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Entrepreneurial intentions: the role of parental self-employment

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Abstract: Using the entrepreneurial intention model, we examined how parental self-employment/role models impact the relation between the antecedents of entrepreneurial intention and social valuation, closer valuation, entrepreneurial skills, and environmental support. A total of 319 respondents were analysed by structural equation modelling. Multi-group analysis (MGA) was used to test the role of parental self-employment to establish if there is significant difference between respondents whose parents were self-employed and those whose parents were not into self-employment. This study revealed that respondents with parental self-employment perceive a higher attitude towards entrepreneurship, perceived behavioural control, entrepreneurial skills, entrepreneurial support, and entrepreneurial intention than those without parental self-employment. However, the MGA established that the entrepreneurial intention for respondents with parental self-employment is similar to those without parental self-employment. The results of this study have policy implications especially in the area of learning and teaching of entrepreneurship.

Keywords: theory of planned behaviour; entrepreneurial intentions; social valuation; closer valuation; entrepreneurial skills; entrepreneurial support; parental self-employment.

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1 Introduction

The impact of entrepreneurship on a nation's development, prosperity and job creation is unavoidably and understandably visible. According to Georgescu and Herman (2020), rising employment due to entrepreneurial activities among the youth from nations may among other things, address goal 8 (promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all) of the United Nations 2030 Agenda for Sustainable Development. Although previous studies acknowledge the importance of role models for prospective entrepreneurs, there is no common understanding of the effect of role models on entrepreneurship, and research in this field is rather fragmented (Bosma et al., 2012). According to BarNir et al. (2011), exposure to role models has a positive relationship with entrepreneurial intentions. Role models (e.g., parents) can either have a positive or negative impact on entrepreneurship

intentions (Pablo-Lerchundi et al., 2015). Chlosta et al. (2012) has suggested that entrepreneurial parents or role models impact the probability of entrepreneurial intentions.

This paper focuses on the role of parental self-employment (PSE) or role models on the antecedents of the theory of planned behaviour (TPB) and entrepreneurial skills (ES), environmental support (ENSUP), social valuation (SV), closer valuation (CV) with respect to entrepreneurial intentions of Spanish students. Spain was chosen as the subject of this paper because, as the Spanish university system adjusts to the demands of the new European higher education area (EHEA), it is crucial to question whether the changes made to both the goals and methods for achieving those goals will actually enable a better response to the social needs and expectations frequently placed on public universities in terms of employability (Rodríguez et al., 2003). Specifically, we assess Spanish students' attitudes, subjective norms, perceived behavioural control (PBC), SV, CV, ES, and ENSUP. This paper is novel in the sense that we examined not only the direct effects of these variables but also the role of PSE on the antecedents of TPB and SV, CV, ES and ENSUP relationships. Authors like Maresch et al. (2016) and Georgescu and Herman (2020) have conducted similar studies in the past, though these two studies fell short of the application of structural equation modelling. Although a lot of studies have been conducted to unearth the factors affecting entrepreneurial perceptions and intentions, there is still the need to invent more adequate, reliable and valid instruments (Liñán and Chen, 2009). According to Sok et al. (2020), the main concerns of data analysis in papers with the TPB are the model's predictive validity and the relative effect of attitude, subjective norm and perceived behavioural control on intention. Besides, multiple regression and structural equation modelling (SEM) are the most popular methods used in contemporary research. The entrepreneurial intention instrument will be used on samples from students from a university in Spain. Data thus will be used to test the entrepreneurial intention model using SEM (with the help of the SMART-PLS software).

Santos et al. (2016) researched the gender differences and social environment in the development of entrepreneurial intentions, but this paper looks into the differences in PSE or role models in entrepreneurial intentions in individual perceptions and environmental influences. Liñán (2008) developed and tested an entrepreneurial intention model on a Spanish sample, by incorporating social valuation, closer environment valuation and entrepreneurial skill perceptions. However, scholars have noted the significance of two other variables (Liñán et al., 2013); the importance of greater knowledge of the entrepreneurial environment and cross-sectional perspective (Liñán et al., 2013). However, this study focuses on the former. According to Galindo-Martín et al. (2021), there is a positive relationship between social climate and entrepreneurship. The link between institutions, entrepreneurship and economic growth (Bosma et al., 2018; Galindo-Martín et al., 2019) means that institutions could foster sustained growth over time, directly and indirectly through entrepreneurship. Entrepreneurial intention (EI) is influenced by a couple of personal and environmental variables (e.g., Herman and Stefanescu, 2017; Fayolle and Gailly, 2015). A motivation for this study is the conviction of the authors that learning and teaching of entrepreneurship can impact on job creation and economic prosperity, hence the decision to focus on some Spanish university students. According to Peterman and Kennedy (2003), some variables (e.g., attitude towards entrepreneurship) can be improved with educational interventions.

This paper applies an entrepreneurial intention model, adapted from the TPB and motivated by the studies of Liñán et al. (2013) and Liñán (2008). Liñán's (2008) paper

tested the existence and reach of social values regarding entrepreneurship and personal skill perceptions. But Liñán et al.'s (2013) paper focused on a more comprehensive entrepreneurial intention model by integrating the role of culture, together with motivation skills and knowledge of the entrepreneurial environment. But as a novelty, we examine the role of parental self- employment/role model (an integral part of closer valuation) on the antecedent of the theory of planned behaviour, with the help of multi-group analysis. According to Adeel et al. (2023), the existing literature on multi-group analysis on entrepreneurial studies is to a certain extent limited in scope. The comprehensive model of this study has been tested using a multi-group approach that offers evidence of the differences between the models for two different groups: students with parental self-employment and those without. This model has not only brought more illumination on the TPB but also on other complementary variables, i.e., closer and social valuation, entrepreneurial skills and knowledge support. This article aims to add to the body of knowledge on students' entrepreneurial intention (EI) in Spain. This study will pose the following research question in light of the above discussion: What are university students' entrepreneurial intentions in relation to parental self-employment?

This paper consists of the following parts: literature review, methodology, results, discussion, implications, conclusions, and limitations.

