodríguez et al., 2019). Hence, the understanding of implementation intention in the context of entrepreneurship would help to address the reason why not all entrepreneurial intention ends into actual behavior.

1.2. Justification of the study

Since Shapero (1984) and Shapero and Sokol (1982) were published almost 40 years ago, the literature analyzing entrepreneurial intentions has grown exponentially (Entrialgo and Iglesias, 2016; Gubik and Farkas, 2020; Holienka et al., 2017; Laguía-González et al., 2019; Lopez and Alvarez, 2019). One of the topics that is attracting an increasing attention is university student entrepreneurship (Hahn et al., 2019; Nabi et al., 2017; Nowiński et al., 2019; Shirokova et al., 2018) and authors such as Fayolle and Liñán (2014), Liñán and Fayolle (2015) and Rai et al. (2017) argued that further research is needed to increase the understanding in this area.

In this context, the awareness of what has been studied is fundamental to understand which are the gaps in the literature. The Global University Entrepreneurial Spirit Students' Survey (GUESSS) is a worldwide project aimed at exploring the entrepreneurial spirit of university students. For this reason, we consider it is suitable to study the current literature based on the GUESSS project as a starting point to identify the key factors in the field of university student's entrepreneurship.

This entrepreneurial trend has led to an increasing number of entrepreneurship courses (Gianiodis and Meek, 2020; Kwong and Thompson, 2016; Turner and Gianiodis, 2018) and the role of entrepreneurship education in the generation of student's entrepreneurial behaviour is attracting researchers' attention (Barba-Sánchez and Atienza-Sahuquillo, 2018; Montserrat Entrialgo and Iglesias, 2016; Laguía-González et al., 2019; Nabi et al., 2017; Nowiński et al., 2019; Rauch and Hulsink, 2015). In this sense, authors such as Lima

et al. (2015) and Von Graevenitz et al. (2010) argue that further empirical evidence of the impact of entrepreneurship education on entrepreneurial intentions is still necessary as the current studies are not conclusive. While several authors stated that entrepreneurship education had a positive effect on entrepreneurial intention (Díaz-Casero et al., 2017; E Lima et al., 2015), a second stream of research results suggest that the relationship between entrepreneurship education and entrepreneurial intention was not significant or even negative (Fayolle et al., 2006; Oosterbeek et al., 2010; Souitaris et al., 2007).

When studying entrepreneurship education as program learning, the results obtained are not much clearer. Authors such as DeTienne and Chandler (2004) and Turker and Selcuk, (2009) reported that program learning leads to higher levels of entrepreneurial intentions as individuals are more aware of new opportunities. On the contrary, other authors like Oosterbeek et al. (2010) state that levels of entrepreneurial intention after an entrepreneurship course lower as students acquire a more realistic view, and they may lose enthusiasm to set up their own business.

This contradiction in the results obtained leaves a clear gap in the literature. From our viewpoint, studying the characteristics of the entrepreneurship courses and the mechanisms that enhance entrepreneurial intention is fundamental to improve the entrepreneurial culture. It is not only a matter of the number of courses attended by students, but also of the content and methodologies employed.

The meta-analysis conducted by Martin et al. (2013), encourages future research to address the degree of exposure to entrepreneurship education in program learning. Walter and Block (2016), for their part, stated that environmental conditions play a significant role in the effects of entrepreneurship education and suggest that future research should test the effect of entrepreneurship education in more and diverse countries and contexts. More recently, Zhang et al. (2019) picked up the gauntlet of BarNir et al. (2011), who suggested that future research should focus on the mediating effects on developing entrepreneurial intention. To date, although the TPB is probably one of the most important models for predicting entrepreneurial intention, evidence for the mediating effects of the TPB components in the relation between program learning and entrepreneurial intention is not compelling enough. To respond to these research calls, our work provides a study of the simple and double mediating effects of the components of the TPB between entrepreneurship education understood as program learning and entrepreneurial intention.

On the other hand, when studying entrepreneurship education in terms of having attended an entrepreneurship course, it is important to clarify the elements that account for education

differences in entrepreneurial intentions. Rather than focusing on education differences in isolated entrepreneurship drivers, authors like Shah et al. (2020) suggest that studying these different factors simultaneously within an overarching framework, namely the Theory of Planned Behaviour (TPB) (Ajzen, 1991), can put the results of previous research into perspective. Research has demonstrated that the TPB can be used to effectively predict entrepreneurial intention (Karimi et al., 2016; Lopez and Alvarez, 2019; Moriano et al., 2011; Souitaris et al., 2007). In this work we wish to begin with the TPB framework in order to identify entrepreneurship education differences in antecedents of entrepreneurial intention. However, there are other variables affecting entrepreneurial intention such as context (Thomassen and Middleton, 2019; Welter, 2011; Welter et al., 2016). Social context understood as the sociocultural values shared by members of a society, university context, understood as climate, shared values, curricula and extra academic activities and family context understood as having parents entrepreneurs are positively related to entrepreneurial intention (Díaz-Casero et al., 2017; García-Rodríguez et al., 2019; Laguía-González et al., 2019; Lopez and Alvarez, 2019; Shirokova et al., 2015). In this sense, given that the effects of entrepreneurship education are contradictory, and studies from a contextual perspective have not considered different types of context in the same model, in this work, we conduct a study on the moderating role of entrepreneurship education in the TPB model, which we have been expanded by adding social, university and family context.

Once entrepreneurial intentions have been develop, implementation intentions are positioned as an antecedent of actual behavior (Bird, 1988). However, although there is empirical evidence supporting the already mentioned Entrepreneurial Event Model of Shapero and Sokol (1982) and Ajzen's (1991) TPB, there is still a lack of literature confirming Shapero and Sokol's EEM (Liñán and Fayolle, 2015). Authors such as Gollwitzer and Sheeran (2006) and Liñán and Fayolle (2015) agree that studies should validate this model and hence, offer new insights for expanding the entrepreneurial intentions literature. More specifically, Gollwitzer and Sheeran (2006) studied the relationship between implementation intention and goal achievement and reported that the effectiveness of planning has been reviewed only in a theoretical way so further research is needed to provide a comprehensive evaluation of implementation intention effects on behavior. In addition, according to authors such as Ramos-Rodríguez et al. (2019) when studying the differences in the behavior of individuals, a key aspect to be considered is the temporal dimension in the formation of entrepreneurial intentions and this is precisely the second research gap our study wants to address. Therefore, we find suitable to extend the entrepreneurial intention model with the inclusion of implementation intention as a previous

step of behavior and to analyze the moderating effect of goal orientation understood as entrepreneurial career choice.

Finally, a complete analysis of entrepreneurial intentions must also study the succession intentions of individuals with a family entrepreneurial background as they have to do with entrepreneurship as well. Although the literature has extensively studied entrepreneurial intention from the perspective of a founder entrepreneur, we lack an understanding of the antecedents of entrepreneurial intention in the case of individuals with an entrepreneurial background. In the context of family firms, the potential successor not only has the option to found their own business or find employment in an established firm, but also to become a successor. Therefore, drawing on the Social Cognitive Theory and considering the already mentioned theories of entrepreneurial intention, we study the succession phenomena. Our aim is to cover a global entrepreneurial intention point of view, including both the entrepreneur who founds his own company and the entrepreneur who continues the family business. The family business literature, rather than focusing on the next-generation members, is aimed at the current incumbents (De Massis et al., 2016; Garcia et al., 2019), which leaves a limited picture of the factors influencing the next-generation succession intentions. Authors such as Campopiano et al. (2020); De Massis et al. (2016) and Mahto et al. (2019) agree that there is a lack of understanding of the antecedents of the family business succession intention. Succession is one the most important challenges faced by business families (Bozer et al., 2017; Ljubotina et al., 2018; Porfírio et al., 2020) as attracting and motivating the potential successors is a difficult task (Ljbotina et al., 2018). More precisely, the current literature shows that the family business survival rate from the first generation to the second one is only about 30%, this percentage drops to the 15% in the third generation and only 3% of the family business continue beyond the fourth generation. (Gagné et al., 2019). Hence, we advance research on family business succession by analyzing the effect of parental support on family business self-efficacy and on commitment to the family business in relation to succession intention of the next-generation members.

Based on this background, this thesis develops a literature review and fourempirical studies to analyze university student entrepreneurship. The specific objectives of the study are presented below.

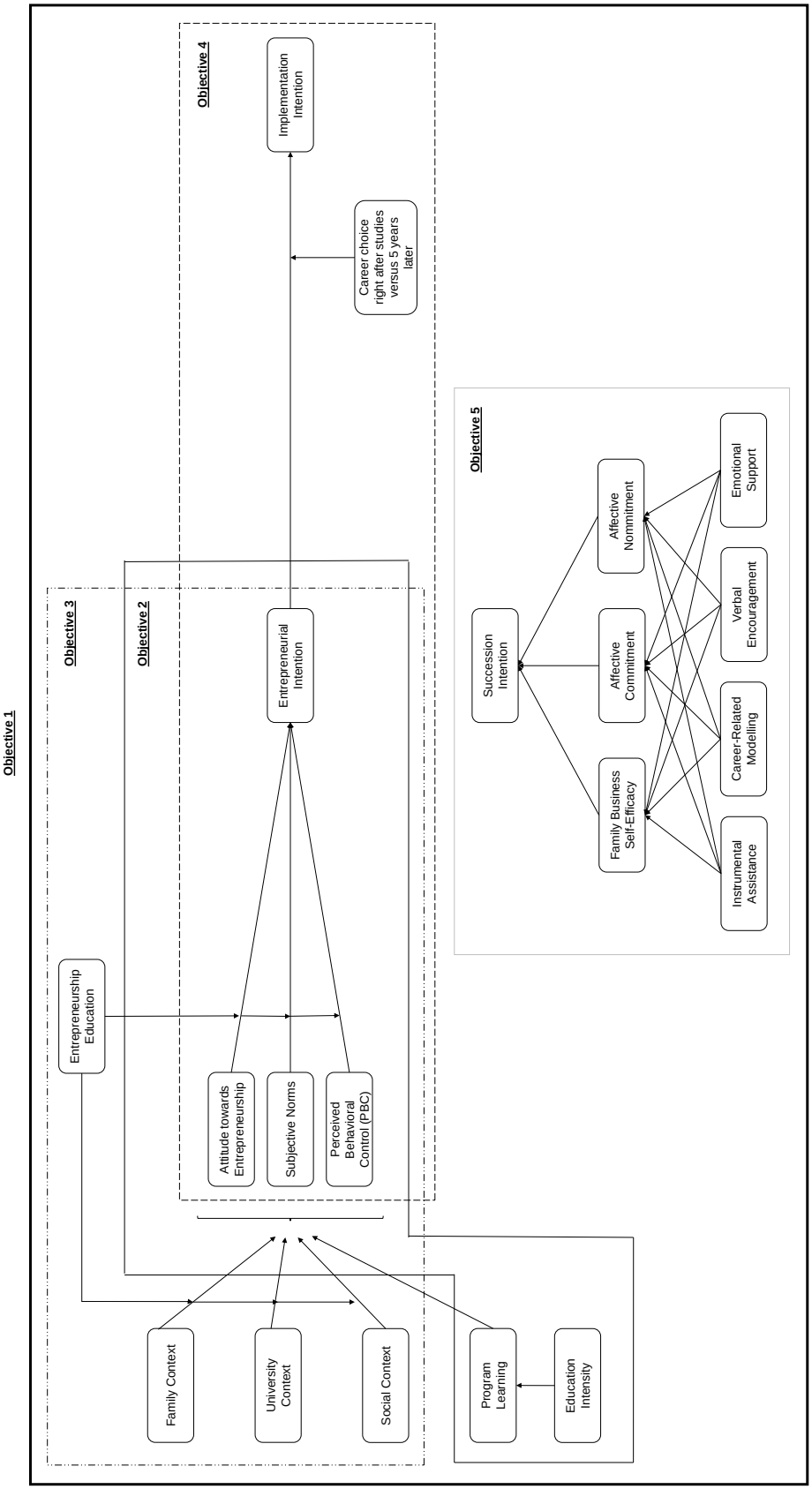
1.3. Main objectives

The present study aims to contribute to the study of entrepreneurial intentions of university student's entrepreneurship. More specifically, university context as well as social and family context and the components of the Theory of Planned Behavior (TPB) and EEM are analyzed. In addition, within the analysis of entrepreneurial intention, we include the study succession intention. To fulfil the research goal, the following specific objectives are proposed:

1) To identify the core theories, authors, works and variables influencing university student's entrepreneurship in the entrepreneurship literature focused on the Global University Entrepreneurial Spirit Students' Survey (GUESSS).
2) To study the mediator effect of the components of the Theory of Planned Behavior (TPB) in the relationship between entrepreneurship education and entrepreneurial intention.
3) To study the effect of entrepreneurship education and entrepreneurial intentions, considering the role of the university, family, and social context on the components of the TPB as antecedents of entrepreneurial intention.
4) To study the effect of being goal-oriented in the relationship between entrepreneurial intentions and implementation intentions and to analyze the effects of the components of the Entrepreneurial Event Model on entrepreneurial intention.
5) To study the effect of family business self-efficacy and commitment to the family firm on succession intentions, considering the role of parental support.

The following figure shows the research objectives presented above.

Figure 1 Research objectives



Source: Edited by author

1.4. Thesis outline

This work is structured in three sections. In the first section (chapter 1), there is a presentation of the theoretical framework of the study. Then, the objectives of the research are explained and justified, as well as the procedures and methods that have been used to collect the different samples of each of the four studies.

The second part (chapters 2, 3, 4, 5 and 6) includes one literature review and the four empirical studies that have been carried out. The first study analyzes the current literature of university student entrepreneurship focused the Global University Entrepreneurial Spirit Students' Survey (GUESSS) and paying special attention to all the stages of the entrepreneurial process. The second study analyzes the effect of entrepreneurial education on entrepreneurial intentions, considering the role of the university, family, and social context on the components of the TPB. The third study analyzes the direct and indirect effect of program learning on entrepreneurial intention. More specifically, it analyzes the mediator effect of the components of the Theory of Planned Behavior (TPB), attitude towards entrepreneurship, social norms, and perceived behavioral control (PBC), in the relationship between program learning and entrepreneurial intention. The fourth study, for its part, analyses the effect of family business self-efficacy and commitment to the family firm on succession intentions, considering the role of parental support. Lastly, the fourth study analyzes the effect of being goal-oriented, in terms of an entrepreneurial professional career choice, in the relationship between entrepreneurial intentions and implementation intentions.

In each one of the studies, the theoretical framework and the hypotheses are presented in a first place. These include the main theoretical contributions for each variable analyzed and the theoretical model. Then, there is a description of the sample, the instruments used, and the description of the analyzes in detail. Finally, the obtained results, the discussion and the limitations and future directions are described.

In the third part of this work (chapter 7), the general conclusions that can be drawn from the four studies are discussed, the implications and practical contributions in the field of student entrepreneurship are presented, and finally the main limitations and possible future lines of action are outlined.

To do so, these five studies were carried out. Notice that except from the first study, which is a literature review, the following studies are based on the UPV sample of students that answered the GUESSS survey in 2018.

1) The first study based on the Global University Entrepreneurial Spirit Students' Survey (GUESSS) literature is composed by 52 articles from the Web of Science and Scopus databases. The GUESSS project is one of the largest research projects on student entrepreneurship. The 80% of articles were published between 2017 to 2020 (the most productive year was 2017) so we can affirm that the interest in this topic is increasing.
2) The second and third studies were carried out based on the students from the Universitat Politècnica de València (UPV) that answered the GUESSS survey in 2018. The UPV collected a total of 880 responses although the sample of this study is based on 688 students that are not involved in any entrepreneurial activity. It has been shown that entrepreneurship education and university environment influence the antecedents of entrepreneurial intentions, however, however it has been also demonstrated that further research is needed.
3) The fourth study goes one step further and studies implementation intention as a preceding step of behavior. In this case, we used the UPV sample of the GUESSS project in 2018 comprised of 688 students that are not involved in any entrepreneurial activity. The formation of implementation intention should contribute to goal achievement and this is exactly what we aimed at validating by adding the variable professional career choice.
4) Finally, the fifth study was carried out considering the 260 UPV students with a family entrepreneurial background. The GUESSS project includes a specific set of questions answered by students whose father, mother or both are self-employed. The reason why we consider an analysis of the students' succession intentions is needed is that career choice becomes more complex in comparison to the classical dilemma between being an employee or being an entrepreneur.

1.5. Procedures and methods

Global University Entrepreneurial Spirit Students' Survey (GUESSS) is a worldwide survey on entrepreneurial attitudes, plans, activities and aspirations of university students, collecting primary data through its own survey instrument (Holienka et al., 2017a).

Data is collected globally every 2 years. Since its first edition in 2003 with only students from one University, the last edition run in 2018 collected 208,000 completed responses from 3,000 universities and 54 countries. Spain is enrolled in this project since the 2013/2014 edition.

Al studies except for the first one which is a literature review based on the GUESSS project, are based on students from the Universitat Politècnica de València (UPV) who participated on the GUESSS project.

The first study aims at analysing the scientific production based on GUESSS and combines Bibliometric, Social Network and Content Analysis. We conducted a search in the Web of Science (WoS) and Scopus databases. Finally, we used Bibexcel and VOSviewer to obtain the results from the 52 non-repited works.

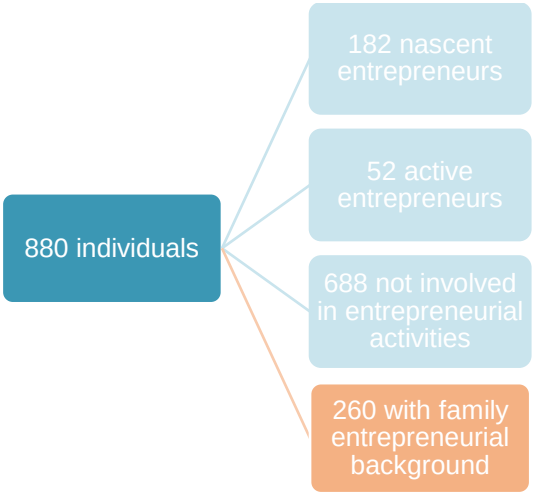
The GUESSS project consists of several itineraries depending on the phase of the entrepreneurial process. The first itinerary is aimed at students who are neither trying to create their own business nor are active founders. The second itinerary is aimed at students who are trying to create their own business. The third itinerary is aimed at students who are active founders. There are also two specific sections for those students with family entrepreneurial background and for students who are working in a start-up. For the four remaining studies, the composition of the selected sample is in Figure 2. Figure 3 for its part, shows the sample details according to the entrepreneurial stage and the number of students with a family entrepreneurial background.

Figure 2 Data sheet of the sample

UNIVERSE	Students from the UPV
TARGET POPULATION	30.000 individuals
SAMPLE	880 individuals
CONFIDENCE INTERVAL	95%
SAMPLE ERROR	+- 3,9% for the entire sample
VARIANCE	Maximum indeterminacy (p=q=50%)
PERIOD	November 2018
METHOD	Online survey
FIELDWORK	UPV

Source: Edited by author

Figure 3 Sample details



Source: Edited by author

As we can see, from the 880 individuals of our sample, 182 individuals answered 'yes' to the question 'Are you currently trying to start your own business/to become self-employed?'. For its part, 52 individuals answered 'yes' to the question 'Are you already running your own business / are you already self-employed?'. The remaining part of the sample answered 'no' to both these questions. The sum of the individuals is not equal to 880 because there are 42 people who answered 'yes' to both questions. On the other hand, there are 260 students whose father, mother or both are entrepreneurs.

In these four studies, Partial Least Squares (PLS) regression method was used. PLS is especially useful for testing complex models, some authors even refer to it as the "most fully developed and general system" (Henseler et al., 2016). More specifically, this method is especially useful for non-normal data; small sample sizes; and formatively measured constructs (Hair et al., 2014). PLS consists of two procedures: the measurement model and the structural model. To ensure that the indicators of each construction measure what they are supposed to measure, the measurement model is based on an analysis using a confirmatory factor analysis that checks the validity and reliability of each construct (Chen and Su, 2014). The structural model is based on an analysis that uses the squared multiple correlation of the dependent variable to examine the explanatory power of the model (Chen and Su, 2014). To run the different regression models, we used Smart PLS 3.3.2 software (Ringle et al., 2015).

2 Analysis of the academic production based on the GUESSS project

2.1. Study aim

Student entrepreneurship is a relevant and rising issue within the literature in the field. Universities around the world are constantly trying to become more and more entrepreneurial to remain competitive, to generate new revenue sources through licensing or contract research and to implement government policy guidelines. For this reason, we decided to start our work with a literature review based on the "Global University Entrepreneurial Spirits Students Survey" (GUESSS) project. The GUESSS project is one of the global and largest research projects about student entrepreneurship and provides an extensive range of data worldwide.

Thus, combining Bibliometric, Social Network and Content Analysis, this chapter develops a Systematic Literature Review analyzing the scientific production in the field, its impact, the main topics and the methodologies and variables used. More specifically, this chapter adopts a new approach focusing on entrepreneurs as a heterogeneous group with different stages. Consequently, this chapter analyses the data according three levels of the entrepreneurial process: students with entrepreneurial intentions, nascent entrepreneurs, and active founders. Moreover, we paid attention to the additional categories that rose in our analysis: the family business succession and students working in a start-up.

All in all, using all the research papers based on the GUESSS survey, we offer novel contributions to the literature in the field of student entrepreneurship.

2.2. Theoretical background

2.2.1. Student entrepreneurship

There is an important number of works highlighting the importance of student entrepreneurship, mainly focus on the understanding of the university student's career choice intentions (Sieger and Monsen, 2015; Zhao et al., 2005) and its antecedents in more detail (Liñán and Chen, 2009b). According to Marchand and Hermens (2015) a student entrepreneur is an individual that attends entrepreneurship courses at university and conducts both innovative and revenue generating entrepreneurial activities. Besides this, Holienka et al. (2017) stated that the term student entrepreneurship can be expanded and cover all students that are actively involved in running enterprising activities. This includes the transformation into value for others of the identified or developed ideas.

University environment provides several advantages to student entrepreneurs. Mars et al. (2008) affirmed that these benefits consist in specialized professors, spaces and support services such as incubators, patent and copyright protection, advisory and of course, classroom learning. And what is more important, they might also validate and sell products or services within universities and the faculty members.

In this sense, universities have the key to contribute to development of society by providing individuals the proper entrepreneurial skills (Audretsch, 2014; Shah and Pahnke, 2014). By doing this, students would be allowed to identify business opportunities and develop them (Karlsson and Moberg, 2013; Mc Gee et al., 2009).

2.2.2. Theory of Planned Behavior (TPB)

Within this, a broader understanding of student entrepreneurs is needed. One of the most distinguished basis analyzing student entrepreneurship phenomena has been Theory of Planned Behavior (TPB)(Ajzen, 1991, 1996, 2005). This theory aims at determining the attitudes-behavior links and it has been successful at predicting a variety of behaviors, including entrepreneurial intentions. The TPB should be understood as part of a set of related theories that includes the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975) and the more recent Reasoned Action Approach (RAA) (Fishbein and Ajzen, 2010). All TRA, TPB and RAA suggest that the key driver of action/behavior the individual's behavioral intention to participate in that behavior. In fact, the TRA is the antecedent of the TPB. According to the TRA, the determinant of volitional behavior is the individuals' intention to engage in that behavior, and the antecedents of that behavioral intentions are attitudes towards a behavior and social norms (Conner and Armitage, 1998; Tenenbaum and Eklund, 2020). The TPB integrates a third antecedent of intentions which is perceived behavioral control (PBC) (Ajzen, 1991). PBC is the individual's perception of the degree of control over behavioral performance. The RAA keeps the same basic concept as the TPB, but proposes that attitudes, subjective norms and PBC are split in two sub-components each (Fishbein and Ajzen, 2010). Attitudes are divided in experiential and instrumental, subjective norms can be injunctive and descriptive norms, and finally, PBC consists of capacity and autonomy. Ajzen (1991) assessed that targeted action by individuals is preceded by the emergence of their intentions. This is affected by the following factors. First, personal attitude toward the relevant activities. Second, perceived behavioral control based on the individual's perception of how easy or difficult implementing their plans is going to be. And third, subjective norms defined by public opinion, which can either encourage one to or discourage one an individual from

implementing said plans. Among the literature on entrepreneurial intention, these factors are the most studied and, of course, are included in the GUESSS project.

When applying the TPB to the entrepreneurial field, we identified several core studies that analyze entrepreneurial intentions (Zellweger et al. 2011; Bernhofer and Li, 2014; and Bergmann et al. (2016) among others). Zellweger et al. (2011) investigated the differences between founders, successors and employees in terms of locus of control, self-efficacy and independence and innovation motives. They found that degree of entrepreneurial self-efficacy and independence motive are key factors on career intentions. Bernhofer and Li (2014) for its part, assessed Chinese student's career intentions, especially in the entrepreneurial field. They also analyze the dynamics of changes in career choice intentions and career motives impact, university environment and perceived barriers. They found that the factors driving student entrepreneurship are students' perception of own maturity, confidence and improved financial position. Regarding Bergmann et al. (2016) work, they analyzed nascent and new entrepreneurial activities of business and economics students and find that individual and contextual determinants influence students' propensity to start a business.

2.2.3. The GUESSS project

Global University Entrepreneurial Spirit Students' Survey (GUESSS) is a worldwide survey on entrepreneurial attitudes, plans, activities and aspirations of university students. GUESSS project adopts and tests the Theory of Plan Behavior (TPB) model.

The GUESSS project started in 2003 originally under the name "International Survey on Collegiate Entrepreneurship" (ISCE) and changed to its current name in 2008. Since its launch, GUESSS has been repeated eight times with each time the project attracting more participants and becoming more global. In 2018, 54 countries took part, and more than 208,000 completed responses from more than 3,000 universities were collected (GUESSS, 2020).

GUESSS project sets out to achieve the following three goals as an entrepreneurship research platform. First, systematically record and track the start-up process based on entrepreneurial spirit, intentions, and activities of students worldwide (panel study). Second, assess the effectiveness of universities' entrepreneurship programs and individual characteristics of students, with national and international comparisons. And third, enable participating countries to reflect on their students' entrepreneurial spirit and identify hurdles and pitfalls when pursuing an entrepreneurial career.

There are four different routes when answering the GUESSS questionnaire in terms of entrepreneurial interest. First, there are students who are not trying nor running their own business and do not have entrepreneurial intention neither. In this case, researchers such as Bogatyreva et al. (2019) and Hahn et al. (2019) among others analyze variables answered by all students. Second, there are students who have the intention to become an entrepreneur at some point but are not trying or running their own business yet (intention focus group). García-Rodríguez et al. (2017) and Ramos-Rodríguez et al. (2019) are examples of works studying this kind of students. Third, there are students that are trying to run their own business (nascent entrepreneurs), what we call the trying focus group. Bergmann (2017) and Manolova et al. (2016) among others analyzed nascent entrepreneurs. Finally, the group of students that are already running their own business (active founders) are mentioned in this work as the running focus group. Bartha et al. (2019) and Knatko et al. (2016) are examples of studies of active founders. In 2018, the last two focus groups did not answer the specific section of intention, where attitudes, locus of control and self-efficacy were analyzed but they answered a specific section about their planned own business and their own business respectively. Apart from analyzing student entrepreneurship in each stage of the entrepreneurial process, there is a specific section about the family business and another specific section for those students who are working in a start-up.

2.3. Study setting

2.3.1. Procedures and methods

We conducted a systematic review of the literature on the GUESSS project. A systematic literature review is the first step to acquire an understanding of any topic and can be defined as the analysis, evaluation and synthesis of the existing knowledge related to a certain research problem (Hart, 2018). This methodology identifies previous researches, selects and assess results, analyses data, and reports the results and conclusions reasonably and transparently (Denyer and Tranfield, 2009).

We used herein a combination of three techniques: Bibliometric (BA), Social Network (SNA) and Content Analysis (CA). A systematic literature review can be characterized as a type of content analysis which observe both quantitative and qualitative data in the same way (Brewerton and Millward, 2001). As our aim is to map the current literature on student entrepreneurship based on the GUESSS project and provide researchers that use this

database an overview of the most relevant results, we consider that a systematic literature review could allow establishing specific gaps and inconsistent findings which would help to identify the needs and of future research (Denyer and Tranfield, 2009).

A bibliometric analysis is a research technique that uses quantitative and statistical analyses to describe the distribution patterns of research articles with a given topic and time (Diodato and Gellatly, 2013). It uses the occurrences of a publication as a whole or its attributes, such as the author's name, keywords, citations, etc. offering the main characteristics of the research field (Gupta and Bhattacharya, 2004).

The Social Network Analysis classifies related nodes of topics to assess associations (De Nooy et al., 2005). These procedures identify the relations (co-occurrences) of certain items, such as the number of times that keywords (co-word) or cites (co-citation) are mentioned together in publications in a research field. This approach is used to understand the underlying frame of the interrelationships between articles (Ding et al., 2001).

Finally, we run a content analysis to explore in detail each of the works of our sample. This technique studies the research items under a systematic, objective, and quantitative approach, trying to avoid subjective interpretations using standardized procedures to transform document content in data (López-Noguero, 2002).

2.3.2. Data collection

We conducted a search in the Web of Science (WoS) and Scopus database, the two main academic collections in the literature (Mongeon and Paul-Hus, 2016). In this study, we used Business, Management and Accounting and Economics categories in Scopus and Business, Management, Ethics, Business Finance and Economics in Web of Science.

The search criteria include the joint appearance of GUESSS and entrepreneur* in the categories title, abstract and keywords.

Table 1 presents the search strings applied and the number of results obtained.

Table 1 Search equation

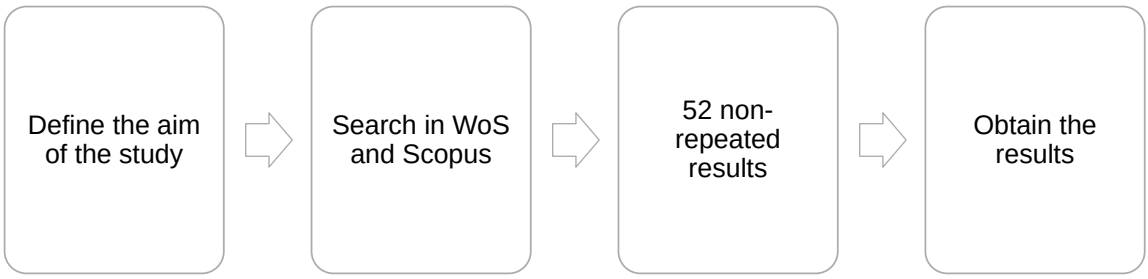
Search strings	Search field	Date of research	Number of results
Web of Science			
TS= (guesss AND entrepreneur*)	Topic	31/07/2020	41
Scopus			
TITLE-ABS-KEY (guesss AND entrepreneur*)	Article title, abstract, keywords	31/07/2020	40
Non-repeated results			**52**

Source: Edited by author

The total amount of non-repeated articles is 52. As the GUESSS keyword was a very good inclusion criterion, all the results were accepted. The final sample was composed by 52 in the case of the Bibliometric and Social Network Analysis. Finally, in the case of the Content Analysis the sample is composed by 47 works as this is the number of the papers available. Regarding the papers that we did not analyze in the content analysis, it should be noted that one is an article written in Hungarian, and the four remaining works are proceedings. To increase the sample, the authors were contacted via email and ResearchGate, but no response was obtained at the time of writing of this work.

Figure 4 shows the methodological process.

Figure 4 Methodological process



Source: Edited by author

2.4. Results

As we defined in the study aim, we will pay attention to the classification of the students according to the different stages referred in the GUESSS questionnaire to analyze the

results. We will assign the category "all" if the paper is not addressed to a specific group of students. The category "intention" refers to the students who are not trying to create their own business nor are they founders at the present time. The "trying" category includes students who are trying to create their own business and answer yes to this specific question and the "running" category includes students who answer yes to the question of having founded a business. Regardless of the entrepreneurial process, there is a specific category for those works that analyze the succession intention in the case of students with family entrepreneurial background and another specific category for those students working in a start-up. When classifying our results, we found that there were some articles referring to two categories (intention and trying or trying and running). This is because in some editions of the survey, there are common questions in these groups. In these cases, we have included them in the most advanced focus group of the entrepreneurial process, that is, the articles that deal with the intention and the trying focus groups are included in the trying focus group, and the same happens with those that deal with the trying and running focus groups, which are classified as running.

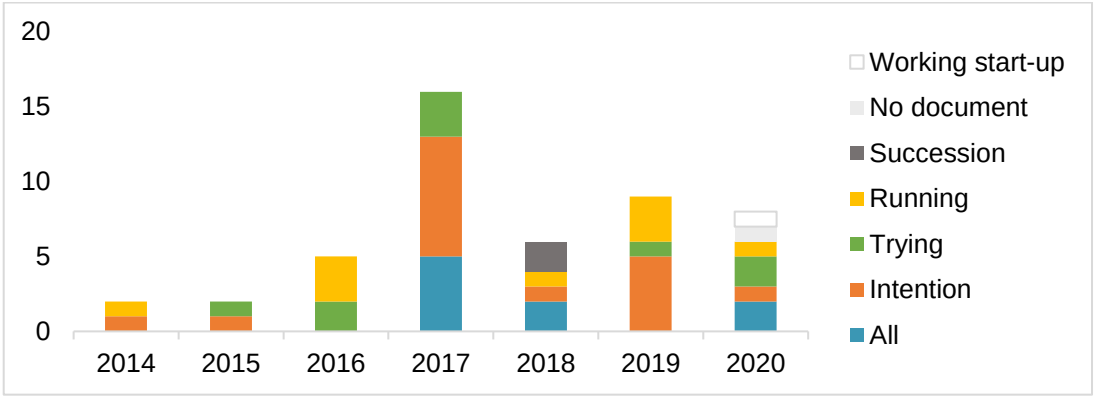
2.4.1. Scientific production in the field: volume, evolution and location

In this section, our sample is composed by the 52 works obtained after conducting the searches both in WoS and Scopus databases. Only the subsection relating to co-citation analysis was based on the 47 documents that were available.

Research production: evolution, approaches and subject areas

First, we analyzed the evolution of the publications over the years from 2014 to July 2020 inclusive, classifying the publications according to the different stages referred in the GUESSS questionnaire.

Figure 5 Evolution of publications



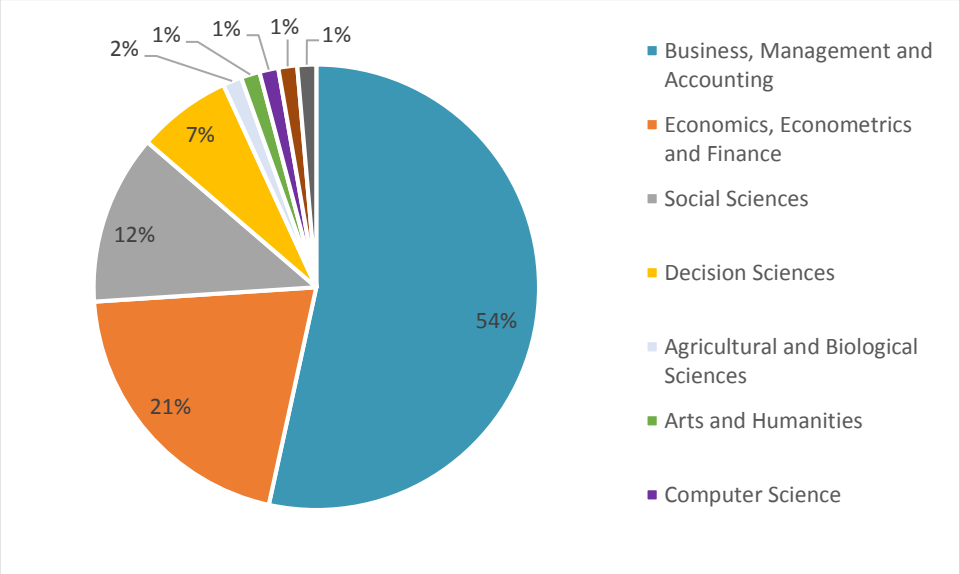
Source: Edited by author

As we can see, the research production is not large yet and has cycles. This may be to the following reasons. First, the first data collection was conducted in 2003 so it takes time until the project is known and used. Second, the survey is launched every three years approximately so gaps in the years in between are understandable. And third, it was not until 2013/2014 when the project included 34 countries, which is a big increase compared to the previous editions. Despite the 7-year time span, the 80% of articles were published from 2017 to 2020 (the most productive year was 2017). Hence, we can say that the interest in this topic is increasing.

Regarding the focus group analyzed by the authors, we can appreciate that students who have the intention to become an entrepreneur (17 works) are the most popular approach. Students who are trying to set up a business and students that are already running their own business are analyzed in 9 studies each. However, the most remarkable fact is that the family business succession intention is analyzed only in two works in 2018 despite having a specific section in the questionnaire and the same happens with the students that are working in a start-up, which are analyzed in one work published in 2020. Finally, we decided not to identify separately the works that analyze two stages of the entrepreneurial process since the sections answered by one or another target of students differ in some editions of the project. We have included them in the last stage of the entrepreneurial process they analyzed, that is, if a study included students who are trying to create their own business and students who are already active founders, they have been included in the target labelled as 'running'.

Finally, Figure 6 shows the subject areas. Since the search includes the term GUESSS, most of the journals belong to the business or economics field. However, there are other subject areas important to highlight apart from the mentioned above. For example, the journal Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis belongs to the Agricultural and Biological Sciences field, the journal Revista de Psicologia Social belongs to the psychology field and the journal Journal of Technology Transfer belongs to the engineering field.

Figure 6 Subject areas



Source: Edited by author

Location: Countries and Institutions

Another way to analyze trends in the literature is by analyzing where are located the authors behind these works. This is helpful to investigate whether the degree of spread of this field belongs to a specific area or it is a global trend. Table 2 shows countries with more than one work and the corresponding institutions and authors.

Table 2 Production Ranking and Geographical distribution of the papers

Country	Docs	Main Institutions	Main authors (number of works)
Russia	11	Saint Petersburg State University	Shirokova, G. (11); Bogatyreva, K. (7).
USA	8	Bentley University University of Florida	Edelman, L.F. (5); Manolova, T.S. (4).
Hungary	7	University of Miskolc Budapest Business School	Gubik, A.S. (4); Farkas, S. (2);
Italy	6	University of Bergamo	Minola, T. (6); Hahn, D. (4);
Colombia	5	Universidad EAFIT Universidad de Medellín	Cano, J.A. (4); Tabares, A. (4)
Spain	5	Universidad de la Laguna	García-Rodríguez, F.J. (2); Gil-Soto, E. (2); Gutiérrez-Taño, D. (2);
Slovakia	5	Comenius University Bratislava University of SS Cyril and Methodius Trnava	Holienka, M. (4); Gal, P. (2); Kovacicova, Z (2)

Source: Edited by author

As we can see from the table above, Russia (11 works), USA (8 works) and Hungary (7 works), are the countries with a higher production. Since Russia takes part of the GUESSS project since the 2011 edition, it is not surprising that this country concentrates a greater production of papers (8 works). A similar conclusion can be drawn from the USA, which takes part of the GUESSS project since the 2013 edition. However, Hungary takes part of the project since de very early editions (2006) and the number of publications is low in comparison with the years they have been participating in the project.

Overall, we see that the production of articles is mostly concentrated in Europe and North America. Latin America's contributions are mainly from Brazil (1 work) and Colombia (5 works). Although 4 out of 5 works belong to the same authors (Cano and Tabares) and are published in the same journal. Asia for its part, is represented by Israel, Saudi Arabia and China, with one work each. Another important fact is that although Australia is taking part in the project since the 2013/2014 edition, there is no representation of Oceania. As for countries considered to be world powers or emerging countries, it is also surprising that countries such as China and Brazil have only one published work, despite taking part in the project since the 2011 edition. Japan, which is also part of the project since the 2011 edition, does not have any work. Finally, India, which can be considered an emerging country with

great growth potential, is part of the project since the 2016 edition but does not have any published work either.

Apart from the above, there are several important things to highlight about authors and institutions. Table 2 also shows the main authors in the literature, that is, authors with two or more works. In the case of Russia, it is noteworthy that all the 3 authors belong to the same institution. On the other hand, it is also important to highlight that there are some countries like the USA and Hungary, which despite have several works, are represented by a few authors. Regarding Canada and Switzerland, it is remarkable that all the works belong to the same author. Finally, at the opposite side is Spain, with a great diversity of authors and institutions.

If we pay attention to the groups, we see that countries with a low number of papers analyze all students that answered the questionnaire. Coming back to the most productive countries, we see that Russia and Italy has analyzed all the focus groups, Hungary for its part, analyzed the intention and the running focus group. Colombia analyzed the focus group of all students, intention and running. Spain is the only country which only analyses one group which is students who have the intention to run their own business.

2.4.2. Impact of the scientific production: citations and sources

Finally, we identified cites and the impact factor of the 47 available works.

Table 3 Most cited works

Title	Authors	Cites (Google Scholar)	Average	Target
Opportunities to Improve Entrepreneurship Education: Contributions Considering Brazilian Challenges	Lima et al. (2015)	142	28.4	Intention
What makes student entrepreneurs? On the relevance (and irrelevance) of the university and the regional context for student start-ups	Bergmann et al. (2016)	142	35.5	Running
The impact of family support on young entrepreneurs' start-up activities	Edelman et al. (2016)	113	28.25	Trying
Student entrepreneurship and the university ecosystem: a multi-country empirical exploration	Morris et al. (2017)	62	20.66	Trying
Entrepreneurial education and learning at universities: exploring multilevel contingencies	Hahn et al (2017)	44	14.66	All
Students climbing the entrepreneurial ladder Family social capital and environment-related motives in hospitality and tourism	Campopiano et al. (2016)	40	10	Trying
Entrepreneurial process in peripheral regions: the role of motivation and culture	Garcia-Rodriguez et al. (2017)	32	10.66	Intention
Understanding the entrepreneurial intention of Chinese students: The preliminary findings of the China Project of “Global University Entrepreneurial Spirits Students Survey” (GUESSS)	Bernhofer and Li (2014)	30	5	Intention
When do entrepreneurial intentions lead to actions? The role of national culture	Bogatyreva et al. (2019)	23	11.5	Running
Expertise, university infrastructure and approaches to new venture creation: assessing students who start businesses	Shirokova et al. (2017)	18	6	All
The psychological well-being of student entrepreneurs: a social identity perspective	Hahn et al. (2020)	18	18	Running

Source: Edited by author

Table 3 shows the most cited works according to Google Scholar. Among the available citation tools, we found that several authors have compared Web of Science, Scopus and Google Scholar in the field of social sciences and management. Levine-Clark and Gil (2009) stated that both Scopus and Google Scholar have broader coverage and provide a more complete picture than Web of Science resources in social sciences. Similarly, Mingers and Lipitakis (2010) found that WoS collects less than half of Google Scholar's journals, papers, and citations in the field of business and management. More recently, Harzing and

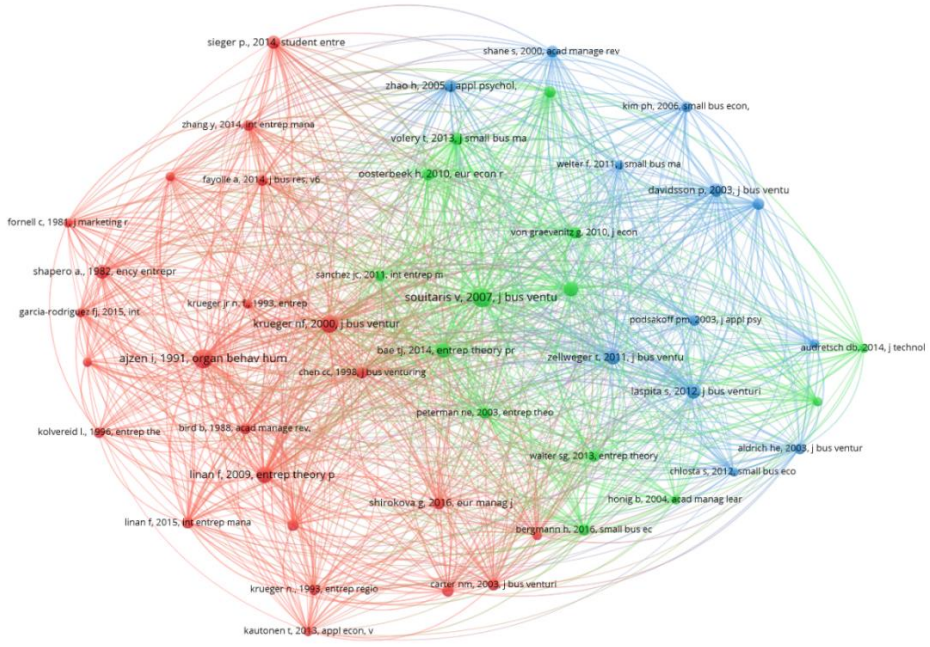
Alakangas (2016) confirmed that Google Scholar provides more comprehensive coverage and that Web of Science and Scopus coverage is similar. That is why we decided to use Google Scholar since all references were included in this site.

In this case, the results were more diverse and there was no focus group where the number of cites was significantly higher. Lima et al. (2015) and Bergmann et al. (2016) are the most cited works in the literature and have a greater number of cites on average but while the first study is focused on entrepreneurial intention, the second one focuses on active founders. However, Hahn et al. (2020), despite having been published in 2020, already has 18 citations, which is a greater number on average than most of the articles published. Out of the 10 most cited articles, we found that 2 belong to the focus group of all students, while the focus groups intention, trying and running have 3 articles each. In all, 67% of the papers analyzed have at least 1 cite.

Co-citation analysis

The co-citation map provides insight into the breadth and importance of the most cited literature in the core entrepreneurial intention based on the GUESSS project. To do so, we unified the needed data in a plain text and we used Bibexcel to generate the co-citation net. Finally, we used VOSviewer to draw the map. We limited the results to the works cited more than 5 times and the map was displayed in Figure 7:

Figure 7 Co-citation analysis



Source: Edited by author

There are three different clusters in the figure above. The red one is composed by 23 works and it is about the determinants of entrepreneurial intention. In this cluster, we can highlight Ajzen (1991), Krueger et al. (2000) and Liñán and Chen (2009b). The green is composed by 14 works and it is about entrepreneurial education. Here, we can highlight Souitaris et al. (2007) as the most relevant work. Finally, the cluster in blue is composed by 12 works and it is about family entrepreneurial background. Here, we would highlight Laspita et al. (2012), Zellweger et al. (2011) and Davidsson and Honig (2003).

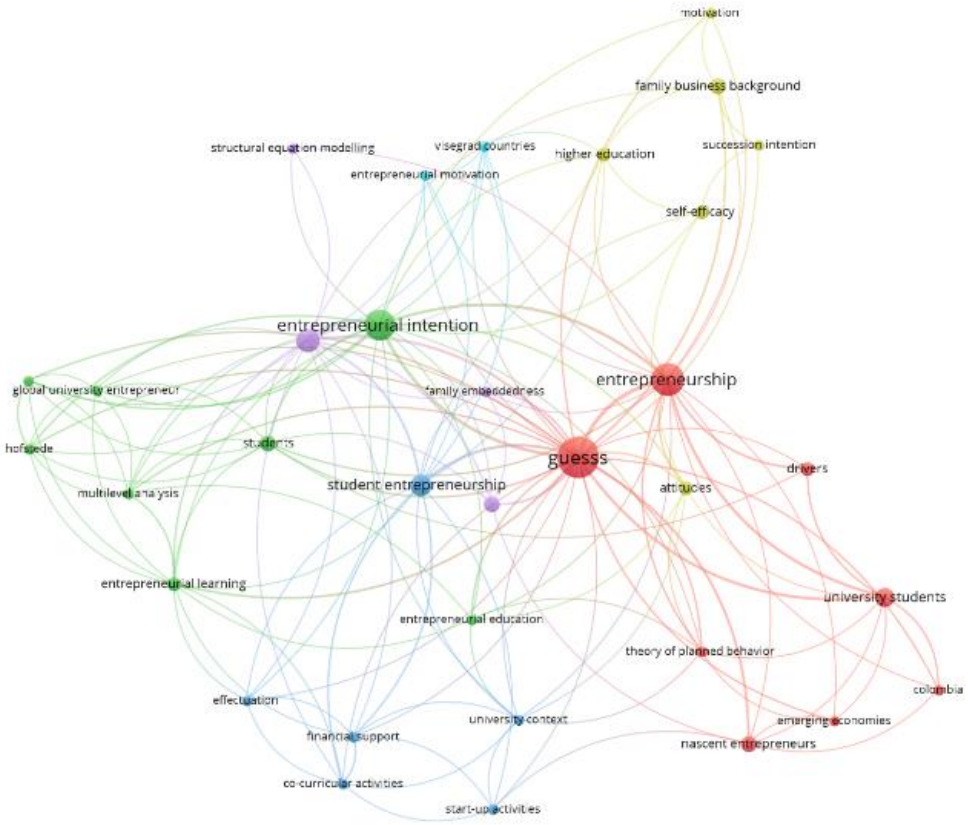
2.4.3. Main topics in the scientific production: co-keyword analysis

In this section we used two different size of our sample due to the difficulty to homogenize WoS and Scopus databases. We used Mendeley's bibliographic reference management software to compile our References section, but since some data of the papers such us the keywords can be collected, we performed the co-keyword analysis using the 52 articles that resulted from our search. We used software VOSviewer to visualize both bibliometric networks in the co-keyword analysis. More specifically, the 52 articles were downloaded in *.ris format from Mendeley and processed using VOSviewer. In VOSviewer, we the created a map based on biblbliometric data selecting reference manager file. The frequency of the keywords was not adjusted.

Co-keyword analysis

This analysis examines the content of scientific works or other types to identify topics and preferred statistical approaches (Helgeson et al., 1984), but also trends (Roznowski, 2003; Yale and Gilly, 1988). When analyzing all the keywords together, we can define better the core of the student entrepreneurship literature using GUESSS project.

Figure 8 Co-keyword analysis



Source: Edited by author

According to Figure 8, we differentiate six clusters, one per color. The red cluster is composed by 8 items including the most popular keywords entrepreneurship and GUESSS. Other keywords included in this cluster are nascent entrepreneurs, university students and the Theory of Planned Behavior. It seems that this cluster gathers the most important components of the GUESSS project. The green cluster is composed by 8 items as well and entrepreneurial intention appears to be the most relevant keyword. The blue cluster is composed by 6 items where student's entrepreneurship is the most important. Having a look at the keywords concluded in this cluster, such as co-curricular activities, university context and financial support among others, we could affirm that this cluster is strongly related to the university environment. The yellow cluster is composed by 6 items where self-efficacy and family business background are the most popular keywords but the frequencies in this cluster are very similar. We could say this cluster is about family succession intentions. The purple cluster is composed by only 4 keywords while the light blue cluster is composed by only 2 keywords. Drawing conclusions from these two clusters was especially difficult due to the number of keywords included in each and their heterogeneity.

In terms of frequency, apart from 'GUESSS' and 'entrepreneurship' which took part in the equation search, it is remarkable the keywords 'entrepreneurial intention', 'entrepreneurship education' and 'student entrepreneurship'. These results are not surprising considering the purpose of the GUESSS survey.

2.4.4. Methodologies and variables used in the scientific production in the field

Lastly, the content analysis is based on the 47 papers that were available. From the 5 papers we left behind, as we already mentioned, 3 were proceedings in the date of the search and 2 were conference papers and we do not consider it a limiting factor. Here are the results regarding methodologies and variables:

Methodologies

Giving that we wanted to analyze works that used GUESSS project, all the sample except a literature review is composed by empirical and quantitative works. The differences came out when analyzing the methodologies used. Table 4 summarizes the methodologies used by each of the 47 works obtained.

Table 4 Methodologies

Methodology	Freq.	Target					
		All	Intention	Trying	Running	Succession	Working start-up
Logistic regression analysis	**12**	2	1	3	3	2	1
Descriptive statistics	**11**	3	4		4		
Linear regression model	**9**	1	4	3	1		
Structural equation model	**8**	1	6	1			
Hierarchical regression analysis	**6**	2	1	2	1		

Source: Edited by author

As shown in the figure above, logistic regression and descriptive statistics are the most used methodology with 12 and 11 works, respectively. Linear regression and structural equation model came in a second place with 9 and 8 works, respectively. Hierarchical

regression analysis takes the third position with 6 works and as we mentioned before, the remaining work is a descriptive analysis.

It is remarkable that hierarchical regression, linear regression, and logistic regression analysis are used in all the stages of the entrepreneurial process. Descriptive statistics are used in all the sample and the intention and the running focus groups. Structural equation modelling is used in all the stages except for the running one. Finally, both works of succession intention performed a logistic regression analysis.

Results and variables used

Finally, we examined the results of our sample. We consider this to be the most valuable and important part of our work since we map all the variables involved in the literature of student entrepreneurship based on GUESSS.

First, we analyzed the succession target as we found only two works. These works belong to Gimenez-Jiménez et al. (2018) and Ljubotina et al. (2018). Gimenez-Jiménez et al. (2018) studied career choice intentions (employee, founder, or successor) and found that risk attitude and study performance were significantly affecting intentions. Ljubotina et al. (2018) for its part, analyzed succession intention and found that affective commitment and in-groups collectivism were significant.

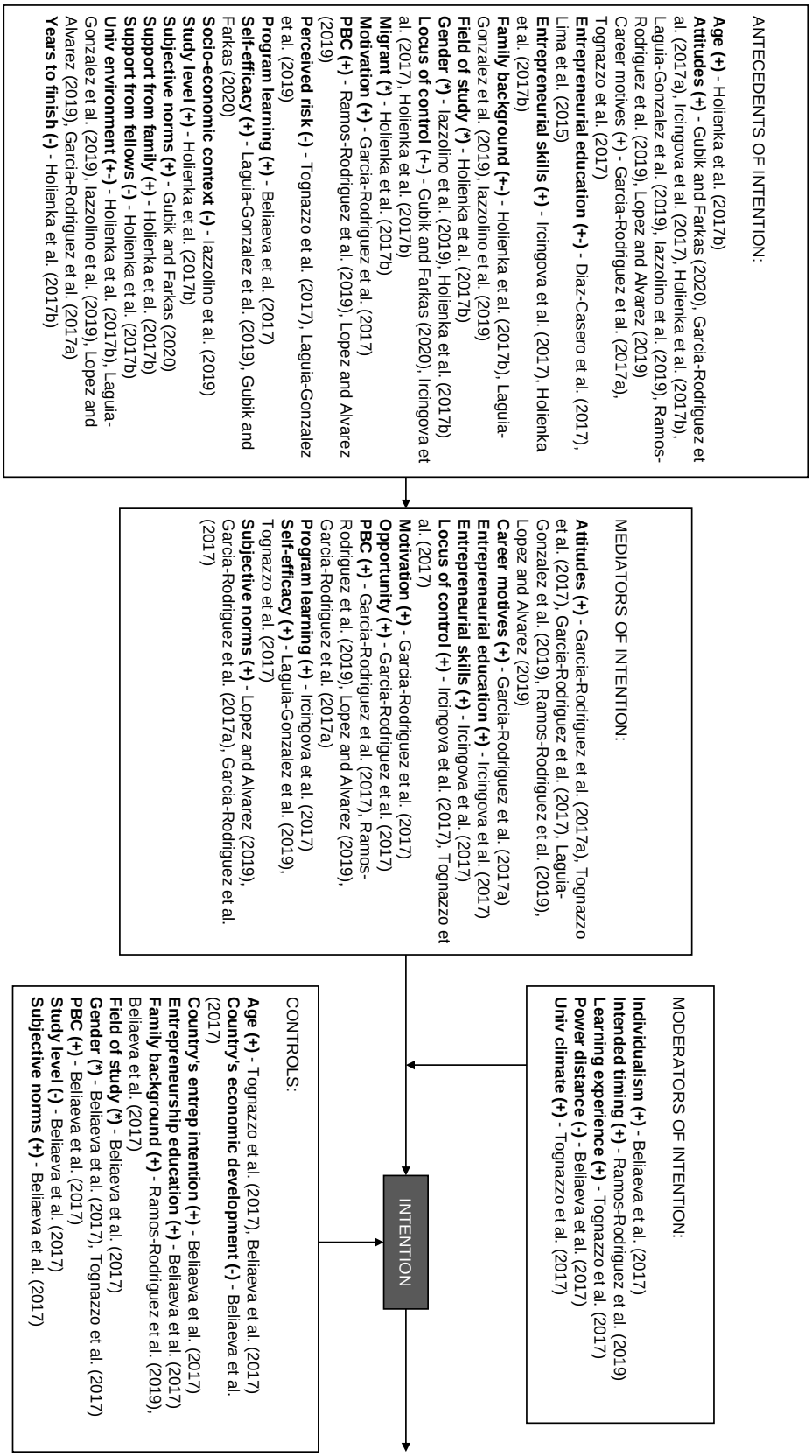
In a second place, Gillanders et al. (2020) the only ones analyzing students working in a start-up, found that the relationship between social sexual behaviors and trust between coworkers in new enterprises is statistically significant.

Thirdly, we analyzed the papers who were not focused on a specific group of students. This focus group was the most difficult to analyze as all the works were different from each other's. For example, Hahn et al. (2017), studied program learning and found a positive and significant effect of being a male, entrepreneurial education initiatives, study level, family background and teaching pedagogy and a negative and significant effect of age. Shirokova et al. (2017) studied the entrepreneurial process through causation and effectuation approaches and found that entrepreneurial support provided by universities influences both the number of student entrepreneurs and whether and when they employ an effectual or causal logic. More recently, Hahn et al. (2020) analyzed entrepreneurial skills and found that being a male, attending elective and compulsory entrepreneurial courses, entrepreneurial intention and entrepreneurial reputation of the university had a positive and

significant effect while the effect of experience in the family firm had a negative and significant effect.

Finally, here comes what we consider the greatest contribution of our work since it lays the basis of the literature on the entrepreneurial process of university students based on GUESSS. The following analysis allowed us not only to identify the variables that influence each of the stages of the entrepreneurial process but to identify the main gaps in the literature. Thus, the following figures show the main variables and their effect, that is positive (+) or negative (-) of each stage of the entrepreneurial process. In the intention and trying focus groups, the dependent variables were common to all works and were entrepreneurial intention (scale developed by Liñán and Chen, 2009b) in the case of the intention focus group and gestation activities (scale developed in GEM/PSED) in the case of the trying focus group. In the running focus group, unlike the two previous stages, we found different dependent variables. In this case, each one of them was specified separately and determining its antecedents is possible since the reference to the corresponding work is given.

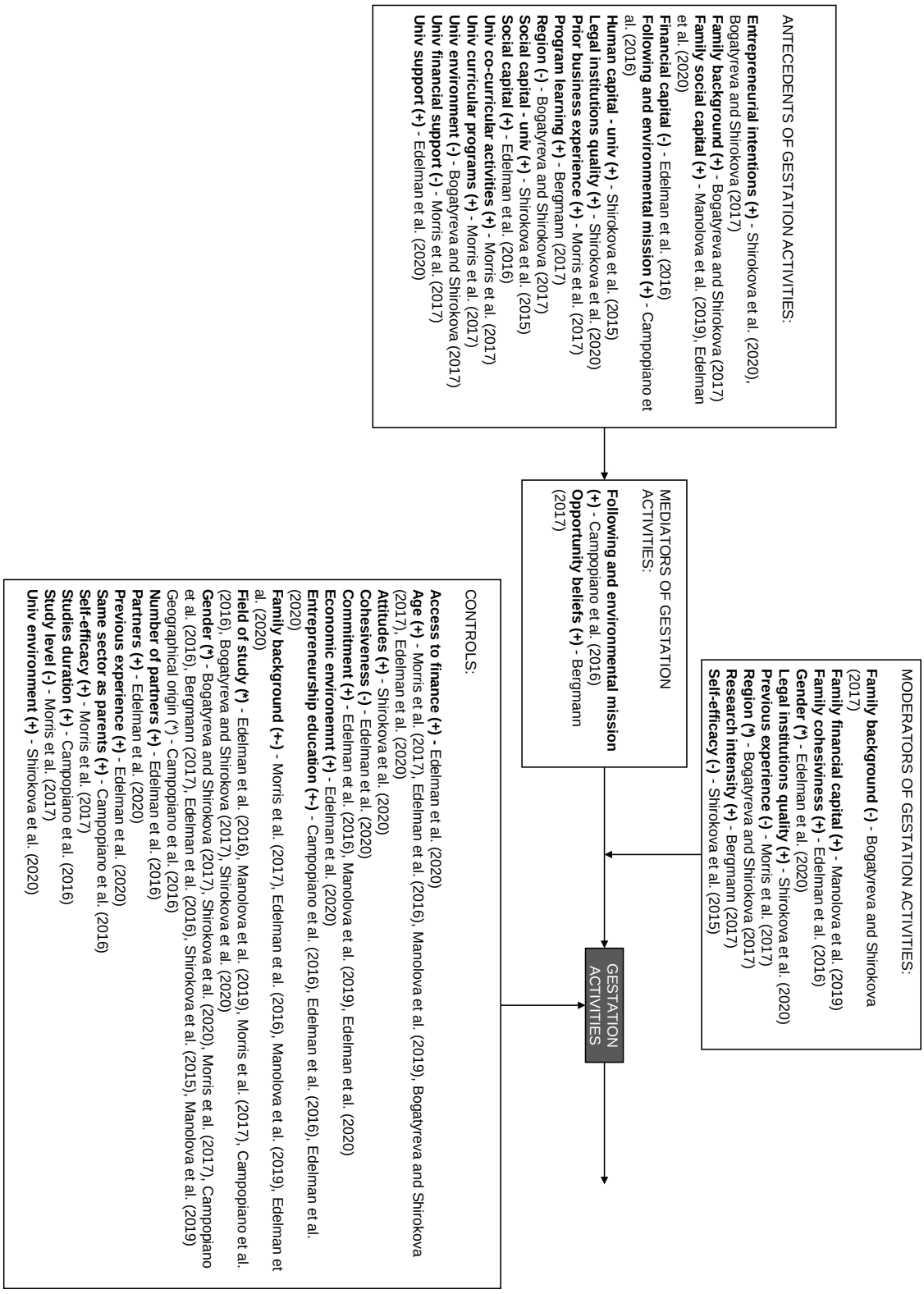
Figure 9 Variables affecting entrepreneurial intention



Source: Edited by author

When having a look to Figure 9, we see that the most studied variables are the components of the Theory of Planned Behavior (TPB). The components of the TPB are attitudes towards entrepreneurship, subjective norms and perceived behavioral control (PBC), which is made up by self-efficacy and locus of control. These variables turned to have a positive effect on entrepreneurial intention as antecedents and as mediator variables. In addition, PBC and subjective norms resulted to positively influence entrepreneurial intention as control variables. University environment, for its part, is the only variable that can be an antecedent and a moderator variable of entrepreneurial intention. On the other hand, we found several variables that were used as antecedents of entrepreneurial intentions and as control variables. These are: age, entrepreneurial education, family background and field of study. Finally, we found that locus of control, university environment, surprisingly and entrepreneurship education, were found to have a positive and a negative effect on entrepreneurial intention. In the case of locus of control, authors such as Gubik and Farkas (2020) and Ircingova et al. (2016) found a positive effect while Holienka et al. (2017a) found a negative effect. Regarding university environment, again Holienka et al. (2017a) found a negative effect with entrepreneurial intention while Laguia-Gonzalez et al. (2019), Iazzolino et al. (2019), Lopez and Alvarez (2019) and Garcia-Rodriguez et al. (2017a) found a positive effect. Finally, in the case of entrepreneurship education, Diaz-Casero et al. (2017) found a positive effect while Lima et al. (2015) found a negative effect.

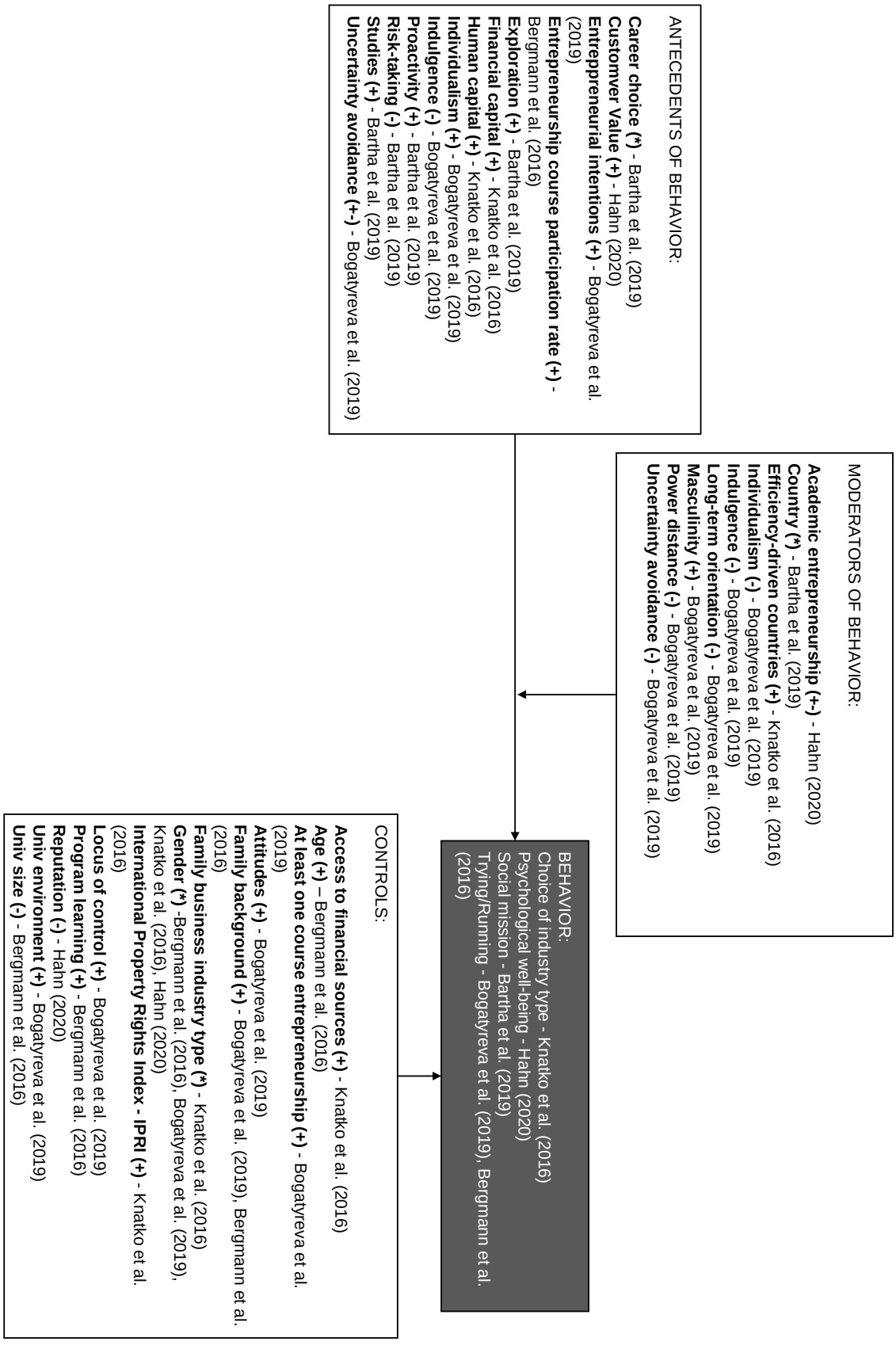
Figure 10 Variables affecting gestation activities (trying focus group)



Source: Edited by author

Figure 10 shows the findings corresponding to the nascent entrepreneurs' stage. In this case, it is remarkable that that there are less studies that use the TPB variables. This is because not all GUESSS editions follow the same route. In the las edition, corresponding to 2018, the components of the TPB were only answered by those students who are not trying to create their own business nor are active founders. However, some authors used attitudes towards entrepreneurship (Shirokova et al., 2020) and self-efficacy (Morris et al., 2017) as control variables and what is more, self-efficacy is also used as moderator variable (Shirokova et al., 2015). In this phase, stand out studies focused on the context, either family context (Edelman et al., 2020; Manolova et al., 2019; Bogatyreva and Shirokova, 2017), university context (Edelman et al., 2020; Morris et al., 2017; Bogatyreva and Shirokova, 2017) and social context (Edelman et al., 2016; Shirokova et al., 2015). In this phase, entrepreneurial education was found to be positively (Edelman et al., 2016) and negatively (Campopiano et al., 2016) related to gestation activities.

Figure 11 Variables affecting behavior (running focus group)



Source: Edited by author

Finally, according to Figure 11, when analyzing active founders, studies are diverse since there is no pattern. Bogatyreva et al. (2019) and Bergmann et al. (2016) studied students' propensity to set up their own business. However, Knatko et al (2016) studied choice of industry type, while Hahn (2020) analyzed psychological well-being. Bartha et al. (2019) for their part, studied social mission. Even in the selection of control variables there is no consensus. Bogatyreva et al. (2019) and Bergmann et al. (2016) included family background. Gender, on the other hand, is included in all except one study but the rest of control variables are used only in one study.

2.5. Discussion

In this systematic review, our goal was to build a comprehensive, integrative understanding of the student entrepreneurship literature based on the GUESSS project. This research is the seed of this work since identifying the existing gaps in the university student's entrepreneurship literature is fundamental to contribute to the development of new findings. We achieved this by conducting different research techniques in the specific academic literature on student entrepreneurship highlighting the entrepreneurial stages. In addition to the research gaps and opportunities outlined in the Results section, now we will discuss how empirical research based on the GUESSS project can provide new insights within the entrepreneurship literature.

2.5.1. Contribution to the entrepreneurial intention's theories

There are three outstanding models in the entrepreneurship literature when talking about entrepreneurial intentions and these are: Ajzen's (1991) Theory of Planned Behavior (TPB), the Entrepreneurial Event Model proposed by Shapero and Sokol (1982) and Bird's (1988) model for implementing entrepreneurial ideas.

In the GUESSS project, the TPB is used to explore university student's entrepreneurial intention so it is not surprising that most of research using GUESSS draws on this theory. Firstly, we can confirm the validity of the components of the TPB as antecedents of entrepreneurial intentions in the case of university students. Secondly, our study also reveals that this theory is supported in a wide range of countries and cultures. Finally, we can affirm that the components of the TPB would not only act as antecedents but also as mediating variables of entrepreneurial intentions.

In the case of the Entrepreneurial Event Model (Shapero and Sokol; 1982), despite this model is widely accepted and although the GUESSS project includes the necessary variables to test it, it does not appear in any single result of our study. We find this result surprising since studies based on the GUESSS project could compare Entrepreneurial Event model with the TPB to find out which one better predicts entrepreneurial intentions of university students.

Finally, Bird (1988), stated that entrepreneurial intentions are the immediate predictor of entrepreneurial behavior. Since the GUESSS project analyzes entrepreneurial intentions but also includes a section for active founders, it would be reasonable to find studies confirming this relationship. However, this theory also lacks support in the literature on entrepreneurship. Only Bogatyreva et al. (2019) examine the translation of entrepreneurial intention into actual behavior but they do not refer to Bird's model.

Hence, we want to emphasize that although the GUESSS project is based on the TPB, the variables included in the questionnaire would also allow the validation of other common theories in the entrepreneurship literature such as Bird's and Shapero and Sokol's models.

2.5.2. The role of university environment

This study allowed us to understand more precisely how university environment affects student involvement in entrepreneurship as the GUESSS project is aimed at university students.

There is a consensus among academics and researchers that universities contribute to the student's engagement level entrepreneurship and to their progress through the business creation process (Edelman et al., 2020; Meoli et al., 2020; Morris et al., 2017). Hence, it is not surprising that there are references to the university context in the three phases of the entrepreneurial process. What is more, program learning is especially useful in identifying business opportunities and generating business ideas (Shirokova et al. 2015).

This would explain why in the entrepreneurial intention's stage, the variables university environment, program learning, and entrepreneurship education are analyzed, while in the middle stage of nascent entrepreneurs the support provided the university in the development of gestation activities becomes more important. Lastly, when talking about active founders, the variable university environment appears significant only when it acts as a control variable.

Focusing on the effect of entrepreneurship education, although there is evidence confirming its positive effect (Díaz-Casero et al., 2017; Lima et al., 2015) on entrepreneurial intentions, the study of entrepreneurial education in terms of program learning, and more specifically, the mediating effects of the components of the TPB between entrepreneurship education and entrepreneurial intention, have not been tested deep enough. In addition, evidence suggest that social, university and family context play a significant role on the development of entrepreneurial intentions, but there is little evidence testing these hypotheses in the same model. Continuing the debate on the effects of entrepreneurial education, the effect of education in combination with these contextual variables and the direct antecedents of entrepreneurial intention would need to be further explored. Given that we are focused on entrepreneurial intention, the studies in Chapter 3 and Chapter 4 of this thesis are designed to address this gap in the literature on the effects of entrepreneurship education.

2.5.3. From entrepreneurial intentions to active founders

This research also responds to the call for a better understanding on the different entrepreneurial stages. We found that most of the studies focus on the intention stage, while only a few studies analyze nascent entrepreneurs and active founders.

The main reason behind this result would be the intention-behavior gap, that is, in the earliest stages of the entrepreneurial process, there is a greater number of students, while only a few manage to transform their intentions into actual behavior and set up a new business.

One way to create commitment to an intended behavior is through implementation intention as they hand over control of goal-directed action to situational cues, allowing the behavior to be initiated automatically (Ajzen et al., 2009). In the context of the GUESSS project, according to our findings, there is not a single work on implementation intentions.

These results open-up several opportunities of future research to explore the entrepreneurial process in depth. Particularly, as we move through the entrepreneurial process, the studies are more heterogeneous, so the great challenge of literature based on GUESSS is in the last phase of the entrepreneurial process, ie students who have their own business. In order to reduce the intention-behavior gap, we address the study on implementation intention in Chapter 5.

2.5.4. Intention, succession intention

Finally, one of the most discussed topics in family business research is the succession phenomena. Regardless of how important are family business to economic growth (Kelly et al., 2000; Lude and Prügl, 2018; Randerson et al., 2015) and although the GUESSS project includes a specific section about family business, little is known about the antecedents of succession intentions as only two works analyzed this specific focus group.

From our perspective, an analysis of entrepreneurial intention covers not only the founder entrepreneur, but also the entrepreneurial intention in the case of students with a family background through succession intention. For this reason, we propose the study of chapter 6 on succession intention.

3. Effect of program learning on entrepreneurial intention. The double mediating role of the components of the TPB

3.1. Study aim

Program learning can lead individuals to a higher level of entrepreneurial intentions yet, despite extensive literature, we lack an understanding of the effects of program learning on them. Although there are some models analyzing the effect of entrepreneurship education based on the Theory of Planned Behavior (TPB), their results are not consistent. Therefore, this chapter focuses on the simple and double mediating effects of the TPB components between program learning and entrepreneurial intention.

This work pays attention to Martin et al.'s (2013) research call by making a novel contribution to the entrepreneurship literature by providing a broader understanding of the mediating effects of the TPB components between program learning and entrepreneurial intention.

3.2. Theoretical background

3.2.1. Education intensity and program learning

Universities have shown growing interest in Entrepreneurship Education (Nabi et al., 2017) by quickly and globally developing programs to set up companies. This growth in entrepreneurship programs should provide students with better skills and attitudes, and more knowledge, with which to set up firms (Greene and Saridakis, 2008). As a result, universities play an important role by creating and transferring new expertise, cultivating qualified human capital and promoting an entrepreneurial society's development (Guerrero et al., 2015).

Following Fayolle et al. (2006), entrepreneurship education comprises courses, programs and processes, which are offered to students to develop their attitudes and skills toward entrepreneurship. Investments in entrepreneurial education lead to new knowledge being absorbed and combined which, at the same time, allows students to better participate in the process of taking advantage of opportunities (Souitaris et al., 2007). Therefore, education intensity could contribute to increase entrepreneurship human capital, and to improve the skills required to be an entrepreneur (Holienka et al., 2017). In other words, when the entrepreneurship courses offered by an institution are organized in such a way that they cover all the key aspects of entrepreneurship, the more courses a student attends, the more learning he or she achieves, that is, the higher the level of program learning.

Accordingly, several studies have found a positive effect of entrepreneurship education on entrepreneurial learning outcomes. Entrepreneurial learning refers to the process by which students acquire knowledge and skills about entrepreneurship while they participate in university programs (Beliaeva et al., 2017; Souitaris et al., 2007). According to Johannisson (1991), there are five levels of learning from entrepreneurship education which are values and motivations of entrepreneurs, knowledge, abilities and skills, social skills and networks, end experience and intuition. Hence, it is not about taking a lot of entrepreneurship courses, but about ensuring that the courses that are taken address as many of the program learning objectives as possible. By working with a sample of 732 students, Volery et al. (2013) found that entrepreneurship education had a positive impact on beliefs, the ability to exploit opportunities and entrepreneurship knowledge. DeTienne and Chandler (2004) analyzed 130 senior-level undergraduates at a university in the western USA, and students' abilities to discover new opportunities were enhanced. Martin et al. (2013), with a sample of 16,657 individuals from 42 independent samples, conducted a meta-analysis and also reported evidence for the relation between entrepreneurship education and program learning. This falls in line with previous research that has recognized the benefits of offering students a growing and structured number of entrepreneurial education initiatives (Walter et al., 2013). Hence, we hypothesized that:

H1. Education intensity is positively related to program learning.

3.2.2. The Theory of Planned Behavior (TPB) components

Based on the theory of reasoned action, the TPB was introduced by Ajzen (1991) proposes that actions toward certain behaviors are the combination of three determinants. The first is attitude toward certain behavior, which refers to an individuals' favorable or unfavorable evaluation of such behaviors. It is originated from previous experience and perceptions shaped during someone's lifetime (Kuehn, 2008). Subjective norms are the second determinant and can be defined as the degree to which behavior would fulfill the desires of other important individuals (relatives, fellows, friends). The last determinant is Perceived Behavioral Control (PBC), which refers to how easy or difficult is to perform a certain behavior. PBC is composed of self-efficacy and locus of control (Ajzen, 1991).

Entrepreneurship is a planned intentional behavior and the TPB approach is useful for explaining the effect between program learning and entrepreneurial intention (do Paço et al., 2011; Fayolle and Gailly, 2015; Zhang et al., 2019). Literature shows many signs for a relationship between attitudes toward entrepreneurship, subjective norms, and PBC and entrepreneurial intention (Laguía-González et al., 2019). Despite several studies analyzing

the direct effects of antecedents of entrepreneurial intentions, only a few studies introduce educational variables into the model proposed by the TPB (Zhang et al., 2019). According to Falck et al. (2012) and Laguía-González et al. (2019), education influences antecedents of entrepreneurial intention.

The mediating role of attitudes toward entrepreneurship

Many exogenous variables affect attitudes toward entrepreneurship, such as entrepreneurial education(Carr and Sequeira, 2007). Schwarz et al. (2009) analyzed 35,040 students from different fields, found that entrepreneurial education positively affects attitudes toward entrepreneurship. More specifically, if an individual receives entrepreneurship education, (S)he will be more likely to develop a positive attitude toward entrepreneurship. Krueger et al. (2000) recruited a sample of 97 senior university business students and precisely argued that attitudes toward entrepreneurship derive from entrepreneurship education to enhance entrepreneurial intentions. Fayolle et al. (2006) stated that entrepreneurship education affects attitudes toward entrepreneurship in the first place, and attitudes toward entrepreneurship affect entrepreneurial intention. Zhang et al. (2019), who worked with a sample of 200 university students from Hong Kong, found that attitudes toward entrepreneurship mediate the relation between entrepreneurial learning and entrepreneurial intention. In Spain, Laguía-González et al. (2019) employed a sample of 9,753 students to find the relation between program learning and entrepreneurial intention is mediated by attitudes toward entrepreneurship.

Hence, we propose that:

H2. Attitudes toward entrepreneurship mediate the relation between program learning and entrepreneurial intention.

The mediating role of subjective norms

When developing subjective norms toward entrepreneurship, authors such as Basu and Virick, (2014) with 123 university students in California, suggested that education plays a significant role. Souitaris et al. (2007), whose study included 250 Science and Engineering students from the UK and France, observed that entrepreneurship education increases individual's values of subjective norms. When participating in entrepreneurship programs, students develop mutual support from teachers and fellows. Also, if individuals attend an entrepreneurship course, acquired knowledge helps them to be accepted by family, friends and fellows. Zhang et al. (2019) suggested that subjective norms mediate the relation

between program learning and entrepreneurial intention. However, Laguía-González et al. (2019) did not find any such support for this relation in a Spanish sample.

For these reasons, we hypothesize that:

H3. Subjective norms mediate the relation between program learning and entrepreneurial intention.

The mediating role of perceived behavioral control (PBC)

Research has also evidenced the effect of education on PBC in the entrepreneurship context (Basu and Virick, 2014), and can influence individuals to feel more confident (entrepreneurial self-efficacy) because it can provide them with proper knowledge, competences and skills (do Paço et al., 2011). Thus, the more courses attended, the higher the PBC level they will develop. Also, higher PBC levels will lead to more entrepreneurial intentions, as reported by authors like Amos and Alex (2014), who analyzed 326 Bachelor of Commerce students from Kenya; Autio et al. (2001), who studied 3445 university students from Finland, Sweden and the USA; Feola et al. (2019) who examined 235 Italian Ph.D students. We did not find much evidence for the mediating role of PBC between program learning and entrepreneurial intention. However, Zhang et al. (2019) found evidence to support these relations. In Spain, Laguía-González et al. (2019) reported that self-efficacy mediated the relation between program learning and entrepreneurial intention.

Based on this work, we hypothesized that:

H4. Perceived behavioral control (PBC) mediated the relation between program learning and entrepreneurial intention.

3.2.3. Extending the Theory of Planned Behavior (TPB)

The TPB is one of the most used theories to explain and predict entrepreneurial intention (Kautonen et al., 2015; Van Gelderen et al., 2018). Several authors like Autio et al. (2001); Amos and Alex (2014); Kautonen et al. (2015) and Feola et al. (2019) have confirmed the relation between attitudes toward entrepreneurship and entrepreneurial intention, and between PBC and entrepreneurial intention. However, there is not enough evidence to confirm the relationship between subjective norms and entrepreneurial intention (Autio et al., 2001; Krueger et al., 2000). Instead, Liñán and Chen (2009b) who studied 519 individuals from Spain and Taiwan, Santos et al. (2016) based on 516 university students from Spain and the UK García-Rodríguez et al. (2017) whose sample comprised 1457

Spanish university students and Laguía-González et al. (2019) suggested that there is an indirect effect between subjective norms and other antecedents of entrepreneurship intentions.

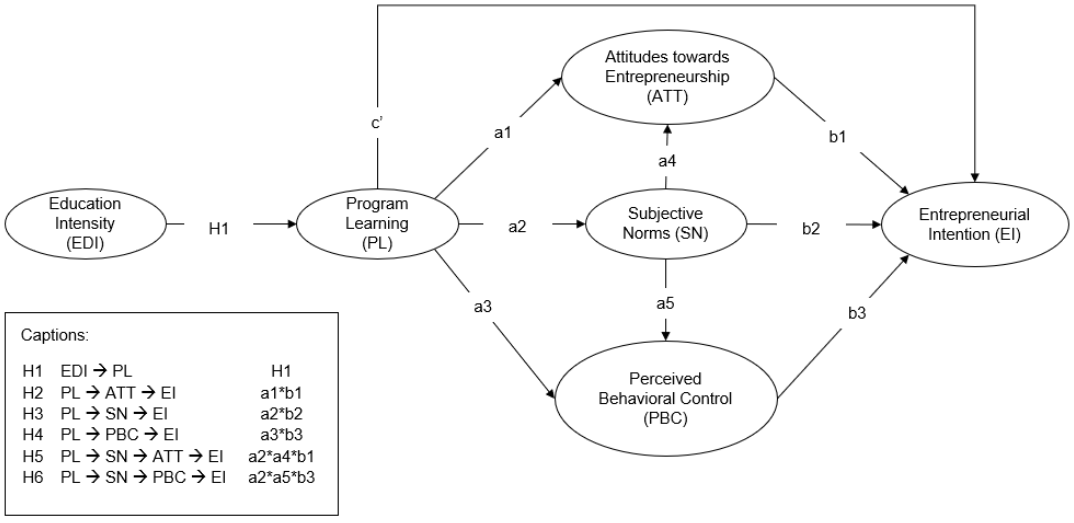
Based on the TPB, other factors, such as entrepreneurship education or the university context, might influence entrepreneurial intention through its closest antecedents: attitudes, subjective norms and PBC (Ajzen, 2011). More precisely, Laguía-González et al. (2019) found that attitudes toward entrepreneurship, subjective norms and self-efficacy mediate the relation between the university environment and entrepreneurial intention. We thus hypothesized that:

H5. Subjective norms and attitude toward entrepreneurship mediate the relation between program learning and entrepreneurial intention.