2 Literature review and hypotheses development

2.1 Entrepreneurial intention and its antecedents

An entrepreneurial intention is a state of mind that aims actions towards behaviour (López-Núñez et al., 2020). It is a desire to start a business (Krueger et al., 2000) or a disposition to complete an act (Liñán and Fayolle, 2015). Research on EIs is necessary because students are potentially enterprising (Krueger et al., 2000; Bird, 2015). The main determinants of the TPB are attitude, subjective norms and perceived behavioural control, which have the capacity to predict intention and behaviour. Intention is assumed to be the immediate antecedent of behaviour (Bosnjak et al., 2020).

In TPB, attitude plays a vital role in predicting the behavioural intentions of an individual (Kuo et al., 2018). Attitude is defined as favourable or unfavourable assessments of cognitive beliefs about an idea, people, objects, events, or behaviour in question (Miao et al., 2018). According to Mihuț et al. (2023), attitudes toward entrepreneurship is a significant determinant of EI using a sample of 402 university students and structural equation modelling. Barba-Sánchez et al. (2022) assert that university students' entrepreneurial intentions (EI) are significantly influenced by both their attitude towards entrepreneurial behaviour (PA) and their perception of behavioural control (PBC). In Dao et al.'s (2021) study, four of Vietnam's leading engineering and business institutions each polled a sample of 1,844 students and came out that the relationship in the TPB model was accepted, with the exception of the influence of subjective norms on entrepreneurial intentions. Lingappa et al. (2020) looked at institutional support, familial, and peer factors in creating a desire to be self-employed among Indian engineering students via the perspective of Ajzen's theory of planned behaviour (TPB). Partial least squares structural equation modelling was used to assess data gathered from 210 final-year engineering students. They established that perceived behavioural control (PBC) and attitude towards entrepreneurship (ATE) showed positive

impact on EI. A gap in both Dao et al. (2021) and Lingappa et al. (2020) studies was that they focussed on a section of the faculties but this present study covers the entire faculties of the university under study. Hence, generalisation may be enhanced.

Perceived behaviour control (or self-efficacy, used interchangeably with PBC in this study) can be defined as an individual's perception or individual's beliefs that control over the ability to carry out the behaviour (Sreen et al., 2018). Self-efficacy helps entrepreneurs feel confident about their future. Thus entrepreneurs with greater self-efficacy are likely to develop entrepreneurial identities, which are crucial to successful new venturing (Brändle et al., 2018). Attitude and PBC have a significant impact on intention (Dalila et al., 2020; Mihuț et al., 2023; Soorani and Ahmadvand, 2019; Ben Youssef et al., 2020), though Ben Youssef et al. (2020) found attitude to have a stronger effect than PBC. Entrepreneurial intention is positively impacted by perceived behavioural control (Dabbous and Boustani, 2023). Vega-Gómez et al. (2020) profess that ATE positively influence EI but PBC negatively impacts on EI. From the foregoing we posit that:

H1 Attitude towards entrepreneurship (ATE) positively influences entrepreneurial intention.

H2 Perceived behavioural control (PBC) positively influences entrepreneurial intention.

Subjective norms refer to a person's beliefs or perception that significantly emerges from peers, society, or family (Ko and Jin, 2017). Results from the work of Ahmed et al. (2020) provide credence to the hypothesis that social norms and entrepreneurial attitudes are related. In their study, Maheshwari and Kha (2022) used a survey to collect data from 401 university students in Vietnam and found that social norms had a significant impact on perceived self-efficacy. For the specific instance of a sample of 348 Pakistani students, Ahmed et al. (2020) also looked into this link, and the findings supported a favourable association between these two important factors of entrepreneurial predisposition. Mihuț et al. (2023) emphasised that subjective norms impact positively on entrepreneurial self-efficacy and entrepreneurial attitude. From the foregoing we posit that:

H3 Subjective norm (SN) positively influences ATE.

H4 Subjective norm positively influences perceived behavioural control.

Generally, behavioural intention may mirror ATE, SN and PBC. These linkages show the motivational basis of behavioural intention. Individuals who have behavioural intention are more likely to actually engage in the behavioural intention when they have actual behavioural control. Some scholars (Liñán et al., 2011; Rueda et al., 2015) have provided evidence of the validity of the TPB for Spanish universities. Fayolle et al. (2006) and Fayolle and Gailly (2015) show that the TPB is valid for French business and engineering schools. The TPB has also been confirmed in other settings; the USA (Krueger et al., 2000), Norway (Kolvereid, 1996), Ghana (Amofah and Saladrigues, 2020; Amofah et al., 2020), Spain (Amofah and Saladrigues, 2022) and the Netherlands (Van Gelderen et al., 2008).

2.2 The influence of social environment

Following Liñán et al. (2013) our model incorporates the two specific factors of social valuation and closer environment valuations. The social influence on entrepreneurial attitudes and behaviours is exerted at both the macro (social valuation) and micro levels (closer valuation) (Morris and Schindehutte, 2005).

2.2.1 Social valuation

In the process of making career choices, individuals are influenced not only by their closer circles, but also by the objective and perceived larger environment (Meoli et al., 2020). Social valuation refers to the way individuals perceive the entrepreneurial activity as a result of macro- social values and culture (Liñán et al., 2011). Thus, SV refers to the wider cultural values in society which may encourage or discourage certain attitudes, personal traits, capacities, and shape normative perceptions towards entrepreneurial behaviour (Zahra et al., 1999). The macro-social environment is made up of the social values and culture (Thornton et al., 2011). The value society places on entrepreneurship will manifest itself in the form of a higher social status of entrepreneurship or a greater admiration for entrepreneurs (Begley and Tan, 2001). The underlying system of values pertaining to a specific group or society shapes the development of personality perceptions (Zahra et al., 1999), modelling normative (SN), affective (ATE) and ability (PBC) perceptions towards the entrepreneurial activity (Thomas and Mueller, 2000). A more positive social valuation of entrepreneurship would make individuals consider this option as a viable career path, thus affecting perceptions (Fernández et al., 2009). The institutional assistance (e.g., necessary infrastructure, hosting conferences and workshops on entrepreneurship, and promoting entrepreneurship) showed a negative impact on subjective norms and perceived behavioural control (Lingappa et al., 2020). 223 business students from Lebanon participated in a study by Dabbous and Boustani (2023) and reported that business climate (social valuation) has a negative effect on perceived behavioural control. According to Mahmood et al. (2019), there is a correlation between perceived behavioural control and an entrepreneurially friendly environment that is favourable. Nevertheless, Yurtkoru et al. (2014) demonstrated that perceived behavioural control was not significantly impacted by structural support. Social valuation and subjective norm are connected but social value is unrelated to perceived behavioural control according to Katono et al. (2010). The following is the hypothesised prediction:

H5 Social valuation positively influences subjective norm.

H6 Social valuation positively influences perceived behavioural control.

2.2.2 Closer valuation

Closer valuation (CV) refers to the way individuals perceive the entrepreneurial activity to be valued in their closer surroundings (e.g., family, friends, ethnic group, etc.). Family denotes the earliest and most immediate relational set in which graduates are embedded and its effects on entrepreneurship have been examined comprehensively in entrepreneurship literature (Meoli et al., 2020). According to Rosado-Cubero et al. (2021) there was evidence that the family environment influences the intention to establish a business. This influence contributes to the creation of more favourable perceptions

towards start-up (Kim et al., 2006). Parents can exert their influence directly on attitude towards the behaviour as a result of the cognitive values and beliefs conforming individual's perception towards a career (Uphoff, 2000). Belonging to a closer environmental system will attract advice, support legitimacy, etc. (Hindle et al., 2009). The importance allocated to entrepreneurship in this closer environment is likely to stimulate a more positive perception of personal support if the individual decides to start a venture (subjective norm) (Neergaard et al., 2005). Also, perceived valuations may increase self-confidence in the ability to successfully start a venture (PBC) and the desirability towards the entrepreneurial career (ATE) (Rimal and Real, 2003). According to Lingappa et al. (2020), ATE and SN were positively correlated with family and peer influence (closer valuation). Katono et al. (2010) looked at the connection between graduates' ambition to launch a business in Uganda and their social and closer evaluation. A convenience sample of 217 third-year business students was used to gather information using the entrepreneurial intentions questionnaire (EIQ). A limitation of their study is that a small sample from just one academic institution was used in the study (Katono et al., 2010). Their findings revealed a positive relationship between attitude and close valuation. In the same study, there was a connection between subjective norm and close valuation. Therefore, we posit that:

H7 Closer valuation positively influences attitude towards entrepreneurship.

H8 Closer valuation positively influences subjective norm.

2.3 The role of entrepreneurial skills

Entrepreneurs can be nurtured, and not born (Dana, 2001), hence becoming an entrepreneur is a learning process, which normally starts at the university level (Gieure et al., 2020). Thus, educational programs aimed at transferring knowledge and developing entrepreneurial skills are important for the development of prospective entrepreneurs (Elmuti et al., 2012).

Entrepreneurial skills perceptions refer to the degree to which individuals are confident that they have adequately high levels of entrepreneurial skills (Liñán et al., 2013). Prior studies have identified specific skills (e.g., opportunity recognition, creativity, entrepreneurial spirit and a propensity toward being independent) may be positively related to personal attitude and subjective norms (Liñán, 2008; Gieure et al., 2020).

In a study by Linh (2022), the impacts of entrepreneurial intention, entrepreneurial talent, and awareness of the entrepreneurial environment were experimentally investigated. The links between the model constructs were examined using structural equation modelling on a dataset of 653 undergraduate students from Nguyen Tat Thanh University in Vietnam. The results revealed that entrepreneurial skills impacts positively on both subjective norm and perceived behavioural control. Also, entrepreneurial skills, such as self-assurance and the capacity to see an opportunity, are closely linked to one's perceived behavioural control (Carr and Sequeira, 2007), and to attitude (Miranda et al., 2017). A self-administrated survey was issued to over 33,000 academics in Spain in order to research the impact of entrepreneurial skills, in a paper by Vega-Gómez et al. (2020). A sample size of 799 was generated by the responses. They came out that entrepreneurial skills have a positive impact on attitudes towards entrepreneurship and perceived control.

Their findings were in line with previous studies (Crant, 1996; Dess et al., 1999; Shane and Venkataraman, 2000). Therefore, this study hypothesised the following:

H9 Entrepreneurial skills positively influences attitude towards entrepreneurship.

H10 Entrepreneurial skills positively influences subjective norm.

H11 Entrepreneurial skills positively influence perceived behavioural control.

According to Rauch et al. (2013) and Leung et al. (2005), culture is a crucial structural characteristic of every society and is potent enough to set restrictions on the effects of knowledge spillover entrepreneurship. Cultural variables could positively affect the self-perceptions of entrepreneurial skills through wider social valuation and closer valuation (Thomas and Mueller, 2000; Liñán, 2008). Entrepreneurial skills may be positively or negatively impacted by culture. Throughout the literature on cognitive models of entrepreneurship, some scholars have examined directly as well as moderating effects of cultural values on entrepreneurship (Liñán and Chen, 2009; Liñán et al., 2011). Differences in cultural values of various societies produce various levels of entrepreneurial intentions and activities (Turró et al., 2014). According to studies, people's ability to recognise opportunities (i.e., entrepreneurial skills) based on their industry and market expertise is strongly influenced by past experience (e.g., social valuation) (Gompers et al., 2005; Hellmann and Puri, 2002; Shane, 2000). More people would have psychological characteristics and attitudes congruent with the entrepreneurial spirit or skills if there was a society that shared more entrepreneurial ideals and ways of thinking (Fernández-Serrano and Liñán, 2014). The cognitive plans (e.g., entrepreneurial skills) of a person are shaped by their culture (e.g., closer and/or social) (Hofstede, 2003), hence we hypothesised that:

H12 Social valuation positively influences entrepreneurial skills.

H13 Closer valuation positively influences entrepreneurial skills.