H6. Subjective norms and PBC mediate the relation between program learning and entrepreneurial intention.

The proposed model and hypotheses are shown in Figure 12.

Figure 12 Proposed model and hypotheses – Program learning



Source: Edited by author

3.3. Study setting

3.3.1. Data collecion

The Universitat Politècnica de València (UPV) collected 880 responses in 2018, with 182 nascent entrepreneurs, 52 active founders and 260 students with a family business

background. For the purpose of our analysis, we focused on the 688 students who are neither nascent nor active founders.

The sample composition is described in Table 5:

Table 5 Sample profile – Program learning

Characteristic	Column percentage N=688
Gender	
Male	52.6%
Female	47.4%
Study level	
Undergraduate (Bachelor's degree)	69.8%
Graduate (Master's degree)	22.7%
Ph.D.	7.6%
Study Field	
Arts and Humanities	4.7%
Business/Management	4.8%
Computer Sciences/IT	9.6%
Engineering	62.9%
Human Medicine/Health Sciences	2.8%
Natural Science	7.6%
Science of Art	2.5%
Others	5.2%
Full-time student	
Yes	75.6%
No	24.4%
Family entrepreneurial background	
Yes	38%
No	62%

Source: Edited by author

Respondents are 25 years on average with a standard deviation of 5 years. Consequently, most study a Bachelor's degree. The number of males and females is almost equal. Regarding the study field, most students studied a Science degree rather than a degree in Social Sciences or Arts and Humanities. Finally, most students do not have a regular job they perform while they study, and they have no family entrepreneurial background.

3.3.2. Measures

Dependent variable

Entrepreneurial intention can be defined as an individual's willingness to set up a new venture; see Krueger (1993). This variable is a 6-item set on a 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Liñán and Chen (2009b).

Predictor variables

Our model consists of several independent variables:

- Attitudes Toward Entrepreneurship (ATT) refer to the positive or negative beliefs and perceptions about being an entrepreneur (Liñán and Chen, 2009a). This variable is set of 6-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Liñán and Chen (2009a).
- Subjective Norms (SN) captures the perceived social pressure from relevant others to carry out or not an entrepreneurial behavior (Liñán and Chen, 2009a). This variable is set of 6-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Liñán and Chen (2009a).
- PBC can be defined as the degree of ease or difficulty perceived by an individual to set up his/her own business and it is made up of self-efficacy and locus of control (Laguía-González et al., 2019). In our work, PBC is a second-order construct made up of Entrepreneurial Self-efficacy (ESE) and Locus of Control (LC). According to Zhao et al. (2005), self-efficacy refers to the belief that an individual can successfully fulfill a goal. This variable is a 3-item answered by a 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Zhao et al. (2005). LC refers to the degree to which people attribute their results to internal or external forces (Rotter, 1966). This variable is a 3-item set answered by a 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Levenson (1973).
- Program Learning (PL) refers to the entrepreneurship knowledge that an individual acquires during a program (Souitaris et al., 2007). This variable is a 5-item set answered by a 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Souitaris et al. (2007).
- Education Intensity (EDI) refers to the number of entrepreneurship courses (optional and compulsory) attended to by an individual and ranks from 0 to 3. This variable is

based on a specific question on the GUESSS project about entrepreneurship education.

Control variables

In addition to predictor variables, several control variables were included in our model: gender (1 = females, 0 = males), age, part-time worker (1 = no, 0 = yes) and family entrepreneurial background (1 = at least one parent has an operating business and a value of 0 otherwise).

We selected these control variables based on earlier studies that proved their value for entrepreneurship. Authors like Beliaeva et al. (2017) found that males had more entrepreneurial intentions than females. Manolova et al. (2019) discovered that males were engaged in more start-up activities than females, and Bergmann et al. (2016) found that males had a stronger impact on nascent and new entrepreneurial activity than females. Regarding age, Shirokova et al. (2020) and Hahn (2020) reported a positive and significant relation between age and entrepreneurial intentions, start-up activities and psychological well-being, respectively. Dimov (2017) encountered a positive relationship between work experience and the likelihood of engaging in entrepreneurial activities, while Iversen et al. (2016) found a positive relationship between work experience and success in entrepreneurship. Finally, Beliaeva et al. (2017) and Ramos-Rodríguez et al. (2019) indicated a positive relationship between having at least one parent entrepreneur and entrepreneurial intentions.
All these variables are included in the GUESSS questionnaire of the 2018 edition and their measurement can be seen in Appendix 1.

3.4. Results

Student entrepreneurship is a relevant and rising issue within the literature in the field.

To assess the proposed model, this work followed a variance-based partial least square structural equation modelling (PLS-SEM) approach with the Smart PLS 3.3.2 software (Ringle et al., 2015). We decided to used PLS (Hair et al., 2014) given the specific nature of analysis of entrepreneurial intention, and because we aimed to predict the behavior of our dependent variable (Roldán and Sánchez-Franco, 2012), namely entrepreneurial intention. Therefore, PLS is an effective method for highly complex structural models.

A two-stage approach purposed by Hair et al. (2016) was followed to model the second-order construct of PBC. The direct effect of the lower-order independent constructs was regressed on the corresponding lower-order dependent constructs in the first stage. In the

second stage, latent variable scores were used as manifest indicators of the higher-order constructs to estimate the final model.

3.4.1. Reliability and validity evaluation

Tables 6 and 7 present the findings of the model's reliability and convergent validity tests.

Table 6 Measurement model reliability and convergent validity – Program learning

Factor	Item	Standardized loadings	t-value (bootstrapped)	CA	CR	AVE
Dependent variable:						
EI	EI1	0.777**	38.443	0.944	0.956	0.783
	EI2	0.904**	116.538			
	EI3	0.920**	122.558			
	EI4	0.927**	145.528			
	EI5	0.868**	86.058			
	EI6	0.906**	113.611			
Predictor variables						
PL	PL1	0.851**	65.772	0.928	0.945	0.776
	PL2	0.880**	68.575			
	PL3	0.915**	124.510			
	PL4	0.875**	78.049			
	PL5	0.881**	84.562			
Mediator variables						
ATT	ATT1	0.807**	50.302	0.931	0.948	0.786
	ATT2	0.912**	109.194			
	ATT3	0.874**	82.629			
	ATT4	0.915**	115.844			
	ATT5	0.918**	146.091			
SN	SN1	0.819**	37.968	0.771	0.867	0.685
	SN2	0.887**	70.546			
	SN3	0.772**	24.808			
ESE	ESE1	0.882**	91.913	0.833	0.900	0.750
	ESE2	0.877**	78.936			
	ESE3	0.838**	57.746			
LC	LC1	0.786**	42.434	0.684	0.827	0.616
	LC2	0.861**	70.288			
	LC3	0.700**	26.444			
Second-order construct						
PBC	ESE	0.914***	87.898	0.782	0.818	0.694
	LC	0.743***	23.620			

Note: CA = Cronbach's alpha; CR = Composite Reliability; AVE = Average Variance Extracted.
**p < 0.01; *p < 0.05.

Source: Edited by author

Table 7 Measurement model discriminant validity – Program learning

Factor	F1	F2	F3	F4	F5
F1. EI	0.885	0.874	0.379	0.685	0.194
F2. ATT	0.822	0.886	0.403	0.634	0.152
F3. SN	0.329	0.348	0.828	0.413	0.201
F4. PBC	0.538	0.500	0.279	0.833	0.556
F5. PL	0.182	0.143	0.168	0.425	0.881

Note: Diagonal values are AVE square roots, values below the diagonal are latent variable correlations values, and HTMT ratios are above the diagonal.

Source: Edited by author

As see, in Table 6, all of the presented Cronbach's Alphas (CA) were well above the recommendation of 0.70 (Cronbach, 1951). We generally obtained very good coefficients, which is especially important with EI, PL and ATT, with values above 0.90. The Composite Reliability (CR) indicators indicated the mutual variance of a group of observed variables by testing a particular construct (Fornell and Larcker, 1981). Generally speaking, it is suggested that a minimum 0.60 CR is acceptable (Bagozzi and Yi, 1988). Once again, we obtained excellent CR values because the minimum coefficient was PBC with a coefficient equaling 0.818. It is worth mentioning the CR obtained for EI, PL and ATT, with a coefficient above 0.90 once again. Also, the average variance extracted (AVE) was estimated for each construct to ensure that AVEs were over 0.50 (Fornell and Larcker, 1981). All the items except for LC (AVE = 0.616) and PBC (AVE = 0.694) were above 0.70. As proof of convergent validity, the findings revealed that all the items were significantly linked ($p < 0.01$) with their hypothesized variables and the size of each standardized load was above 0.60 (Bagozzi and Yi, 1988).

Discriminant validity is analyzed in Table 7. The variance shared between pairs of constructs was lower than the linked AVE (Fornell and Larcker, 1981). The HTMT ratio method developed by Ringle (2009) was also used to determine discriminant validity. Each ratio was below 0.85 which, according to Clark and Watson (2016), is a good result. Consequently, it was concluded that the proposed model provided a good level of reliability, convergent and discriminating validity. Reliability and convergent validity were tested at the first- and second-order levels for our second-order construct (PBC) in the model.

3.4.2. Testing for overall measurement and the structural model

Table 8 shows the results of our structural model's estimation. The standard errors and t-values that allowed for individual sign changes were proposed using bootstrapping (5,000 resamples), as suggested by Hair et al. (2014). To confirm the predictive relevance of our

model, we used R^2 and cross-validity redundancy. R^2 is used to assess the degree of endogenous variable variation that is explained by the exogenous variables. According to Table 8, R^2 was above the cut-off level of 10% for the dependent variable, as stated by Falk and Miller (1992), except for subjective norms and program learning (Intention, $R^2 = 0.700$; Attitude toward entrepreneurship, $R^2 = 0.128$; Subjective Norms, $R^2 = 0.028$; PBC, $R^2 = 0.225$; Program learning, $R^2 = 0.041$). Laguía-González et al. (2019) obtained similar results, indicating that the conceptual model has substantive explanatory power. We also used cross-validated redundancy to test the model's quality. To do so, we employed the blinding technique in PLS. In this technique, the rule is that values must be above zero (Stone, 1974). As shown in Table 8, the cross-validated redundancy values are 0.543 for entrepreneurial intention, 0.098 for attitude towards entrepreneurship, 0.019 for subjective norms, 0.150 for PBC and 0.031 for program learning. They all confirm the adequacy of the model's predictive relevance.

In addition, goodness-of-fit indices were obtained. The model is considered goodness of fit when the SRMR value is less than 0.08 and 0.1 (Hu & Bentler, 1998; Williams et al., 2009). The results from testing the validity of the l model show that the structural model has satisfactory levels of fit index (SRMR value is 0.076).

3.4.3. Model and hypotheses testing

We used PLS-SEM to estimate the structural model. According to Table 8, EDI positively and significantly influences PL (H1; $\beta = 0.202$; $p < 0.01$). Hence this supports H1.

Although the direct effect of PL on EI was not included in our hypothesis, we studied this effect to compare it to the indirect effects. We found that PL had a negative, but not significant, effect on EI ($\beta = -0.004$; $p > 0.1$).

However, when looking at the indirect effects, we found a positive and significant partial mediation effect of ATT on the relation between PL and EI. Therefore, one part of the effect of PL on EI was mediated by variable ATT, which supports H2 (H2; $\beta = 0.074$; $p < 0.01$). A Variance Accounted For (VAF) of 40% confirmed the partial mediating role of ATT as it was below the value of 80% proposed by Hair et al. (2014). According to them, a VAF value over 80% indicates full mediation, one between 20% and 80% means partial mediation, and a value under 20% denotes no mediation.

When analyzing the indirect effect of PL through SN, we found a positive, but non-significant partial mediation effect. This does not support H3 about the mediating role of SN between PL and EI.

For the mediating role of PBC between PL and EI, we found a positive and significant total mediation effect. Thus, the whole effect of PL on EI was mediated by variable PBC, which and supports H4 (H4; $\beta = 0.063$; $p < 0.01$). A VAF of 33% confirmed the partial mediating role of PBC because it was below the value of 80% proposed by Hair et al. (2014).

When analyzing the double mediation effects, we found a positive and significant partial mediation effect of SN and ATT on the relation between PL and EI, which supports H5 (H5; $\beta = 0.042$; $p < 0.01$). We obtained a VAF of 23%, which was below the value of 80% proposed by Hair et al. (2014). On the other hand, we observed a positive and significant mediation effect of SN and PBC on the relation between PL and EI. However, the partial effect was supported by a VAF established by Hair et al. (2014) between 20% and 80%. In our case, it was 3%, which does not support H6.

Given that the indirect effect of PL on EI was not significant, but all the indirect effects, except for H3 were, we can state that the relation between PL and EI was mediated by ATT, SN and PBC. In our case, full mediation meant that the effect of PL on EI was completely transmitted through ATT, SN and PBC. According to Table 8, 99% of the total effect was due to four joint mediation effects: H2, H4, H5 and H6. Moreover, the VAF exceeded 80%, which further argues for a full mediation effect (Hair et al., 2014).

We also analyzed the double mediation effects between PL and EI, where two variables were connected (SN → ATT and SN → PBC). In this case, and as the relations of c' and a2b2 were not significant, but the indirect effect (a2*a4*b1) and (a2*a5*b3) was when SN was the casual predecessor of both ATT and PBC, we affirm that SN fully mediated the direct effect between PL and ATT and PBC, and ATT and PBC fully mediate the direct effect between SN and EI, which established a direct causal chain: PL → SN → ATT → EI and PL → SN → PBC → EI (Mathieu et al., 2008).

Table 8 and Table 9 summarize the results of our model and hypotheses testing:

Table 8 Model and hypotheses testing – Program learning

Hypothesis	Path	Parameter Id.	Standardized Path Coefficients	t-value (bootstrap)	95% LL	95% UL	VAF
H1	EDI → PL	H1	0.202*	5.770			
	PL → EI	c'	-0.004	0.188			
	PL → ATT	a1	0.1**	2.572			
	PL → SN	a2	0.168**	4.339			
	PL → PBC	a3	0.389**	11.343			
	SN → ATT	a4	0.336**	9.681			
	SN → PBC	a5	0.214**	6.237			
	ATT → EI	b1	0.723**	32.619			
	SN → EI	b2	0.019	0.928			
	PBC → EI	b3	0.164**	6.023			
H2	PL → ATT → EI	a1*b1	0.074***	2.559	0.027	0.123	0.40
H3	PL → SN → EI	a2*b2	0.003	0.902	-0.003	0.009	
H4	PL → PBC → EI	a3*b3	0.063**	5.474	0.046	0.082	0.33
H5	PL → SN → ATT → EI	a2*a4*b1	0.042**	3.835	0.025	0.062	0.23
H6	PL → SN → PBC → EI	a2*a5*b3	0.006**	3.016	0.003	0.009	0.03
Total direct effects			**0.188****	**3.479**	**0.132**	**0.246**	**0.99**
Total effect			**0.184****	**11.348**	**0.119**	**0.249**	

**p < 0.01; *p < 0.05
R2 (EI) = 0.700; R2 (ATT) = 0.128; R2 (SN) = 0.028; R2 (PBC) = 0.225; R2 (PL) = 0.041
Q2 (EI) = 0.543; Q2 (ATT) = 0.098; Q2 (SN) = 0.019; Q2 (PBC) = 0.150; Q2 (PL) = 0.031

Source: Edited by author

Table 9 Summary of hypotheses testing – Program learning

Hypothesis	Relation	Results
H1	EDI → PL	supported
H2	PL → ATT → EI	supported
H3	PL →SN → EI	rejected
H4	PL → PBC → EI	supported
H5	PL → SN → ATT → EI	supported
H6	PL → SN → PBC → EI	rejected

Source: Edited by author

3.5. Discussion

This study sheds new light on the effects of program learning on entrepreneurial intention by underlying the mediating effects of the TPB components. Our premise was that entrepreneurship education intensity positively impacts program learning. Additionally, based on the TPB, we developed a conceptual model to test the simple and double mediating effects of attitudes toward entrepreneurship, subjective norms and PBC between program learning and entrepreneurial intention. To the best of our knowledge, double mediation effects have not been studied enough in the literature as very few studies have done this.

Education intensity and program learning

Our first main finding was a positive and significant relation between EDI and PL. This result falls in line with the results obtained by Martin et al. (2013), who confirmed a positive relationship between education intensity and program learning. This result highlights the relevance of developing appropriate and relevant entrepreneurship education programs: education programs should pay attention to entrepreneurial skills and develop an entrepreneurial spirit. More especifically, authors such as Shane and Venkataraman (2000) and Hindle (2004) emphasize that entrepreneurship education should teach: negotiation skills, leadership, new product development, creativity, innovation and identification of opportunities. Students must also understand the importance of social networks, clients, and other stakeholders, according to Matlay (2011) and Taylor and Thorpe (2004). When talking about methodologies used to teach entrepreneurship, Gibb (2002) and Sogunro (2004) argue that learning by doing is more effective than lectures as a teaching method. For many authors, learning by doing is considered the best pedagogical method (Galvão et al., 2018a).

The increase in entrepreneurship programs does not guarantee their effectiveness, and authors such as Matlay (2005) and Farashah (2013) point out that more studies are needed to measure their impact. According to Lee and Peterson (2000) and Farashah (2013), entrepreneurship education may vary depending on social, political and economic context but also due a lack of methodological rigor and quality.

Most entrepreneurial education is optional at UPV. So, we suggest that most students are more willing to learn because they enrolled for a course driven by a business opportunity that they previously identified.

Program learning and entrepreneurial intention

For the direct effect between PL and EI, we found a striking result: PL had a negative, but not a significant effect, on EI. Our results fall in line with those obtained by authors like Fayolle and DeGeorge (2006), Fayolle and Gailly (2015) and Garalis and Strazdiene (2006) who, like us, did not find any significant relation. One reason for this result could be that the PL items do not specifically refer to entrepreneurship education. Also, the impact of PL could be affected by individuals' prior entrepreneurial intention level and exposure to entrepreneurship. That is, if a student starts with a high entrepreneurial intention level, even if (s)he joins an entrepreneurial program, this training will not affect his/her entrepreneurial intention as much as it would affect someone with no entrepreneurial background. However, the effect of PL on EI was completely transmitted with the help of ATT, SN and PBC.

For indirect effects, we found that PL affected EI by the three mediating variables: ATT, SN and PBC. The most influencing factor was ATT, followed by PBC. In both cases, the mediating effect was partial. According to Schwarz et al. (2009) and Zhang et al. (2019), attitudes would be less stable than other personality traits and would allow educators to change them. This would be the reason why education plays an important role in developing attitudes toward entrepreneurship. Fayolle and DeGeorge (2006) affirmed that education context changes ATT which, at the same time, contributes to develop EI. Regarding PBC, our results are consistent with those obtained by Zhang et al. (2019). Following do Paço et al. (2011), education that provides entrepreneurial knowledge and enhances entrepreneurial skills can modify an individual's psychological status and make him/her more confident about entrepreneurship. At the same time, higher PBC levels lead to more marked EI (Zhang et al., 2019). In SN terms, we found no significant mediation effect. Authors like Basu and Virick (2014); Souitaris et al. (2007) and Zhang et al. (2019) stated that entrepreneurship education contributes to develop mutual support networks among students, who can receive support from fellows. In our case, although variable PL contained

a set of entrepreneurship-related items, the question refers to the courses and offerings attended to by students without them necessarily being entrepreneurship courses, which could explain our results. Our results are contrary to those reported by Zhang et al. (2019), but are in line with those obtained by Laguía-González et al. (2019), who also analyzed the Spanish context. However, we found that SN influenced EI through ATT and PBC, but we can only talk about a partial double mediating effect of SN and ATT. We cannot talk about mediation of SN and PBC because the effect was very weak. As two of the three SN components were friends and fellows who usually occur in the same context/classroom, PL would positively affect SN which, in turn, would be motivated by a climate in which relations would be shaped in the same environment. So, attitudes toward entrepreneurship and PBC would increase, which would positively impact entrepreneurial intention. In this sense, it is important to highlight that entrepreneurship education at UPV is elective so those students who decide to do it, share the same interests and motivations, which makes them think that they are not wrong, and that entrepreneurship is important. In addition, the way Ideas UPV (which is responsible for the management, creation, and development of new businesses in the UPV) offers entrepreneurship programs where other students are invited to be trainers and share their experience, makes it more credible and feasible to be an entrepreneur.

4. Entrepreneurship education differences in entrepreneurial intentions. A multigroup perspective

4.1. Study aim

This entrepreneurial trend has led to an increasing number of entrepreneurship courses (Gianiodis and Meek, 2020; Kwong and Thompson, 2016; Turner and Gianiodis, 2018) and the role of entrepreneurship education in the generation of student's entrepreneurial behaviour is attracting researchers' attention (Barba-Sánchez and Atienza-Sahuquillo, 2018; Entrialgo and Iglesias, 2016; Laguía-González et al., 2019; Nabi et al., 2017; Nowiński et al., 2019; Rauch and Hulsink, 2015).

However, research in the past decade has suggested that the effect of entrepreneurship education literature is still weak and non-conclusive. This work aims at integrating and expanding previous findings regarding entrepreneurship education using the Theory of Planned Behavior (TPB), and including the effect of social, university and family contexts to allow a better understanding of the origin of differences.

4.2. Theoretical background

4.2.1. The components of the Theory of Planned Behavior (TPB) as antecedents of entrepreneurial intention

Based on the Theory of Reasoned Action, the Theory of Planned Behavior (TPB) by Ajzen (1991) conceptualizes strength of intention as an immediate antecedent of behavior. The TPB posits that antecedents of entrepreneurial intention are attitude towards certain behavior, subjective norms and perceived behavioral control (PBC), which is composed of locus of control and self-efficacy (Ajzen, 1991). Attitude towards certain behavior refers to an individuals' favorable or unfavorable evaluation or assessment of such behaviors (Ajzen, 1991, 2005). This originates from previous experience and perceptions shaped over a person's lifetime (Kuehn, 2008). There are several empirical studies in the entrepreneurship literature that confirm the relation between attitude towards entrepreneurship and entrepreneurial intention. Zapkau et al. (2014) tested this hypothesis based on 374 German students and professionals, while Karimi et al. (2016) studied 205 participants enrolled for entrepreneurship education programs at six Iranian universities. More recently, Laguía-González et al. (2019) worked with 9,753 Spanish university students and Ramos-Rodríguez et al. (2019) formed a sample of 851 final-year university students from Spain. They also found a positive and significant relation between attitude towards entrepreneurship and entrepreneurial intention. Therefore, we propose the following hypotheses:

H1. Attitude towards entrepreneurship will be positively related to entrepreneurial intention.

Subjective norms are the second determinant that can be defined as the degree to which behavior would fulfil the desires of other important individuals (relatives, fellows, friends)(Ajzen, 1991). In the entrepreneurship literature that has reported a positive and significant effect between subjective norms and entrepreneurial intention, we found that already mentioned in Zapkau et al. (2014) and Karimi et al. (2016). For this reason, we hypothesize:

H2. Subjective norms will be positively related to entrepreneurial intention.

Finally, the third determinant is PBC. It refers to the degree of someone's understanding of how easy or difficult behavior is to do. PBC is composed of self-efficacy and locus of control (Ajzen, 1991, 2005). According to the meta-analysis review carried out by Armitage and Conner (2001), self-efficacy explains an additional 7% of explained variance in intention, while PBC explains an additional 5% of explained variance. For this reason, we herein focus on self-efficacy rather than on PBC following previous studies like those of Moriano et al. (2011), who analysed 1,074 students from five countries, Trivedi (2016) who analyzed 1,097 students from three countries, and the previously mentioned work by Laguía-González et al. (2019). Considering the previous results, we hypothesized that:

H3. Entrepreneurial self-efficacy will be positively related to entrepreneurial intention.

Although the TPB has been widely used to predict entrepreneurial intention, evidence suggests that subjective norms are found to influence not only entrepreneurial intention, but also attitude towards entrepreneurship and PBC. Bhat and Singh (2018) worked with 350 students and the aforementioned Ramos-Rodríguez et al. (2019) both found a positive and significant relation between subjective norms and attitude towards entrepreneurship and subjective norms and PBC. Fernández-Pérez and Montes-Merino (2019) formed a sample of 751 Spanish students, and found a positive relation between subjective norms and attitudes towards entrepreneurship, and also between subjective norms and self-efficacy.

Hence, we extend the traditional TPB model and hypothesize that:

H4. Subjective norms positively influence attitude towards entrepreneurship.

H5. Subjective norms positively influence entrepreneurial self-efficacy.

4.2.2. Social context

Some authors like Kibler and Kautonen (2014) and Welter (2011) state that motives, cognition, intention and action are influenced by the social context. Hence the decision to

enroll entrepreneurial activities would be influenced by the social context to which an individual belongs (Hayton et al., 2002; Liñán et al., 2016; Pinillos and Reyes, 2011). The social context refers to the socio-cultural values shared in a certain society (García-Rodríguez et al., 2017). There are three dimensions that stand out for influencing the socio-cultural environment: individualism vs. collectivism, power distance and risk aversion (Hofstede, 2001; Liñán et al., 2016). This work focused on power distance because it is the only dimension of the social context included in our database.

Power distance can be defined as the degree to which members of a society accept that power distribution is not equal (Hofstede and Bond, 1988). In the specific student entrepreneurship context, individuals living in high power distance societies can think that the creation of a new business is something that is only available to powerful people as they benefit from their power and resource access (Mitchell et al., 2000) which, at the same time, facilitates the emergence of barriers to apply their own knowledge and skills to create a business (Ozgen, 2012). Those students belonging to a low power distance society tend to be more participative and collaborative in solving problems, and are more likely to put their entrepreneurial skills into practice (Beliaeva et al., 2017; Hofstede and Hofstede, 2005). Bogatyreva et al. (2019) formed a sample of 1,434 students from nine different countries and found that countries with higher power distance are less likely to show an association between entrepreneurial intention and start-up behavior.

The study by García-Rodríguez et al. (2017) included 1,064 Spanish students. It assumed that entrepreneurial intention could be affected directly or indirectly by the socio-cultural environment. These authors found a positive and significant relation between the social context and attitude towards entrepreneurship, but not between the social context and subjective norms or PBC.

Therefore, we suggest that:

H6. The social context negatively influences a) attitude towards entrepreneurship; b) subjective norms; c) entrepreneurial self-efficacy; d) entrepreneurial intention.

4.2.3. University context

The university context has been proven very important to encourage students to discover new opportunities and to promote new business development (García-Rodríguez et al., 2017; Sánchez et al., 2012). The perceived support from the university and institutional support has been demonstrated to have a positive effect on developing entrepreneurial intention (Lopez and Alvarez, 2019; Saeed et al., 2015). Bergmann et al. (2016) found that

in the nascent entrepreneurship case, the university context is an antecedent of entrepreneurial intentions.

Drawing on the TPB, a positive effect has been found between the university context and TPB components. In their study with 805 university students, Saeed et al., (2015) found that university support was positively related to self-efficacy. The aforementioned work by García-Rodríguez et al. (2017) reported that the university context had a positive and significant effect on attitude towards entrepreneurship, but not on entrepreneurial intention. More recently, the meta-analysis review of 128 studies carried out by Newman et al. (2019) revealed that university support/environment was an antecedent of self-efficacy. Lopez and Alvarez (2019) analyzed a sample of 35,335 Latin American students and found a positive relation between the university context and attitudes towards entrepreneurship, subjective norms and PBC.

Hence, we propose that:

H7. The university context positively influences a) attitude towards entrepreneurship; b) subjective norms; c) entrepreneurial self-efficacy; d) entrepreneurial intention.

4.2.4. Family context and entrepreneurial intention

An entrepreneurial family background forms part of an individual's personal history in relation to entrepreneurship (Krueger, 1993; Peterman and Kennedy, 2003; Zapkau et al., 2014). Following the Social Cognitive Theory (SCT, Bandura, 2001), parents are role models for their children. According to Marques et al. (2012), children with a family entrepreneurial background tend to have more socialization experiences of risk-taking, innovation and proactivity. Research suggests that a family entrepreneurial background has a direct effect on entrepreneurial intention and an indirect effect through antecedents of entrepreneurial intention (attitudes towards entrepreneurship, subjective norms, self-efficacy) because it provides individuals with insights into entrepreneurial activity and the required skills to be an entrepreneur (Palmer et al., 2019).

When studying the positive direct effect between the family context and entrepreneurial intention, authors like Altinay et al. (2012) with a sample of 279 students from the UK, Looi and Khoo-Lattimore (2015) with 755 Malaysian students, Farrukh et al. (2017) who worked with 305 Pakistani students, and Israr and Saleem (2018) with a sample of 510 Italian students have confirmed this hypothesis. However, when studying the positive effect between the family context and antecedents of entrepreneurial intention, diverse results appeared. Karimi et al. (2013) worked with 346 Iranian students and evidenced the positive effect of family entrepreneurial background on TPB components, but found no significant

relation between family background and entrepreneurial intention. Zapkau et al. (2015) tested the aforementioned hypothesis of Karimi et al. (2013) with a sample of 374 students and professionals. They only found support of the positive effect of the family context on subjective norms. More recently, Feder and Nitu-Antonie (2017) evidenced support for the positive relation between family entrepreneurial background and entrepreneurial intention and TPB components.

Therefore, we propose the following hypothesis:

H8. The family context positively influences a) attitude towards entrepreneurship; b) subjective norms; c) self-efficacy; d) entrepreneurial intention.

4.2.5. Entrepreneurship education and entrepreneurial intention

The claim that entrepreneurial spirit can be stimulated, nurtured and developed by education has gained popularity both inside and outside the academic environment (Gieure et al., 2019; Hasan et al., 2017; Marques et al., 2012). One way of doing so is though entrepreneurship programs because they provide students with the skills needed to set up a new business (Barba-Sánchez and Atienza-Sahuquillo, 2018; Galvão et al., 2018a; Gianiodis and Meek, 2020; Hahn et al., 2020).

It is not difficult to find research that aims to study the influence of entrepreneurship education on entrepreneurial intention. However, the results on the impact that entrepreneurship education has on entrepreneurial intention are not entirely conclusive as authors report different results. Zhang et al. (2014) and their sample of 494 Chinese students found a positive and significant relation between entrepreneurship education and entrepreneurial intention. Teixeira et al. (2018) worked with a sample of the European countries participating in the GEM project and found no significant effect between entrepreneurship education and entrepreneurial intention. Authors like Vodă and Florea (2019) analyzed 270 Romanian students to find a significant, but negative, relation between entrepreneurship education and entrepreneurial intention.

Drawing on the TPB, Walter and Dohse (2012) formed a sample of 6,037 German students, and found a positive and significant effect of entrepreneurship education and attitudes towards entrepreneurship, but not with subjective norms or PBC. Rauch and Hulsink (2015) formed a sample of 153 students to analyze the effect of entrepreneurship education on attitude towards entrepreneurship, PBC and intention. They found a positive and significant effect on all three hypotheses. Entrialgo and Iglesias (2016) formed a sample of 338 Spanish students to find a negative moderating effect between subjective norms and PBC,

and a positive moderating effect between subjective norms and attitudes towards entrepreneurship. Díaz-Casero et al. (2017) worked with a sample of 2,497 Spanish students and revealed that entrepreneurship education accounted for 6.28% of the explained variance of the variable entrepreneurial intention. Galvão et al. (2018b) analyzed a sample of 289 Portuguese students. They found a negative and significant effect of entrepreneurship education on subjective norms, but no significant effect between entrepreneurship education and attitude towards entrepreneurship, PBC and entrepreneurial intention. More recently, Shah et al. (2020) studied the moderating role of entrepreneurship education based on a sample comprised of 192 university students in the Sultanate of Oman. They observed how entrepreneurship education played a moderating role in strengthening the relation between attitudes and entrepreneurial intentions, as well as self-efficacy and entrepreneurial intentions, while the relation between subjective norms and entrepreneurial intentions was weaker.

Hence, we suggest that:

H1'. The relation between attitudes towards entrepreneurship and entrepreneurial intention is moderated by entrepreneurship education. When entrepreneurship education is present, this relation will be stronger.

H2'. The relation between subjective norms and entrepreneurial intention is moderated by entrepreneurship education. When entrepreneurship education is present, this relation will be stronger.

H3'. The relation between entrepreneurial self-efficacy and entrepreneurial intention is moderated by entrepreneurship education. When entrepreneurship education is present, this relation will be stronger.

H4'. The relation between subjective norms and attitude towards entrepreneurship is moderated by entrepreneurship education. When entrepreneurship education is present, this relation will be stronger.

H5'. The relation between subjective norms and self-efficacy is moderated by entrepreneurship education. When entrepreneurship education is present, this relation will be weaker.

When adding context, learning entails interactions between the individual and the local environment. The effect of entrepreneurship education may differ across regions as some regions offer a more appropriate environment for learning (Costin et al., 2013; Walter and Dohse, 2012; Welter, 2011). Regarding the university context, formal education may

provide a way to develop an institutional environment that more favors student entrepreneurship (Jacob et al., 2003; Walter and Dohse, 2012). On the family context, authors like Zellweger et al. (2011) state that entrepreneurship education is less likely to increase the entrepreneurial intention of those students with an entrepreneurial family background because they perceive that they can access a variety of resources, and have no special needs to receive additional resources from an entrepreneurship course. In addition, those students with an entrepreneurial background are stricter with their evaluations of the entrepreneurship course because they have already faced the difficulties of being an entrepreneur at home. However, Bae et al. (2014) did not find any support for this hypothesis.

More recently, authors like Bauman and Lucy (2019) and Fiore et al. (2019) have stated that entrepreneurship education can provide an environment that encourages and supports students' entrepreneurial mindset. Hence, we hypothesized that:

H6'. The relation between the social context and a) attitude towards entrepreneurship; b) subjective norms; c) entrepreneurial self-efficacy and d) entrepreneurial intention is moderated by entrepreneurship education. When entrepreneurship education is present, this relation will be stronger.

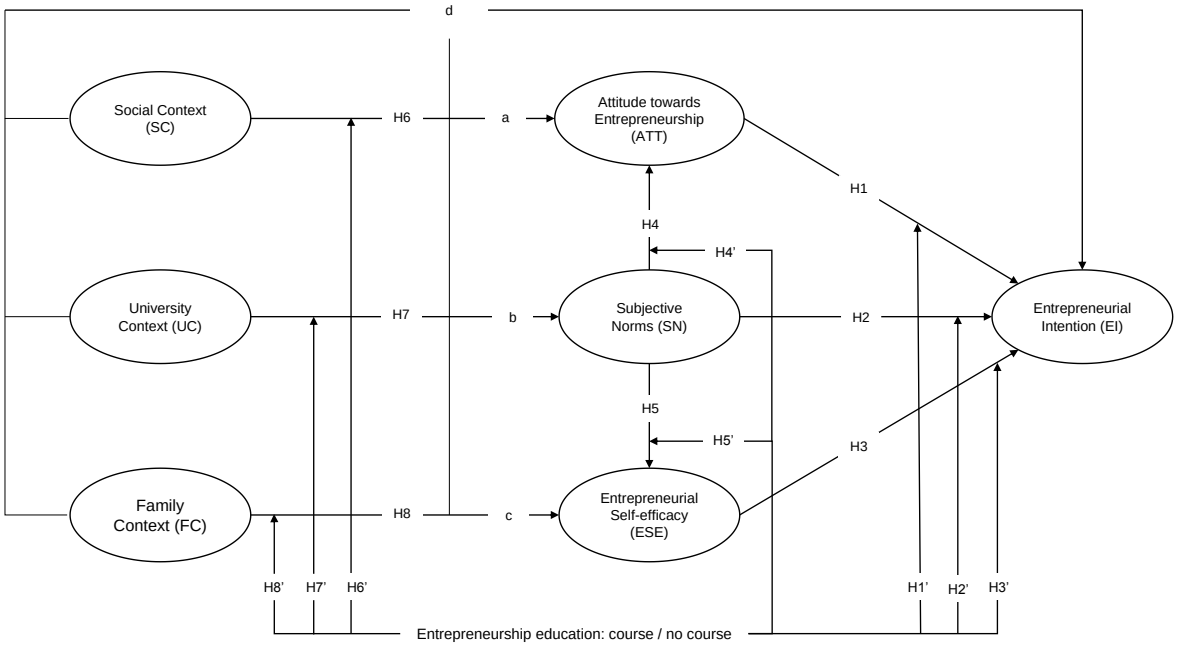
H7'. The relation between the university context and a) attitude towards entrepreneurship, b) subjective norms, c) entrepreneurial self-efficacy and d) entrepreneurial intention is moderated by entrepreneurship education. When entrepreneurship education is present, this relation will be stronger.

H8'. The relation between the family context and a) attitude towards entrepreneurship, b) subjective norms, c) entrepreneurial self-efficacy and d) entrepreneurial intention is moderated by entrepreneurship education. When entrepreneurship education is present, this relation will be stronger.

For these reasons, we mainly hypothesize that those students with entrepreneurship education will have more entrepreneurial intention than those without entrepreneurship education.

The proposed model and hypotheses are shown in Figure 13.

Figure 13 Proposed model and hypotheses - Multigroup



Source: Edited by author

4.3. Study setting

4.3.1. Data collection

At the UPV, the GUESSS questionnaire was sent by Ideas UPV, which is responsible for the management, creation, and development of new businesses in the UPV. It was available from October to December 2018.

The UPV collected 880 responses in the 2018 GUESSS survey, which is a high response rate compared to the other universities participating in the project. The UPV dataset comprises 688 students who are not involved in any entrepreneurial activity, 182 nascent entrepreneurs, 52 active founders and 260 students with a family business background. For the purpose of our analysis, we focused on the 688 students who are neither nascent nor active founders. The sample composition is described in Table 10:

Table 10 Sample profile - Multigroup

Characteristic	Column percentage N = 688
Gender	
Male	52.6%
Female	47.4%
Study level	
Undergraduate (bachelor's degree)	69.8%
Graduate (master's degree)	22.7%
Ph.D	7.6%
Study field	
Arts and Humanities	4,7%
Business/Management	4,8%
Computer Sciences/IT	9,6%
Economics	0,4%
Engineering	62,9%
Human Medicine/Health Sciences	2,8%
Mathematics	0.4%
Natural Science	7.6%
Science of Art	2.5%
Social Sciences	1.5%
Other	2.9%
Fulltime student	
Yes	75.6%
No	24.4%

Source: Edited by author

The first thing that stands out is that the number of males and females is almost equal. Most of the respondents study a bachelor's degree. Regarding the study field, as most of the degrees offered by the UPV belong to the engineering field, most students study an engineering degree (62.9%) rather than a Social Sciences (1.5%) or an Arts and Humanities degree (4.7%). Most respondents (75.6% *vs.* 24.4%) are fulltime students, although there are interesting results on their professional career choice intentions. It is also important to highlight that respondents are 25 years old on average, with a standard deviation of 5 years. Finally, on professional career choice intentions, immediately after finishing their studies, most students preferred to be employees in an existing company and only 1% wished to be self-employed. However, 5 years later, although they still wished to be employees in

someone else's company, a higher percentage of students chose an entrepreneurial career (34%).

4.3.2. Measures

Dependent variable

Entrepreneurial intention (EI) is the first step in the business creation process, which shows the effort made by an individual to perform entrepreneurial behavior (Liñán and Chen, 2009a). This variable is a set of 6-item and 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Liñán and Chen (2009a).

Predictor variables

Our model consists of six independent variables:

- Attitude towards Entrepreneurship (ATT). It refers to the positive or negative beliefs in, and perceptions of, being an entrepreneur (Liñán and Chen, 2009a). This variable is a set 6-item and 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Liñán and Chen (2009a).
- Subjective Norms (SN). They capture the perceived social pressure from relevant others to perform, or not, entrepreneurial behavior (Liñán and Chen, 2009a). This variable is a set 6-item and 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Liñán and Chen (2009a).
- Entrepreneurial Self-Efficacy (ESE). It can be defined as an individual's confidence in playing roles and performing entrepreneurship-related tasks (Zhao et al., 2005). This variable is a set 7-item and 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by: Chen et al. (1998); De Noble et al. (1999); George and Zhou (2001); Zhao et al. (2005).
- Social Context (SC). According to Carich and Willingham (1987), it can be described as the patterns, relationships, physical entities and environmental conditions to which people relate. In this work, we used power distance to approximate this variable, which refers to the national values of power inequality in society at large and in the workplace (House et al., 2004). This variable is a set 3-item and 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by House et al. (2004).
- University Context (UC). It relates to the way that the university provides a favorable entrepreneurship environment, encourages students to create innovative business ideas, and motivates them to become entrepreneurs (Franke and Lüthje, 2004). This

variable is a set 3-item and 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Franke and Lüthje (2004) and Geissler (2013).

- Family Context (FC). It refers to the relation between an individual and his/her immediate relatives who are self-employed or support entrepreneurship in some other way (Lin et al., 2015). In this work, in order to approximate this variable, we drew on the notion of parental role models, which refers to whether one parent is or both parents are entrepreneurs. More precisely, we refer to the question 'Are your parents self-employed?' (No; Yes, father; Yes, mother; Yes, both).