2.4 Knowledge of entrepreneurial environment

Following Liñán et al. (2013), we integrate the knowledge of the entrepreneurial environment (ENSUP). This refers to the level of knowledge and awareness the individual has about the entrepreneurial environment and support systems (Liñán et al., 2008; Liñán, 2008). There are two ways that the support of the government can be understood, according to Zhang et al. (2022): policy support (i.e., developing the rules and regulations that support entrepreneurial activity and establishing business fees and taxes regarded as affordable by the business creators), and service support, by which the government ensures the physical infrastructure required for businesses to develop. Zhang et al.'s (2022) study of 800 Korean overseas students validated the beneficial relationship between perceived self-efficacy and the entrepreneurial environment (government assistance). Thus knowledge of facts, concepts, and relationships concerning the environment (entrepreneurial and its major ecosystems) (Lo and Fryxell, 2003). This may include awareness of associations, support bodies, training and support measures, and access to favourable loan conditions. Greater knowledge could contribute to more accurate awareness of, and attraction to the entrepreneurial career route and enhance social approval from significant others as a result of the support systems available (Liñán

et al., 2013). The degree of perceived environmental knowledge has been established to be a vital ingredient of behavioural intention (Goh and Balaji, 2016; Kumar et al., 2017). A plethora of studies have proved the effect of perceived environmental knowledge on attitude formation (Jaiswal and Kant, 2018; Kumar et al., 2017).

Romania's entrepreneurial environment and perceived self-efficacy are strongly correlated but ATE and PBC are negatively impacted by the entrepreneurial environment (Mihuț et al., 2023). Physical infrastructure is seen as one of the main promoters of entrepreneurial activity, along with market dynamics, cultural norms, and access to professional services, according to the Global Entrepreneurship Monitor (2020). The entrepreneurial environment knowledge influences subjective norms in a positive way. The entrepreneurial environment knowledge influences perceived behavioural control favourably (Linh, 2022). The influence of entrepreneurial self-efficacy on entrepreneurial intention might be favourably regulated by stronger psychological capital (Wang et al., 2023). Financial knowledge (entrepreneurial knowledge environment) has a positive impact on student attitude, subjective norms and perceived behavioural control (van Gelderen et al., 2008; Alleyne Sobaih and Elshaer, 2023). The following is the predicted hypotheses:

H14 Entrepreneurial environment knowledge (ENSUP) positively influences ATE.

H15 Entrepreneurial environment knowledge (ENSUP) positively influences SN.

H16 Entrepreneurial environment knowledge (ENSUP) positively influences PBC.

Social and closer valuation influence the knowledge of the entrepreneurial environment (Liñán et al., 2013). Social institutions are shared and strengthened by culture, and over time, these institutions build cultural values (George and Zahra, 2002). Vladasel et al. (2021) contend that the proportional weight placed on family and community has an impact on how entrepreneurial skills and preferences are formed. Yet, their theoretical approach offers an advantageous lens for future studies of the relative significance of entrepreneurial factors, both inside and outside the family. Also, closer valuations could exert their influence on encouraging or discouraging the acquisition of knowledge of entrepreneurial career paths. There are research on the value of family ties in starting and sustaining new businesses (knowledge of the entrepreneurial environment) (Ruef et al., 2003; Ruef, 2010; Kotha and George, 2012). The knowledge of the entrepreneurial environment and the equity preserved by the entrepreneur has a positive connection, according to Kotha and George (2012). Examples of this relationship include social valuation and industry experience and the following are the hypothesised prediction:

H17 Closer valuation positively influences entrepreneurial environment knowledge (ENSUP).

H18 Social valuation positively influences entrepreneurial environment knowledge (ENSUP).

2.5 Parental self-employment/role model differences in entrepreneurial intentions

Entrepreneurial intentions can be indirectly influenced by the family business background (Peterman and Kennedy, 2003) which have implications for antecedents of entrepreneurial intention. Role models are individuals 'who can influence role aspirants'

achievements, motivation, and goals by acting as behavioural models, representation of the possible, and/or inspirations' [Morgenroth et al., (2015), p.4]. Empirical research (Sieger et al., 2018) indicated that children from families with entrepreneurial roots have the likelihood to start their own businesses or to join the family business. According to Sørensen (2007), children with self-employed parents are twice as likely to become self-employed. Role models play an important part in the education of students and contribute to the development of skills, attitude, and identity (Nieuwenhuijze et al., 2020).

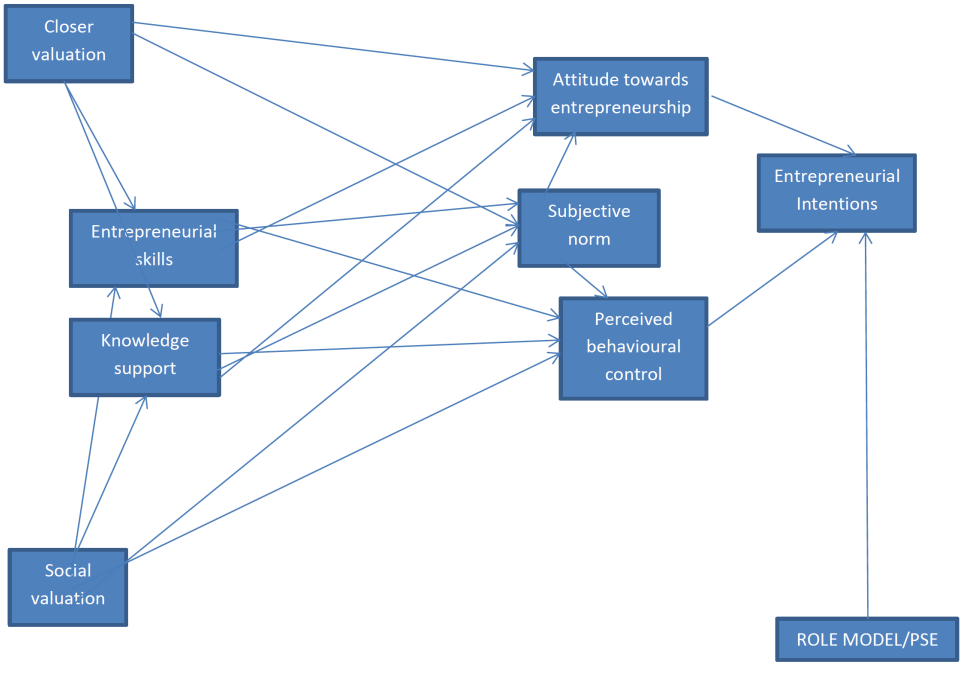
Students at a few institutions in Guangxi were sent online electronic questionnaires to gather some sample data. To assess the 757 valid sample data, a structural equation model was employed. The findings revealed that there are considerable disparities between college students with or without family business experience in terms of their intention to launch their own firm.

In fact, the family effect can be significant in South Asian nations, where the culture tends to be more collectivist, enhancing the SN and perhaps the ATE and PBC as well (Laspita et al., 2012).

Nonetheless, it is possible that unpleasant entrepreneurial experiences in the family have a major unfavourable impact on kids' emotional intelligence and cause them to lean towards paid work because they believe it to be less risky (Zhang et al., 2014). Hence, we hypothesised that:

H19 Students with parental self-employment (PSE) exhibit greater entrepreneurial intentions than those without PSE.

Figure 1 Entrepreneurial intention model (see online version for colours)



3 Methodology

The empirical research methodology was quantitative, based on a questionnaire applied to a sample of 319 students in a public Spanish university. The questionnaire was developed and based on the measurement scales used by (Liñán and Chen, 2009; Liñán et al., 2013) and the items were evaluated on a 5-point Likert scale. The questionnaire consisted of scales for entrepreneurial intentions, attitude, SN, PBC, ES, SV, SV. The questionnaire was written in English and Spanish and was completed by the students in both electronic and printed formats. The sample of the 319 students is made up of 174 male (54.5%) and 145 female (45.5%). Bird (2015) reviewed 78 articles and found that more than 80% of the studies on entrepreneurial intention surveyed were students. About 91.7% of the respondents were undergraduate students, 82.3% of whom were not in employment. The majority of the students fall within 20–24 ages (69.5%) category. This paper used a non-probability, convenience sampling. This approach to sample selection is prevalent in entrepreneurship studies (Fayolle and Gailly, 2015; Krueger et al., 2000).

3.1 Measurement instrument

Our study aimed to test the entrepreneurial intentions model on university students, the role of parental self-employment. We identified studies by Liñán (2008) and Liñán et al. (2013) that have employed similar model in the past and subsequently used their scales to measure entrepreneurial intentions and the other constructs (social valuation, closer valuation, entrepreneurial skills, and knowledge of the entrepreneurial environment ENSUP).

Entrepreneurial intention is measured by the entrepreneurial intention questionnaire developed by Liñán and Chen (2009). Though they used seven-point Likert scales, this study's measure consisted of statements rated on five-point Likert scales. The Cronbach's alpha is 0.94, giving us the confidence of reliability of our measure. The other constructs produced satisfactory results except for SV (see Table 1).

3.2 Data analysis

As already stated, data analysis was conducted using SMART-PLS 3.0 software, and interpreted with descriptive and correlative statistics. SMART-PLS is a second generation multivariate method based on structural equations. It avoids distribution assumption and possesses higher statistical power, even for small sample studies (Hair et al., 2012).

4 Results

The structural equation modelling consists of two components (Henseler et al., 2009; Henseler et al., 2014):

a the structural model or inner model represents the constructs (circles) or latent variables and the relationship between exogenous and endogenous variables

b the measurement models or outer models of the constructs and the indicator variables (rectangles) (Hair et al., 2011, 2016).

The model for this study was a reflective one, hence in the reflective model assessment, we considered Indicator reliability, internal consistency, convergent validity, and discriminant validity.

Outer loadings are checked employing a threshold of 0.708 (Hair et al., 2019), finding that all indicators survive. The factor loadings in the measurement models must be 0.70, which is the level at which 50% of the indicator variance can be explained (Hair et al., 2016). Prior to this, a small number of items with lower loadings were deleted from the model and we re-run to arrive at the results in Table 1. Three of the social valuation items (question numbers 27, 28, and 31) were reverse-coded but they were later deleted due to their poor loadings. The results also show that all constructs in this study are more than 0.70 in both composite reliability and Cronbach's alpha value (see Table 1). It indicates that the constructs are reliable.

The most frequently used measure of reliability is Cronbach's alpha coefficient. This analysis is used to examine the level of internal consistency. Calculating the separate Cronbach's alpha for each factor fails to capture the effect of the other constructs on reliability. Therefore, Fornell and Larcker (1981) proposed the use of the composite reliability index and average variance extracted (AVE), which should be greater than or equal to 0.5. The study uses the standard value of composite reliability ≥ 0.60 (Nunnally and Bernstein, 1994), standard Cronbach's alpha $\alpha \geq 0.70$ (Allen and Yen, 2002), and average variance extracted (AVE) ≥ 0.50 (Hair et al., 2016). The results are shown in Table 1 and Figure 2. Thus, composite reliability values, Cronbach's alpha and average variance extracted (AVE) exceed 0.7, 0.7, and 0.5, respectively, and subsequently satisfying the conditions for these values (Fornell and Larcker, 1981). The Rho_A values for the constructs were also all approximately reliable (>0.70). Furthermore, correlations among all constructs were examined to confirm the discriminant validity. The estimated values for corrections among constructs were below the squared threshold figure, hence confirming the presence of discriminant validity (Cheah et al., 2018). Table 2 depicts the results, which means that the constructs are purely unrelated and valid to pursue further statistical tests.

For the structural model, we employed path coefficients, T values, P values, and R square for the analysis to establish the causal relationship described in the hypotheses. For the purpose of evaluating the hypothesised correlations, we used 500 samples and a bootstrapping procedure with Smart PLS 3 to establish the significance of the route coefficients. According to Chin (2010), standard error estimates from 200–1,000 bootstrapping samples are realistic. Our aim was to test the entrepreneurial intention model used by Liñán et al. (2013). Table 3 summarises the hypotheses, and Figure 3 illustrates the relationships.

As shown in Table 3, we did confirm all other hypotheses except CV → ATE, ENSUP → ATE, SV → ES and SV → PBC relationships. Table 3 shows that the path coefficients for attitudes and PBC towards the intention to become an entrepreneur were both positive and significant. Thus hypotheses were therefore supported by the data.

We assessed the R^2 values of all the endogenous constructs as a measure of the model's predictive in-sample predictive power (Ringle et al., 2018). A rough rule of thumb is that R^2 values of 0.25, 0.50, and 0.75 are respectively weak, moderate, and strong (Hair et al., 2011). Table 4 depicts the R^2 values.