Control variables

In addition to the predictor variables, were include several control variables in our model: gender (1 = females, 0 = males), age and work experience (1 = fulltime student, 0 = otherwise).

We selected those control variables based on earlier studies that have proven the value of these control variables for entrepreneurship. Authors like Beliaeva et al. (2017) report that males have more entrepreneurial intention than females. Manolova et al. (2019) indicate that males engage in more start-up activities than females. In behavior terms, Bergmann et al. (2016) observe how males have a stronger impact on nascent and new entrepreneurial activity than females. About age, authors like Tognazzo et al. (2017), Shirokova et al. (2020) and Hahn (2020) find a positive and significant relation between age and entrepreneurial intention, and between start-up activities and psychological well-being, respectively. Finally, Davidsson and Honig (2003) and Dimov (2017) indicate a positive relation between work experience and the likelihood of engaging in entrepreneurial activities, while Iversen et al. (2016) report a positive relation between work experience and success in entrepreneurship.

All these variables are included in the GUESSS questionnaire of the 2018 edition and their measurement can be seen in Appendix 1.

4.4. Results

In order to assess the proposed model, this work followed a variance-based partial least square structural equation modelling (PLS-SEM) approach to analyze the effect of entrepreneurship education on entrepreneurial intention with the Smart PLS 3.3.2 software (Ringle et al., 2015). We decided to used PLS (Hair et al., 2014) given the specific analysis nature of entrepreneurial intention, and because we aimed to predict the behavior of our

dependent variable (Roldán and Sánchez-Franco, 2012): entrepreneurial intention. Therefore, PLS is an effective method for highly complex structural models. The present research explored the moderating effect of entrepreneurship education on entrepreneurial intention, and extended the traditional model of entrepreneurial intention by adding the relation of subjective norms with the other two TPB components and by adding the effect of context.

4.4.1. Reliability and validity evaluation

Table 11 and 12 present the findings of the model's reliability and the convergent validity test.

Table 11 Measurement model reliability and convergent validity - Multigroup

		MODEL 1: Group 0 → no entrepreneurship course					MODEL 2: Group 1 → entrepreneurship course				
Factor	**Item**	**Standardised loadings**	**t-value (bootstrapped)**	**CA**	**CR**	**AVE**	**Standardised loadings**	**t-value (bootstrapped)**	**CA**	**CR**	**AVE**
Dependent variable:											
EI	EI1	.773***	29.297	.942	.954	.778	.783***	24.201	.945	.957	.788
	EI2	.910***	99.886				.891***	62.719			
	EI3	.923***	113.908				.914***	61.380			
	EI4	.924***	109.191				.930***	89.005			
	EI5	.856***	60.034				.881***	61.315			
	EI6	.896***	78.480				.918***	84.631			
Predictor variables											
ATT	ATT1	.812***	40.446	.931	.948	.785	.801***	30.409	.929	.947	.781
	ATT2	.916***	104.446				.902***	50.976			
	ATT3	.874***	60.946				.870***	51.868			
	ATT4	.910***	78.388				.919***	76.650			
	ATT5	.915***	114.467				.920***	90.600			
SN	SN1	.847***	39.779	.800	.881	.711	.786***	14.092	.710	.837	.633
	SN2	.889***	52.279				.885***	37.120			
	SN3	.791***	22.306				.705***	9.641			
ESE	ESE1	.827***	44.621	.914	.931	.659	.789***	29.350	.890	.914	.603
	ESE2	.810***	41.183				.706***	15.871			
	ESE3	.821***	38.005				.771***	21.184			
	ESE4	.734***	29.166				.745***	20.604			
	ESE5	.824***	45.039				.806***	33.804			
	ESE6	.852***	58.209				.810***	36.515			
	ESE7	.811***	30.230				.802***	29.301			
SC	SC1	.825***	13.152	.794	.879	.708	.989***	3.559	.784	.790	.571
	SC2	.851***	12.882				.582***	2.378			
	SC3	.849***	11.881				.630***	2.390			
UC	UC1	.924***	71.158	.877	.923	.801	.929***	33.983	.884	.923	.801
	UC2	.927***	74.884				.897***	23.421			
	UC3	.831***	24.741				.858***	20.518			

Note: CA = Cronbach's alpha; CR = Composite Reliability; AVE = Average Variance Extracted.
***p < 0.01; **p < 0.05; *p < 0.1

Source: Edited by author

Table 12 Measurement model discriminant validity - Multigroup

Factor	F1	F2	F3	F4	F5	F6
(Group 0) No entrepreneurship course						
F1. EI	.882	.859	.388	.606	.113	.173
F2. ATT	.809	.886	.368	.582	.114	.131
F3. SN	.345	.327	.843	.289	.168	.196
F4. ESE	.565	.540	.256	.812	.105	.297
F6. SC	-.098	-.101	-.134	-.084	.842	.095
F5. UC	.162	.125	.163	.269	-.080	.895
(Group 1) Entrepreneurship course						
F1. EI	.887	.893	.343	.571	.053	.071
F2. ATT	.838	.884	.450	.562	.067	.112
F3. SN	.289	.374	.796	.282	.131	.227
F4. ESE	.526	.513	.225	.777	.068	.315
F6. SC	.048	.048	.117	.033	.756	-.050
F5. UC	.059	.107	.176	.308	.084	.895

Note: Diagonal values are AVE square roots. The values below the diagonal are latent variable correlation. The values above the diagonal are HTMT ratios.

Source: Edited by author

As seen in Table 11, all the presented Cronbach's alphas (CA) were well above the recommendation of 0.70 (Cronbach, 1951). We generally obtained very good coefficients, and it is particularly important to highlight the CA of EI (0.94 in both groups), ATT (around 0.93 in both groups) and ESE (0.91 without the entrepreneurship education group and 0.89 with an entrepreneurship education group). The composite reliability indicators indicate the mutual variance of a group of observed variables by testing a particular construct (Fornell and Larcker, 1981). Generally speaking, it is suggested that a minimum 0.60 of composite reliability (CR) is acceptable (Bagozzi and Yi, 1988). Once again, we obtained excellent CR values as the minimum coefficient was SC in the entrepreneurship education group, which was 0.79. It is important to mention the CR obtained for EI, ATT and UC, with a coefficient of 0.95, 0.94 and 0.92 in both groups, respectively. ESE obtained a coefficient of 0.93 in the group without entrepreneurship education and one of 0.91 in the group with education. In addition, the AVE was estimated for each construct to thus ensure AVEs above 0.50 (Fornell and Larcker, 1981) (see Table 11). As evidence for convergent validity, the findings revealed that all the items were significantly linked ($p < 0.01$) with their hypothesized variables, and the size of each standardized load was above 0.60 (Bagozzi and Yi, 1988).

Discriminant validity is analyzed in Table 12. The shared variance between pairs of constructs was lower than the linked AVE (Fornell and Larcker, 1981). The HTMT ratio method developed by Ringle (2009) was followed to determine the discriminant validity. Each ratio was below 0.85 which, according to Clark and Watson (2016), is a good result. Consequently, we concluded that the proposed model provided a good level of reliability, convergent and discriminating validity.

4.4.2. Testing for overall measurement and the structural model

In order to determine the model's explanatory power, R^2 was assessed (Hair et al., 2014). Following the recommended value proposed by Falk and Miller (1992), we obtained values higher than 0.10 in the dependent constructs of both samples, except for SN (see Table 12). In addition, the Q^2 blindfolding statistical tests (Geissler, 2013; Stone, 1974) were also above zero, which thus confirmed the model's predictive value, as recommended by (Ringle, 2009).

Table 13 Evaluation of the estimated models - Multigroup

Concept	(Group 0) No entrepreneurship course		(Group 1) Entrepreneurship course	
	R^2	Q^2	R^2	Q^2
EI	.687	.528	.726	.563
ATT	.118	.089	.162	.121
SN	.045	.029	.072	.036
ESE	.120	.077	.128	.075

Source: Edited by author

In addition, goodness-of-fit indices were obtained. The model is considered goodness of fit when the SRMR value is less than 0.08 and 0.10 (Hu & Bentler, 1998; Williams et al., 2009). The results from testing the validity of the I model show that the structural model has satisfactory levels of fit index (SRMR value is 0.08).

4.4.3. Multigroup analysis

Before performing the multigroup analysis, the first step was to measure invariance, as proposed by Henseler et al. (2016). According to Henseler et al. (2016), composite measurement invariance (MICOM) assesses measurement invariance to compare and determine the multigroup analysis group-specific differences of PLS-SEM results, which entails the three following steps (Rasoolimanesh et al., 2017): 1) a configural assessment of invariance; 2) setting up a compositional invariance assessment; 3) assessing equal means and variances (Blasco-Lopez et al., 2019).

Table 14 shows the partial measurement invariance following steps 1 and 2 to compare and interpret the multigroup analysis group-specific differences (Henseler et al., 2016).

Two non-parametric tests were used to determine the multigroup analysis results according to Table 15, which were: Henseler's multigroup analysis (Henseler et al., 2009) and the permutation test (Chin and Dibbern, 2010). On the one hand, according to Henseler's multigroup analysis, a p-value lower than 0.05 or higher than 0.95 indicates at a 5 per cent level of there being significant differences between specific path coefficients across two groups (Henseler et al., 2009; Sarstedt et al., 2011). On the other hand, if the p-value is lower than 0.05, the permutation test recognises differences at the 5 per cent level of significance.

For the TPB components, the findings show a positive and significant influence of ATT on EI in both groups (H1; No entrepreneurship education $\beta = 0.693$ $p < 0.001$;

Entrepreneurship education β = 0.763 p < 0.001), which supported H1. In this case, the effect was stronger in the students with entrepreneurship education. On the contrary, a positive and significant effect between SN and EI appeared for those students without entrepreneurial education (H2; No entrepreneurship education β = 0.071 p < 0.05; Entrepreneurship education β = -0.030 p > 0.1). This supported H2 only in this group. Finally, the relation between ESE and EI was positive and significant in both student groups (H3; No entrepreneurship education β = 0.161 p < 0.001; Entrepreneurship education β = 0.152 p < 0.001), which supported H3. We found a stronger impact on students without entrepreneurship education.

When we tested the effect of SN on the other TPB components, we found a positive and significant effect on ATT regardless of entrepreneurship education (H4; No entrepreneurship education β = 0.305 p < 0.001; Entrepreneurship education β = 0.341 p < 0.001, which supported H4. However, it had a stronger impact on the students with entrepreneurship education. We also found a positive and significant effect on ESE in both groups (H5; No entrepreneurship education β = 0.213 p < 0.001; Entrepreneurship education β = 0.165 p < 0.05), which supported H5. In this case, it was stronger on the students without entrepreneurship education.

For the SC, we only found a negative and significant relation between the SC and SN for those students without entrepreneurship education (H5b; β = -0.052 p < 0.05), which supported only H5b in this group.

For the UC, the findings showed a positive and significant effect on SN and ESE regardless of entrepreneurship education (H7b; No entrepreneurship education β = 0.158 p < 0.001; Entrepreneurship education β = 0.194 p < 0.001; H7c; No entrepreneurship education β = 0.232 p < 0.001; Entrepreneurship education β = 0.284 p < 0.001), which supported H7b and H7c. What is more, it had a stronger impact on the students with entrepreneurship education.

Finally, the findings showed that FC had a positive and significant influence on ATT, SN and EI for the students with entrepreneurship education (H8a; β = 0.145 p < 0.05, H8b; β = 0.160 p < 0.05 and H8d; β = 0.072 p < 0.05), which supported H8a, H8b and H8d in this group. We were unable to find any support for H8c because the relation between FC and ESE was not significant in either of the studied groups.

When analyzing the moderating role of entrepreneurship education, we obtained significant results in the following cases. Henseler's MGA showed that ATT had a stronger and significant effect on EI in the students with entrepreneurship education (H1'; p-value = 0.072

p < 0.1), which supported H1'. In SN, Henseler's MGA and the permutation method showed that SN had a stronger and significant effect on EI in the students without entrepreneurship education than in those with entrepreneurship education, which did not support H2'. When focusing on this context, Henseler's MGA showed that SC had a stronger and significant effect on SN in the students with entrepreneurship education (H6b'; p-value = 0.032 p < 0.05), which supported H6b'. In addition, the permutation method revealed that SC had a stronger and significant effect on ESE in the students with entrepreneurship education (H6c'; p-value = 0.003 p < 0.05), which supported H6c'. For the UC, Henseler's MGA showed that the UC had a stronger and significant effect on EI in the students without entrepreneurship education than in those with entrepreneurship education, which did not support H7d'. For the FC, Henseler's MGA showed that the FC had a stronger and significant effect on SN in the students with entrepreneurship education (H8b'; p-value = 0.085 p < 0.1), which supported H8b'.

Table 14 Results of invariance measurement testing using permutation – Multigroup

Constructs	Configural invariance (same algorithms for both groups)	Compositional invariance (correlation =1)		Partial measurement invariance established	Equal mean assessment			Equal variance assessment			Full measurement invariance established
		C = 1	5% quantile		Differences	Confidence interval		Equal	Differences	Confidence interval		
EI	Yes	1000	1000	Yes	-.272	-.150	.168	No	.045	-.158	.162	Yes	No
ATT	Yes	1000	1000	Yes	-.293	-.145	.163	No	.027	-.172	.183	Yes	No
SN	Yes	.999	.991	Yes	-.162	-.163	.149	No	.240	-.255	.245	Yes	No
ESE	Yes	.999	.999	Yes	-.505	-.145	.157	No	.209	-.203	.211	No	No
SC	Yes	.860	.476	Yes	-.081	-.147	.150	Yes	.090	-.175	.187	Yes	Yes
UC	Yes	.998	.993	Yes	-.247	-.159	.171	No	.109	-.250	.238	Yes	No

Source: Edited by author

Table 15 Hypotheses testing – Multigroup

Hypothesis	Relation	Path coefficients		Confidence interval (95%)		Path coefficient difference	p-value difference	
		No entrepreneurship course	Entrepreneurship course	2.5%	97.5%		Henseler's MGA (one-tailed)	Permutation test (two-tailed)
H1	ATT → EI	.693***	.763***	-.094	.100	-.069	.928*	.173
H2	SN → EI	.071**	-.030	-.094	.093	.101	.012**	.034**
H3	ESE → EI	.161***	.152***	-.114	.109	.009	.441	.879
H4	SN → ATT	.305***	.341***	-.087	.098	-.011	.686	.839
H5	SN → ESE	.213***	.165**	-.163	.166	.048	.270	.576
H6a	SC → ATT	-.052	.015	-.141	.146	-.036	.754	.639
H6b	SC → SN	-.119**	.130	-.177	.166	-.066	.968**	.409
H6c	SC → ESE	-.036	.029	-.168	.152	-.248	.737	.003**
H6d	SC → EI	-.000	.010	-.169	.150	-.065	.597	.399
H7a	UC → ATT	.074	.058	-.160	.163	.016	.428	.847
H7b	UC → SN	.158***	.194***	-.173	.170	-.037	.672	.673
H7c	UC → ESE	.232***	.284***	-.162	.164	-.052	.737	.526
H7d	UC → EI	.019	-.055	-.105	.101	.074	.063*	.162
H8a	FC → ATT	.055	.145**	-.148	.141	-.090	.896	.241
H8b	FC → SN	.061	.160**	-.150	.150	-.099	.915*	.182
H8c	FC → ESE	.009	.048	-.143	.150	-.038	.697	.588
H8d	FC → EI	.022	.072**	-.088	.087	-.050	.872	.246

***p < 0.01; **p < 0.05; *p < 0.1

Source: Edited by author

Table 16 Summary of hypotheses testing - Multigroup

Hypothesis	Relation	Results	Moderating effect of entrepreneurship education
H1	ATT → EI	supported	supported
H2	SN → EI	rejected	rejected
H3	ESE → EI	supported	rejected
H4	SN → ATT	supported	rejected
H5	SN → ESE	supported	rejected
H6a	SC → ATT	rejected	rejected
H6b	SC → SN	partially supported (no entrepreneurship education)	supported
H6c	SC → ESE	rejected	supported
H6d	SC → EI	rejected	rejected
H7a	UC → ATT	rejected	rejected
H7b	UC → SN	supported	rejected
H7c	UC → ESE	supported	rejected
H7d	UC → EI	rejected	rejected
H8a	FC → ATT	partially supported (entrepreneurship education)	rejected
H8b	FC → SN	partially supported (entrepreneurship education)	supported
H8c	FC → ESE	rejected	rejected
H8d	FC → EI	partially supported (entrepreneurship education)	rejected

Source: Edited by author

4.5. Discussion

Entrepreneurship education research has attracted increasing scholars' attention in recent decades, as evidenced by several reviews (Aparicio et al., 2019; Bae et al., 2014; Henry and Lewis, 2018; Nabi et al., 2017). However, the effect of entrepreneurship education on entrepreneurial intention needs to be further investigated. Accordingly, we extended prior research into entrepreneurial intention by comparing two different samples: one of students with entrepreneurship education, and another of students who did not attend any entrepreneurial course.

The purpose of this study was to investigate the effect of entrepreneurship education. To this end, and based on the TPB, we examined how family, university and social contexts affected antecedents of entrepreneurial intention, and whether entrepreneurship education made a difference. Entrepreneurship education is expected to increase entrepreneurship awareness and to pursue an entrepreneurial professional career (Bae et al., 2014; Slavtchev et al., 2012). The effect of entrepreneurship education is important because it allowed us to find differences in antecedents of entrepreneurial intention. In addition, this scenario has still not been explored in enough depth in the scientific literature on entrepreneurship.

Firstly, we found a positive and significant effect among TPB components, ATT and SN, and ESE and EI. These relations were significant in both groups for ATT and ESE, and in the students without entrepreneurship education for SN. The relation between TPB components and entrepreneurial intentions has been well-tested in the literature, and our

results fall in line with those obtained by Karimi et al. (2016), Laguía-González et al. (2019), Ramos-Rodríguez et al. (2019) and Zapkau et al. (2015), who report a positive and significant relation between ATT and EI. Karimi et al. (2016) and Zapkau et al. (2015) also report a positive and significant relation between SN and EI, although this effect is the weakest. Authors like Laguía-González et al. (2019) and Lortie and Castogiovanni (2015) state that SN is the weakest component in the TPB model. On ESE, our results fall in line with those obtained by Laguía-González et al. (2019); Moriano et al. (2011) and Trivedi (2016). These results could be due to the fact that young people tend to make entrepreneurial decisions that are based more on personal considerations, such as attitudes and self-efficacy, rather than on social ones like SN (Moriano et al., 2011).

Secondly, we found a positive and significant effect of SN in both groups on the other two TPB components: ATT and ESE. This falls in line with previous research, like that by Entrialgo and Iglesias (2016); García-Rodríguez et al., (2017) and Ramos-Rodríguez et al. (2019). Hence strong ties with other relevant ones may influence individuals' values of and beliefs in what is expected of them, and might change attitudes towards entrepreneurship and self-efficacy (Carr and Sequeira, 2007; Fayolle et al., 2014).

Thirdly, we found a negative and significant between SC and SN in the students without entrepreneurship education. We did not find any evidence for this result in the entrepreneurship literature. However, following authors like Mitchell et al. (2000) and Ozgen (2012), who indicate that power distance high levels will lead to major barriers that are perceived to start a new business, and to the assumption that business creation is for powerful people, we believe it is reasonable that higher power distance levels lead to lower levels of SN as individuals consider business creation inaccessible.

Fourthly, we observed a positive and significant effect of the UC on SN and ESE in both groups, which was stronger for the students with entrepreneurship education. These results have been corroborated by other authors like Lopez and Alvarez (2019), who found a positive and significant relation between the UC and SN, and Newman et al. (2019) and Saeed et al. (2015) who found a positive relation between the UC and self-efficacy. The fact that we found a positive effect in both groups could be explained by Bergmann et al. (2016) because university support has an effect on students enrolling for entrepreneurial programs, but also on the students around them because they observe one another and interact.

Fifthly, we found that the FC had a positive and significant effect on ATT, SN and EI in the students with entrepreneurship education. This agrees with previous results, such as those reported by Carr and Sequeira (2007), Feder and Nitu-Antonie (2017), Van Auken et al.

(2006) and Zapkau et al. (2014). According to Bandura's (1986, 1977b) Social Learning Theory, this result is due to the fact that other individuals' observation to consider role models encourages a certain behavior because it has an effect on both personality and the development of attitudes, which will result in intentions. Similarly, social pressure to start a new business from having parent entrepreneurs would justify the positive and significant relation between the FC and SN, as corroborated by Kim et al., (2006).

The main purpose of our research is to explore entrepreneurship education differences in drivers of entrepreneurial intentions. We found a moderating role of entrepreneurship education in the relation between ATT and EI, which coincides with the results obtained by Shah et al. (2020). According to Schwarz et al. (2009) and Zhang et al. (2019), attitudes would be less stable than other personality traits to allow educators to change them, which would be the reason why education plays an important role in developing attitudes towards entrepreneurship. Fayolle and DeGeorge (2006) affirmed that the education context changes attitude towards entrepreneurship which, at the same time, contribute to develop entrepreneurial intention. However, we obtained a stronger moderating effect between SN and EI in the students without entrepreneurship education, which means that we cannot support this hypothesis. This result also falls in line with that obtained by Shah et al. (2020), who revealed that entrepreneurship education weakens the relation between SN and entrepreneurship intentions which, in turn, indicate that education enhances students' self-reliance by cushioning the influence of social norms.

We did not find any moderating effect of entrepreneurship education on the relation between SN and the TPB other components. However, Entrialgo and Iglesias (2016) found that SN more strongly affected ATT in the students with entrepreneurship education. This could be due to the fact that in supportive environments, like those provided by the UPV, entrepreneurship education has no effect on the relation between SN and the other TPB components.

We found that the effect of the SC on both SN and ESE was stronger in the students with entrepreneurship education. This is a striking result because, in this case, it means that entrepreneurship education enhances the negative relations between these variables.

For the UC, the effect of this variable and entrepreneurial intention was stronger for those students who did not attend an entrepreneurial course. We did not find any reference about this relation, but it is reasonable to think that the students without entrepreneurship education start from an earlier point. This makes sense because the university context should influence this group of students more. The UC does not influence the students with

an entrepreneurship education that much because most of the training provided at the UPV is optional.

Lastly, we only found a moderating effect of entrepreneurship education on the relation between the FC and SN when attending an entrepreneurial course. However, we expected the opposite effect because studies have shown that students can find the resources, they need in the family business, and might perceive that they do not need the resources offered by an entrepreneurship course. Once again, we consider this effect to be due to the difference in typology between parent and potential entrepreneur's businesses and, thus, students would consider the training provided by the UPV to be relevant for the kind of business they have in mind.

5. Effect of entrepreneurial intention and goal orientation on implementation intention

5.1. Study aim

Although both TPB and EEM include actions taken on intentions as the last dependent variable, the vast majority of the entrepreneurship research focused on predicting and explaining intentions (Schlaegel and Koenig, 2014; Van Gelderen et al., 2018). These studies left an incomplete picture, as new business are created only if intentions are followed by actions (Van Gelderen et al., 2018).

For this reason, in this chapter, we set out to predict the relationship between entrepreneurial intention and implementation intention paying special attention to goal-orientation by adding the moderating role of the entrepreneurial professional career choice. The goal-setting theory, proposed by Locke and Latham (1990), y is built on the most basic of introspective observations: conscious human behavior is intentional. Based on this premise, we assumed that if an individual intends to become an entrepreneur, i.e., pursues a professional career as an entrepreneur, this behavior will be more likely to be performed. Though there has been some interest in entrepreneurial career choice intention, the existing literature on entrepreneurship rarely distinguishes between individuals who pursue an entrepreneurial career choice in the short term versus in the long term. During university, students are more likely to work in an established company right after studies and set up their own business in the future, in most cases motivated by a perceived lack of resources, skills, knowledge and experiences needed to become an entrepreneur. For this reason, an investigation of whether the intended timing of pursuing an entrepreneurial professional career influences implementation intention in students who pursue an entrepreneurial career right after studies as compared to students who will pursue an entrepreneurial career 5 years after completing studies is needed.

5.2. Theoretical background

5.2.1. Entrepreneurial Event Model

Given that intentions are the first step in the new venture creation process, entrepreneurial intentions are the key element to understand entrepreneurship (Gartner et al., 1994). In the entrepreneurship literature, there are significant theoretical and empirical works explaining the early stage of the entrepreneurial process. In this sense, Entrepreneurial Event Model (EEM) is one of the first models predicting entrepreneurial intentions (Krueger, 1993; Shapero, 1975; Shapero and Sokol, 1982).

The Entrepreneurial Event Theory states that there are certain conditions that should be fulfilled before starting a new venture (Shapero and Sokol, 1982). The first one is perceived desirability, which refers to the degree to which an individual is attracted to the idea to become and entrepreneur and shows its preferences for such behavior. The second one is perceived feasibility, which refers to the degree to which an individual is confident that he/she is able to start his/her own business. Finally, the third one is propensity to act upon opportunity and refers to the disposition to act on a decision (Eid et al., 2019). Propensity to act depends on the individual's perception of control and the preference for acquiring control by taking appropriate action (Eid et al., 2019; Schlaegel and Koenig, 2014; Shapero and Sokol, 1982). As authors such as Eid et al. (2019); Krueger et al. (2000) and Solesvik et al. (2012) stated, higher levels of perceived desirability and perceived feasibility are related to greater tendency to engage in entrepreneurial events.

Perceived desirability and perceived feasibility have been identified in the literature as important factors when determining entrepreneurial intentions. Shapero and Sokol (1982) do not use the concept of entrepreneurial intention but argued that perceived feasibility and perceived desirability are positively related to the entrepreneurial event. Krueger (1993), drawing on a sample of 126 university students' respondents, proved that more than half of the variance in entrepreneurial intention is explained by perceived feasibility and perceived desirability. Diochon et al. (2002) for their part, drawing on a sample of 154 individuals, found that nascent entrepreneurs have higher levels of perceived desirability and perceived feasibility of starting a business than non-entrepreneurs. In 2005, Segal et al., (2005), drawing on a sample of 112 junior and senior undergraduate business students at Florida Gulf Coast University (FGCU) found a positive and significant relation between perceived feasibility and perceived desirability with entrepreneurial intention. Later on, authors such as Solesvik et al. (2012), analysing 193 undergraduate economics and business administration students from three eastern-Europe universities Schlaegel and Koenig (2014), using meta-analytic data from 114,007 individuals across 123 independent samples reported in 98 studies and Solesvik et al. (2014) drawing on a sample of 329 university Ucranian students also found a positive and significant relation between perceived feasibility and perceived desirability with entrepreneurial intention. These effects were corroborated more recently by García-Rodríguez et al. (2020), who studied 484 students from Spain and Cuba. Regarding propensity to act, Kuehn (2008) found that this variable demonstrated the weakest significant predictive ability on intentions. The meta-analytic test of Schlaegel and Koenig (2013) for its part, showed that propensity to act had no effect on entrepreneurial intention. For these reasons, we decided to exclude this variable in our model.

Therefore, we propose the following hypotheses:

H1. Perceived feasibility is positively related to entrepreneurial intention.

H2. Perceived desirability is positively related to entrepreneurial intention.

What is more, authors such as Schlaegel and Koenig (2014) using meta-analytic data from 114,007 individuals across 123 independent samples reported in 98 studies, studied the relationship between perceived feasibility and perceived desirability. They concluded that higher levels of perceived feasibility are associated with higher levels of perceived desirability, as a certain behavior will be more desirable as they perceive it is also more feasible, which is in line with the results obtained by Paunescu et al., (2018) who analyzed 1,023 Romanian respondents from the Amway Global Entrepreneurship Report (AGER) dataset for 2016. Hence, we hypothesized that:

H3. Perceived feasibility is positively related to perceived desirability.

5.2.2. Entrepreneurial intentions and implementation intentions

The Theory of Planned Behavior (TPB) has the weakness of avoiding the psychological process that transform intentions into actions. To fulfill this gap, Gollwitzer (1993) introduced the concept of implementation intentions. Gollwitzer (1990) pointed out the difference between two phases preceding behavioral occurrence. In the pre-decisional or deliberative stage, the individual thinks about which will be his/her goal. This stage is in line with the intention formation proposed by Ajzen (1985). The following phase is the post-decisional or implemental stage. This stage is about planning when, where and how to act in line with the goal intention. These plans, called implementation intentions are in the middle of intentions and behavior because they describe the processes of goal intentions that will lead to actions (Gollwitzer, 1993). As a result, the completion of an action is determined by the action planning process and the goal intention and this is what states the Action Regulation Theory (Frese and Zapf, 1994; Gollwitzer, 1999).

Regarding the empirical evidence proving the relationship between intentions and implementation intentions, most of the literature aims at bridging the intention-behavior gap. In this sense, Gollwitzer and Sheeran (2006) and Sheeran et al. (2005) found that implementation intentions were effective if the person concerned had strong goal intentions and these results are in line with the ones obtained by Van Hooft et al. (2005). However, more recently, Van Gelderen et al. (2018) conducted a two wave survey with 2,092 Swedish adults respondents and found that implementation intentions can be effective with lower levels of goal intention. Leaving aside the behavior stage, Tatarko and Schmidt (2016),

drawing on a sample of 2,061 Russian adults respondents, hypothesized that individual social capital facilitates the implementation of one's intention to start a business and found a positive and significant relation between entrepreneurial intention and implementation intention. Considering the previous results, we hypothesized that:

H4. Entrepreneurial intention is positively related to implementation intention.

5.2.3. Goal achievement (short versus long term career choice intention as moderator)

According to Locke and Latham (2002), goals are aims of an action that will be achieved in a certain time period. In action-regulating functions, Goal-setting Theory demonstrated that goals play an important role in actions (Locke and Latham, 2002). Having clear and challenging goals results in greater commitment and persistence and consequently better success than having non-challenging or undefined aims (Frese and Gielnik, 2014).

In the literature on entrepreneurship, there is a growing body of work studying motivational/affective factors (Cardon et al., 2012). In this area, it is shown by several theoretical frameworks that motivational/affective factors such as goals, influence entrepreneurial actions (Baron, 2008; Frese, 2009). When analyzing the timing, it is shown that short-term orientation may lead people to choose a professional career in an already established business rather than being an entrepreneur (Hase and Lautenschlager, 2011). In contrast, long-term orientation impacts positively entrepreneurial cognition. Long-term orientation may encourage action planning that is a useful strategy for transforming intentions into goal-oriented behaviors (Gielnik et al., 2014).

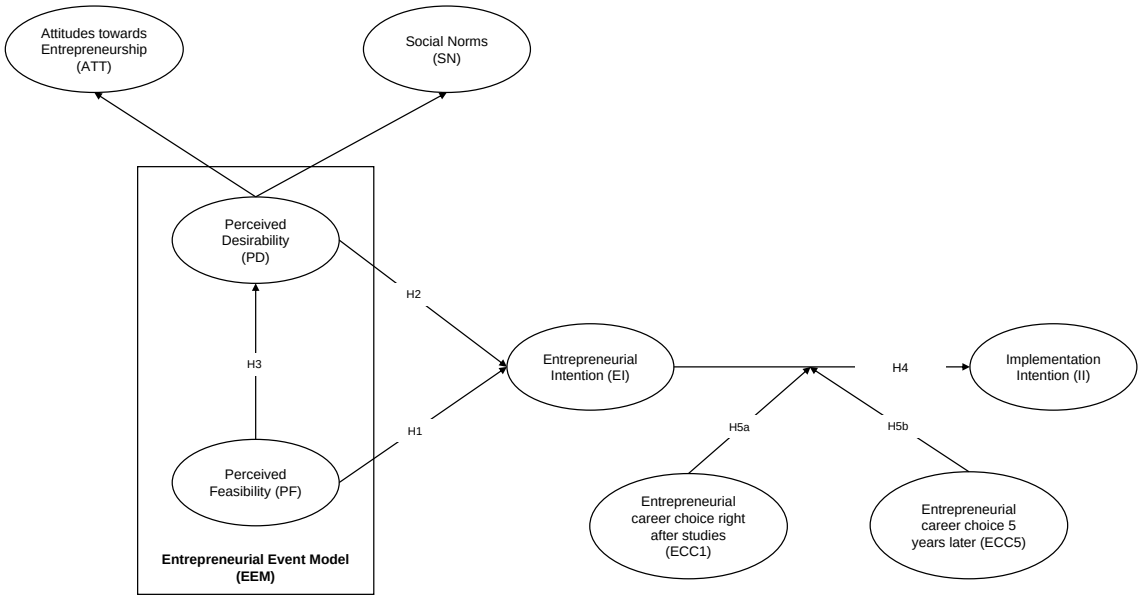
Still, the results observed in the literature are diverse. Bogatyreva et al. (2019), drawing on a sample of 1,434 respondents coming from 9 countries who participated in the 2011 and 2013/2014 Global University Entrepreneurial Spirit Student's Survey (GUESSS), found that long-term orientation does not lead to the translation of entrepreneurial intentions into actions. That is, a long-term driven individual might decide not to take current steps towards business creation. In fact, according to Sarasvathy (2001) as short-term individuals' value quick results, they would be more inclined to develop actual venture creation activities. This development of venture creation activities implies willingness to deal with the available resources and the ability to build opportunities to pursuit. For these reasons, we hypothesize that:

H5a. Entrepreneurial career choice right after studies will positively moderate the relationship between entrepreneurial intention and implementation intention.

H5b. Entrepreneurial career choice 5 years later will positively moderate the relationship between entrepreneurial intention and implementation intention.

The proposed model and hypotheses are shown in Figure 15.

Figure 14 Proposed model and hypotheses – Implementation Intention



Source: Edited by author

5.3. Study setting

5.3.1. Data collecion

Universitat Politècnica de València (UPV) collected 880 responses in the 2018 GUESSS survey. The UPV dataset comprises a total of 688 students that are not involved in any entrepreneurial activity, 182 nascent entrepreneurs, 52 active founders and 260 students with a family business background. For the purpose of our analysis, we focused on the 688 students that are not nascent nor active founders. The composition of the sample is described in Table 17:

Table 17 Sample profile – Implementation Intention

Characteristic	Column percentage N = 688
Gender	
Male	53%
Female	47%
Study level	
Undergraduate (bachelor's degree)	70%
Graduate (master's degree)	23%
Ph.D	8%
Career choice - right after studies	
Employee	85%
Founder	1%
I dont know yet	14%
Career choice - 5 years later	
Successor	3%
Employee	55%
Founder	34%
Successor in other	1%
I do not know yet	9%
Full time student	
Yes	76%
No	24%

Source: Edited by author

The first thing that stands out is that the number of males and females is equal. Respondents are 25 years on average with a standard deviation of 5 years. As in the UPV most of the offered degrees belong to the engineering field, most of the students study a science degree rather than a social science or arts and humanities degree. Another aspect important to highlight is the professional career choice intentions. Right after studies, most of the students preferred to be employees in an existing company and only 1% wanted to be self-employed. On the other hand, 5 years later, although the students still wanted to be employees in an established company, a higher percentage of the students chose an entrepreneurial career (34%). Finally, as expected, most of the respondents are studying a bachelor's degree and are full time students.

5.3.2. Measures

Dependent variable

According to Van Gelderen et al. (2018) and Ziegelman et al. (2007), Implementation Intention (II) refer to when, where and how the different actions required to reach a goal will be taken. This variable is set of 3-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the authors Van Gelderen et al. (2018) and Ziegelmann et al. (2007).

Predictor variables

Our model consists of several independent variables:

- Entrepreneurial intentions (EI) is an antecedent of implementation intention (Van Gelderen et al., 2018) and can be defined as the willingness of an individual to set up a new venture (Krueger, 1993). This variable is set of 6-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Liñán and Chen (2009).
- Based on the work of Krueger (1993), we can define Perceived Feasibility (PF) as the extent to which an individual thinks that he/she is personally capable of starting a venture. Following Liñan et al. (2011) and Krueger et al. (2000), who used Entrepreneurial Self-Efficacy (ESE) referring to perceived feasibility, our PF variable is set of 7-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the self-efficacy scale proposed by Chen et al. (1998), De Noble et al. (1999) George and Zhou (2001) and Zhao et al., (2005).
- According to Krueger (1993), Perceived Desirability (PD) refers to the extent to which an individual is attracted to perform a given behavior, in this case, to become an entrepreneur. In this work, PD is a second-order construct adapted from Liñán et al. (2011) and it is based on Attitudes towards Entrepreneurship (ATT) and Social Norms (SN). ATT refer to the beliefs and perceptions about the personal desirability of starting up a new venture which, in addition, are related to expectations of how business start-up outcomes will impact individuals (Ajzen, 1991). The conceptual frame for the items were adapted from Liñán and Chen (2009). SN are rules and principles which are recognized by group members, and which facilitate and/or regulate social behavior (Cialdini and Trost, 1998). This variable is set of 6-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from the scale proposed by Liñán and Chen (2009).

Moderator variables

Entrepreneurial career choice right after studies (ECC1) and Entrepreneurial career choice 5 years later (ECC5) were used as moderators. Each one was measured by a dummy variable where 1 = 'Founder' and 0 = 'Otherwise'.

Control variables

In addition to predictor variables, several control variables were included in our model: gender (1 = females, 0 = males), age and work experience (1 = full-time student, 0 = Otherwise).

We selected these control variables based on earlier studies that have proven the value of these control variables for entrepreneurship. Authors such as Beliaeva et al. (2017) found that male had greater entrepreneurial intentions that females. Manolova et al. (2019) found that male engaged more start-up activities than males. In terms of behavior, Bergmann et al. (2016) found that males has higher impact on nascent and new entrepreneurial activity than females. Regarding age, authors such as Tognazzo et al. (2017), Shirokova et al. (2020) and Hahn (2020) found a positive and significant relationship between age and entrepreneurial intention, start-up activities and psychological well-being respectively. Finally, Davidsson and Honig (2003) and Dimov (2017) found a positive relationship between work experience and the likelihood of engaging entrepreneurial activities, and Iversen et al. (2016) found a positive relationship between work experience and success in entrepreneurship.

All these variables are included in the GUESSS questionnaire of the 2018 edition and their measurement can be seen in Appendix 1.

5.4. Results

In order to assess the proposed model, this work performed variance based partial least square, Structural Equation Modeling (PLS-SEM) approach, for analyzing the relationship between EI and II, and the moderating role of the professional career choice of the UPV students with Smart PLS 3.3.2 software (Ringle et al., 2015). We decided to use PLS (Hair et al., 2014) due to the specific nature of analysis into EI, and because we aimed at predicting the behavior of our dependent variable (Roldán and Sánchez-Franco, 2012), II. Therefore, PLS is an effective method for highly complex structural models. The use of first and second-order construct and the presence of reflective indicators makes this approach

appropriate for our study. The current research explored the relationship between EI and II and how intended timing of career choice moderates this relationship.

5.4.1. Reliability and validity evaluation

Table 18 and 19 present the findings of the model's reliability and convergent validity tests.

Table 18 Measurement model reliability and convergent validity – Implementation Intention

Factor	Item	Standardized loadings	t-value (bootstrapped)	CA	CR	AVE
Dependent variable:						
II	II1	0.906***	20.680	0.881	0.926	0.806
	II2	0.885***	16.099			
	II3	0.903***	18.936			
Predictor variables:						
EI	EI1	0.779***	39.195	0.944	0.956	0.783
	EI2	0.904***	119.792			
	EI3	0.919***	120.616			
	EI4	0.926***	141.305			
	EI5	0.868***	86.007			
	EI6	0.905***	110.525			
PF	PF1	0.826***	60.099	0.911	0.929	0.652
	PF2	0.787***	42.816			
	PF3	0.817***	48.276			
	PF4	0.743***	37.184			
	PF5	0.822***	56.360			
	PF6	0.839***	66.295			
	PF7	0.814***	43.123			
ATT	ATT1	0.925***	130.876	0.924	0.952	0.867
	ATT2	0.935***	152.122			
	ATT3	0.934***	172.743			
SN	SN1	0.796***	38.090			
	SN2	0.895***	95.842			
	SN3	0.791***	32.656			
Second order construct						
PD	ATT	0.92***	158.806	0.815	0.865	0.527
	SN	0.680***	20.730			

Note: CA = Cronbach's alpha; CR = Composite Reliability; AVE = Average Variance Extracted.
**p < 0.01; *p < 0.05.

Source: Edited by author

Table 19 Measurement model discriminant validity – Implementation Intention

Factor	F1	F2	F3	F4
F1. II		0.130	0.225	0.084
F2. EI		0.885	0.602	0.807
F3. PF		0.560	0.808	0.573
F4. PD		0.767	0.528	0.726

Note: Diagonal values are AVE square root, values below the diagonal are latent variable correlations values above the diagonal are HTMT ratios.

Source: Edited by author

As we can see in Table 18 all of the Cronbach's alphas presented were well above the recommendation of 0.70 (Cronbach, 1951). According to Table 18, the composite reliability indicators indicate the mutual variance of a group of observed variables by testing a particular construct (Fornell and Larcker, 1981). Generally speaking, it is suggested that a minimum 0.60 composite reliability is acceptable (Bagozzi and Yi, 1988) and we obtained values higher than 0.8. In addition, the Average Variance Extracted (AVE) was estimated for each construct, thereby ensuring AVEs greater than 0.50 (Fornell and Larcker, 1981) (see Table 18). Our AVEs are not only acceptable (greater than 0.5) but exceed 0.8 in the cases of EI and ATT. As evidence of convergent validity, the findings revealed that all items were significantly linked ($p < 0.01$) to their hypothesized variables and that the size of each standardized load was above 0.60 (Bagozzi and Yi, 1988).