Table 1 Full-sample measurement model (reliability indicators)/composites and measures

Items	*Loadings*	*Cronbach's alpha*	*Composite reliability*	*AVE*	*rho_A*
ATE		0.897	0.928	0.765	0.900
ATE2	0.891				
ATE3	0.851				
ATE4	0.860				
ATE5	0.895				
EI		0.922	0.940	0.724	0.929
EI1	0.717				
EI2	0.873				
EI3	0.912				
EI4	0.893				
EI5	0.811				
EI6	0.886				
PBC		0.862	0.898	0.595	0.870
PBC1	0.731				
PBC2	0.841				
PBC3	0.854				
PBC4	0.709				
PBC5	0.750				
PBC6	0.731				
SN		0.882	0.927	0.808	0.890
SN1	0.891				
SN2	0.918				
SN3	0.888				
SV		0.635	0.844	0.731	0.650
SV1	0.884				
SV4	0.825				
ES		0.689	0.827	0.614	0.693
ES1	0.779				
ES2	0.782				
ES5	0.790				
ENSUP		0.916	0.935	0.705	0.919
ENSUP1	0.796				
ENSUP2	0.814				
ENSUP3	0.868				
ENSUP4	0.836				
ENSUP5	0.884				
ENSUP6	0.836				

Table 1 Full-sample measurement model (reliability indicators)/composites and measures (continued)

Items	*Loadings*	*Cronbach's alpha*	*Composite reliability*	*AVE*	*rho_A*
CV		0.831	0.894	0.738	0.893
CV1	0.825				
CV2	0.881				
CV3	0.871				

Figure 2 PLS algorithm (see online version for colours)

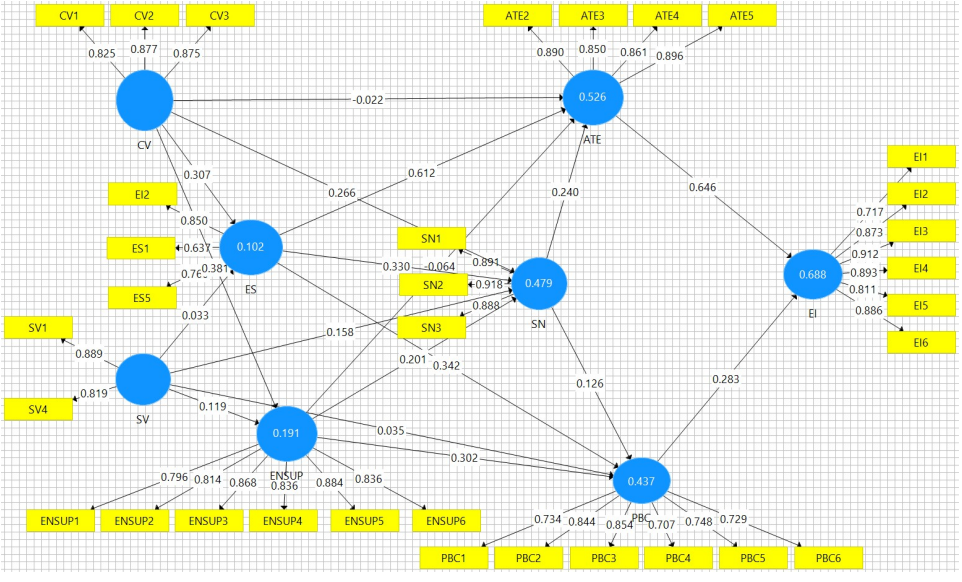


Table 2 Discriminant validity

	ATE	*CV*	*EI*	*ENSUP*	*ES*	*PBC*	*SN*	*SV*
ATE	0.874							
CV	0.268	0.859						
EI	0.793	0.392	0.851					
ENSUP	0.389	0.424	0.530	0.839				
ES	0.442	0.240	0.428	0.468	0.784			
PBC	0.520	0.331	0.619	0.566	0.488	0.771		
SN	0.530	0.513	0.597	0.534	0.397	0.487	0.899	
SV	0.156	0.353	0.161	0.253	0.156	0.205	0.349	0.855

Figure 3 PLS bootstrap (see online version for colours)

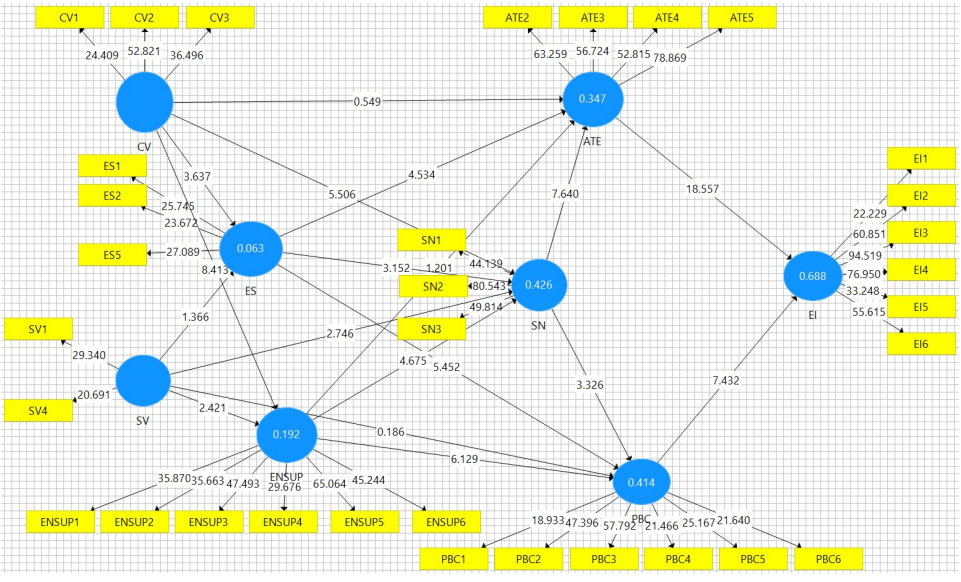


Table 3 Structural model results

Construct	*(O)*	*(M)*	*STDEV*	*T statistics*	*P values*	*Hypothesis*
ATE → EI	0.646	0.645	0.035	18.557	0.000	ACCEPT
CV → ATE	–0.030	–0.030	0.055	0.549	0.583	REJECT
CV → ENSUP	0.383	0.385	0.046	8.413	0.000	ACCEPT
CV → ES	0.211	0.213	0.058	3.637	0.000	ACCEPT
CV → SN	0.298	0.301	0.054	5.506	0.000	ACCEPT
ENSUP → ATE	0.064	0.063	0.053	1.201	0.230	REJECT
ENSUP → PBC	0.339	0.340	0.055	6.129	0.000	ACCEPT
ENSUP → SN	0.293	0.290	0.063	4.675	0.000	ACCEPT
ES -> ATE	0.257	0.260	0.057	4.534	0.000	ACCEPT
ES -> PBC	0.247	0.250	0.045	5.452	0.000	ACCEPT
ES → SN	0.166	0.170	0.053	3.152	0.002	ACCEPT
PBC → EI	0.283	0.285	0.038	7.432	0.000	ACCEPT
SN → ATE	0.409	0.407	0.054	7.640	0.000	ACCEPT
SN → PBC	0.205	0.204	0.062	3.326	0.001	ACCEPT
SV → ENSUP	0.118	0.118	0.049	2.421	0.016	ACCEPT
SV → ES	0.082	0.081	0.060	1.366	0.172	REJECT
SV → PBC	0.009	0.009	0.048	0.186	0.852	REJECT
SV → SN	0.144	0.143	0.052	2.746	0.006	ACCEPT

Table 4 R square

Items	*R square*
ATE	0.526
EI	0.688
ENSUP	0.191
ES	0.102
PBC	0.437
SN	0.479

4.1 Collinearity assessment

Collinearity assessment typically involves calculating each item's variance inflation factor (VIF). There are diverse criteria of acceptable VIF values, such as 10.00 (Sarstedt and Mooi, 2014), 3.33 (Diamantopoulos and Siguaw, 2006), and 5 (Hair et al., 2011). Generally, lower values are better, but following Hair et al. (2011), we can confirm that the issue of collinearity has been addressed in this study. Thus the models were not distorted by multicollinearity. Appendix 2 shows the VIF values.

4.2 Measurement invariance of composite models

The measurement invariance of composite model (MICOM) procedure specifies the technique for analysing the invariance before the multi-group analysis. Henseler et al. (2014) propose the use of the MICOM, suggesting a three-step approach to analyse:

a configural invariance

b compositional invariance

c the equality of composite mean values and variances.

After confirming the existence of invariance, the next step is to apply the MGA, and comparing the explained variance for each group.

Table 5 MICOM step 2

Items	*Original correlation*	*Correlation permutation mean*	*5.0%*	*Permutation p-values*
ATE	1.000	1.000	1.000	0.430
CV	0.997	0.999	0.995	0.194
EI	1.000	1.000	1.000	0.672
ENSUP	1.000	1.000	0.998	0.330
ES	0.994	0.998	0.992	0.092
PBC	0.999	0.999	0.996	0.374
SN	1.000	1.000	0.999	0.188
SV	0.995	0.994	0.975	0.376

We analysed the measurement invariance before performing the MGA. However, we satisfy steps 1 and 2, which are sufficient conditions for the performance of MGA. Table 5 shows step 2 results. Step 3 was omitted from the results because it was not satisfied.

4.3 Multi-group analysis

Multi-group analysis was performed to determine whether there were any statistically significant differences between respondents with parental self-employment and those without (i.e., testing Hypothesis 19). In order to perform the multi-group analyses, the respondents were split to create a dichotomous variable (YES and NO). YES represents respondents whose parents are entrepreneurs and NO represents respondents whose parents are not entrepreneurs. For the MGA, the total number of respondents that have parents who are entrepreneurs is 164 and 155 respondents without entrepreneurial background. MGA has been done to analyse the path coefficient between the groups, and, eventually, in testing Hypothesis 19. The application of the MGA aids in the appreciation of group-specific effects that facilitate obtaining further segregated results. The results of the MGA are captured on Table 6.

Table 6 PLS-MGA results

ITEMS	*Path coefficients – diff (YES-NO)*	*p-value original 1-tailed (YES vs. NO)*	*p-value new (YES vs. NO)*
ATE → EI	0.082	0.089	0.178
CV → ATE	–0.040	0.669	0.662
CV → ENSUP	0.122	0.122	0.244
CV → ES	–0.222	0.985	0.031
CV → SN	0.610	0.000	0.000
ENSUP → ATE	0.149	0.044	0.087
ENSUP → PBC	–0.151	0.918	0.164
ENSUP → SN	–0.294	0.994	0.011
ES → ATE	–0.005	0.522	0.956
ES → PBC	0.098	0.210	0.419
ES → SN	–0.254	0.995	0.010
PBC → EI	–0.205	0.996	0.008
SN → ATE	0.070	0.242	0.484
SN → PBC	–0.004	0.514	0.973
SV → ENSUP	–0.044	0.644	0.711
SV → ES	0.158	0.113	0.226
SV → PBC	0.215	0.037	0.074
SV → SN	–0.015	0.579	0.843

5 Discussion

This paper combined social and skills perceptions with entrepreneurial environment knowledge to examine how they may affect the motivational antecedents of entrepreneurial intention. We investigated the role of parental self-employment on the antecedents of entrepreneurial intention of Spanish students.

In line with previous studies (Dalila et al., 2020; Soorani and Ahmadvand, 2019; Kumar et al., 2021; Maresch et al., 2016; Rausch and Kopplin, 2021; Sher et al., 2020; Ben Youssef et al., 2020), the hypotheses regarding the original TPB model were supported, as attitude and PBC predicted intentions. Personal attitude and behavioural content, as the main determinants of entrepreneurial intention, in the structural model, showed that they explain almost 69% of the total variance compared to 72.7% for Ben Youssef et al. (2020). Regarding the studies by Liñán (2008), Santos et al. (2016) and Liñán et al. (2013), the total variance reported was 59.2%, 68.7% – men, 68.3% – women, and 65%, respectively. This model also explains a substantial proportion of the variance in ATE and PBC (38.4% and 40.8%, respectively), compared with 30.8% and 38.0%, respectively for Liñán (2008). Although in Ajzen's model, perceived behavioural control is an antecedent to intentions, a previous study failed to validate this construct (Gieure et al., 2019). Personal attitudes negatively influence entrepreneurial intentions (Gieure et al., 2020). Our results show that PBC is the strongest predictor of intentions, which is inconsistent with studies by Kumar et al. (2021), who reported attitude as the strongest predictor.