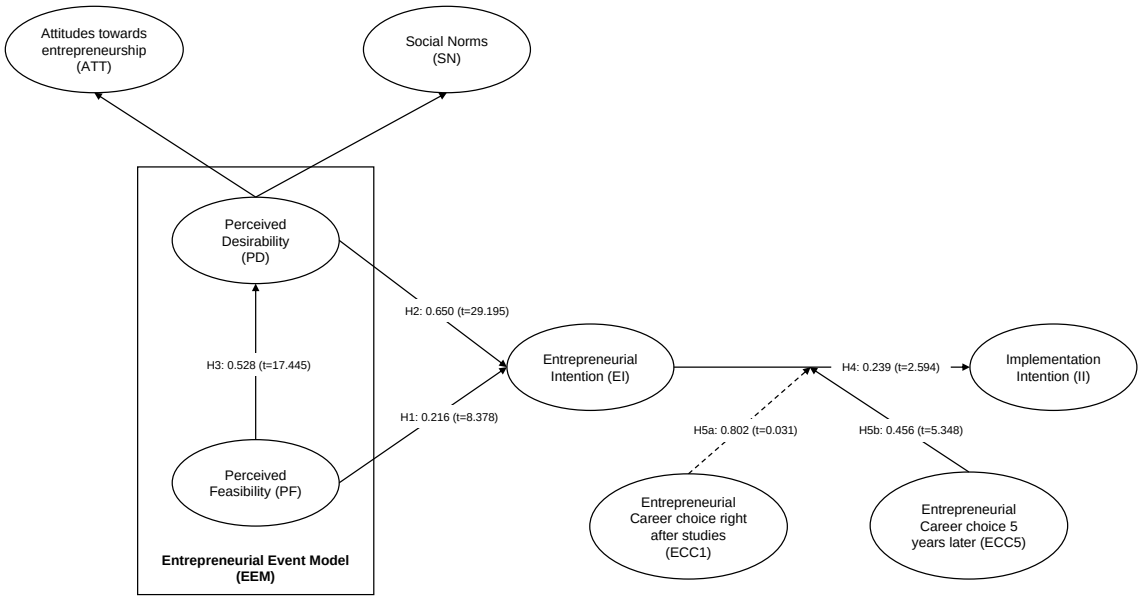
Discriminant validity is analyzed in Table 19. The shared variance between pairs of constructs was lower than the linked AVE (Fornell and Larcker, 1981). The HTMT ratio method developed by Ringle (2009) has also been used to determine the discriminant validity. Each ratio was below 0.85, which according to Clark and Watson (2016) is a good result. Consequently, it was concluded that the proposed model provided a good level of reliability, convergent and discriminating validity. Reliability and convergent validity were tested at the first- and second-order level for our second-order construct (PD) of the model.

5.4.2. Testing for overall measurement and structural model

Figure 16 shows the results of the estimation of our structural model. Standard errors and t-values that allowed for individual sign changes were proposed using bootstrapping (5,000 resamples) as suggested by Hair et al. (2014). The R^2 was above the cut-off level of 10% for all dependent variables as stated by Falk and Miller (1992) and the Q^2 blindfolding statistical tests (Geisser, 1974; Stone, 1974) were also above zero, thereby confirming the model's predictive value recommended by Ringle (2009).

In addition, goodness-of-fit indices were obtained. The model is considered goodness of fit when the SRMR value is less than 0.08 and 0.10 (Hu & Bentler, 1998; Williams et al., 2009). The results from testing the validity of the I model show that the structural model has satisfactory levels of fit index (SRMR value is 0.089).

Figure 15 Estimation of the proposed model – Implementation Intention



Source: Edited by author

5.4.3. Hypotheses testing

The findings show that PD and PF positively and significantly influence EI (H1; β = 0.216; p < 0.01 and H2; β = 0.652; p < 0.01) so we can support H1 and H2. These results are consistent with prior studies that revealed that PF influence EI such as García-Rodríguez et al. (2020); N. Krueger (1993); Schlaegel and Koenig (2014); Segal et al. (2005); Shapero and Sokol (1982) and Solesvik et al. (2014).

We can also support hypothesis 3 which refers to the positive relationship between PF and PD (H3; β = 0.528; p < 0.01). We tested this hypothesis based on the evidence provided by the work of Schlaegel and Koenig (2014) (β = 0.410; p < 0.001) and Paunescu et al., (2018) (β = 0.280; p < 0.001) and we obtained stronger evidence than these works of this positive effect between the two variables.

When analyzing the model in terms of its ability to predict EI, we obtained a R^2 of 63.6% which is a very good result according to the recommendations of Chin (1998) given that more than half of the observed variation can be explained by the model's inputs. What is more, other research testing the entrepreneurial model event to predict EI obtained lower

R^2 values such as Krueger et al. (2000) which obtained a R^2 = 40.8%, Schlaegel and Koenig (2014) which obtained a R^2 = 21% and García-Rodríguez et al. (2020) which obtained a R^2 = 54% for the Spanish sample and a R^2 = 26% for the Cuban sample. Furthermore, Krueger et al. (2000) found that the Entrepreneurial Event Model (EEM) was better predictor than the Theory of Planned Behavior (TPB) of EI. We support someway their statement given that although we did not test the TPB, our model based on the entrepreneurial model event is very accurate. When having a look to the antecedents of EI separately, we obtained that PF is crucial to predict EI and PD. PD for its part, had also a positive, significant, and higher effect to EI than PD but it was partly driven by the effect of PF on PD.

Regarding the relationship between EI and II, which is one of our main contributions in this work, we found a positive and significant effect (H4; $\beta = 0.239$; $p < 0.05$). These results corroborate Gollwitzer and Sheeran (2006), Sheeran et al. (2005), Tatarko and Schmidt (2016), Van Gelderen et al. (2018) and Van Hooft et al. (2005) findings. EI explains approximately a 13% of II and it is above Van Hooft et al. (2005) (R^2 = 11%) but lower below other authors such as Tatarko and Schmidt (2016) and Van Gelderen et al. (2018) who tested more complex models and obtained and R^2 equal to 77% and 35% respectively.

Finally, our second main contribution was to test the moderating effect of career choice right after studies and the career choice 5 years later. On the one hand, we did not find a moderation effect of ECC1 as stated in H5a, so a short-term orientation does not lead to greater II as Sarasvathy (2001) stated. In this case, we cannot affirm that our result is concluding since the variability is very small. Only 1.6% of the students surveyed stated that they wanted to be an entrepreneur while 98.4% affirmed that they wanted to be an employee in a company, a civil servant or did not have a clear choice. However, on the other hand, our findings showed that ECC5 moderates the relationship between EI and II (H5b; $\beta = 0.456$; $p < 0.01$). This means that the impact of EI on II is significantly greater in those individuals who pursue an entrepreneurial career choice 5 years after completing studies than those who pursue a different career choice such as being an employee on an established business or a civil servant. These results differ from the results obtained by Bogatyreva et al. (2019) but are in line with those obtained by Gielnik et al. (2014).

Table 20 summarize the results of our hypotheses testing:

Table 20 Hypotheses testing – Implementation Intention

Hypotheses	Standardized beta	t-value (bootstrapped)	
H1. PF→ EI	0.216***	8.378	supported
H2. PD→ EI	0.650***	29.195	supported
H3. PF → PD	0.528***	17.445	supported
H4. EI → II	0.239**	2.594	supported
H5a. EI * ECC1 → II	0.805	0.031	rejected
H5b. EI * ECC5 → II	0.456***	5.348	supported

***p < 0.01; **p < 0.05; *p < 0.10.
R^2 (II) = 0.133; R^2 (EI) = 0.636; R^2 (PD) = 0.280
Q^2 (II) = 0.048; Q^2(EI) = 0.495; Q^2 (PD) = 0.162

Source: Edited by author

5.5. Discussion

Evidence suggest that II can facilitate the transition from goal intention to actual behavior (Carraro and Gaudreau, 2013; Gollwitzer and Sheeran, 2006; Van Gelderen et al., 2018). However, although evidence in other research domains suggest a strong relationship between intention and action, this relationship has not been studied deep enough in the entrepreneurial field (Gieure et al., 2020; Neneh, 2019; Shirokova et al., 2016).

The main purpose of this study was to investigate the relationship between EI and II. To this end, based on the Entrepreneurial Event Model as an antecedent of intention, we examined differences in the impact of EI on II in terms of goal orientation, considering the career choice of a sample of university students' right after studies and 5 years later. Considering the temporal dimension of the career choice is important because it allowed us to appreciate differences in the II of the individuals.

From entrepreneurial intention to implementation intention

All things considered, our study provides empirical evidence that there is a positive and significant relationship between EI and II. We found that EI explains approximately a 13% of II, so given that it is found that the gap between intention and behavior is about 30% (Ajzen, 1987; Sheeran, 2002), we can affirm that we are a step closer from reducing the gap. A potential explanation for this result might be that the more sure an individual is about becoming an entrepreneur, the greater the degree of implementation he/she will develop (Van Gelderen et al., 2018).

Goal orientation

Our second main finding is that EI has more explanatory power for II in those individuals who intend to become entrepreneurs 5 years after completing their studies than those who have a different professional goal. In this sense, Gielnik et al. (2014) stated that planning is the basis for persistent goal pursuit and contributes to the attainment to the long-term goals, in our case, to become an entrepreneur. Regarding the career choice intention of becoming an entrepreneur, could be due that 5 years after completing their studies, individuals after acquiring certain skills through work experience would feel more capable of setting up their own business (Collins et al., 2004). However, the moderating role of career choice right after studies on the relationship between EI and II was not significant. The fact is that only a small portion of university students pursue an entrepreneurial career choice right after studies in comparison with the ones that pursue an entrepreneurial career choice several years later (Galloway and Brown, 2002). The reason may be that they feel they do not have the skills, knowledge or experience needed and they prefer to acquire them through employment instead of self-employment (Collins et al., 2004). For this reason, our sample would present low variability.

Entrepreneurial Event Model

In addition, this work reinforces the body of literature about the Entrepreneurial Event Model proposed by Shapero and Sokol (1982). This model states that the intention to create a new venture requires the following antecedents: PD and PF. Hence, our findings indicate that if an individual is confident and capable to create a new venture (has a high level of PF), he/she will have greater EI. In the case of PD, our findings indicate that if an individual feels attracted to create a new venture, the level of EI will be higher. When comparing PF and PD, we find that PD has a greater impact on EI due to the effect of PF which is at the same time, affecting EI. In this sense, entrepreneurship education and the university environment are found to play a significant role as antecedents of self-efficacy (Gielnik et al., 2017; Kubberod and Pettersen, 2017; Newman et al., 2019). According to Newman et al. (2019) and Zhao et al. (2005) entrepreneurial education provides students several skills such as business management, persuasion and negotiation and judgments of one's own physiological state. Education and training also provide students the opportunity to learn through the observation of successful entrepreneurs, namely, role models. These strategies contribute to the student’s motivation towards entrepreneurship, and it helps them to deal with anxiety, which in all leads to greater levels of self-efficacy. In our specific case, given that our sample is comprised by university students, PF and PD could be enhanced by the

resources provided by university. Ideas UPV in the Universitat Politècnica de València (UPV) is well-known for providing great support to entrepreneurs including training, mentoring and co-working spaces. First, UPV provides entrepreneurial courses characterized by the experience of successful entrepreneurs (role models). What is more, this entrepreneurial education is short and focused primarily on trends and solving challenges and it is paid special attention to the opportunity identification and the business plan. Second, there are several prizes with the aim of rewarding the best projects on different topics. And third, university is also making an important effort to put in contact people with the same goals to join students from different fields and build more effective teams. In this context, if students are surrounded by a university environment that promotes entrepreneurship and they are in contact with different role models such as fellows or experienced entrepreneurs that show them how to be a successful entrepreneur, they will develop higher levels of PF and PD and consequently, greater EI.

Furthermore, the positive and significant relationship between PF and PD found by Schlaegel and Koenig (2014) was also supported in our work. Again, in our case, we understand that PF and PD are highly influenced by the university context. Therefore, the fact that students feel capable of starting their own business will be closely related to their level of attraction to entrepreneurship.

6. Determinants of family business succession intention

6.1. Study aim

Family businesses are the key components of any economy as they significantly contribute to the GDP of the country (Abdulwahab Alhebri and Al-Duais, 2020; Acedo-Ramirez et al., 2017; Kota and Singh, 2016; Sanguino-Galván et al., 2017). Despite the importance of family business, global studies state that the family business succession rates are low. For instance, the STEP 2019 Global Family Business Survey (Calabrò and Valentino, 2019) which is based on more than 1,800 family business leaders from all over the world, revealed that 41% of the businesses belong to the first generation, 39% to the second one and only 7% of the businesses belong to the fourth or above generation.

This chapter aims at advancing research on family business succession by analysing the effect of parental support on family business self-efficacy and on commitment to the family business in relation to succession intention of the next-generation members.

6.2. Theoretical background

6.2.1. Social Cognitive Theory

In terms of conventional reciprocal causation, Social Cognitive Theory (SCT) describes psychosocial behavior (Bandura, 1983). It takes an agentic view of human development, adaptation, and change (Bandura, 2002). The SCT suggests that the interaction with behavioral and environmental factors determine the effects of personal dispositions (Wood and Bandura, 1989). Therefore, the theory incorporates the viewpoints of disposition, behavior, and the environment, thereby establishing a more comprehensive context for analyzing human behavior and its consequences (Hmieleski and Baron, 2009).

Within the environmental factors, role models like parents, provide individuals of the guidelines that would influence their intentions and behaviors (Zellweger et al., 2012). SCT states that a change of behavior is made because of a personal sense of control. If an individual believes that he/she can act to solve a problem (perceived self-efficacy), he/she will be more likely to act and will feel more committed to the decision (Luszczynska and Schwarzer, 2005).

In our work, the behavior we are looking for is succession intention of the next-generation members. We hypothesize that succession intention is affected primarily by family business self-efficacy and commitment to the family firm which in turn, are affected by the perceived parental support.

6.2.2. Parental support and family business self-efficacy

Turner and Lapan (2002) identified certain types of parental support that increase self-efficacy beliefs. These are: instrumental assistance, career related modeling, verbal encouragement, and emotional support. Within family firms, *instrumental assistance* includes activities such as giving successor's the chance work in the family firm and gain experience that improves formal education and professional development (Zhao et al., 2005). *Career-related modeling* refers to the positive outcomes observed by a role model. In this sense, Sieger et al. (2012)argued that if it is feasible for potential successors to follow role models they admire, they will be more likely to take part in the family business. *Verbal encouragement* comprises approval and recognition on a specific performance. Parental encouragement joined with a positive attitude towards family business are key to the development of family business leadership interests (Handler, 1990). Finally, *emotional support* is about helping to manage negative emotions. Zellweger (2017) found that emotional support toward children's entrepreneurial aspirations increased the level of succession intention.

Therefore, we propose the following hypotheses:

H1. Perceived parental support, in the form of a) instrumental assistance; b) career-related modelling; c) verbal encouragement; and d) emotional support is positively related to family business self-efficacy.

6.2.3. Parental support and commitment to the family firm

The degree of commitment of potential successors in the family business is also determined by the parental support. More precisely, our hypotheses for these relationships are inspired in the commitment literature in family firms and the business literature where commitment is studied broadly between employers and employees (Sharma and Irving, 2005; Van Knippenberg and Sleebos, 2006). Senior-generation family members give opportunities for potential successors to increase their skills in managing the family firm through instrumental assistance and career-related modeling. What is more, this gives them the chance to be closer of the family firms' goals and values. As a result, it has a positive effect on affective commitment, as they perceive their own goals and values are in line with the goals and values of the family firm (Dawson et al., 2015; Garcia et al., 2019). Verbal encouragement and emotional support express trust in the abilities of the potential successors to further strengthen their affective commitment to the family firm. Following Memili et al., (2013) this is because potential successors feel that they are important and valuable in the family business. On the other hand, normative commitment can also be improved by parental

support. Gouldner (1960) stated that this relation is given due the reciprocity norm. If potential successors perceived that their parents are concerned about their career development and welfare, they will be more likely to work in the family firm because they would feel indebted to them.

Hence, our hypotheses are the following:

H2. Perceived parental support, in the form of a) instrumental assistance; b) career-related modelling; c) verbal encouragement; and d) emotional support is positively related to affective commitment to the family business.

H3. Perceived parental support, in the form of a) instrumental assistance; b) career-related modelling; c) verbal encouragement; and d) emotional support is positively related to normative commitment to the family business.

6.2.4. Family business self-efficacy and succession intention

As self-efficacy drives a persons' intention to perform an action, we can affirm that self-efficacy beliefs are the main motivating drivers of action. In the entrepreneurial literature, there are lots of works analyzing the effect of self-efficacy on entrepreneurial intention, and although these results are diverse the authors that found a positive relationship are predominating. Krueger et al. (2000) based on a sample comprised of North American 97 university business students, found a positive effect between self-efficacy and entrepreneurial intention. Zellweger et al. (2011) stated that career preferences depend on the level of self-efficacy. They found that individuals with greater levels of self-efficacy are more likely to set up their own business, while medium levels of self-efficacy would lead to succeed the family firm and lower levels spur the employment intention in an established company. More recently, Bacq et al., (2017) drawing on a sample of 106 North American MBA students also found that self-efficacy positively affects entrepreneurial intention. However, in the family business context, Sieger et al. (2012), based on more than 93.000 individuals from 26 different countries, found that entrepreneurial self-efficacy is negatively related to succession intention. In the absence of further evidence in the family business context, we hypothesized:

H4. Potential successors' family business self-efficacy is positively related to their succession intention.

6.2.5. Commitment to the family firm and succession intention

Social Exchange Theory (SET) is one of the most important theories to understand workplace behavior (Cropanzano and Mitchell, 2005; Tsai and Cheng, 2012). Social

exchange comprises a set of interactions characterized by generating feelings of obligations, gratitude, and trust (Emerson, 1976; Tsai and Cheng, 2012). In the context of family firms, according to Bachkaniwala et al. (2001); Daspit et al. (2016) and Malone (1989), exchange relationships between family members can play a significant role in contributing to the business harmony and to the successful transition. Such reciprocal relationship is implicit in the work developed by Sharma and Irving (2005) which examined successors commitment to the family firm.

Sharma et al. (2003a, 2003b) drawing on a sample made of 177 Canadian successors and managers and 118 Canadian incumbent presidents respectively, found that those members actively involved in the firm were committed to the company and were more likely to be successors. Venter et al. (2005), drawing on a sample of 332 South-African owner managers and successors and Daspit et al. (2016) who analysed 88 works of family succession, stated that commitment is a key factor in succession intention together with integrity.

Based on the Sharma and Irving (2005) conceptual framework of commitment, Dawson et al. (2015), drawing on a sample of 199 Canadian and Swiss firms, found that affective and normative commitment to increase potential successors intentions to engage the family firm. According to Dawson et al. (2014) and Dawson et al. (2015) if an individual as a high level of affective commitment, he/she will be more aligned with the goals and the values of the family business and thus, he/she will be more likely to undertake obligations and responsibilities to achieve the goals of the family business. The same result is expected with higher levels of normative commitment, understood as a negative thing as long as individuals can feel satisfied if they meet the satisfactions of their family (Dawson et al., 2014; Garcia et al., 2019). Given this evidence, we hypothesized that:

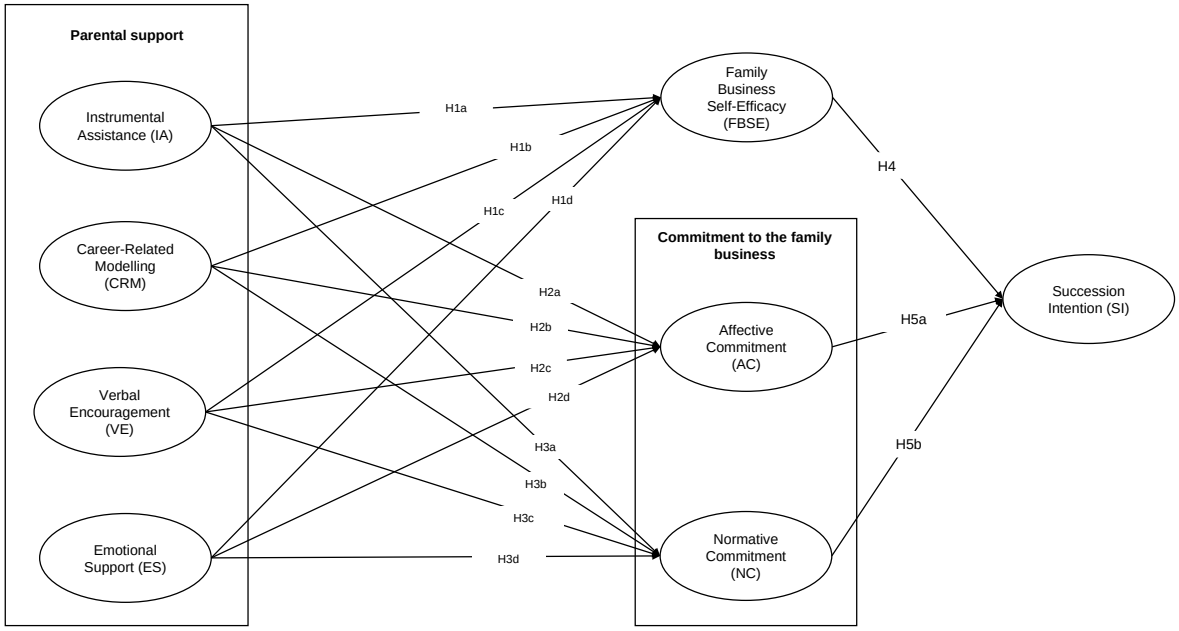
H5a. Potential successors' affective commitment is positively related to their succession intention.

H5b. Potential successors' normative commitment is positively related to their succession intention.

As we already mentioned, all of our hypotheses are based on the study proposed by Garcia et al. (2019) for comparison purposes.

The proposed model and hypotheses are shown in Figure 17.

Figure 16 Proposed model and hypotheses – Succession intention



Source: Edited by author

6.3. Study setting

6.3.1. Data collecion

Universitat Politècnica de València (UPV) collected 880 responses in the 2018 GUESSS survey which is a high response rate compared to other universities participating in the project. The UPV dataset comprises a total of 688 students that are not involved in any entrepreneurial activity, 182 nascent entrepreneurs, 52 active founders and 260 students with a family business background. For the purpose of our analysis, we focused on the 260 students with a family business background.

The composition of the sample is described in Table 21:

Table 21 Sample profile – Succession intention

Characteristic	Column percentage N = 260
Gender	
Male	50%
Female	50%
Entrepreneurship course	
Yes	38%
No	62%
Time business has been established	
< 20 years	42%
21-40 years	45%
> 40 years	13%
Working in the family business	
Yes	36%
No	64%

Source: Edited by author

The first thing that stands out is that the number of males and females is equal. When talking about entrepreneurship education, 38% affirmed that they have attended at least, one entrepreneurship course. Regarding the characteristics of the family business, 87% of the family business are less than 40 years old, of which 42% are less than 20 years old. On the other hand, only 36% of the respondents affirmed that they are working in the family business.

It is also important to highlight that respondents are 25 years on average with a standard deviation of 5 years. Finally, regarding career choice intention. right after studies, most of the students preferred to be employees in a existing company and only 1% wanted to be self-employed. On the other hand, 5 years later, although the students still wanted to be employees, a higher percentage of the students chose an entrepreneurial career and a 3% of the sample selected to be successor in the business family.

6.3.2. Measures

Dependent variable

A set of 6-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) questions are aimed to assess students' Succession Intention (SI), since the intention is not simply a yes or no question, but a range from very low to high (Thompson, 2009). According to Liñán and Chen (2009a), entrepreneurial intentions refer to the willingness of an individual to set

up a new venture but as we are studying succession intention, the proper definition would be the willingness of an individual to continue the family business. GUESSS survey used the scale proposed by Liñán and Chen (2009a) to measure this variable.

Predictor variables

Our model consists of several independent variables:

- Family Business Self-efficacy (FBSE) refer to the individual's belief in his/her capacity to proper lead and manage the family business (Garcia et al., 2019; Zellweger et al., 2011). The GUESSS project used a 8-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from Chen et al. (1998); De Noble et al. (1999); George and Zhou (2001) and ; Zhao et al. (2005).
- Affective Commitment (AC) drives an individual to work in a certain organization because he/she want to, that is, because it is his/her desire. Affective commitment refers to the emotional connection, identification, and participation in the organization (Dawson et al., 2013; Meyer and Allen, 1991). The GUESSS project used a 5-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from (Dawson et al., 2013).
- Normative Commitment (NC) drives an individual to work in a certain organization because he/she has feels the obligation to do so (Meyer and Allen, 1991). These individuals feel that they are being pressured in their social environment (Dawson et al., 2013). The GUESSS project used a 4-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from (Dawson et al., 2013).
- Instrumental Assistance (IA) assesses parental encouragement for the development of adolescent career-related skills (Cheng and Yuen, 2012; Turner et al., 2003). The GUESSS project used a 3-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from (Turner et al., 2003).
- Career-related Modelling (CRM) evaluates parents' provision of career-related modeling behavior (Cheng and Yuen, 2012; Turner et al., 2003). The GUESSS project used a 3-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from (Turner et al., 2003).
- Verbal Encouragement (VE) evaluates the praise and encouragement of parents that are related with their children's educational and professional development (Cheng and Yuen, 2012; Turner et al., 2003). The GUESSS project used a 3-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from (Turner et al., 2003).

- Finally, Emotional Support (ES) evaluates the affection and assistance experienced by adolescents in relation to their educational and professional development (Cheng and Yuen, 2012; Turner et al., 2003). The GUESSS project used a 3-item, 7-point Likert scale (1= strongly disagree, 7 = strongly agree) adapted from (Turner et al., 2003).

Control variables

In addition to predictor variables, several control variables were included in our model: gender (1 = females, 0 = males), entrepreneurship course (1 = elective course, compulsory course of currently attending and entrepreneurship course, 0 = otherwise), time business has been established (number of years) and working in the family business (1 = yes, 0 = no).

Earlier studies such as Schröder and Schmitt-Rodermund (2011) showed that women are more disadvantaged than men as successors to the family business. Ljubotina et al. (2018) and Ljubotina and Vadnjal, (2018) found that men affected positively to succession intention. In addition, Zellweger et al., (2011) found that women were more likely to choose employment rather than succession.

Ljubotina and Vadnjal, (2018), in their study about career choice intentions, found that respondents which did not attended any entrepreneurial course during studying preferred succession career to employment.

Time business has been established was included as a control variable as it might influence successors perception of the stability and value of the family business as stated by (Zellweger et al., 2012).

Finally, working in the family business had a statistically and significant impact on career choice, demonstrating that having worked in the family business, contribute to a succession professional career choice intention according to Ljubotina et al. (2018) and Ljubotina and Vadnjal, (2018).

All these variables are included in the GUESSS questionnaire of the 2018 edition and their measurement can be seen in Appendix 1.

6.4. Results

In order to assess the proposed model, this work performed variance based partial least square, structural equation modeling (PLS-SEM) approach for analyzing succession intention of the UPV students with Smart PLS 3.3.2 software (Ringle et al., 2015). PLS is

an effective method for highly complex structural models, and the presence of reflective indicators makes this approach appropriate for our study. The current research explored how family business self-efficacy and commitment to the family firm, which in turn, are influenced by parental support, impact on succession intentions of the university students.

6.4.1. Reliability and validity evaluation

Table 22 and 23 present the findings of the model's reliability and convergent validity tests.

Table 22 Measurement model reliability and convergent validity – Succession intention

Factor	Item	Standardized loadings	t-value (bootstrapped)	CA	CR	AVE
Dependent variable:						
SI	SCI1	0.864**	36.710	0.958	0.967	0.829
	SCI2	0.880**	34.519			
	SCI3	0.954**	112.341			
	SCI4	0.946**	86.192			
	SCI5	0.899**	45.282			
	SCI6	0.915**	47.705			
Mediating variables:						
FBSE	FBSE1	0.799**	24.391	0.928	0.940	0.662
	FBSE2	0.814**	25.995			
	FBSE3	0.797**	23.787			
	FBSE4	0.817**	27.218			
	FBSE5	0.782**	18.336			
	FBSE6	0.848**	27.853			
	FBSE7	0.824**	24.282			
	FBSE8	0.829**	26.700			
AC	AC1	0.718**	17.398	0.879	0.911	0.673
	AC2	0.876**	48.555			
	AC3	0.810**	40.137			
	AC4	0.883**	49.915			
	AC5	0.805**	25.244			
NC	NC1	0.917**	79.588	0.823	0.882	0.656
	NC2	0.825**	25.358			
	NC3	0.862**	38.953			
	NC4	0.598**	11.012			
Predictor variables						
AI	IA1	0.845**	36.439	0.871	0.921	0.795
	IA2	0.913**	61.385			
	IA3	0.915**	71.638			
CRM	CRM1	0.916**	56.156	0.882	0.927	0.809
	CRM2	0.918**	51.606			
	CRM3	0.864**	32.328			
VE	VE1	0.878**	23.557	0.867	0.918	0.789
	VE2	0.902**	33.028			
	VE3	0.885**	30.973			
ES	ES1	0.911**	62.028	0.875	0.923	0.800
	ES2	0.869**	37.647			
	ES3	0.902**	60.992			

Note: CA = Cronbach's alpha; CR = Composite Reliability; AVE = Average Variance Extracted.
**p < 0.01; *p < 0.05.

Source: Edited by author

Table 23 Measurement model discriminant validity – Succession Intention

Factor	F1	F2	F3	F4	F5	F6	F7	F8
F1. SI	0.910	0.219	0.648	0.681	0.446	0.172	0.097	0.547
F2. FBSE	0.215	0.814	0.272	0.234	0.326	0.355	0.229	0.172
F3. AC	0.621	0.249	0.821	0.791	0.559	0.318	0.092	0.558
F4. NC	0.634	0.214	0.684	0.810	0.671	0.335	0.197	0.637
F5. IA	0.407	0.304	0.499	0.567	0.892	0.559	0.084	0.771
F6. CRM	0.159	0.330	0.266	0.256	0.494	0.900	0.399	0.215
F7. VE	-0.086	0.210	0.006	-0.115	0.075	0.351	0.888	0.095
F8. ES	0.505	0.155	0.516	0.570	0.670	0.184	-0.024	0.894

Note: Diagonal values are AVE square root, values below the diagonal are latent variable correlations values above the diagonal are HTMT ratios.

Source: Edited by author

As we can see in Table 22 all of the Cronbach's alphas (CA) presented were well above the recommendation of 0.70 (Cronbach, 1951). In the cases of SI and FBSE we obtained excellent coefficients, as the obtained CA were 0.958 and 0.928 respectively. According to Table 22, the composite reliability (CR) indicators indicate the mutual variance of a group of observed variables by testing a particular construct (Fornell and Larcker, 1981). Generally speaking, it is suggested that a minimum 0.60 CR is acceptable (Bagozzi and Yi, 1988). Again, the CR obtained were well above the recommended value, and the lowest coefficient was 0.882 in the case of NC. In addition, the average extracted variance (AVE) was estimated for each construct, thereby ensuring AVEs greater than 0.50 (Fornell and Larcker, 1981) (see Table 3). The highest coefficients in this case were the ones obtained by SI (0.829), CRM (0.809) and ES (0.800). As evidence of convergent validity, the findings revealed that all items were significantly linked ($p < 0.01$) to their hypothesized variables and that the size of each standardized load except for one item of NC (0.598**) was above 0.60 (Bagozzi and Yi, 1988). Following the criteria recommended by Hair et al., (2014) and given that the load value of the NC item is close to 0.60, we maintain the item since the AVE and CR values are adequate.

Discriminant validity is analyzed in Table 23. The shared variance between pairs of constructs was lower than the linked AVE (Fornell and Larcker, 1981). The HTMT ratio method developed by (Ringle, 2009) has also been used to determine the discriminant validity. Each ratio was below 0.85, which according to Clark and Watson (2016) is a good result. Consequently, it was concluded that the proposed model provided a good level of reliability, convergent and discriminating validity.

6.4.2. Testing for overall measurement and structural model

Figure 18 shows the results of the estimation of our structural model. Standard errors and t-values that allowed for individual sign changes were proposed using bootstrapping (5000 resamples) as suggested by Hair et al. (2011). The R^2 was above the cut-off level of 10% for all dependent variables as stated by Falk and Miller (1992) and the Q^2 blindfolding statistical tests (Geisser, 1974; Stone, 1974) were also above zero, thereby confirming the model's predictive value recommended by Ringle (2009).

In addition, goodness-of-fit indices were obtained. The model is considered goodness of fit when the SRMR value is less than 0.08 and 0.10 (Hu & Bentler, 1998; Williams et al., 2009). The results from testing the validity of the l model show that the structural model has satisfactory levels of fit index (SRMR value is 0.070).

6.4.3. Hypotheses testing

The findings showed in Table 5 that the elements of parental support IA and CRM affect FBSE the most and the effect is significant (H1a; $\beta = 0.220$; $p < 0.05$, H1b; $\beta = 0.179$). VE has a lower but significant effect, so we also support the hypothesis 1c (H1c; $\beta = 0.130$; $p < 0.05$). Surprisingly, ES was negatively related to FBSE although the effect was not significant.

Regarding commitment to the family firm, we found that parental support concerning IA, CRM and ES positively and significantly influence AC (H2a; $\beta = 0.209$; $p < 0.05$, H2b; $\beta = 0.111$; $p < 0.05$ and H2d; $\beta = 0.355$; $p < 0.01$). Regarding the hypothesis 2c, we found a negative but not significant effect to AC.

When talking about NC, we found a positive and significant effect of IA, CRM and ES and NC but the relation between VE and NC was negative and significant. These allowed us to support the hypothesis of three out of four elements of parental support (H3a; $\beta = 0.292$; $p < 0.01$, H3b; $\beta = 0.106$; $p < 0.05$ and H3d; $\beta = 0.351$; $p < 0.01$).

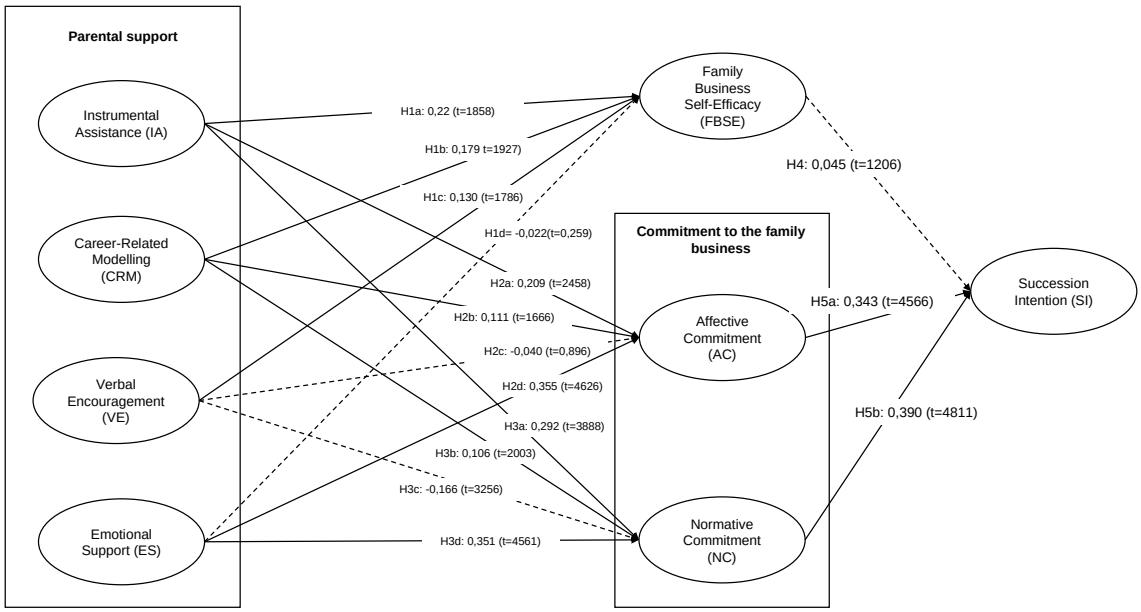
When looking at the impact of parental support on commitment to the family firm as a group, we found that the most important dimension of parental support in both AC and NC is ES. IA and CRM for their part, came in the second and third place respectively in both commitments. Finally, VE, surprisingly, turned out to be negative although not significantly related to AC and NC.

FBSE was positively but not-significant related to SI so H4 is not supported.

Finally, both AC and NC positively and significantly influence SI (H5a; β = 0.343; p <0.01 and H5b; β = 0.390; p <0.01).

Figure 18 and Table 24 summarize the results of our hypotheses testing:

Figure 17 Estimation of the proposed model – Succession Intention



Source: Edited by author

Table 24 Hypotheses testing – Succession Intention

Hypotheses	Standardized beta	t-value (bootstrapped)
H1a. IA → FBSE	0.220**	1858
H1b. CRM → FBSE	0.179**	1927
H1c. VE → FBSE	0.130**	1786
H1d. ES → FBSE	-0.022	0.259
H2a. IA → AC	0.209**	2458
H2b. CRM → AC	0.111**	1666
H2c. VE → AC	-0.040	0.896
H2d. ES → AC	0.355***	4626
H3a. IA → NC	0.292***	3888
H3b. CRM → NC	0.106**	2003
H3c. VE → NC	-0.166***	3256
H3d. ES → NC	0.351***	4561
H4. FBSE → SI	0.045	1206
H5a. AC → SI	0.364***	4566
H5b. NC → SI	0.390***	4811

***p < 0.01; **p < 0.05; *p < 0.10.
R^2 (AC) = 0.317; R^2 (FBSE) = 0.150; R^2 (NC) = 0.412; R^2 (SI) = 0.482
Q^2 (AC) = 0.196; Q^2 (FBSE) = 0.091; Q^2 (NC) = 0.258; Q^2 (SI) = 0.393

Source: Edited by author

6.5. Discussion

According to the report of the Instituto de la Empresa Familiar, which includes the factors of competitiveness and a financial analysis of the Spanish family firms, the number of CEO's that belongs to the founder family is higher than the number of CEO's from the outside, regardless of the size of the company. However, as the size of the company increases, the percentage of CEOs that belong to the founder family decreases. Thus, the understanding of the factors that influence potential successors engagement in the family firm is very important. Our main contribution is to predict SI analyzing the effect of parental support on FBSE and on commitment (AC and NC) to the family business.

When we tested our hypotheses, we found that all the dimensions of parental support except for ES influence FBSE and among all the dimensions of parental support, IA appeared to affect FBSE the most. Hence, we found support to H1a,b and c but not to H1d. The results are partly consistent with the results obtained by Turner and Lapan, (2002) and García et al. (2019), who stated that the four dimensions of parental support that increase

self-efficacy beliefs. In our case, we found a negative and non-significant effect between ES and FBSE. One reason behind that fact could be that if we looked more deeply into the items of the variables, we could see that the items used in the GUESSS project to measure FBSE capture a very specific dimensions of the concept, such as conflict resolution and negotiation skills. Following Newman et al. (2019), entrepreneurial self-efficacy is made up by five dimensions which are: marketing, innovation, management, risk-taking and financial control. In this sense, we consider that although parents may help potential successors to manage negative emotions, they could suffer from fear or anxiety and feel unable to solve disputes or to maintain a healthy work environment.

Moving on to commitment to the family firm, we found that all the dimensions of parental support except for VE influence AC and among all the dimensions of parental support, ES and appeared to affect FBSE the most. Hence, we found support to H2a, b and d but not to H2c. These results are partly in line with the results obtained by authors such as Dawson et al. (2015) who stated that IA and CRM enhance AC while Memili et al. (2013) who stated that so do VE and ES. Regarding the influence of VE on AC, again, we found a negative but not significant relationship. In this specific case, the items of VE seem to be related to academic results rather than the family business, so it is not surprising that the relationship between VE and AC with the family business is not significant. Parents may demonstrate trust in the abilities of the potential successors to further strengthen their AC to the family firm through VE but the presence of relationship conflict may induce negative affective emotions that reduce the ownership attachment (Memili et al., 2013). This argument is in line with the prototypical congruence argument that the existence of a negative effect reduces appraisals of ownership and attachment stated by Bower (1981).

When talking about NC, we found that the dimensions of parental support IA, CRM and specially ES have a positive and significant effect to NC, while VE has a negative and significant effect. Therefore, we found support to H3a,b and d but not to H3c. The results are mainly consistent with prior studies such as García et al. (2019) that revealed that parental support can also increase next-generation members' NC toward the family business because of the norm of reciprocity (Gouldner, 1960). In this context, reciprocity is especially important (Davis et al., 2010; Dhaenens et al., 2018). On the one hand parents expect reciprocity from the potential successors by ensuring their legacy (Janjuha-Jivraj and Spence, 2009). An on the other hand, the potential successors, aware of the time and effort their parents have invested in mentoring them, may feel indebted to them and the family business (Ensher et al., 2001; Vardaman et al., 2016). Regarding H3c, we could think that VE gives the successors freedom to make their own decisions and do not feel guilty about

their choices. That is, parental support affects one's sense of self-reliance and willingness to exercise personal autonomy, moral beliefs, and autonomy in career decision-making (Memili et al., 2013) so that in the presence of high VE levels, successors could have the freedom to make their own decisions without having a feeling of indebtedness or obligation for not choosing to continue the family business.

Regarding the relationship between FBSE and SI, we found a positive but not significant effect, so we could not support H4. This result is contrary to Vadnjal and Ljubotina (2016), who found a positive and significant effect between self-efficacy and SI. When studying the role of self-efficacy in the literature, authors such as Zellweger et al. (2011) and Sieger et al. (2012) stated that high levels of entrepreneurial self-efficacy negatively affect family business SI. Therefore, that would be a possible justification for the results obtained. Entrepreneurship education and the university environment are found to play a significant role as antecedents of self-efficacy (Gielnik et al., 2014; Kubberod and Pettersen, 2017; Newman et al., 2019). As our hypotheses are test on university students from the Universitat Politècnica de Valencia, where a great support including training, mentoring and co-working spaces is provided, this could raise self-efficacy levels to the point where students would prefer to set up their own business rather than to continue the family business.

Finally, we could fully accept H5a and H5b regarding commitment to the family firm and SI as evidenced by Garcia et al. (2019); LeCounte (2020) and Sharma and Irving (2005). We found that NC had a greater impact than AC in SI. Given that from all the dimensions of parental support, ES affected NC the most, we would agree with the statement of Dawson et al. (2014) regarding the feeling of satisfaction when meeting the expectations of the rest of the family members.

7. General conclusions

7.1. General conclusions

Entrepreneurship is a valuable career choice as it allows individuals to be independent, acquire different skills, generate income, and, in turn, contribute to economic growth (Morris et al., 2017). Universities for their part, in order to be more competitive, are trying to become more and more entrepreneurial (Gibb and Hannon, 2006; Jansen et al., 2015; Klofsten et al., 2019). To do so, the most powerful resource are students (Jansen et al., 2015). However, the understanding of university student entrepreneurship needs further research (Colombo and Piva, 2020).

In order to contribute to the study of the university student's entrepreneurship phenomena, we started our work by mapping the existing literature of university student's entrepreneurship, focusing on studies that used Global University Entrepreneurial Spirit Students' Survey (GUESSS) as their main source of data, since it is a worldwide survey on entrepreneurial attitudes, plans, activities and aspirations of university students. Second, we extended the existing entrepreneurial intention models by including the single and double mediating effects of the components of the TPB between entrepreneurship education understood as program learning and entrepreneurial intention. Third, we extended the existing entrepreneurial intention models by examining the effect of social, university and family context on the antecedents of entrepreneurial intention, and we added the moderating effects of entrepreneurship education in all the relationships, in one single model. Fourth, we went one step beyond intention by studying implementation intention, considering the moderating role of goal orientation. Fifth, we carried out an analysis of succession intention considering the effect of parental support, family business self-efficacy and commitment to the family firm.

The most significant results obtained in this study are presented below, since all the results obtained have been discussed in detail in the different chapters.

These ideas for further research are developed in the remaining sections of this work and the main findings are summarized in Table 25.

Table 25 Summary of the main results

Chapter	Theoretical framework	Dependent variable	Independent variables	Main conclusions
3	Theory of Planned Behavior (TPB)	Entrepreneurial Intentions	• Program Learning	The results confirm the double mediation effect of Subjective Norms with the other two components of the TPB in the relationship between Program Learning and Entrepreneurial Intentions. Surprisingly, when testing single mediation effect, Subjective Norms was the only component of the TPB which did not mediate the relationship between Program Learning and Entrepreneurial Intention.
4	Theory of Planned Behavior (TPB)	Entrepreneurial Intentions	• Attitude towards Entrepreneurship • Subjective Norms • Self-Efficacy • Family Context • University Context • Social Context	The main findings suggest that Entrepreneurship Education acts as moderator, specially in the relationship between Attitudes towards Entrepreneurship and Entrepreneurial Intention, Social Context and Subjective Norms and Family Context and Subjective Norms.
5	Entrepreneurial Event Model	Implementation intentions	• Entrepreneurial Intentions • Perceived Feasibility • Perceived Desirability	The results validate the Entrepreneurial Event Model to predict Entrepreneurial Intention and in addition, the career choice 5 years after studies moderate the relationship between Entrepreneurial Intention and Implementation Intention.
6	Social Cognitive Theory	Succession intentions	• Family Business Self-efficacy • Affective Commitment • Normative Commitment • Instrumental Assistance • Career-Related Modelling • Verbal Encouragement • Emotional Support	The findings show the impact of Parental Support in Family Business Self-Efficacy and in commitment to the family firm. Furthermore, the results confirm a positive impact of the commitment to the family firm on Succession Intention, especially the Normative Commitment.

Source: Edited by author

Overall, we obtained the following main conclusions. Among the TPB components, Attitudes towards Entrepreneurship affects Entrepreneurial Intention the most. This result is confirmed in the studies in Chapters 3, 4 and 5 (Perceived Desirability). In second place we find Entrepreneurial Self-Efficacy. This result is also found in the studies in chapters 3 (PBC), 4 and 5 (Perceived Feasibility). With regard to Subjective Norms, we found a very interesting result: although according to the study in Chapter 3 it does not affect entrepreneurial intention, the study in Chapter 4 shows that this variable is significant in the group of students who have not received entrepreneurship education.

When talking about context, we found a negative and significant relationship between Social Context and Subjective Norms in the case of students without entrepreneurship education. Regarding University Context it is important to distinguish between entrepreneurship education which is analyzed in studies of Chapters 3 and 4 and university environment which is analyzed in Chapter 4. When talking about entrepreneurship education, on the one hand, we found that the learning outcomes of the courses attended at university, that is, Program Learning, does not affect directly Entrepreneurial Intention but through the components of the TPB. In the case of the simple mediating effects, we found that Attitudes towards Entrepreneurship and PBC mediate the relationship between Program Learning and Entrepreneurial Intention while Subjective Norms acts as a mediator in combination with Attitudes Towards Entrepreneurship. On the other hand, when referring to entrepreneurship education in terms of the number of courses attended, we found that entrepreneurship education moderates the relationship between Attitudes towards Entrepreneurship and Entrepreneurial Intention, Social Context and Subjective Norms, and Family Context and Subjective Norms. When talking about University Context understood as climate, we found that University Contexts affects Subjective Norms and Entrepreneurial Self-Efficacy regardless of entrepreneurship education. Finally, when looking at Family Context, we found that it positive and significantly affected Attitudes towards Entrepreneurship, Subjective Norms and Entrepreneurial Intention if students have attended at least one entrepreneurship course.

As we move to the next step in the entrepreneurial process, which is implementation intention, we found that there is a significant relationship between entrepreneurial intention and implementation intention. Furthermore, although the entrepreneurial career intention right after studies does not moderate this relationship, the entrepreneurial career intention 5 years after studies acts as a moderator between entrepreneurial intention and implementation intention.

Lastly, regarding the antecedents of family business succession intention, we found that parental support positively affects FBSE and a commitment to the family firm. In the case of FBSE, it is especially affected by the parental support dimension, IA. However, FBSE does not significantly affect IS. On the other hand, in the case of commitment, we found that ES is the dimension of parental support that most affects both AC and NC and, in addition, IA also exerts a significant influence on NC. We also found that both AC and NC significantly affect SI, in a similar degree.

7.2. Implications

Entrepreneurial activity is becoming an important issue for both governments, academia, and universities worldwide. This interest of the public and private spheres could be explained by the fact that entrepreneurship contributes to economic growth, job creation and innovation, among others.

In this sense, regarding the first study, there are direct implications for both aspiring and practicing entrepreneurs, entrepreneurship scholars, and public policy makers responsible for creating and fostering entrepreneurial environments. Firstly, we confirm that the entrepreneurial process starts with entrepreneurial intentions. For this reason, the development and cultivation of entrepreneurial intention is fundamental to the entrepreneurship process (Klofsten, 2000; Shirokova et al., 2016). Secondly, since this first study analyzes the university students' literature focused on the GUESSS project, we identified the needed factors for moving from intentions to actual behaviors passing through the intermediate stage of gestation of activities. Among these factors, there are several individual factors, but there are others that can be influenced, such as the university context. In relation to the university context, the results of this study provide insights for entrepreneurship educators regarding the characteristics of the students that are more likely to move from intentions to actions. This would allow university professors to identify the promising aspiring entrepreneurs but also students who need extra support to translate their entrepreneurial intentions into action.

Regarding the second and the third study, they expand our knowledge by providing new insights of how entrepreneurship education is related to entrepreneurial intentions of university students. These addresses empirically the need to switch the focus from teaching entrepreneurship to entrepreneurial learning (Beliaeva et al., 2017; Middleton and Donnellon, 2014). The results obtained in these studies have implications for both entrepreneurship educators and public policy makers which are responsible for supporting

and developing entrepreneurial spirit in the university context. For educators, we provide new insights about the environmental factors influencing the benefits that university programs provide to entrepreneurship. This allows the development of a proper environment by adapting entrepreneurial learning to the specific characteristics of the university students. In addition, to provide a proper entrepreneurial environment, it is necessary to develop a broader range of activities apart from the ones in a classroom setting. For policy makers, these studies provide new insights regarding the effect of culture on entrepreneurial intentions. It is very important to enhance entrepreneurship education, in terms of the understanding of what does it mean to be an entrepreneur, skills and steps needed to set up a new business, has several benefits for potential entrepreneurs. In all, we propose that a coordinated strategy of university and policy makers would be better than working separately. Universities should be seen by policymakers as an important part of the regional entrepreneurship ecosystem, whereas universities should consider the key role of the regional environment as a significant engine of the entrepreneurial activities of their students.

The fourth study has the following implications for entrepreneurs and for universities. In the case of entrepreneurs, knowing what, when and where to engage their first step to starting a business is very important to move from intentions to implementation intentions and to actual behavior in a last step. For these reasons, given that potential entrepreneurs spend a lot of time and efforts to set up a new business, they should pay special attention to the social networks and resources needed to achieve their goal. Given that universities receive considerable support from universities (education, social networks and co-working spaces, among others) one practical implication is that universities should focus their efforts on creating a proper entrepreneurial ecosystem. These efforts should be oriented to psychological and instrumental support to their students.

Finally, the fifth study, which analyses family business succession intentions, has several implications to business owners. Firstly, speaking positively about the family firm could stimulate the interest of the potential successor in the family firm. Secondly, parents should provide a motivating framework that encourages the potential successors to explore their skills and desires, since effective human development benefits from the interplay of social and individual influences. Thirdly, parents should assign the proper responsibilities according to the potential successor's age or field of study to increase their feeling of capability and happiness towards the family firm.

7.3. Limitation and future research lines

This work contributes to the increasing literature on student entrepreneurship by providing a complete analysis of entrepreneurial intentions of university students. We extended the existing research about the effect of entrepreneurship education on entrepreneurial intentions analyzing mediating effects of the components of the TPB between entrepreneurship education and entrepreneurial intention, and by studying the moderating effects of entrepreneurship education in the entrepreneurial intention model, which we extended by adding the effect of (social, university and family) context. We also contributed to bridge the gap between entrepreneurial intention and behavior by including the middle stage of implementation intention. And finally, we provided new insights to the understanding of succession intentions; a stream less studied within the university student's entrepreneurship literature. However, this work has several theoretical and empirical limitations that may encourage scholars to keep moving forward in future research lines. We will start by presenting the general limitations of our work, and finally, the specific limitations of each of study will be described.

Regarding the general limitations, first, it is important to highlight that our findings may be limited by the characteristics of the sample. As we only analyzed students from the Universitat Politècnica de València (UPV), where there are mainly scientific and engineering degrees, our results may be influenced by the use of a sample too specific. On the other hand, IDEAS UPV, offers a service of attention and advice for the creation and development of innovative start-ups and a service of support and advice for the creation and development of UPV Spin-off companies that is characterized by having advised 7,569 entrepreneurs since its creation in 1992 to 2018. In this context, the UPV stands out as an entrepreneurial and innovative university. For these reasons, studies including other Spanish universities, countries and cultures would provide more generalizable results.

Second, the use of data from the GUESSS project limits the study about university student entrepreneurship to the variables and sample size of the project. In this sense, we encourage further research to test the models presented in this work, using datasets that do not belong to the GUESSS project. This way, it would be possible to explore other key variables in the literature of university student entrepreneurship, and the size and characteristics of the sample would be different from those obtained by this project.

The following limitation of this study is the nature of the cross-sectional data that has been used in our analysis. It gives us reasons to be cautious in reaching conclusions concerning casual relationships among variables, since longitudinal variation cannot be captured.

Hence, the results of this study could be complemented by longitudinal studies to explore the variations over the time.

And finally, since we adopted a multigroup perspective in one single study, we believe that further research adopting this approach is needed to have a more comprehensive understanding of university student entrepreneurship.

Now that we have presented the general limitations of our work, we will describe the specific limitations of each study. Regarding the first study, although in this work we focused on entrepreneurial intention, it is important to highlight that nascent entrepreneurs (trying) and active founders (running) need to be explored in greater depth as the number of works observed is low. Regarding the second study, our theoretical model provides insights to the entrepreneurship literature studying the simple and double mediating effects of the components of the TPB. In this sense, we would suggest further research to test a double mediation effect of subjective norms and the other components of the TPB. Regarding the third study, it is important to highlight that most of the entrepreneurship education literature focuses on the effect of having or not attended an entrepreneurial course but do not study the differences between the characteristics of the programs. Educational programs are designed considering several factors such as the stage of the entrepreneurial idea or the typology of the students, among others. For these reasons, we encourage further research to analyze several kinds of entrepreneurship programs. Regarding the fourth study, our theoretical model expands the entrepreneurial intention model adding implementation intention. However, as there are not many studies testing this model, maybe more studies would lead to different conclusions. What is more, we do not consider the last stage of the entrepreneurial process which is actual behavior. In this sense, we would suggest extending our model with the complete entrepreneurial process. Finally, in terms of the fifth study, which analyzed succession intention, the literature provided evidence that there are other variables affecting commitment to the business family such as psychological control (Garcia et al., 2019). In the same line, the literature also suggest that parental support and psychological support influences a third kind of commitment, continuance commitment, which at the same time, affects succession intention (Aube et al., 2007; Garcia et al., 2019). We could not test due to the absence of these variables in the GUESSS project. For this reason, we consider that our model would be enriched including other variables.

References

Abdulwahab Alhebri, A. A., and Al-Duais, S. D. (2020). Family businesses restrict accrual and real earnings management: Case study in Saudi Arabia. *Cogent Business and Management*, 7(1), 1–14. https://doi.org/10.1080/23311975.2020.1806669

Acedo-Ramirez, M. A., Ayala-Calvo, J. C., and Navarrete-Martinez, E. (2017). Determinants of Capital Structure: Family Businesses versus Non-Family Firms. *Journal of Economics and Finance*, 67(2), 80–103.

Adam, A. F., and Fayolle, A. (2016). Can implementation intention help to bridge the intention-behaviour gap in the entrepreneurial process? An experimental approach. *International Journal of Entrepreneurship and Innovation*, 17(2), 80–88. https://doi.org/10.1177/1465750316648569

Aghaei Chadegani, A., Salehi, H., Yunus, M., Farhadi, H., Fooladi, M., Farhadi, M., and Ale Ebrahim, N. (2013). A Comparison between Two Main Academic Literature Collections: Web of Science and Scopus Databases. *Asian Social Science*, 9(5), 18–26. https://doi.org/10.5539/ass.v9n5p18

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer, Berlin, Heidelberg.

Ajzen, I. (1987). Attitudes, traits, and actions: Dispositional prediction of behavior in personality and social psychology. *Advances in Experimental Social Psychology*, 20, 1–63.

Ajzen, I. (2005). *Attitudes, personality, and behavior*. McGraw-Hill Education, UK.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.

Ajzen, I. (1996). *The directive influence of attitudes on behavior*. In P. Gollwitzer and J. A. Bargh (Ed.), Psychology of action (pp. 385--403).

Ajzen, I. (2005). *Attitudes, personality, and behavior* (McGraw-Hill Education (ed.)).

Ajzen, I. (2011). The theory of planned behavior: Reactions and reflections Icek Ajzen The theory of planned behavior: Reactions and reflections. *Psychology and Health*, 26(9), 1113–1127. https://doi.org/10.1080/08870446.2011.613995

Ajzen, I., and Fishbein, M. (1980). *Understanding attitudes and predicting social behavior* (Prentice-Hall (ed.)).

Ajzen, I., Czasch, C., & Flood, M. G. (2009). From intentions to behavior: Implementation intention, commitment, and conscientiousness. *Journal of Applied Social Psychology*, 39(6), 1356-1372.

Albort-Morant, G., and Oghazi, P. (2016). How useful are incubators for new entrepreneurs? *Journal of Business Research*, 69(6), 2125–2129.

Altinay, L., Madanoglu, M., and Daniele, R. (2012). The influence of family tradition and psychological traits on entrepreneurial intention. *International Journal of Hospitality Management*, 31(2), 489–499.

Amos, A., and Alex, K. (2014). Theory of Planned Behavior, Contextual Elements, Demographic Factors and Entrepreneurial Intentions of Students in Kenya. *European Journal of Business and Management* , 6(15), 167–175.

Anderson, A. R., Dodd, S. D., and Jack, S. L. (2012). Entrepreneurship as connecting: Some implications for theorising and practice. *Management Decision*, 50(5), 958–971. https://doi.org/10.1108/00251741211227708

Aparicio, G., Iturralde, T., and Maseda, A. (2019). Conceptual structure and perspectives on Entrepreneurship education research: A bibliometric review. *European Research on Management and Business Economics*, 25(3), 105–113.

Armitage, C. J., and Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40(4), 471–499. https://doi.org/10.1348/014466601164939

Audretsch, D. B. (2014). From the entrepreneurial university to the university for the entrepreneurial society. *Journal of Technology Transfer*, 39(3), 313–321. https://doi.org/10.1007/s10961-012-9288-1

Autio, E., Keeley, R. H., Klofsten, M., Parker, G. G. C., and Hay, M. (2001). Entrepreneurial Intent among Students in Scandinavia and in the USA. *Enterprise and Innovation Management Studies*, 2(2), 145–160. https://doi.org/10.1080/14632440110094632

Bachkaniwala, D., Wright, M., and Ram, M. (2001). Succession in South Asian Family Businesses in the UK. *International Small Business Journal*, 19(4), 15–27. https://doi.org/10.1177/0266242601194001

Bacq, S., Ofstein, L. F., Kickul, J. R., and Gundry, L. K. (2017). Perceived entrepreneurial munificence and entrepreneurial intentions: A social cognitive perspective. *International Small Business Journal: Researching Entrepreneurship*, 35(5), 639–659. https://doi.org/10.1177/0266242616658943

Bae, T. J., Qian, S., Miao, C., and Fiet, J. O. (2014). The Relationship Between Entrepreneurship Education and Entrepreneurial Intentions: A Meta-Analytic Review. *Entrepreneurship Theory and Practice*, 38(2), 217–254. https://doi.org/10.1111/etap.12095

Bagozzi, R., and Yi, Y. (1988). On the Evaluation of Structure Equation Models. Article in *Journal of the Academy of Marketing Science*, 16(1), 74–94. https://doi.org/10.1007/BF02723327

Bandura, A. (1977a). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215.

Bandura, A. (1977b). Social Learning Theory. *Journal of Communication, 1(3)*. https://doi.org/10.1111/j.1460-2466.1978.tb01621.x

Bandura, A. (1983). Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. *Journal of Personality and Social Psychology*, 45(5), 1017–1028.

Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ, 1986(23-28).

Bandura, A. (1997). Self-efficacy: The exercise of control. In Freeman (Ed.), *Anxiety Research* (Issue 2). https://doi.org/10.1080/10615808808248222

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), 1–26. https://doi.org/10.1146/annurev.psych.52.1.1

Bandura, A. (2002). Social cognitive theory in cultural context. *Applied Psychology*, 51(2), 269-290. https://doi.org/10.1111/1464-0597.00092

Barba-Sánchez, V., and Atienza-Sahuquillo, C. (2018). Entrepreneurial intention among engineering students: The role of entrepreneurship education. *European Research on Management and Business Economics*, 24(1), 53–61.

BarNir, A., Watson, W. E., and Hutchins, H. M. (2011). Mediation and Moderated Mediation in the Relationship Among Role Models, Self-Efficacy, Entrepreneurial Career Intention,

and Gender. *Journal of Applied Social Psychology*, 41(2), 270–297. https://doi.org/10.1111/j.1559-1816.2010.00713.x

Baron, R. A. (2008). The role of affect in the entrepreneurial process. *Academy of Management Review*, 33(2), 328–340. https://doi.org/10.5465/AMR.2008.31193166

Bartha, Z., Gubik, A. S., and Bereczk, A. (2019). The Social Dimension of the Entrepreneurial Motivation in the Central and Eastern European Countries. *Entrepreneurial Business and Economics Review*, 7(1), 9–27. https://doi.org/10.15678/EBER.2019.070101

Basu, A., and Virick, M. (2008). Assessing entrepreneurial intentions amongst students: A comparative study. In *VentureWell. Proceedings of Open*, *the Annual Conference* (p. 79). National Collegiate Inventors and Innovators Alliance.

Bauman, A., and Lucy, C. (2019). Enhancing entrepreneurial education: Developing competencies for success. *The International Journal of Management Education*, 100293.

Beliaeva, T., Laskovaia, A., and Shirokova, G. (2017). Entrepreneurial learning and entrepreneurial intentions: A cross-cultural study of university students. *European Journal of International Management*, 11(5), 606–632. https://doi.org/10.1504/EJIM.2017.086694

Bergmann, H. (2017). The formation of opportunity beliefs among university entrepreneurs: an empirical study of research- and non-research-driven venture ideas. *Journal of Technology Transfer*, 42(1), 116–140. https://doi.org/10.1007/s10961-015-9458-z

Bergmann, H., Hundt, C., and Sternberg, R. (2016). What makes student entrepreneurs? On the relevance (and irrelevance) of the university and the regional context for student start-ups. *Small Business Economics*, 47(1), 53–76. https://doi.org/10.1007/s11187-016-9700-6

Bernhofer, B. L., and Li, J. (2014). Understanding the entrepreneurial intention of Chinese students: The preliminary findings of the China Project of "Global University Entrepreneurial Spirits Students Survey" (GUESSS). *Journal of Entrepreneurship in Emerging Economies*, 6(1), 21–37. https://doi.org/10.1108/JEEE-10-2013-0024

Bhat, I. H., and Singh, S. (2018). Analyzing the moderating effect of entrepreneurship education on the antecedents of entrepreneurial intention. *Journal of Entrepreneurship Education*, 21(1), 1–10.

Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. *Academy of Management Review*, 13(3), 442-453.

Blasco-Lopez, F., Recuero Virto, N., Aldas Manzano, J., and Cruz Delgado, D. (2019). Facebook's power: factors influencing followers' visit intentions. *Spanish Journal of Marketing - ESIC*, 23(1), 95–117. https://doi.org/10.1108/SJME-06-2018-0032

Bogatyreva, K., and Shirokova, G. (2017). From Entrepreneurial Aspirations to Founding a Business: The Case of Russian Students. *Foresight and STI Governance*, 11(3), 25–36. https://doi.org/10.17323/2500-2597.2017.3.25.36

Bogatyreva, K., Edelman, L. F., Manolova, T. S., and Osiyevskyy, O. (2019). When do entrepreneurial intentions lead to actions? The role of national culture. *Journal of Business Research*, 96, 309–321.

Bosma, N., and Kelley, D. (2019). *Global entrepreneurship monitor 2018/2019 global report*.

Bowen, H. P., and De Clercq, D. (2008). Institutional context and the allocation of entrepreneurial effort. *Journal of International Business Studies*, 39(4), 747–767. https://doi.org/10.1057/palgrave.jibs.8400343

Bower, G. H. (1981). Mood and Memory. *American Psychologist*, 36(2), 129.

Bozer, G., Levin, L., and Santora, J. C. (2017). Succession in family business: multi-source perspectives. *Journal of Small Business and Enterprise Development*, 24(4), 753–774. https://doi.org/10.1108/JSBED-10-2016-0163

Brewerton, P. M., and Millward, L. J. (2001). *Organizational research methods: A guide for students and researchers*. Sage publications.

Calabrò, A., and Valentino, A. (2019). Step 2019 global family business survey - *The impact of changing demographics on family business succession planning and governance*.

Campopiano, G., Minola, T., and Sainaghi, R. (2016). Students climbing the entrepreneurial ladder: Family social capital and environment-related motives in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, forthcoming.

Cano, J. A., and Tabares, A. (2017). Determinants of university students' entrepreneurial intention: GUESSS Colombia study. *Revista Espacios*, 38(45), 22.

Cano, J. A., and Tabares, A. (2018). Personal and entrepreneurial characteristics of nascent and active entrepreneurs: GUESSS Colombia study [Características personales y empresariales de emprendedores nacientes y activos: Estudio GUESSS Colombia]. *Revista Espacios*, 39(34).

Cano, J. A., Tabares, A., and Alvarez, C. (2017). University students' career choice intentions: Guesss Colombia study. *Revista Espacios*, 38(5), 20.

Cardon, M. S., Foo, M. D., Shepherd, D., and Wiklund, J. (2012). Exploring the Heart: Entrepreneurial Emotion Is a Hot Topic. *Entrepreneurship Theory and Practice*, 36(1), 1–10. https://doi.org/10.1111/j.1540-6520.2011.00501.x

Carich, M. S., and Willingham, W. (1987). The roots of family systems theory in Individual Psychology. *Individual Psychology*, 43(1), 71–78.

Carr, J. C., and Sequeira, J. M. (2007). Prior family business exposure as intergenerational influence and entrepreneurial intent: A Theory of Planned Behavior approach. *Journal of Business Research*, 60(10), 1090–1098. https://doi.org/10.1016/j.jbusres.2006.12.016

Carr, J. C., and Sequeira, J. M. (2007). Prior family business exposure as intergenerational influence and entrepreneurial intent: A Theory of Planned Behavior approach. *Journal of Business Research*, 60(10), 1090–1098. https://doi.org/10.1016/j.jbusres.2006.12.016

Carraro, N., and Gaudreau, P. (2013). Spontaneous and experimentally induced action planning and coping planning for physical activity: A meta-analysis. *Psychology of Sport and Exercise*, 14(2), 228–248. https://doi.org/10.1016/j.psychsport.2012.10.004

Cavallo, A., Ghezzi, A., and Balocco, R. (2019). Entrepreneurial ecosystem research: present debates and future directions. *International Entrepreneurship and Management Journal*, 15(4), 1291–1321. https://doi.org/10.1007/s11365-018-0526-3

Chen, C. C., Greene, P. G., and Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers? *Journal of Business Venturing*, 13(4), 295–316. https://doi.org/10.1016/S0883-9026(97)00029-3

Chen, Y. M., and Su, C. T. (2014). Brand equity heterogeneity among strategic groups in service franchising. *Service Industries Journal*, 34(9/10), 867–884. https://doi.org/10.1080/02642069.2014.905924

Cheng, S., and Yuen, M. (2012). Validation of the career-related parent support scale among Chinese high school students. *Career Development Quarterly*, 60(4), 367–374. https://doi.org/10.1002/j.2161-0045.2012.00028.x

Chin, W. W. (1998). Issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1), 7–16.

Chin, W. W., and Dibbern, J. (2010). *A permutation-based procedure for multi-group PLS analysis: results of tests of differences on simulated data and a cross-cultural analysis of the sourcing of information system services between Germany and the USA*. In Springer (Ed.), Handbook of Partial Least Squares: concepts, methods and Applications (pp. 171–193).

Choukir, J., Aloulou, W. J., Ayadi, F., Mseddi, S., and Subaie, F. (2017). *Freshmen students' entrepreneurial intentions in the college of economics and administrative sciences (CEAS) at Al-Imam Mohammad bin saud islamic university (IMSIU)*. Proceedings of the 5th International Conference on Innovation and Entrepreneurship, ICIE 2017, January, 24–32.

Cialdini, R. B., and Trost, M. R. (1998). Social influence: Social norms, conformity, and compliance. In D. T. Gilbert, S. T. Fiske, and G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 151– 192). Boston: McGraw-Hill.

Clark, L., and Watson, D. (2016). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309–319.

Collins, L., Hannon, P. D., and Smith, A. (2004). Enacting entrepreneurial intent: The gaps between student needs and higher education capability. *Education and Training*, 46(8/9), 454–463. https://doi.org/10.1108/00400910410569579

Colombo, M. G., and Piva, E. (2020). Start-ups launched by recent STEM university graduates: The impact of university education on entrepreneurial entry. *Research Policy*, 49(6).

Conner, M., and Armitage, C. J. (1998). Extending the theory of planned behavior: A review and avenues for further research. *Journal of Applied Social Psychology,* 28(15), 1429-1464. https://doi.org/10.1111/j.1559-1816.1998.tb01685.x

Costin, Y., Dodd, S. D., Hynes, B., and Lichrou, M. (2013). From the zoo to the jungle-narrative pedagogies and enterprise education. *Industry and Higher Education*, 27(6), 421–432. https://doi.org/10.5367/ihe.2013.0178

Coulibaly, S. K., Erbao, C., and Mekongcho, T. M. (2018). Economic globalization, entrepreneurship, and development. *Technological Forecasting and Social Change*, 127, 271–280.

Crant, J. M. (1996). The Proactive Personality Scale as a Predictor of Entrepreneurial Intention. *Journal of Small Business Management*, 34, 42–49.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–337.

Cropanzano, R., and Mitchell, M. (2005). Social Exchange Theory: An Interdisciplinary Review. *Journal of Management*, 31(6), 874–900. https://doi.org/10.1177/0149206305279602

Daspit, J. J., Holt, D. T., Chrisman, J. J., and Long, R. G. (2016). Examining Family Firm Succession From a Social Exchange Perspective: A Multiphase, Multistakeholder Review. *Family Business Review*, 29(1), 44–64. https://doi.org/10.1177/0894486515599688

Davidsson, P., and Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18(3), 301–331.

Davidsson, P., and Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18(3), 301–333.

Davis, J. H., Allen, M. R., and Hayes, H. D. (2010). Is blood thicker than water? A study of stewardship perceptions in family business, 34(6), 1093–1116. https://doi.org/10.1111/j.1540-6520.2010.00415.x

Dawson, A, Irving, P. G., Sharma, P., Chirico, F., and Marcus, J. (2014). Behavioural outcomes of next-generation family members' commitment to their firm. *European Journal of Work and Organizational Psychology*, 23(4), 570–581. https://doi.org/10.1080/1359432X.2013.781155

Dawson, A, Sharma, P., and Irving, P. G. (2015). Predictors of Later Generation Family Members' Commitment to Family Enterprises. *Entrepreneurship Theory and Practice*, 39(3), 545–569. https://doi.org/10.1111/etap.12052

Dawson, A, Sharma, P., Irving, P. G., Marcus, J., and Chirico, F. (2015). Predictors of Later Generation Family Members' Commitment to Family Enterprises. *Entrepreneurship Theory and Practice*, 39(3), 545–569. https://doi.org/10.1111/etap.12052

Dawson, A., Irving, P. G., Sharma, P., Chirico, F., and Marcus, J. (2014). Behavioural outcomes of next-generation family members' commitment to their firm. *European Journal of Work and Organizational Psychology*, 23(4), 570-581.

Dawson, A., Sharma, P., Irving, P. G., Marcus, J., and Chirico, F. (2015). Predictors of Later Generation Family Members' Commitment to Family Enterprises. *Entrepreneurship Theory and Practice*, 39(3), 545–569. https://doi.org/10.1111/etap.12052

De Massis, A., Sieger, P., Chua, J. H., and Vismara, S. (2016). Incumbents' Attitude Toward Intrafamily Succession: An Investigation of Its Antecedents. *Family Business Review*, 29(3), 278–300. https://doi.org/10.1177/0894486516656276

De Noble, A. F., Jung, D., and Ehrlich, B. (1999). Entrepreneurial self-efficacy: the development of a measure and its relationship to entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice*, 18(4), 63–77.

De Nooy, W., Mrvar, A., and Batagelj, V. (2005). *Exploratory social network analysis with Pajek*. In search.proquest.com. Cambridge University Press.

Denyer, D., and Tranfield, D. (2009). *Producing a systematic review*. In The Sage Handbook of Organizational Research Methods (pp. 671–689). Sage Publications.

DeTienne, D. R., and Chandler, G. N. (2004). Opportunity Identification and Its Role in the Entrepreneurial Classroom: A Pedagogical Approach and Empirical Test. *Academy of Management Learning and Education*, 3(3), 242–257. https://doi.org/10.5465/amle.2004.14242103

Dhaenens, A. J., Marler, L. E., Vardaman, J. M., and Chrisman, J. J. (2018). Human Resource Management Review Mentoring in family businesses: Toward an understanding of commitment outcomes. *Human Resource Management Review*, 28(1), 46–55. https://doi.org/10.1016/j.hrmr.2017.05.005

Díaz-Casero, J. C., Fernández-Portillo, A., Sánchez-Escobedo, M. C., and Hernández-Mogollón, R. (2017). *The Influence of University Context on Entrepreneurial Intentions*. In C. Springer (Ed.), Entrepreneurial Universities (pp. 65–81). https://doi.org/10.1007/978-3-319-47949-1_5

Dimov, D. (2017). Towards a qualitative understanding of human capital in entrepreneurship research. *International Journal of Entrepreneurial Behavior and Research*, 23(2), 210–227. https://doi.org/10.1108/IJEBR-01-2016-0016

Ding, Y., Chowdhury, G. G., and Foo, S. (2001). Bibliometric cartography of information retrieval research by using co-word analysis. *Information Processing and Management*, 37(6), 817–842.

Diochon, M., Gasse, Y., Menzies, T. V, and Garand, D. J. (2002). *Attitudes and entrepreneurial action: exploring the link12*. Administrative Sciences Association of Canada.

Diodato, V. P., and Gellatly, P. (2013). *Dictionary of bibliometrics* (Routledge (ed.)).

do Paço, A. M. F., Ferreira, J. M., Raposo, M., Rodrigues, R. G., and Dinis, A. (2011). Behaviours and entrepreneurial intention: Empirical findings about secondary students. *Journal of International Entrepreneurship*, 9(1), 20–38. https://doi.org/10.1007/s10843-010-0071-9

Edelman, L. F., Manolova, T., Shirokova, G., and Tsukanova, T. (2016). The impact of family support on young entrepreneurs' start-up activities. *Journal of Business Venturing*, 31(4), 428-448.

Edelman, L. F., Manolova, T., Shirokova, G., and Tsukanova, T. (2016). The impact of family support on young entrepreneurs' start-up activities. *Journal of Business Venturing*, 31(4), 428–448. https://doi.org/10.1016/j.jbusvent.2016.04.003

Edelman, L. F., Manolova, T., Shirokova, G., and Tsukanova, T. V. (2020). Context matters: The importance of university and family for young nascent entrepreneurs. *Российский Журнал Менеджмента*, 18(2), 127–154. https://doi.org/10.21638/spbu18.2020.201

Egger, E., Dimitrova, M., and Misoska, A. T. (2019). *Entrepreneurial Intentions of Students in Relation to Family Business Experience: Evidence from Macedonia and Slovenia*. Book proceedings.

Eid, R., Badewi, A., Selim, H., and El-Gohary, H. (2019). Integrating and extending competing intention models to understand the entrepreneurial intention of senior university students. *Education and Training*, 61(2), 234–254. https://doi.org/10.1108/ET-02-2018-0030

Emerson, R. M. (1976). Social Exchange Theory. *Annual Review of Sociology*, 2(1), 335–362. https://doi.org/10.1146/annurev.so.02.080176.002003

Ensher, E. A., Thomas, C., and Murphy, S. E. (2001). Comparison of traditional, step-ahead, and peer mentoring on protégés' support, satisfaction, and perceptions of career success: A social exchange perspective. *Journal of Business and Psychology*, 15(3), 419–438. https://doi.org/10.1023/A:1007870600459

Entrialgo, M., and Iglesias, V. (2016). The moderating role of entrepreneurship education on the antecedents of entrepreneurial intention. *International Entrepreneurship and Management Journal*, 12(4), 1209–1232. https://doi.org/10.1007/s11365-016-0389-4

Etzkowitz, H., Webster, A., Gebhardt, C., and Terra, B. R. C. (2000). The future of the university and the university of the future: evolution of ivory tower to entrepreneurial paradigm. *Research Policy*, 29(2), 313–330.

Falck, O., Heblich, S., and Luedemann, E. (2012). Identity and entrepreneurship: do school peers shape entrepreneurial intentions? *Small Business Economics*, 39(1), 39–59. https://doi.org/10.1007/s11187-010-9292-5

Falk, R. ., and Miller, N. B. (1992). *A primer for soft modeling*. University of Akron Press.

Farashah, A. (2013). The process of impact of entrepreneurship education and training on entrepreneurship perception and intention: study of educational system of Iran, *Education and Training*, 55(8/9), 868-885.

Farrukh, M., Khan, A. A., Shahid Khan, M., Ravan Ramzani, S., and Soladoye, B. S. A. (2017). Entrepreneurial intentions: the role of family factors, personality traits and self-efficacy. *World Journal of Entrepreneurship, Management and Sustainable Development*, 13(4), 303–317. https://doi.org/10.1108/wjemsd-03-2017-0018

Fayolle, A., and DeGeorge, J. M. (2006). Attitudes, intentions, and behaviour: New approaches to evaluating entrepreneurship education. *International Entrepreneurship Education. Issues and Newness*, 74–89.

Fayolle, A., and Liñán, F. (2014). The Future of Research on Entrepreneurial Intentions. *Journal of Business Research*, 67(5), 663–666.

Fayolle, A., and Gailly, B. (2015). The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence. *Journal of Small Business Management*, 53(1), 75–93. https://doi.org/10.1111/jsbm.12065

Fayolle, A., Gailly, B., and Lassas-Clerc, N. (2006). Effect and counter-effect of entrepreneurship education and social context on student's intentions. *Estudios de Economía Aplicada*, 24(2), 509–524.

Fayolle, A., Gailly, B., and Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programmes: A new methodology. *Journal of European Industrial Training*, 30(9), 701–720. https://doi.org/10.1108/03090590610715022

Fayolle, A., Liñán, F., Moriano, J. A., Liñán, F., and Moriano, J. A. (2014). Beyond entrepreneurial intentions: values and motivations in entrepreneurship. *International Entrepreneurship and Management Journal*, 10(4), 679–689. https://doi.org/10.1007/s11365-014-0306-7

Feder, E. S., and Nitu-Antonie, R. D. (2017). Connecting gender identity, entrepreneurial training, role models and intentions. *International Journal of Gender and Entrepreneurship*, 9(1), 87–108. https://doi.org/10.1108/IJGE-08-2016-0028

Feola, R, Vesci, M., Botti, A., and Parente, R. (2019). The Determinants of Entrepreneurial Intention of Young Researchers: Combining the Theory of Planned Behavior with the Triple Helix Model. *Journal of Small Business Management*, 57(4), 1424–1443. https://doi.org/10.1111/jsbm.12361

Fernánez-Pérez, V., and Montes-Merino, A. (2019). Emotional competencies and cognitive antecedents in shaping students' entrepreneurial intention: the moderating role of entrepreneurship education. *International Entrepreneurship and Management Journal*, 15(1), 281–305. https://doi.org/10.1007/s11365-017-0438-7

Fiore, E., Sansone, G., and Paolucci, E. (2019). Entrepreneurship Education in a Multidisciplinary Environment: Evidence from an Entrepreneurship Programme Held in Turin. *Administrative Sciences*, 9(1), 28. https://doi.org/10.3390/admsci9010028

Fischer, B., Guerrero, M., Guimón, J., and Schaeffer, P. R. (2020). Knowledge transfer for frugal innovation: where do entrepreneurial universities stand? *Journal of Knowledge Management*. https://doi.org/10.1108/JKM-01-2020-0040

Fishbein, M., and Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research* (Addison-Wesley (ed.)).

Fishbein, M., and Ajzen, I. (2010). *Prediction and change of behavior: The reasoned action approach* (Psychology Press (ed.)).

Fitzsimmons, J. R., and Douglas, E. J. (2011). Interaction between feasibility and desirability in the formation of entrepreneurial intentions. *Journal of Business Venturing*, 26(4), 431–440. https://doi.org/10.3389/fpsyg.2019.00916

Florin, J., Karri, R., and Rossiter, N. (2007). Fostering entrepreneurial drive in business education: An attitudinal approach. *Journal of Management Education*, 31(1), 17–42. https://doi.org/10.1177/1052562905282023

Florin, J., Lubatkin, M., and Schulze, W. (2003). A Social Capital Model of High-Growth Ventures. *Academy of Management Journal*, 46(3), 374–384. https://doi.org/10.5465/30040630

Fornell, C., and Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39–50. https://doi.org/10.1177/002224378101800104

Franke, N., and Lüthje, C. (2004). Entrepreneurial Intentions of Business Students: A Benchmarking Study. *International Journal of Innovation and Technology Management*, 1(3), 269–288. https://doi.org/10.1142/S0219877004000209

Frese, M. (2009). Toward a Psychology of Entrepreneurship-An Action Theory Perspective. *Foundations and Trends in Entrepreneurship*, 5(6), 435–494. https://doi.org/10.1561/0300000028

Frese, M., and Gielnik, M. M. (2014). The Psychology of Entrepreneurship. *Annual Review of Organizational Psychology and Organizational Behavior*, 1(1), 413–438. https://doi.org/10.1146/annurev-orgpsych-031413-091326

Frese, M., and Zapf, D. (1994). Action as the core of work psychology: A German approach. *Handbook of Industrial and Organizational Psychology*, 4(2), 271–340.

Frese, M., Unger, J. M., and Friedrich, C. (2007). Business Owners' Action Planning and Its Relationship to Business Success in Three African Countries. *Journal of Applied Psychology*, 92(6), 1481–1498. https://doi.org/10.1037/0021-9010.92.6.1481

Gagné, M., Marwick, C., Brun de Pontet, S., and Wrosch, C. (2019). Family Business Succession: What's Motivation Got to Do With It? *Family Business Review*, 1–14. https://doi.org/10.1177/0894486519894759

Gal, P., Holienka, M., and Holienkova, J. (2019). *Decision-Making of Student Entrepreneurs: Positive, Creative, Fast, and Simultaneously Wise*. 2Nd International Conference on Decision Making for Small and Medium-Sized Enterprises (Demsme 2019), 88–95.

Galloway, L., and Brown, W. (2002). Entrepreneurship education at university: A driver in the creation of high growth firms? *Education and Training*, 44(8/9), 398–405. https://doi.org/10.1108/00400910210449231

Galvão, A., Ferreira, J. J., and Marques, C. (2018a). Entrepreneurship education and training as facilitators of regional development: A systematic literature review. Journal of Small Business and Enterprise Development, 25(1), 17–40. https://doi.org/10.1108/JSBED-05-2017-0178

Galvão, A., Marques, C. S., and Marques, C. P. (2018b). Antecedents of entrepreneurial intentions among students in vocational training programmes. Education and Training, 60(7–8), 719–734. https://doi.org/10.1108/ET-03-2017-0034

Garcia, P. R. J. M., Sharma, P., De Massis, A., Wright, M., and Scholes, L. (2019). Perceived parental behaviors and next-generation engagement in family firms: A social cognitive perspective. *Entrepreneurship: Theory and Practice*, 43(2), 224–243. https://doi.org/10.1177/1042258718796087

García-Rodríguez, F. J., Gil-Soto, E., Ruiz-Rosa, I., and Gutiérrez-Taño, D. (2017). Entrepreneurial process in peripheral regions: the role of motivation and culture. *European Planning Studies*, 25(11), 2037–2056. https://doi.org/10.1080/09654313.2016.1262827

García-Rodríguez, F. J., Ruiz-Rosa, I., Gutiérrez-Taño, D., and Gil-Soto, E. (2020). Entrepreneurial intentions in the context of a collectivist economy: a comparison between Cuba and Spain. *International Entrepreneurship and Management Journal*, 1–19. https://doi.org/10.1007/s11365-020-00686-7

Gartner, W. B., Shaver, K. G., Gatewood, E., and Katz, J. A. (1994). Finding the Entrepreneur in Entrepreneurship. *Entrepreneurship Theory and Practice*, 18(3), 5–9. https://doi.org/10.1177/104225879401800301

Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika*, 61(1), 101–107.

Geissler, M. (2013). *Determinanten des Vorgründungsprozesses* (Springer Fachmedien Wiesbaden (ed.)).

George, J. M., and Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: an interactional approach. *Journal of Applied Psychology*, 86(3), 513–524.

Gianiodis, P. T., and Meek, W. R. (2020). Entrepreneurial education for the entrepreneurial university: a stakeholder perspective. *Journal of Technology Transfer*, 45(4), 1167–1195. https://doi.org/10.1007/s10961-019-09742-z

Gibb, A.A. (2002). In pursuit of a new 'enterprise' and 'entrepreneurship' paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge, *International Journal of Management Review*, 4(3), 233-269.

Gibb, A., and Hannon, P. (2006). Towards the Entrepreneurial University? *International Journal of Entrepreneurship Education*, 4(1), 73–110.

Gielnik, M. M., Barabas, S., Frese, M., Namatovu-Dawa, R., Scholz, F. A., Metzger, J. R., and Walter, T. (2014). A temporal analysis of how entrepreneurial goal intentions, positive fantasies, and action planning affect starting a new venture and when the effects wear off. *Journal of Business Venturing*, 29(6), 755–772.

Gielnik, M. M., Barabas, S., Frese, M., Namatovu-Dawa, R., Scholz, F. A., Metzger, J. R., and Walter, T. (2014). A temporal analysis of how entrepreneurial goal intentions, positive fantasies, and action planning affect starting a new venture and when the effects wear off. *Journal of Business Venturing*, 29(6), 755–772.

Gielnik, M. M., Uy, M. A., Funken, R., and Bischoff, K. M. (2017). Boosting and sustaining passion: A long-term perspective on the effects of entrepreneurship training. *Journal of Business Venturing*, 32(3), 334–353.

Gieure, C., Benavides-Espinosa, M. M., and Roig-Dobón, S. (2019). Entrepreneurial intentions in an international university environment. *International Journal of Entrepreneurial Behaviour and Research*, 25(8), 1605–1620. https://doi.org/10.1108/IJEBR-12-2018-0810

Gieure, C., del Mar Benavides-Espinosa, M., and Roig-Dobón, S. (2020). The entrepreneurial process: The link between intentions and behavior. *Journal of Business Research* , 112, 541–548.

Gillanders, R., Lyons, R., and van der Werff, L. (2020). Social sexual behaviour and co-worker trust in start-up enterprises. *Small Business Economics*, 1-16.

Gimenez Jimenez, D. A., Calabrò, A., Edelman, L. F., Minola, T., and Cassia, L. (2018). The impact of affective commitment and in-group-collectivism on daughters' succession intentions. *Academy of Management Proceedings*, 2018(1), 17353. https://doi.org/10.5465/AMBPP.2018.223

Global University Entrepreneurial Spirit Students' Survey. (2020). *Data collections*. Global University Entrepreneurial Spirit Students' Survey. https://www.guesssurvey.org/datacollections/

Gollwitzer, P. M. (1990). Action phases and mind-sets. Handbook of motivation and cognition: *Foundations of Social Behavior*, 2, 53-92.

Gollwitzer, P. M. (1993). Goal Achievement: The Role of Intentions. *European Review of Social Psychology*, 4(1), 141–185. https://doi.org/10.1080/14792779343000059

Gollwitzer, P. M. (1999). Implementation intentions: Strong effects of simple plans. *American Psychologist*, 54(7), 493–503. https://doi.org/10.1037/0003-066X.54.7.493

Gollwitzer, P. M., and Brandstatter, V. (1997). Implementation Intentions and Effective Goal Pursuit. *Journal of Personality and Social Psychology*, 73(1), 186–199.

Gollwitzer, P. M., and Sheeran, P. (2006). Implementation intentions and goal achievement: A meta-analysis of effects and processes. *Advances in Experimental Social Psychology*, 38, 69–119.

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25, 161–178.

Greene, F. J., and Saridakis, G. (2008). The role of higher education skills and support in graduate self-employment. *Studies in Higher Education*, 33(6), 653–672. https://doi.org/10.1080/03075070802457082

Gubik, A. S., and Bartha, Z. (2018). The role of university in influencing the entrepreneurial intention of university students. *International Entrepreneurship*, 4(3), 177–188.

Gubik, A. S., and Farkas, S. (2016). Student Entrepreneurship in Hungary: Selected Results Based on GUESSS Survey. *Entrepreneurial Business and Economics Review*, 4(4), 123.

Gubik, A. S., and Farkas, S. (2020). Entrepreneurial Intention in the Visegrad Countries. *Danube*, 10(4), 347–368. https://doi.org/10.2478/danb-2019-0018

Guerrero, M., Cunningham, J. A., and Urbano, D. (2015). Economic impact of entrepreneurial universities' activities: An exploratory study of the United Kingdom. *Research Policy*, 44(3), 748–764. https://doi.org/10.1016/j.respol.2014.10.008

Guerrero, M., Rialp, J., and Urbano, D. (2008). The impact of desirability and feasibility on entrepreneurial intentions: A structural equation model. *International Entrepreneurship and Management Journal*, 4(1), 35–50. https://doi.org/10.1007/s11365-006-0032-x

Gupta, B., and Bhattacharya, S. (2004). Bibliometric approach towards mapping the dynamics of science and technology. *DESIDOC Journal of Library and Information Technology*, 24(1), 3–8.

Hahn, D. (2020). The psychological well-being of student entrepreneurs: a social identity perspective. *International Entrepreneurship and Management Journal*, 16(2), 467–499. https://doi.org/10.1007/s11365-019-00607-3

Hahn, D., Minola, T., Bosio, G., and Cassia, L. (2019). The impact of entrepreneurship education on university students' entrepreneurial skills: a family embeddedness perspective. *Small Business Economics*, 1–26. https://doi.org/10.1007/s11187-019-00143-y

Hahn, D., Minola, T., Van Gils, A., and Huybrechts, J. (2017). Entrepreneurial education and learning at universities: exploring multilevel contingencies. *Entrepreneurship and Regional Development*, 29(9–10), 945–974. https://doi.org/10.1080/08985626.2017.1376542

Hair, J. F., Hult, G. T. M., Ringle, C. M., and Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. In Sage publications (Ed.), International Journal of Research and Method in Education (Issue 2). Sage publications. https://doi.org/10.1080/1743727x.2015.1005806

Hair, J. F., Ringle, C. M., and Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–152. https://doi.org/10.2753/MTP1069-6679190202

Hair, J. F., Sarstedt, M., Hopkins, L., and Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. https://doi.org/10.1108/EBR-10-2013-0128

Handler, W. C. (1990). Succession in Family Firms: A Mutual Role Adjustment between Entrepreneur and Next-generation Family Members. *Entrepreneurship Theory and Practice*, 15(1), 37–52. https://doi.org/10.1177/104225879001500105

Hart, C. (2018). *Doing a literature review: Releasing the research imagination*. Sage Publications.

Harzing, A. W., and Alakangas, S. (2016). Google Scholar, Scopus and the Web of Science: a longitudinal and cross-disciplinary comparison. *Scientometrics*, 106(2), 787–804. https://doi.org/10.1007/s11192-015-1798-9

Hasan, S. M., Khan, E. A., and Nabi, M. N. U. (2017). Entrepreneurial education at university level and entrepreneurship development. *Education and Training*, 59(7–8), 888–906. https://doi.org/10.1108/ET-01-2016-0020

Hase, H., and Lautenschlager, A. (2011). Career choice motivations of university students. *International Journal of Business Administration*, 2(1), 2–13. https://doi.org/10.5430/ijba.v2n1p2

Hayton, J. C., George, G., and Zahra, S. A. (2002). National Culture and Entrepreneurship : A Review of Behavioral Research. *Entrepreneurship Theory and Practice*, 26(4), 33–52. https://doi.org/10.1177/104225870202600403

Helgeson, J. G., Kluge, E. A., and Mager, J. (1984). Trends in consumer behavior literature: A content analysis. *Journal of Consumer Research*, 10(4), 449–454.

Henry, C., and Lewis, K. (2018). A review of entrepreneurship education research: Exploring the contribution of the Education and Training special issues. *Education and Training*, 60(3), 263–286. https://doi.org/10.1108/ET-12-2017-0189

Henseler, J., Hubona, G., and Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. *Industrial Management and Data Systems*.

Henseler, J., Ringle, C. M., and Sarstedt, M. (2016). Testing measurement invariance of composites using partial least squares. *International Marketing Review*, 33(3), 405–431. https://doi.org/10.1108/IMR-09-2014-0304

Henseler, J., Ringle, C. M., and Sinkovics, R. R. (2009). The Use of Partial Least Squares Path Modeling in International Marketing ADANCO View project Application of Partial Least Squares-Structural Equation Modeling (PLS-SEM) in Tourism and Hospitality Research View project. *Advances in International Marketing*, 20, 277–319. https://doi.org/10.1108/S1474-7979(2009)0000020014

Hindle, K. (2004). A practical strategy for discovering, evaluating, and exploiting entrepreneurial opportunities: research-based action guidelines, *Journal of Small Business and Entrepreneurship*, 17(4), 267-276.

Hmieleski, K., and Baron, R. (2009). Entrepreneurs' optimism and new venture performance: A social cognitive perspective. *Academy of Management Journal*, 52(3), 473–488. https://doi.org/10.5465/AMJ.2009.41330755

Hofstede, G. (2001). *Culture's Consequences: Comparing values, behaviors, institutions, and organizations across nations*. In Sage publications (Ed.), search.proquest.com.

Hofstede, G. H., and Hofstede, G. J. (2005). *Cultures and organizations: Software of the mind* (Mcgraw-hill (ed.)).

Hofstede, G., and Bond, M. H. (1988). The Confucius connection: From cultural roots to economic growth. *Organizational Dynamics*, 16(4), 5–21.

Holienka, M., Gal, P., and Kovacicova, Z. (2017). Drivers of student entrepreneurship in visegrad four countries: Guesss evidence. *Central European Business Review*, 6(2), 54–63.

Holienka, M., Gál, P., and Kovačičová, Z. (2017). Understanding Student Entrepreneurs: Doers, Procrastinators, Dreamers, and Abstainers. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 65(6), 1935–1944. https://doi.org/10.11118/actaun201765061935

Holienka, M., Gal, P., and Kovacicova, Z. (2017). What Drives Student Entrepreneurs? Guesss Evidence From V4 Countries. Innovation Management, Entrepreneurship and *Sustainability*, 304–313.

House, R. J., Hanges, P. J., Javidan, M., and Dorfman, P. W. (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies* (Sage publications (ed.)).

Hu, L.T., & Bentler, P. M. (1998). Fit indices in covariance structure modelling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, 3(4), 424–453. https://doi.org/10.1037/1082-989X.3.4.424

Huggins, R., and Thompson, P. (2015). Entrepreneurship, innovation and regional growth: a network theory. *Small Business Economics*, 45(1), 103–128. https://doi.org/10.1007/s11187-015-9643-3

Iazzolino, G., Coniglio, I. M., Verteramo, S., and Giglio, C. (2019). University students and entrepreneurship: An empirical analysis on italian universities. *Journal of Entrepreneurship Education*, 22(5), 1–16.

Ircingova, J., Martincik, D., and Vacek, J. (2016). Evaluation of Students ' Entrepreneurial Spirit Survey through a Structural Equation Model. 205–212.

Isenberg, D. (2011). The entrepreneurship ecosystem strategy as a new paradigm for economic policy: Principles for cultivating entrepreneurship. In Institute of International European Affairs. (Ed.), Presentation at the Institute of International and European Affairs (Vol. 1, Issue 13). *Institute of International European Affairs*. https://doi.org/10.1177/1473871611412817

Israr, M., and Saleem, M. (2018). Entrepreneurial intentions among university students in Italy. *Journal of Global Entrepreneurship Research*, 8(1), 20. https://doi.org/10.1186/s40497-018-0107-5

Iversen, J., Malchow-Moller, N., and Sorensen, A. (2016). Success in entrepreneurship: a complementarity between schooling and wage-work experience. *Small Business Economics*, 47(2), 437–460. https://doi.org/10.1007/s11187-016-9732-y

Jacob, M., Lundqvist, M., and Hellsmark, H. (2003). Entrepreneurial transformations in the Swedish University system: the case of Chalmers University of Technology. *Research Policy*, 32(9), 1555–1568.

Janjuha-Jivraj, S., and Spence, L. J. (2009). The Nature of Reciprocity in Family Firm. *International Small Business Journal*, 27(6), 702–719. https://doi.org/10.1177/0266242609344252

Jansen, S., Van de Zande, T., and Brinkkemper, S. (2015). How education, stimulation, and incubation encourage student entrepreneurship: Observations from MIT, IIIT, and Utrecht University. *The International Journal of Management Education*, 13(2), 170–181.

Johannisson, B., 1991. University training for entrepreneurship: a Swedish approach. *Entrepreneurship and Regional Development*, 3 (1), 67–82.

Karimi, S., Biemans, H. J. A., Lans, T., Chizari, M., and Mulder, M. (2016). The Impact of Entrepreneurship Education: A Study of Iranian Students' Entrepreneurial Intentions and Opportunity Identification. *Journal of Small Business Management*, 54(1), 187–209. https://doi.org/10.1111/jsbm.12137

Karimi, S., Biemans, H. J., Lans, T., Chizari, M., Mulder, M., and Mahdei, K. N. (2013). Understanding role models and gender influences on entrepreneurial intentions among college students. *Procedia-Social and Behavioral Sciences*, 93, 204–214.

Karlsson, T., and Moberg, K. (2013). Improving perceived entrepreneurial abilities through education: Exploratory testing of an entrepreneurial self efficacy scale in a pre-post setting. *The International Journal of Management Education*, 11(1), 1–11.

Kautonen, T., van Gelderen, M., and Tornikoski, E. T. (2013). Predicting entrepreneurial behaviour: A test of the theory of planned behaviour. *Applied Economics*, 45(6), 697–707. https://doi.org/10.1080/00036846.2011.610750

Kautonen, T., Van Gelderen, M., and Fink, M. (2015). Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice*, 39(3), 655–674.

Kelly, L. M., Athanassiou, N., and Crittenden, W. F. (2000). Founder Centrality and Strategic Behavior in the Family-Owned Firm. *Entrepreneurship Theory and Practice*, 25(2), 27–42. https://doi.org/10.1177/104225870002500202

Kibler, E., and Kautonen, T. (2014). The moral legitimacy of entrepreneurs: An analysis of early-stage entrepreneurship across 26 countries. *International Small Business Journal*, 34(1), 34–50. https://doi.org/10.1177/0266242614541844

Kim, P. H., Aldrich, H. E., and Keister, L. A. (2006). Access (Not) Denied: The Impact of Financial, Human, and Cultural Capital on Entrepreneurial Entry in the United States*. *Small Business Economics*, 27(1), 5–22. https://doi.org/10.1007/s11187-006-0007-x

Klofsten, M. (2000). Training entrepreneurship at universities: A Swedish case. *Journal of European Industrial Training*, 24(6), 337–344. https://doi.org/10.1108/03090590010373325

Klofsten, M., Fayolle, A., Guerrero, M., and Mian, S. (2019). The entrepreneurial university as driver for economic growth and social change-Key strategic challenges. *Technological Forecasting and Social Change*, 141, 149–158.

Knatko, D., Shirokova, G., and Bogatyreva, K. (2016). Industry choice by young entrepreneurs in different country settings: the role of human and financial capital. *Journal of Business Economics and Management*, 17(4), 613–627. https://doi.org/10.3846/16111699.2015.1113199

Kolvereid, L., and Moen, O. (1997). Entrepreneurship among business graduates: does a major in entrepreneurship make a difference? *Journal of European Industrial Training*, 21(4), 154–160. https://doi.org/10.1108/03090599710171404

Kota, H. B., and Singh, R. (2016). Comparative analysis of family businesses with non-family businesses: Empirical evidence from India. *Serbian Journal of Management*, 11(1), 29–41. https://doi.org/10.5937/sjm11-9165

Kovacs, N., and Reisinger, A. (2014). A survey of the influential factors of students' entrepreneurial career choice expectations. *Társadalomkutatás*, 32(3), 278–294.

Krueger Jr, N. F., Reilly, M. D., and Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5/6), 411–432. https://doi.org/10.1111/etap.12087

Krueger, N. (1993). The Impact of Prior Entrepreneurial Exposure on Perceptions of New Venture Feasibility and Desirability. *Entrepreneurship Theory and Practice*, 18(1), 5–21. https://doi.org/10.1177/104225879301800101

Krueger, N. F. (2017). Is Research on Entrepreneurial Intentions Growing? Or…Just Getting Bigger? In and A. L. C. M. Brännback (Ed.), *Revisiting the entrepreneurial mind* (pp. 35–40). Springer. https://doi.org/10.1007/978-3-319-45544-0_3

Krueger, N. F. (2019). Entrepreneurial Intentions Are Dead: Long Live Entrepreneurial Intentions. In A. L. Carsrud and M. Brännback (Ed.), Understanding the Entrepreneurial Mind (pp. 51–72). Springer. https://doi.org/10.1007/978-3-319-45544-0_2

Krueger, N. F., Reilly, M. D., and Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(6), 411–432.

Krueger, N. F., Reilly, M. D., and Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5/6), 411–432.

Kubberod, E., and Pettersen, I. B. (2017). Exploring situated ambiguity in students' entrepreneurial learning. *Education and Training*, 59(3), 265–279. https://doi.org/10.1108/ET-04-2016-0076

Kuehn, K. W. (2008). Entrepreneurial intentions research: Implications for entrepreneurship education. *Journal of Entrepreneurship Education*, 11, 87–98.

Kwong, C., and Thompson, P. (2016). The When and Why: Student Entrepreneurial Aspirations. *Journal of Small Business Management*, 54(1), 299–318. https://doi.org/10.1111/jsbm.12146

Laguía-González, A., Jaén, I., Topa, G., and Moriano, J. (2019). University environment and entrepreneurial intention: the mediating role of the components of the theory of planned behaviour / El entorno universitario y la intención emprendedora: el papel mediador de los componentes de la teoría de la acción planificad. *Revista de Psicología Social*, 34(1), 137–167. https://doi.org/10.1080/02134748.2018.1542789

Lamr, M., and Antlova, K. (n.d.). Gathering the Hidden Dependencies in Student Entrepreneurship Data.

Lanero, A., Vázquez, J. L., and Aza, C. L. (2016). Social cognitive determinants of entrepreneurial career choice in university students. *International Small Business Journal:*

Researching Entrepreneurship, 34(8), 1053–1075. https://doi.org/10.1177/0266242615612882

Laspita, S., Breugst, N., Heblich, S., and Patzelt, H. (2012). Intergenerational transmission of entrepreneurial intentions. *Journal of Business Venturing*, 27(4), 414–435.

Latham, G. P. (2016). Goal setting: A possible theoretical framework for examining the effect of priming goals on organizational behavior. *Current Opinion in Psychology*, 12, 85–88.

LeCounte, J. F. (2020). Founder-CEOs: Succession planning for the success, growth, and legacy of family firms. *Journal of Small Business Management*, 1–18. https://doi.org/10.1080/00472778.2020.1725814

Lee, S.M. and Peterson, S.J. (2000). Culture, entrepreneurial orientation, and global competitiveness, *Journal of World Business*, 35(4), 401-416.

Lee, L., Wong, P. K., Der Foo, M., and Leung, A. (2011). Entrepreneurial intentions: The influence of organizational and individual factors. *Journal of Business Venturing*, 26(1), 124–136.

Levenson, H. (1973). Levenson Multidimensional Locus of Control Scales. *Journal of Consulting and Clinical Psychology*, 41, 397–404.

Levine-Clark, M., and Gil, E. (2009). A comparative analysis of social sciences citation tools. *Online Information Review*, 33(5), 986–996. https://doi.org/10.1108/14684520911001954

Li, W. (2007). Ethnic entrepreneurship: studying Chinese and Indian students in the United States. *Journal of Developmental Entrepreneurship*, 12(4), 449–466.

Lima, E, Lopes, R. M., Nassif, V., and da Silva, D. (2015). Opportunities to Improve Entrepreneurship Education: Contributions Considering Brazilian Challenges. *Journal of Small Business Management*, 53(4), 1033–1051. https://doi.org/10.1111/jsbm.12110

Lima, E., Lopes, R. M., Nassif, V., and da Silva, D. (2015). Opportunities to Improve Entrepreneurship Education: Contributions Considering Brazilian Challenges. *Journal of Small Business Management*, 53(4), 1033–1051. https://doi.org/10.1111/jsbm.12110

Lin, S., Rogoff, E. G., Foo, C. T., and Liu, X. (2015). The effect of entrepreneurial context on the performance of new ventures. *Chinese Management Studies*, 9(2), 197–220. https://doi.org/10.1108/CMS-12-2013-0225

Liñán, F., and Fayolle, A. (2015). A systematic literature review on entrepreneurial intentions: citation, thematic analyses, and research agenda. *International Entrepreneurship and Management Journal*, 11(4), 907–933. https://doi.org/10.1007/s11365-015-0356-5

Liñán, F., and Chen, Y. (2009a). Application of a Specific Instrument to Measure Entrepreneurial Intentions. *Entrepreneurship: Theory and Practice*, 33(3), 593–617.

Liñán, F., and Chen, Y. W. (2009b). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship: Theory and Practice*, 33(3), 593–617. https://doi.org/10.1111/j.1540-6520.2009.00318.x

Liñán, F., Carlos Rodríguez-Cohard, J., Rueda-Cantuche, J. M., Liñán, F., Rodríguez-Cohard, J. C., and Rueda-Cantuche, J. M. (2011). Factors affecting entrepreneurial intention levels: a role for education. *International Entrepreneurship and Management Journal*, 7(2), 195–218. https://doi.org/10.1007/s11365-010-0154-z

Liñán, F., Moriano, J. A., and Jaén, I. (2016). Individualism and entrepreneurship: Does the pattern depend on the social context? *International Small Business Journal*, 34(6), 760–776. https://doi.org/10.1177/0266242615584646

Ljubotina, P., and Vadnjal, J. (2018). Family Business Succession: Does Experience Gained in Family Firm Really Count? *Management*, 13(4), 301–322.

Ljubotina, P., Gomezelj-Omerzel, D., and Vadnjal, J. (2018). Succeeding a family business in a transition economy: Following business goals or do it in my own way? *Serbian Journal of Management*, 13(1), 29–46. https://doi.org/10.5937/sjm13-14474

Locke, E. A., and Latham, G. P. (1990). *A theory of goal setting and task performance* (Prentice-Hall (ed.)). Prentice-Hall.

Locke, E. A., and Latham, G. P. (2002). Building a Practically Useful Theory of Goal Setting and Task Motivation A 35-Year Odyssey. *American Psychologist*, 57(9), 705–717. https://doi.org/10.1037/0003-066X.57.9.705

Looi, K. H., and Khoo-Lattimore, C. (2015). Undergraduate students' entrepreneurial intention: Born or made? *International Journal of Entrepreneurship and Small Business*, 26(1), 1–20. https://doi.org/10.1504/IJESB.2015.071317

Lopez, T., and Alvarez, C. (2019). Influence of university-related factors on students' entrepreneurial intentions. *International Journal of Entrepreneurial Venturing*, 11(6), 521–540. https://doi.org/10.1504/IJEV.2019.103751

López-Noguero, F. (2002). El análisis de contenido como método de investigación. *Revista de Educación*, 4, 167–180.

Lortie, J., and Castogiovanni, G. (2015). The theory of planned behavior in entrepreneurship research: what we know and future directions. *International Entrepreneurship and Management Journal*, 11(4), 935–957. https://doi.org/10.1007/s11365-015-0358-3

Lude, M., and Prügl, R. (2018). Why the family business brand matters: Brand authenticity and the family firm trust inference. *Journal of Business Research*, 89, 121–134.

Luszczynska, A., and Schwarzer, R. (2005). Social cognitive theory. *Predicting Health Behaviour*, 2, 127-169.

Mahfud, T., Triyono, M. B., Sudira, P., and Mulyani, Y. (2020). The influence of social capital and entrepreneurial attitude orientation on entrepreneurial intentions: the mediating role of psychological capital. *European Research on Management and Business Economics*, 26(1), 33–39.

Mahto, R. V, Chen, J. S., Mcdowell, W. C., and Ahluwalia, S. (2019). Shared Identity, Family Influence, and the Transgenerational Intentions in Family Firms. *Sustainability*, 11(4), 1130–1134. https://doi.org/10.3390/su11041130

Malchow-Møller, N., Schjerning, B., and Sørensen, A. (2011). Entrepreneurship, job creation and wage growth. *Small Business Economics*, 36(1), 15–32. https://doi.org/10.1007/s11187-009-9173-y

Malone, S. C. (1989). Selected Correlates of Business Continuity Planning in the Family Business. *Family Business Review*, 2(4), 341–353. https://doi.org/10.1111/j.1741-6248.1989.tb00003.x

Manolova, T. S., Edelman, L. F., Shirokova, G., and Tsukanova, T. (2019). Youth entrepreneurship in emerging economies: can family support help navigate institutional

voids? *Journal of East-West Business*, 25(4), 363–395. https://doi.org/10.1080/10669868.2019.1624672

Manolova, T. S., Shirokova, G., Tsukanova, T., and Edelman, L. F. (2016). The Impact of Family Support on Young Entrepreneurs' Start-Up Activities. *Journal of Business Venturing*, 31(4), 428–448. https://doi.org/10.5465/ambpp.2015.11116abstract

Marchand, J., and Hermens, A. (2015). Student Entrepreneurship: A Research Agenda. *International Journal of Organizational Innovation*, 8(2), 266–282.

Marques, C. S., Ferreira, J. J., and Gomes, D. N. (2012). Entrepreneurship education: How psychological, demographic and behavioural factors predict the entrepreneurial intention. Education and Training, 54, 8–657. https://doi.org/10.1108/00400911211274819

Mars, M. M., Slaughter, S., and Rhoades, G. (2008). The State-Sponsored Student Entrepreneur. *The Journal of Higher Education*, 79(6), 638–670. https://doi.org/10.1080/00221546.2008.11772122

Martin, B. C., Mcnally, J. J., and Kay, M. J. (2013). Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. *Journal of Business Venturing*, 28(2), 211–224. https://doi.org/10.1016/j.jbusvent.2012.03.002

Mathieu, J. E., Deshon, R. P., and Bergh, D. D. (2008). Mediational inferences in organizational research: Then, now, and beyond. *Organizational Research Methods*, 11(2), 203–223. https://doi.org/10.1177/1094428107310089

Matlay, H. (2011), The influence of stakeholders on developing enterprising graduates in UK HEIs, *International Journal of Entrepreneurial Behavior and Research*, 17(2),166-182.

Matlay, H. (2008). The impact of entrepreneurship education on entrepreneurial outcomes. *Journal of Small Business and Enterprise Development*, 15(2), 382–396. https://doi.org/10.1108/14626000810871745

Mc Gee, J. E., Peterson, M., Mueller, S. L., and Sequeira, J. M. (2009). Entrepreneurial Self-Efficacy: Refining the Measure. *Entrepreneurship Theory and Practice*, 33(4), 965–988. https://doi.org/10.1111/j.1540-6520.2009.00304.x

McKeever, E., Jack, S., and Anderson, A. (2015). Embedded entrepreneurship in the creative re-construction of place. *Journal of Business Venturing*, 30(1), 50–65.

Memili, E., Zellweger, T. M., and Fang, H. C. (2013). The Determinants of Family Owner-Managers' Affective Organizational Commitment. *Family Relations*, 62(3), 443–456. https://doi.org/10.1111/fare.12015

Mentoor, E. R., and Friedrich, C. (2007). Is entrepreneurial education at South African universities successful? An empirical example. *Industry and Higher Education*, 21(3), 221–232. https://doi.org/10.5367/000000007781236862

Meoli, A., Fini, R., Sobrero, M., and Wiklund, J. (2020). How entrepreneurial intentions influence entrepreneurial career choices: The moderating influence of social context. *Journal of Business Venturing*, 35(3), 105982.

Meyer, J. P., and Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, 1(1), 61–89.

Middleton, K. W., and Donnellon, A. (2014). Personalizing entrepreneurial learning: A pedagogy for facilitating the know why. *Entrepreneurship Research Journal*, 4(2), 167–204. https://doi.org/10.1515/erj-2013-0040

Mingers, J., and Lipitakis, E. (2010). Counting the citations: a comparison of Web of Science and Google Scholar in the field of business and management. *Scientometrics*, 85(2), 613–625. https://doi.org/10.1007/s11192-010-0270-0

Mitchell, R. K., Smith, B., Seawright, K. W., and Morse, E. A. (2000). Cross-Cultural Cognitions and the Venture Creation Decision. *Academy of Management Journal*, 43(5), 974–993. https://doi.org/10.5465/1556422

Mongeon, P., and Paul-Hus, A. (2016). The journal coverage of Web of Science and Scopus: a comparative analysis. *Scientometrics*, 106(1), 213–228. https://doi.org/10.1007/s11192-015-1765-5

Moriano, J. A., Gorgievski, M., Laguna, M., Stephan, U., and Zarafshani, K. (2011). A cross cultural approach to understanding entrepreneurial intention. *Journal of Career Development*, 39(2), 162–185. https://doi.org/10.1177/0894845310384481

Morris, M. H., Kuratko, D. F., and Cornwall, J. R. (2013). Entrepreneurship programs and the modern university. In Edward Elgar Publishing (Ed.), *Journal of Education for Business* (Issue 6). Edward Elgar Publishing. https://doi.org/10.1080/08832323.2014.921591

Morris, M. H., Shirokova, G., and Tsukanova, T. (2017). Student entrepreneurship and the university ecosystem: A multi-country empirical exploration. *European Journal of International Management*, 11(1), 65–85. https://doi.org/10.1504/EJIM.2017.081251

Nabi, G., Liñánn, F., Fayolle, A., Krueger, N., and Walmsley, A. (2017). The Impact of Entrepreneurship Education in Higher Education: A Systematic Review and Research Agenda. *Academy of Management Learning and Education*, 16(2), 299. https://doi.org/10.5465/amle.2015.0026

Nabi, G., Liñánn, F., Fayolle, A., Krueger, N., and Walmsley, A. (2017). The Impact of Entrepreneurship Education in Higher Education: A Systematic Review and Research Agenda. *Academy of Management Learning and Education*, 16(2), 299. https://doi.org/10.5465/amle.2015.0026

Neneh, B. N. (2019). From entrepreneurial intentions to behavior: The role of anticipated regret and proactive personality. *Journal of Vocational Behavior*, 112, 311–324. https://doi.org/10.1016/j.jvb.2019.04.005

Newman, A., Obschonka, M., Schwarz, S., Cohen, M., and Nielsen, I. (2019). Entrepreneurial self-efficacy: A systematic review of the literature on its theoretical foundations, measurement, antecedents, and outcomes, and an agenda for future research. *Journal of Vocational Behavior*, 110, 403–419. https://doi.org/10.1016/j.jvb.2018.05.012

Newman, A., Obschonka, M., Schwarz, S., Cohen, M., and Nielsen, I. (2019). Entrepreneurial self-efficacy: A systematic review of the literature on its theoretical foundations, measurement, antecedents, and outcomes, and an agenda for future research. *Journal of Vocational Behavior*, 110(May 2018), 403–419. https://doi.org/10.1016/j.jvb.2018.05.012

Nguyen, A. T., Do, T. H. H., Vu, T. B. T., Dang, K. A., and Nguyen, H. L. (2019). Factors affecting entrepreneurial intentions among youths in Vietnam. *Children and Youth Services Review*, 99, 186–193.

Nowiński, W., Haddoud, M. Y., and Lančarič, D. (2019). The impact of entrepreneurship education, entrepreneurial self-efficacy and gender on entrepreneurial intentions of university students in the Visegrad countries. *Studies in Higher Education*, 44(2), 361–379.

Oosterbeek, H., Van Praag, M., and Ijsselstein, A. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review*, 54(3), 442–454.

Ozgen, E. (2012). The effect of the national culture on female entrepreneurial activities in emerging countries: An application of the GLOBE project cultural dimensions. *International Journal of Entrepreneurship*, 16(1), 69–92.

Palmer, C., Fasbender, U., Kraus, S., Birkner, S., and Kailer, N. (2019). A chip off the old block? The role of dominance and parental entrepreneurship for entrepreneurial intention. *Review of Managerial Science*, 1–21. https://doi.org/10.1007/s11846-019-00342-7

Parastuty, Z., and Bögenhold, D. (2019). Paving the Way for Self-Employment: Does Society Matter? *Sustainability*, 11(3), 1–16. https://doi.org/10.3390/su11030747

Paunescu, C., Popescu, M. C., and Duennweber, M. (2018). Factors Determining Desirability of Entrepreneurship in Romania. *Sustainability*, 10(11), 3893–3915. https://doi.org/10.3390/su10113893

Peterman, N. E., and Kennedy, J. (2003). Enterprise Education: Influencing Students' Perceptions of Entrepreneurship. *Entrepreneurship Theory and Practice*, 28(2), 129–144. https://doi.org/10.1046/j.1540-6520.2003.00035.x

Pinillos, M. J., and Reyes, L. (2011). Relationship between individualist-collectivist culture and entrepreneurial activity: evidence from Global Entrepreneurship Monitor data. *Small Business Economics*, 37(1), 23–37. https://doi.org/10.1007/s11187-009-9230-6

Pop-Kostova, N., Dimitrova, M., Misoska, A. T., and Bojadziev, M. (2019). Impact of Education on Entrepreneurial Intentions among Students in Republic of North Macedonia. *Innovating Europe*, 261–277. https://doi.org/10.5281/zenodo.3533910

Porfírio, J. A., Felício, J. A., and Carrilho, T. (2020). Family business succession: Analysis of the drivers of success based on entrepreneurship theory. *Journal of Business Research*, 115, 250–247.

Rae, D., and Carswell, M. (2001). Towards a conceptual understanding of entrepreneurial learning. *Journal of Small Business and Enterprise Development*, 8(2), 150–158. https://doi.org/10.1108/EUM0000000006816

Rai, R. S., Prasad, A., and Murthy, B. K. (2017). A review on intention models for predicting entrepreneurial behavior. *Journal of Entrepreneurship Education*, 20(2), 1–9.

Ramos-Rodríguez, A. R., Lorenzo, D., and Ruiz-Navarro, J. (2010). What you know or who you know? The role of intellectual and social capital in opportunity recognition. *International Small Business Journal*, 28(6), 566–582. https://doi.org/10.1177/0266242610369753

Ramos-Rodríguez, A. R., Medina-Garrido, J. A., and Ruiz-Navarro, J. (2019). Why not now? Intended timing in entrepreneurial intentions. *International Entrepreneurship and Management Journal*, 15(4), 1221–1246. https://doi.org/10.1007/s11365-019-00586-5

Randerson, K., Bettinelli, C., Fayolle, A., and Anderson, A. (2015). Family entrepreneurship as a field of research: Exploring its contours and contents. *Journal of Family Business Strategy*, 6(3), 143–154.

Ranwala, R. S. (2016). Family Background, Entrepreneurship Specific Education and Entrepreneurial Knowledge in Venture Creation. *International Journal of Scientific and Research Publications*, 6(9).

Rasoolimanesh, S. M., Ringle, C. M., and Jaafar, M. (2017). Urban vs. rural destinations: Residents' perceptions, community participation and support for tourism development. *Tourism Management*, 60, 147–158.

Rauch, A., and Hulsink, W. (2015). Putting Entrepreneurship Education Where the Intention to Act Lies: An Investigation into the Impact of Entrepreneurship Education on Entrepreneurial Behavior. *Academy of Management Learning and Education*, 14(2), 187–204. https://doi.org/10.5465/amle.2012.0293

Rideout, E. C., and Gray, D. O. (2013). Does entrepreneurship education really work? A review and methodological critique of the empirical literature on the effects of university-based entrepreneurship education. *Journal of Small Business Management*, 51(3), 329–351. https://doi.org/10.1111/jsbm.12021

Ringle, C. M. (2009). The Use of Partial Least Squares Path Modeling in International Marketing. *Advances in Internationall Marketing*, 20, 277–319. https://doi.org/10.1108/S1474-7979(2009)0000020014

Ringle, C. M., Wende, S., and Becker, J. M. (2015). *SmartPLS 3*. Boenningstedt: SmartPLS GmbH.

Roldán, J. L., and Sánchez-Franco, M. J. (2012). *Variance-based structural equation modeling: Guidelines for using partial least squares in information systems research*. In igi-global.com. IGI Global.

Roman, A., Bilan, I., and Ciumas, C. (2018). What Drives the Creation of New Businesses? A Panel-Data Analysis for EU Countries. *Emerging Markets Finance and Trade*, 54(3), 508–536. https://doi.org/10.1080/1540496X.2017.1412304

Roper, C. D., and Hirth, M. A. (2005). A history of change in the third mission of higher education: The evolution of one-way service to interactive engagement. *Journal of Higher Education Outreach and Engagement*, 10(3), 3–21.

Rothaermel, F. T., Agung, S. D., and Jiang, L. (2007). University entrepreneurship: a taxonomy of the literature. *Industrial and Corporate Change*, 16(4), 691–791. https://doi.org/10.1093/icc/dtm023

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, 80(609).

Roznowski, J. L. (2003). A content analysis of mass media stories surrounding the consumer privacy issue 1990-2001. *Journal of Interactive Marketing*, 17(2), 52–69. https://doi.org/10.1002/dir.10054

Ruiz-Alba, J. L., Guzman-Parra, V. F., Vila Oblitas, J. R., and Morales Mediano, J. (2020). Entrepreneurial intentions: a bibliometric analysis. *Journal of Small Business and Enterprise Development*, 28(1), 121–133. https://doi.org/10.1108/JSBED-07-2019-0221

Saeed, S., Yousafzai, S. Y., Yani-De-Soriano, M., and Muffatto, M. (2015). The Role of Perceived University Support in the Formation of Students' Entrepreneurial Intention. *Journal of Small Business Management*, 53(4), 1127–1145. https://doi.org/10.1111/jsbm.12090

Sánchez, P. P. I., Maldonado, C. J., and Velasco, A. P. (2012). Caracterización de las Spin-Off universitarias como mecanismo de transferencia de tecnología a través de un análisis clúster. *Revista Europea de Dirección y Economía de la Empresa*, 21(3), 240–254.

Sanguino-Galván, R., Barroso-Martínez, A., and Habibur-Rahman, M. (2017). Impact of family business on economic development: A study of Spain's family-owned supermarkets. *Journal of Business and Economics*, 5(12), 243–259.

Santos, F. J., Roomi, M. A., and Liñán, F. (2016). About Gender Differences and the Social Environment in the Development of Entrepreneurial Intentions. *Journal of Small Business Management*, 54(1), 49–66. https://doi.org/10.1111/jsbm.12129

Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243–263. https://doi.org/10.5465/AMR.2001.4378020

Sarstedt, M., Henseler, J., and Ringle, C. M. (2011). Multigroup analysis in partial least squares (PLS) path modeling: Alternative methods and empirical results. *Advances in International Marketing*, 22(1), 195–218. https://doi.org/10.1108/S1474-7979(2011)0000022012

Schlaegel, C., and Koenig, M. (2014). Determinants of Entrepreneurial Intent: A Meta-Analytic Test and Integration of Competing Models. *Entrepreneurship Theory and Practice*, 38(2), 291–332. https://doi.org/10.1111/etap.12087

Schröder, E., and Schmitt-Rodermund, E. (2011). Career choice intentions of adolescents with a family business background. *Family Business Review*, 24(4), 305–321. https://doi.org/10.1177/0894486511416977

Schwarz, E. J., Wdowiak, M. A., Almer-Jarz, D. A., and Breitenecker, R. J. (2009). The effects of attitudes and perceived environment conditions on students' entrepreneurial intent: An Austrian perspective. *Education and Training*, 51(4), 272–291. https://doi.org/10.1108/00400910910964566

Segal, G., Borgia, D., and Schoenfeld, J. (2005). The motivation to become an entrepreneur. *International Journal of Entrepreneurial Behavior and Research*, 11, 42–57.

Shah, I. A., Amjed, S., and Jaboob, S. (2020). The moderating role of entrepreneurship education in shaping entrepreneurial intentions. *Journal of Economic Structures*, 9(1), 1–15. https://doi.org/10.1186/s40008-020-00195-4

Shah, S. K., and Pahnke, E. C. (2014). Parting the ivory curtain: Understanding how universities support a diverse set of startups. *Journal of Technology Transfer*, 39(5), 780–792. https://doi.org/10.1007/s10961-014-9336-0

Shane, S. and Venkataraman, S. (2000). The promise of entrepreneurship as a field of research, *Academy of Management Review*, 25(1), 217-226.

Shapero, A. (1984). The entrepreneurial event. In Lexington Books (Ed.), *The environment for entrepreneurship* (pp. 21–40).

Shapero, A., and Sokol, L. (1982). *The social dimensions of entrepreneurship*. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.

Sharabi, M., and Polin, B. A. (2020). Career motives according to degree of religiosity among Jewish students in Israel. *Journal of Management, Spirituality and Religion*, 17(2), 139–158. https://doi.org/10.1080/14766086.2019.1652201

Sharma, P., and Irving, P. G. (2005). Four Bases of Family Business Successor Commitment: Antecedents and Consequences. *Entrepreneurship Theory and Practice*, 29(1), 13–33. https://doi.org/10.1111/j.1540-6520.2005.00067.x

Sharma, P., Chrisman, J. J., and Chua, J. H. (2003a). Predictors of satisfaction with the succession process in family firms. *Journal of Business Venturing*, 18(5), 667–687. https://doi.org/10.1016/S0883-9026(03)00015-6

Sharma, P., Chrisman, J. J., and Chua, J. H. . (2003b). Succession Planning as Planned Behavior: Some Empirical Results. *Family Business Review*, 16(1), 1–15. https://doi.org/10.1111/j.1741-6248.2003.00001.x

Sheeran, P. (2002). Intention—Behavior Relations: A Conceptual and Empirical Review. *European Review of Social Psychology*, 12(1), 1–36. https://doi.org/10.1080/14792772143000003

Sheeran, P., Webb, T. L., and Gollwitzer, P. M. (2005). The interplay between goal intentions and implementation intentions. *Personality and Social Psychology Bulletin*, 31(1), 87–98. https://doi.org/10.1177/0146167204271308

Shirokova, G., Osiyevskyy, O., and Bogatyreva, K. (2016). Exploring the intention-behavior link in student entrepreneurship: Moderating effects of individual and environmental characteristics. *European Management Journal*, 344(4), 386–399. https://doi.org/10.1016/j.emj.2015.12.007

Shirokova, G., Osiyevskyy, O., and Bogatyreva, K. (2016). Exploring the intention-behavior link in student entrepreneurship: Moderating effects of individual and environmental characteristics. *European Management Journal*, 344(4), 386–399. https://doi.org/10.1016/j.emj.2015.12.007

Shirokova, G., Osiyevskyy, O., Bogatyreva, K., Edelman, L. F., and Manolova, T. S. (2020). Moving from Intentions to Actions in Youth Entrepreneurship: An Institutional Perspective. *Entrepreneurship Research Journal*, 1((ahead of print)), 1–45. https://doi.org/10.1515/erj-2019-0201

Shirokova, G., Osiyevskyy, O., Morris, M. H., and Bogatyreva, K. (2017). Expertise, university infrastructure and approaches to new venture creation: assessing students who

start businesses. *Entrepreneurship and Regional Development*, 29(9–10), 912–944. https://doi.org/10.1080/08985626.2017.1376516

Shirokova, G., Tsukanova, T., and Morris, M. H. (2018). The Moderating Role of National Culture in the Relationship Between University Entrepreneurship Offerings and Student Start-Up Activity: An Embeddedness Perspective. *Journal of Small Business Management*, 56(1), 103–130. https://doi.org/10.1111/jsbm.12363

Shirokova, G., Tsukanova, T., and Bogatyreva, K. (2015). University Environment and Student Entrepreneurship: The Role of Business Experience and Entrepreneurial Self-Efficacy. *Educational Studies*, 3, 171–207. https://doi.org/10.17323/1814-9545-2015-3-171-207

Siegel, D. S., and Wright, M. (2015). University technology transfer offices, licensing, and start-ups. In D. S. and M. W. (Eds. . A. Link (Ed.), *Chicago handbook of university technology transfer and academic entrepreneurship*. University of Chicago Press.

Sieger, P., and Monsen, E. (2015). Founder, Academic, or Employee? A Nuanced Study of Career Choice Intentions. *Journal of Small Business Management*, 53(S1), 30–57. https://doi.org/10.1111/jsbm.12181

Sieger, P., Zellweger, T., and Englisch, P. (2012). Coming Home or Breaking Free?: Career choice intentions of the next generation in family businesses.

Slavtchev, V., Laspita, S., and Patzelt, H. (2012). *Effects of entrepreneurship education at universities* (No. 2012, 025). Jena Economic Research Papers.

Sogunro, O.A. (2004). Efficacy of role-playing pedagogy in training leaders: some reflections, *Journal of Management Development*, 23(4), 355-371.

Solesvik, M., Westhead, P., and Matlay, H. (2014). Cultural factors and entrepreneurial intention: The role of entrepreneurship education. *Education and Training*, 56(8/9), 680–696. https://doi.org/10.1108/ET-07-2014-0075

Solesvik, M., Westhead, P., Kolvereid, L., and Matlay, H. (2012). Student intentions to become self-employed: The Ukrainian context. *Journal of Small Business and Enterprise Development*, 19(3), 441–460. https://doi.org/10.1108/14626001211250153

Sorgner, A., and Fritsch, M. (2018). Entrepreneurial career paths: occupational context and the propensity to become self-employed. *Small Business Economics*, 51(1), 129–152. https://doi.org/10.1007/s11187-017-9917-z

Souitaris, V., Zerbinati, S., and Al-Laham, A. (2007). Do Entrepreneurship Programmes Raise Entrepreneurial Intention of Science and Engineering Students? The Effect of Learning, Inspiration and Resources. *Journal of Business Venturing*, 22(4), 566–591.

Stone, M. (1974). Cross-Validatory Choice and Assessment of Statistical Predictions. *Journal of the Royal Statistical Society: Series B (Methodological)*, 36(2), 111–133. https://doi.org/10.1111/j.2517-6161.1974.tb00994.x

Tabares, A., and Cano, J. A. (2018). University students' succession intention: GUESSS Colombia study evidence. *Revista Espacios*, 39(35).

Taylor, D.W. and Thorpe, R. (2004). Entrepreneurial learning: a process of co-participation, *Journal of Small Business and Enterprise Development*, 11(2), 203-211.

Tatarko, A., and Schmidt, P. (2016). Individual social capital and the implementation of entrepreneurial intentions: The case of Russia. *Asian Journal of Social Psychology*, 19(1), 76–85. https://doi.org/10.1111/ajsp.12113

Teixeira, S. J., Casteleiro, C. M. L., Rodrigues, R. G., and Guerra, M. D. (2018). Entrepreneurial intentions and entrepreneurship in European countries. *International Journal of Innovation Science*, 10(1), 22–42. https://doi.org/10.1108/IJIS-07-2017-0062

Tenenbaum, G., and Eklund, R. C. (2020). *Handbook of sport psychology* (John Wiley and Sons (ed.)).

Thomassen, M. L., and Middleton, K. W. (2019). Conceptualizing context in entrepreneurship education: a literature review. *International Journal of Entrepreneurial Behavior and Research*, 26(5), 863–886. https://doi.org/10.1108/IJEBR-04-2018-0258

Thompson, E. R. (2009). Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric. *Entrepreneurship: Theory and Practice*, 33(3), 669–694. https://doi.org/10.1111/j.1540-6520.2009.00321.x

Tkachev, A., and Kolvereid, L. (1999). Self-Employment Intentions among Russian Students Investigating growth and survival among businesses started in 2002 View project Entrepreneurial Intentions project View project. *Entrepreneurship and Regional Development*, 11(3), 269–280. https://doi.org/10.1080/089856299283209

Tognazzo, A., Gianecchini, M., and Gubitta, P. (2017). *Educational Context and Entrepreneurial Intentions of University Students: An Italian Study*. In Emerald Publishing Limited (Ed.), Entrepreneurship education: New Perspectives on entrepreneurship

education (contemporary issues in entrepreneurship research) (Vol. 7). https://doi.org/10.1108/S2040-724620170000007008

Tornikoski, E., and Maalaoui, A. (2019). Critical reflections – The Theory of Planned Behaviour: An interview with Icek Ajzen with implications for entrepreneurship research. *International Small Business Journal: Researching Entrepreneurship*, 37(5), 536–550. https://doi.org/10.1177/0266242619829681

Trivedi, R. (2016). Does university play significant role in shaping entrepreneurial intention? A cross-country comparative analysis. *Journal of Small Business and Enterprise Development*, 23(3), 790–811. https://doi.org/10.1108/JSBED-10-2015-0149

Tsai, M. T., and Cheng, N. C. (2012). Understanding knowledge sharing between IT professionals-An integration of social cognitive and social exchange -Theory. *Behaviour and Information Technology*, 31(11), 1069–1080. https://doi.org/10.1080/0144929X.2010.550320

Turker, D., and Selcuk, S. S. (2009). Which factors affect entrepreneurial intention of university students? *Journal of European Industrial Training*, 33(2), 142–159. https://doi.org/10.1108/03090590910939049

Turner, S. L., Alliman-Brissett, A., Lapan, R. T., Udipi, S., and Ergun, D. (2003). The career-related parent support scale. *Measurement and Evaluation in Counseling and Development*, 36(2), 83–94. https://doi.org/10.1080/07481756.2003.12069084

Turner, S., and Lapan, R. T. (2002). Career self-efficacy and perceptions of parent support in adolescent career development. *The Career Development Quarterly*, 51(1), 44–55.

Turner, T., and Gianiodis, P. (2018). Entrepreneurship Unleashed: Understanding Entrepreneurial Education outside of the Business School. *Journal of Small Business Management*, 56(1), 131–149. https://doi.org/10.1111/jsbm.12365

Turner, T., and Gianiodis, P. (2018). Entrepreneurship Unleashed: Understanding Entrepreneurial Education outside of the Business School. *Journal of Small Business Management*, 56(1), 131–149. https://doi.org/10.1111/jsbm.12365

Urbano, D., Aparicio, S., and Audretsch, D. (2019). Twenty-five years of research on institutions, entrepreneurship, and economic growth: what has been learned? *Small Business Economics*, 53(1), 21–49. https://doi.org/10.1007/s11187-018-0038-0

Vadnjal, J., and Ljubotina, P. (2016). Professional trilemma of students with family business experience. *Kybernetes*, 45(3), 446–460. https://doi.org/10.1108/K-08-2014-0162

Van Auken, H., Stephens, P., Fry, F. L., and Silva, J. (2006). Role model influences on entrepreneurial intentions: A comparison between USA and Mexico. *The International Entrepreneurship and Management Journal*, 2(3), 325–336. https://doi.org/10.1007/s11365-006-0004-1

Van Gelderen, M., Brand, M., Van Praag, M., Bodewes, W., Poutsma, E., and Van Gils, A. (2008). Explaining entrepreneurial intentions by means of the theory of planned behaviour. *Career Development International*, 13(6), 538–559. https://doi.org/10.1108/13620430810901688

Van Gelderen, M., Kautonen, T., Wincent, J., and Biniari, M. (2018). Implementation intentions in the entrepreneurial process: concept, empirical findings, and research agenda. *Small Business Economics*, 51(4), 923–941. https://doi.org/10.1007/s11187-017-9971-6

Van Hooft, E. A., Born, M. P., Taris, T. W., Van der Flier, H., and Blonk, R. W. (2005). Bridging the gap between intentions and behavior: Implementation intentions, action control, and procrastination. *Journal of Vocational Behavior*, 66(2), 238–256.

Van Knippenberg, D., and Sleebos, E. (2006). Organizational identification versus organizational commitment: Self-definition, social exchange, and job attitudes. *Journal of Organizational Behavior*, 27(5), 571–584. https://doi.org/10.1002/job.359

Vardaman, J. M., Allen, D. G., Otondo, R. F., Hancock, J. I., Shore, L. M., and Rogers, B. L. (2016). Social comparisons and organizational support: Implications for commitment and retention. *Human Relations*, 69(7), 1483–1505. https://doi.org/10.1177/0018726715619687

Venesaar, U., Kallaste, M., and Küttim, M. (2014). Factors Influencing Students' Venture Creation Process. *Procedia - Social and Behavioral Sciences*, 110, 678–688. https://doi.org/10.1016/j.sbspro.2013.12.912

Venter, E., Boshoff, C., and Maas, G. (2005). The influence of successor-related factors on the succession process in small and medium-sized family businesses. *Family Business Review*, 18(4), 283–303. https://doi.org/10.1111/j.1741-6248.2005.00049.x

Vodă, A. I., and Florea, N. (2019). Impact of Personality Traits and Entrepreneurship Education on Entrepreneurial Intentions of Business and Engineering Students. *Sustainability*, 11(4), 1192. https://doi.org/10.3390/su11041192

Volery, T., Müller, S., Oser, F., Naepflin, C., and del Rey, N. (2013). The impact of entrepreneurship education on human capital at upper-secondary level. *Journal of Small Business Management*, 51(3), 429–446. https://doi.org/10.1111/jsbm.12020

Von Graevenitz, G., Harhoff, D., and Weber, R. (2010). The effects of entrepreneurship education. *Journal of Economic Behavior and Organization*, 76(1), 90–112.

Walter, S. G., and Block, J. H. (2016). Outcomes of entrepreneurship education: An institutional perspective. *Journal of Business Venturing*, 31(2), 216–233.

Walter, S. G., and Dohse, D. (2012). Why mode and regional context matter for entrepreneurship education. *Entrepreneurship and Regional Development*, 24(9/10), 807–835. https://doi.org/10.1080/08985626.2012.721009

Walter, S. G., Parboteeah, K. P., and Walter, A. (2013). University departments and self-employment intentions of business students: A cross-level analysis. *Entrepreneurship: Theory and Practice*, 37(2), 175–200. https://doi.org/10.1111/j.1540-6520.2011.00460.x

Welter, F. (2011). Contextualizing Entrepreneurship—Conceptual Challenges and Ways Forward. Entrepreneurship: *Theory and Practice*, 35(1), 165–184. https://doi.org/10.1111/j.1540-6520.2010.00427.x

Welter, F., Gartner, W. B., and Wright, M. (2016). The context of contextualizing contexts. In Edward Elgar Publishing (Ed.), *A research agenda for entrepreneurship and context* (pp. 1–15).

Wilson, F., Kickul, J., and Marlino, D. (2007). Gender, entrepreneurial self–efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. *Entrepreneurship: Theory and Practice*, 31(3), 387–406.

Williams, L.J.; Vandenberg, R.J. & Edwards, J.R. (2009). 12 Structural Equation Modeling in Management Research: A Guide for Improved Analysis. *The Academy of Management Annals*, 3(1), 543–604.

Wood, R., and Bandura, A. (1989). Social Cognitive Theory of Organizational Management. *Academy of Management Review*, 14(3), 361–384. https://doi.org/10.5465/amr.1989.4279067

Wright, M., Siegel, D. S., and Mustar, P. (2017). An emerging ecosystem for student start-ups. *Journal of Technology Transfer*, 42(4), 909–922. https://doi.org/10.1007/s10961-017-9558-z

Yale, L., and Gilly, M. C. (1988). Trends in advertising research: A look at the content of marketing- oriented journals from 1976 to 1985. *Journal of Advertising*, 17(1), 12–22. https://doi.org/10.1080/00913367.1988.10673099

Yurtkoru, E. S., Kuşcu, Z. K., and Doganay, A. (2014). Exploring the antecedents of entrepreneurial intention on Turkish university students. *Procedia-Social and Behavioral Sciences*, 150, 150–841.

Zapkau, F. B., Schwens, C., Steinmetz, H., and Kabst, R. (2015). Disentangling the effect of prior entrepreneurial exposure on entrepreneurial intention. *Journal of Business Research*, 68(3), 639–653. https://doi.org/10.1016/j.jbusres.2014.08.007

Zellweger, T. (2017). *Managing the family business: Theory and practice*. Edward Elgar Publishing.

Zellweger, T. ., Kellermanns, F. W., Chrisman, J. J., and Chua, J. H. (2012). Family Control and Family Firm Valuation by Family CEOs: The Importance of Intentions for Transgenerational Control. *Organization Science Articles in Advance*, 23(3), 1–18. https://doi.org/10.1287/orsc.1110.0665

Zellweger, T., Sieger, P., and Halter, F. (2011). Should I stay or should I go? Career choice intentions of students with family business background. *Journal of Business Venturing*, 26(5), 521–536. https://doi.org/10.1016/j.jbusvent.2010.04.001

Zhang, F., Wei, L., Sun, H., and Tung, L. C. (2019). How entrepreneurial learning impacts one's intention towards entrepreneurship: A planned behavior approach. *Chinese Management Studies*, 13(1), 146–170. https://doi.org/10.1108/CMS-06-2018-0556

Zhang, Y., Duysters, G., and Cloodt, M. (2014). The role of entrepreneurship education as a predictor of university students' entrepreneurial intention. *International Entrepreneurship and Management Journal*, 10(3), 623–641. https://doi.org/10.1007/s11365-012-0246-z

Zhao, H., Seibert, S. E., and Hills, G. E. (2005). The Mediating Role of Self-Efficacy in the Development of Entrepreneurial Intentions. *Journal of Applied Psychology*, 90(6), 1265–1272. https://doi.org/10.1037/0021-9010.90.6.1265

Ziegelmann, J. P., Luszczynska, A., and Lippke, S. (2007). Are goal intentions or implementation intentions better predictors of health behavior? A longitudinal study in orthopedic rehabilitation. *Rehabilitation Psychology*, 52(1), 97–102.

Appendix 1 – 2018 GUESSS Survey

For ALL students

1 Your Studies

1	Please select your university / university of applied science.	*Drop-down with university list provided by country teams* *Please translate: "Other"*
2	On what level are you studying? *(single answer)*	• Undergraduate (Bachelor) • Graduate (Master) • PhD • Other (e.g., MBA)
3	What is your main field of study? *(single answer)*	• Arts / Humanities (e.g., cultural studies, history, linguistics, philosophy, religion) • Business / Management • Computer sciences / IT • Economics • Engineering (incl. architecture) • Human medicine / health sciences • Law • Mathematics • Natural sciences • Science of art (e.g., art, design, dramatics, music) • Social sciences (e.g., psychology, politics, education) • Other
4	In what year did you start your studies?	*Drop-down, 2018-2008* *Please translate: "Earlier"*
5	Are you a full-time student?	• Yes • No, I have a regular job next to my studies
6	Are you an international exchange student?	• Yes • No

Study fields from Destatis 2015 (adapted)

*In case Q1.5 answered with **NO***

1.X	Are you working in a start-up as an employee, meaning in a business that has been created in the last 5 years and that is not owned by you?	• Yes • No

2 Your Career Choice Intentions

Which career path do you intend to pursue right after completion of your studies, and which career path 5 years later? Only choose **1** *option each!*

	I want to be…	**Right after studies**	**5 years later**
1	an employee in a small business (1-49 employees)		
2	an employee in a medium-sized business (50-249 employees)		
3	an employee in a large business (250 or more employees)		
4	an employee in a non-profit organization		
5	an employee in academia (academic career path)		
6	an employee in public service		
7	a founder (entrepreneur) working in my own business		
8	a successor in my parents'/family's business		
9	a successor in another business		
10	Other / do not know yet		

11	Are you currently trying to start your own business / to become self-employed?	• Yes • No
12	Are you already running your own business / are you already self-employed?	• Yes • No

3 Your University / University of Applied Science

Please indicate the extent to which you agree with the following statements about the university environment (1=not at all, 7=very much).

1	The atmosphere at my university inspires me to develop ideas for new businesses.
2	There is a favorable climate for becoming an entrepreneur at my university.
3	At my university, students are encouraged to engage in entrepreneurial activities.

University environment (Franke & Lüthje 2004; Geissler, 2013)

Please indicate the extent to which you agree with the following statements about your studies (1=not at all, 7=very much). The courses and offerings I attended…

1	…increased my understanding of the attitudes, values and motivations of entrepreneurs.
2	…increased my understanding of the actions someone has to take to start a business.
3	…enhanced my practical management skills to start a business.
4	…enhanced my ability to develop networks.
5	…enhanced my ability to identify an opportunity.

Program learning (Souitaris et al. 2007)

Please indicate which of the following applies to you (multiple answers possible).

1	I have not attended a course on entrepreneurship so far.
2	I have attended at least one entrepreneurship course as elective.
3	I have attended at least one entrepreneurship course as compulsory part of my studies.
4	I am studying in a specific program on entrepreneurship.
5	I chose to study at this university mainly because of its strong entrepreneurial reputation.

*NASCENT (Q2.11=YES) and **ACTIVE** founders (Q2.12=YES) skip to question 5*

4 You and Entrepreneurship

4.1 General thoughts

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree). Entrepreneur refers to someone who creates a new business.

1	I am ready to do anything to be an entrepreneur.
2	My professional goal is to become an entrepreneur.
3	I will make every effort to start and run my own business.
4	I am determined to create a business in the future.
5	I have very seriously thought of starting a business.
6	I have the strong intention to start a business someday.
7	Being an entrepreneur implies more advantages than disadvantages to me.
8	A career as entrepreneur is attractive for me.
9	If I had the opportunity and resources, I would become an entrepreneur.
10	Being an entrepreneur would entail great satisfactions for me.
11	Among various options, I would rather become an entrepreneur.

Linan & Chen 2009: intention (1-6), attitude (7-11)

4.2 Your skills

Please indicate your level of competence in performing the following tasks (1=very low competence, 7=very high competence).

1	Identifying new business opportunities
2	Creating new products and services
3	Managing innovation within a business
4	Being a leader and communicator
5	Building up a professional network
6	Commercializing a new idea or development
7	Successfully managing a business

Entrepreneurial self-efficacy (cf. Zhao et al. 2005; Chen 1998; George & Zhou 2001; Denoble 1999)

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree).

1	I am usually able to protect my personal interests.
2	When I make plans, I am almost certain to make them work.
3	I can pretty much determine what will happen in my life.

Locus of control (Levenson 1973)

*In case **Q2a or Q2b** answered with option 7 and **Q2.11 and Q2.12** with NO*

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree). I have already planned precisely…

4.X1	… what I will do as my first step to starting a business.
4.X2	… when to engage in my first step to starting a business.
4.X3	… where to engage in my first step to starting a business.

Implementation intentions (Ziegelmann et al., 2007; Van Gelderen et al., 2017)

5 Your Family Background

1	Are your parents self-employed? *(single answer)*	• No • Yes, father • Yes, mother • Yes, both
2	Are your parents majority owners of a business? *(single answer)*	• No • Yes, father • Yes, mother • Yes, both

6 Your Society

For the following questions, two opposing answers are given. None is more correct than the other. Please indicate with which answer you agree more.

1	In my society, a person's influence is based primarily on:	
	Ability and contribution to society	*Authority of one's position*
2	In my society, followers are expected to:	
	Question leaders when in disagreement	*Obey leaders without question*
3	In my society, power is:	
	Shared throughout society	*Concentrated at the top*

See GLOBE (House et al., 2004); Power Distance

If you would pursue a career as an entrepreneur, how would people in your environment react (1=very negatively, 7=very positively)?

1	Your close family
2	Your friends
3	Your fellow students

Subjective norms, from Linan & Chen (2009)

7 Personal Information

1	What is your year of birth?	*Drop-down, 2002-1960* *Please translate: „Earlier"*
2	Your gender? *(single answer)*	• Male • Female
3	Your marital status? *(single answer)*	• Single • Married • Registered partnership • Divorced
4	Your nationality?	*Drop-down, 6 choices from teams* *Please translate: "Other"*
5	What is your religion? *(single answer)*	• Prefer not to answer • Buddhism • Christianity • Hinduism • Islam • Judaism • Other • None

*For **NASCENT** entrepreneurs only (Q2.11=YES and Q2.12=NO; Q5.1 and Q5.2=NO; Q1.5=YES or Q.1X=NO)*

8 Your Planned Own Business

You previously said that you are currently trying to start a new business.

8.1 General information

1	In how many months do you plan to found your business?	• 1-6 • 7-12 • 13-18 • 19-24 or more
2	Do you want this business to become your main occupation after graduation?	• Yes • No • Do not know yet
3	Have you created another business before?	• Yes • No

In which economic sector will your business be mainly active in?

1	Advertising / Design / Marketing
2	Architecture and Engineering
3	Construction
4	Consulting (HR, law, management, tax)
5	Education and training
6	Financial services (incl. banking, insurance, investment, real estate)
7	Human health and social work activities
8	Information technology (IT) and communication (incl. software & IT services)
9	Manufacturing
10	Tourism and leisure
11	Trade (wholesale/retail)
12	Other services (e.g., transportation)
13	Other

Industry sector, based on NACE

8.2 Your activities

Which of the following activities have you (or somebody else from the founding team) already carried out in order to start your own business (multiple answers possible)?

1	Discussed product or business idea with potential customers
2	Collected information about markets or competitors
3	Written a business plan
4	Started product/service development
5	Started marketing or promotion efforts
6	Purchased material, equipment or machinery for the business
7	Attempted to obtain external funding
8	Applied for a patent, copyright, or trademark
9	Registered the business
10	Sold product or service
11	Nothing of the above done so far

Gestation activities, see GEM/PSED

8.3 Founding details

1	What will be your approximate ownership share in the new business?	• 0% • 1-49% • 50% • 51-99% • 100%
2	Are you trying to start this business on your own or with co-founders?	• On my own • With 1 co-founder • With 2 co-founders • With 3 co-founders • With 4 or more co-founders • I want to start this business with a co-founder but have not found one yet

In case Q8.3.2 is answered with 1 or more co-founders (not with last option)

8.X1	How many co-founders are female?	0	1	2	3	>3
8.X2	How many co-founders are relatives of you?	0	1	2	3	>3
8.X3	How many co-founders are fellow students of you?	0	1	2	3	>3

Chandler et al. 2005, Ruef et al. 2003. Growth: Davidsson 1989; Delmar 1996; Wiklund & Shepherd 2003

How did this founding team originate?

8.X4	I intentionally searched for co-founders and put the team together.
8.X5	A fellow student approached me and put the team together.
8.X6	A co-founder from outside the university approached me and put the team together.
8.X7	Nobody took the clear lead. The founding team emerged from a course, project, or activity related to the university.
8.X8	Nobody took the clear lead. The founding team emerged from a course, project, or activity unrelated to the university.
8.X9	None of the above.

Ensley et al 2000; Harper 2008

Who originally had the business idea for your new business?

8.X10	Me
8.X11	My co-founder(s)
8.X12	My co-founder(s) and me developed the idea together

In case Q8.3.2 is answered with 0 co-founders (not with last option)

Which of the following describes best why you are trying to start your business on your own?

8.X13	This is a type of self-employment; a co-founder is not necessary.
8.X14	I do not want a co-founder; I want to start this business on my own.
8.X15	I have looked for a co-founder but have not found somebody suitable.
8.X16	So far, I have not looked for a co-founder. I will do so in the future.
8.X17	None of the above.

Harper 2008; Ruef et al. 2003

*For **ACTIVE** entrepreneurs only (Q2.12=YES)*

9 Your Own Business

You previously said that you are already running your own business. If you are running more than one business, please refer to the most important one in the following.

9.1 General information

1	In what year did you found your business?	Drop-down, 2018-1990 Please translate: "Earlier"
2	How many employees do you have today (full time equivalents)? Please enter a valid number (e.g., 5).	*Free text field for numbers*
3	What is the share of females among all the persons working for your business, including yourself?	• 0% • 1-49% • 50% • 51-99% • 100%
4	What is your ownership share in your business?	• 0% • 1-49% • 50% • 51-99% • 100%
5	Do you want this business to become your main occupation after graduation?	• Yes • No • Do not know yet

In which economic sector is your business mainly active in?

1	Advertising / Design / Marketing
2	Architecture and Engineering
3	Construction
4	Consulting (HR, law, management, tax)
5	Education and training
6	Financial services (incl. banking, insurance, investment, real estate)
7	Human health and social work activities
8	Information technology (IT) and communication (incl. software & IT services)
9	Manufacturing
10	Tourism and leisure
11	Trade (wholesale/retail)
12	Other services (e.g., transportation)
13	Other

Industry sectors, based on NACE

9.2 The Entrepreneurial Team

1	How many co-owners do you currently have in the business?	0	1	2	3	>3
If Q9.2.1 is answered with 1 or more						
9.X1	How many co-owners are female?	0	1	2	3	>3
9.X2	How many co-owners are relatives of you?	0	1	2	3	>3
9.X3	How many co-owners are fellow students of you?	0	1	2	3	>3

Entrepreneurial team; see Chandler et al. 2005, Ruef et al. 2003.

9.3 Being an Entrepreneur

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree).

1	I feel alive and vital.
2	Sometimes I am so alive I just want to burst.
3	I have energy and spirit.
4	I look forward to each new day.
5	I nearly always feel awake and alert.
6	I feel energized.

Subjective vitality (vigor); Bostic et al., 2000; used also in Hahn et al., 2013

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree).

1	I feel as if my business's problems are my own.
2	I do not feel a sense of belonging to my business.
3	I would be very happy to spend the rest of my career with my business.
4	I do not feel emotionally attached to my business.
5	My business has great personal meaning for me.

Affective commitment, Dawson et al. 2013

For the following questions, two opposing answers are given. None is more correct than the other. Please indicate with which answer you agree more.

1	In my business, a person's influence is based primarily on:	
	Ability and contribution to the business	*Authority of one's position*
2	In my business, employees are expected to:	
	Question leaders when in disagreement	*Obey leaders without question*
3	In my business, power is:	
	Shared throughout the business	*Concentrated at the top*

Power distance, see GLOBE

9.4 Workplace experiences

The questions below describe several experiences you may have had in your business. In the last 6 months, have you been in a situation in your business where anyone…
(Never, 1 or 2 times, 3 to 5 times, 6 to 10 times, more than 10 times)

1	…looked at you in a sexually provocative way?
2	…told you that you were pretty, beautiful, or handsome?
3	…made you feel that you were attractive or desirable?
4	…made complimentary remarks about a specific part of your body?
5	…flirted with you?
6	…told you an erotic joke or story?
7	…gossiped about your co-workers' sexual activities?

Social sexual behavior, see Aquino et al., 2014 and Watkins et al., 2013

Please indicate how positive or negative the experience was for you (1=very enjoyable, 7=very unpleasant).

1	Looking at you in a sexually provocative way.
2	Telling you that you were pretty, beautiful, or handsome.
3	Making you feel that you were attractive or desirable.
4	Making complimentary remarks about a specific part of your body.
5	Flirting with you.
6	Telling you an erotic joke or story.
7	Gossiping about your co-workers' sexual activities.

3	Please indicate the (hierarchical) relationship with the person with whom these situations mostly happened.	*Person from within the business* • Lower hierarchy level than you • Same hierarchy level • Higher hierarchy level than you *Person from outside the business* • Investor • Advisor • Other
4	Please indicate the gender of the person you were referring to above.	• Male • Female

9.5 Your General Attitude

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree).

1	I feel that I am a person of worth at least on an equal basis with others.
2	I feel that I have a number of good qualities.
3	All in all, I am inclined to feel that I am a failure.
4	I am able to do things as well as most other people.
5	I feel I do not have much to be proud of.
6	I take a positive attitude toward myself.
7	On the whole, I am satisfied with myself.
8	I wish I could have more respect for myself.
9	I certainly feel useless at times.
10	At times I think I am no good at all.

Self-esteem; Rosenberg, 1979

9.6 Business Environment, Behavior, and Performance

Please indicate your level of agreement with the following statements about the economic sector where your company is mainly active in (1=strongly disagree, 7=strongly agree).

1	Customer preferences are continually evolving in our industry.
2	Customer demand for our products/services varies continuously.
3	Other businesses are continually introducing new products to our market.
4	Other businesses are continually devising new selling strategies in our market.

Environmental dynamism, see Achrol & Stern 1988

How important are the following objectives for undertaking innovation projects in your business (1=not important at all, 7=very important)?

1	Introduce new generation of products/services
2	Extend product/service range
3	Open up new markets
4	Enter new technology fields
5	Improve existing product/service quality
6	Improve flexibility in producing goods/services
7	Reduce cost of producing goods/services
8	Improve yield or reduce material consumption

Exploration/exploitation (He & Wong, 2004)

How would you rate the performance of your company compared to your competitors since its establishment in the following dimensions (1=much worse, 7=much better)?

1	Sales growth
2	Market share growth
3	Profit growth
4	Job creation
5	Innovativeness

Firm performance, see Dess & Robertson 1984, Eddleston et al. 2008

*For **START-UP EMPLOYEES** only (Q1.X=YES, Q2.11 and Q2.12 both=NO)*

10 Working in a Start-up

You previously said that you are working in a start-up company next to your studies.

10.1 Start-up Information

1	In what year has the start-up been created?	Drop-down, 2018-2010 Please translate: "Earlier"
2	How many employees does the start-up you are working for have today? Please enter a valid number (e.g., 5).	*Free text field for numbers*
3	How many hours do you work on average per week?	• Less than 10 • 10-40 • More than 40
4	How many employees have left the start-up in the past 6 months voluntarily? Please enter a valid number (e.g., 5).	*Free text field for numbers*
5	What is the share of females among all the persons working for the start-up, including yourself?	• 0% • 1-49% • 50% • 51-99% • 100%
6	What is your hierarchical position in the start-up?	• Lower level (e.g., apprentice, intern) • Medium level • Upper level (e.g., top management team)

In which economic sector is the start-up mainly active in?

1	Advertising / Design / Marketing
2	Architecture and Engineering
3	Construction
4	Consulting (HR, law, management, tax)
5	Education and training
6	Financial services (incl. banking, insurance, investment, real estate)
7	Human health and social work activities
8	Information technology (IT) and communication (incl. software & IT services)
9	Manufacturing
10	Tourism and leisure
11	Trade (wholesale/retail)
12	Other services (e.g., transportation)
13	Other

Industry sectors, based on NACE

10.2 The Work Environment

For the following questions, two opposing answers are given. None is more correct than the other. Please indicate with which answer you agree more.

1	In the start-up, a person's influence is based primarily on:	
	Ability and contribution to the business	*Authority of one's position*
2	In the start-up, employees are expected to:	
	Question leaders when in disagreement	*Obey leaders without question*
3	In the start-up, power is:	
	Shared throughout the business	*Concentrated at the top*

Power distance, see GLOBE

Please respond to the following questions (1=not at all, 7=very much).

1	How much do you trust your colleagues?
2	How comfortable do you feel delegating to your colleagues?
3	Are your colleagues truthful and honest?
4	How much do you respect your colleagues?
5	How much do you respect the ideas of your colleagues?
6	How much do you like your colleagues?
7	To what degree would you consider your colleagues as your friends?
8	How much open discussion of issues is there in the start-up?
9	To what degree is communication in the start-up open?
10	To what degree is conflict dealt with openly in the start-up?
11	To what extent is your team cohesive?
12	How much do you feel like your team has group spirit?
13	To what degree would you talk about the start-up as a great place to work at?

Group atmosphere; Jehn and Mannix, 2001

10.3 Your Job

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree).

1	I attend non-required training or educational sessions on own time.
2	I make especially helpful suggestions to improve the start-up.
3	I work before or after regular working hours in order to finish a task.
4	My standards of work quality are higher than the stated standards.
5	I actively seek my suggestions to be adopted by the start-up.
6	I orient new people even though it is not required.
7	I make special attempts to gain more knowledge about job-related techniques and skills.
8	I attend functions that are not required, but that help the start-up.
9	I go out of my way to help others with job-related problems.
10	I look for additional responsibilities despite the fact that it increases my work load.

Extra-role behavior; Pearce & Gregersen 1991

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree).

1	I feel alive and vital.
2	Sometimes I am so alive I just want to burst.
3	I have energy and spirit.
4	I look forward to each new day.
5	I nearly always feel awake and alert.
6	I feel energized.

Subjective vitality (vigor); Bostic et al., 2000; used also in Hahn et al., 2013

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree).

1	I like the things I do at work.
2	My job is very pleasing.
3	In general, I am very satisfied with my job.

Job satisfaction; Sieger et al., 2011, see Van Dyne and Pierce (2004), Mayhew et al. (2007), Zhou et al. (2008)

10.4 Workplace Experiences

The questions below describe several experiences you may have had in the start-up. In the last 6 months, have you been in a situation in the start-up where anyone…
(Never, 1 or 2 times, 3 to 5 times, 6 to 10 times, more than 10 times)

1	…looked at you in a sexually provocative way?
2	…told you that you were pretty, beautiful, or handsome?
3	…made you feel that you were attractive or desirable?
4	…made complimentary remarks about a specific part of your body?
5	…flirted with you?
6	…told you an erotic joke or story?
7	…gossiped about your co-workers' sexual activities?

Social sexual behavior, see Aquino et al., 2014 and Watkins et al., 2013

Please indicate how positive or negative the experience was for you (1=very enjoyable, 7=very unpleasant).

1	Looking at you in a sexually provocative way.
2	Telling you that you were pretty, beautiful, or handsome.
3	Making you feel that you were attractive or desirable.
4	Making complimentary remarks about a specific part of your body.
5	Flirting with you.
6	Telling you an erotic joke or story.
7	Gossiping about your co-workers' sexual activities.

3	Please indicate the (hierarchical) relationship with the person with whom these situations mostly happened.	*Person from within the business* • Lower hierarchy level than you • Same hierarchy level • Higher hierarchy level than you *Person from outside the business* • Investor • Advisor • Other
4	Please indicate the gender of the person you were referring to above.	• Male • Female

10.5 Your General Attitude

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree).

1	I feel that I am a person of worth at least on an equal basis with others.
2	I feel that I have a number of good qualities.
3	All in all, I am inclined to feel that I am a failure.
4	I am able to do things as well as most other people.
5	I feel I do not have much to be proud of.
6	I take a positive attitude toward myself.
7	On the whole, I am satisfied with myself.
8	I wish I could have more respect for myself.
9	I certainly feel useless at times.
10	At times I think I am no good at all.

Self-esteem; Rosenberg, 1979

*For **POTENTIAL SUCCESSORS** (if Q5.1 or Q5.2=YES and Q2.11, Q2.12 & Q1.5 or Q1.X= NO*

11 Your Parents' Business

You previously said that at least one of your parents is self-employed and/or a majority owner of a business. If your parents own several businesses, please describe the largest one below.

11.1 General Information

1	In what year has the business been established? Please enter a valid number (e.g., 1951).	*Free text field for numbers*
2	What is the total number of employees (full time equivalents)? Please enter a valid number (e.g., 5).	*Free text field for numbers*
3	Is your father or your mother leading the business operationally?	• Yes • No
4	What is the ownership share that is in the hands of your family?	• 0% • 1-50% • 51-99% • 100%
5	What is your personal ownership share in the business?	• 0% • 1-50% • 51-99% • 100%
6	Do you regard this business as a "family business"?	• Yes • No
7	Have you been working for your parents' business?	• Yes • No
8	How many older siblings do you have?	• 0 • 1 • 2 • 3 or more

In which economic sector is your parents' business mainly active in?

1	Advertising / Design / Marketing
2	Architecture and Engineering
3	Construction
4	Consulting (HR, law, management, tax)
5	Education and training
6	Financial services (incl. banking, insurance, investment, real estate)
7	Human health and social work activities
8	Information technology (IT) and communication (incl. software & IT services)
9	Manufacturing
10	Tourism and leisure
11	Trade (wholesale/retail)
12	Other services (e.g., transportation)
13	Other

Industry sector, based on NACE

11.2 About Succession

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree).

1	I am ready to do anything to take over my parents' business.
2	My professional goal is to become a successor in my parents' business.
3	I will make every effort to become a successor in my parents' business.
4	I am determined to become a successor in my parents' business in the future.
5	I have very seriously thought of taking over my parents' business.
6	I have the strong intention to become a successor in my parents' business one day.
7	Being a successor implies more advantages than disadvantages to me.
8	A career as a successor is attractive for me.
9	If I had the opportunity and resources, I would become a successor in my parents' firm.
10	Being a successor would entail great satisfactions for me.
11	Among various options, I would rather become a successor in my parents' firm.

Adapted from Linan & Chen 2009 (intention: 1-6, attitude: 7-11)

If you would become a successor taking over your parents' business, how would people in your environment react (1=very negatively, 7=very positively)?

1	Your parents	
2	Close family members (e.g., siblings)	
3	Other family members (e.g., uncles and aunts)	
4	People outside the family (e.g., friends, colleagues)	
5	In how many years might you take over your parents' business?	• 1 • 2-5 • >5 • Do not intend to take over

Subjective norms, from Linan & Chen, 2009

11.3 Your Skills

Please indicate your level of competence in performing the following tasks (1=very low competence, 7=very high competence).

1	Resolve disputes and/or manage conflicts with family members involved in the business.
2	Resolve disputes and/or manage conflicts with family members not involved in the business.
3	Conduct negotiations with the incumbent leader of the family firm.
4	Act diplomatically when different views emerge among family members.
5	Maintain healthy relationships with non-family employees.
6	Resolve disputes and/or manage conflicts with non-family employees.
7	Maintain and build healthy relationships with external stakeholders.
8	Resolve disputes and/or manage conflicts with external stakeholders.

Self-efficacy items re family business.

11.4 Your Relationship with the Business

Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree).

1	I feel as if my parents' business's problems are my own.
2	I feel a sense of belonging to my parents' business.
3	I would be very happy to spend the rest of my career with my parents' business.
4	I feel emotionally attached to my parents' business.
5	My parents' business has great personal meaning for me.

Affective commitment, Dawson et al. 2013

1	I feel an obligation to my family to pursue a career with my parents' business.
2	My parents' business deserves my loyalty.
3	I would feel guilty if I did not pursue a career with my parents' business.
4	I owe a great deal to my parents' business.

Normative commitment, Dawson et al. 2013

11.5 Performance

How do you rate the performance of your parents' business compared to its competitors over the last three years in the following dimensions (1=much worse, 7=much better)?

1	Sales growth
2	Market share growth
3	Profit growth
4	Job creation
5	Innovativeness

Dess & Robertson 1984, Eddleston et al. 2008

11.6 Your Parents

The following items pertain how your parents behaved towards you while you were growing up. Please indicate your level of agreement with the following statements (1=strongly disagree, 7=strongly agree). My parents…

1	…talked to me about how what I am learning will someday be able to help me in their business.
2	…taught me things that I will someday be able to use in their business.
3	…gave me chores that taught me skills I can use in my future career in their business.

Instrumental assistance (Turner et al., 2003)

1	…told me about the kind of work they do at their business.
2	…told me about things that happen to them at their business.
3	…have taken me to their business.

Career-related modeling (Turner et al., 2003)

1	…encouraged me to learn as much as I can at school.
2	…encouraged me to make good grades.
3	…told me they are proud of me when I do well in school.

Verbal encouragement (Turner et al., 2003)

1	…talked to me about what fun my future job in their business could be.
2	…said things that made me happy when I learned something I might use in their business.
3	…and I get excited when we talk about what a great job I might have someday in their business.

Emotional support (Turner et al., 2003)

For all students

12 Final Section

1	Did you participate in the previous GUESSS survey in Spring 2016?	• Yes • No
2	Thank you very much for your participation! Please indicate your email address if you wish to receive the study results.	____