The results demonstrate that entrepreneurial skills have an influence on ATE, PBC, and SN, which corroborated prior research by Gieure et al. (2020) who reported a significant relationship between ES and ATE and SN. Entrepreneurial skills are a critical factor in the model, and the results are satisfactory. This finding also confirms the relevance of skills, because the correlations are high and the results are consistent with those reported by Liñán (2008), who also obtained satisfactory results when studying the TPB and entrepreneurial skills. Thus ES were significant predictors of the three motivational antecedents of intention. Hence, we can deduce that having entrepreneurial skills exerts a significant impact on the formation of intentions. Thus, having entrepreneurial skills increases entrepreneurial intentions through the antecedents (attitudes and subjective norms) of intentions to become an entrepreneur. Prospective entrepreneurs can gain the requisite knowledge and skills to start their business in the university environment (Gieure et al., 2020). In fact, most entrepreneurship programmes, emphasise the development of PBC through acquiring the requisite entrepreneurial skills and competencies.

Following Liñán et al. (2013) we included entrepreneurial environment knowledge (entrepreneurial support) into the model, an extension of Liñán's (2008) work. Regarding the influence of perceived environmental knowledge (ENSUP) and ATE, the relationship was insignificant, which is inconsistent with prior studies (Rausch and Kopplin, 2021). The impact of ENSUP on PBC and SN was significant, consistent with a study by Liñán et al. (2013). Moreover, it is a significant predictor of PBC, suggesting a consistent impact on greater knowledge of the entrepreneurial environment and support systems contributing to the sense of the capacity of venture creation. Thus, entrepreneurial knowledge directly contributes the engagement in entrepreneurial behaviour and controllability of that behaviour.

With respect to the correlations between SV and CV and the antecedents of TPB respectively, all the hypotheses were accepted except CV → ATE and SV → PBC relationships. Aspects of these findings (SV → PBC) are consistent with Liñán's (2008). The study registered a positive and significant relationship between CV and SN only but Liñán (2008) reported positive impact for both CV → ATE and CV → SN. Liñán (2008) reported an insignificant relationship for SV → SN and SV → PBC, contrary to our findings, where we reported a positive relationship between SV and SNs. According to Liñán et al. (2013), there is a positive and significant relationship between SV and SN and PBC respectively. In the same study, they found a positive influence of CV on attitude. Regarding the relationship between CV and ES, this study demonstrated a positive and significant impact respectively. This is in line with prior studies (Liñán, 2008). According to Ampadu et al. (2021), there is the need for educators to work hard to help students understand themselves and provide effective learning opportunities for excellence and development of inherent capabilities. However, the relationship between SV and ES was insignificant. Our finding is noteworthy because perceived closer valuations of entrepreneurship contribute to raising awareness, knowledge, and skills which in turn, also contribute to the generation of more favourable motivational antecedents and, through them, higher intention. This implies that closer environment valuations of entrepreneurship contribute towards encouraging the acquisition of entrepreneurial skills, together with knowledge and consciousness of the entrepreneurial career path, lending indirect support to the idea that students value informal than formal support systems (Tackey and Perryman, 1999). However, SV → ES was insignificant, though by attaining entrepreneurial skills, students will feel more capable to exercise control over entrepreneurial behaviour. Although research on entrepreneurship shows how supportive environmental influences are conducive to entrepreneurship in general, Meoli et al. (2020) propose that supportive environmental influences mean the presence of alternative job opportunities, which make all other being equal, students with high entrepreneurial intention less likely to start a new venture.

This study revealed that respondents with parental self-employment perceive a higher attitude towards entrepreneurship, perceived behavioural control, entrepreneurial skills, entrepreneurial support, and entrepreneurial intention than those without PSE (see Appendixes 3 and 4). Interestingly, the results of the multi-group analysis (H19) show that majority of the relationships or hypotheses (see Table 6) were not supported. This outcome is consistent with prior studies (Liñán et al., 2013; Santos et al., 2016), which reported a high number of insignificant relationships in the MGA. This result led to the rejection of H19. Thus, on the whole, there were no statistically significant differences among respondents with parental self-employment and respondents without parental self-employment with respect to the path coefficients.

6 Research implications

The results of this paper indicate that entrepreneurial intention is explained by the three antecedents (ATE, SN and PBC) of the TPB. This study adds empirical support to the robustness and reliability of the TPB in entrepreneurial research. Evidence can also be found in prior studies (Liñán, 2008; Liñán et al., 2013; Santos et al., 2016).

This study has implications for the content of entrepreneurial intentions, especially with the incorporation of culture, motivations, skills, and knowledge of the entrepreneurial environment within a higher educational institution. Thus, this study moves a step further by analysing other variables that are considered critical to the antecedents of entrepreneurial intentions among university students.

In relation to the aforementioned, the findings portray significant dependent relationships that exist among the three antecedents of the TPB. Consistent with TPB, attitude, and PBC emerged as significant positive predictors of entrepreneurial intentions. Also, the PBC exerted a stronger influence (in comparison with attitude) on entrepreneurial intentions, which indicate that students have higher levels of volitional control over themselves so far as intentions are concerned.

6.1 Managerial and policy implications

Individuals surrounded by supportive relevant others are more likely to embark on entrepreneurial intentions by establishing a new venture. Students' proximal context, characterised by family, university peers, and mentors; serves as a way to overcome external barriers, providing cognitive resources needed to cope with such barriers. By showing how to access information, resources, and knowledge from important individuals may be conducive to an entrepreneurial career, these findings corroborate the importance of social context in promoting entrepreneurship (Audia and Rider, 2006; Dahl and Sorenson, 2009).

A more favourable environment towards entrepreneurship will contribute to people feeling more attracted and more supported to become entrepreneurs. In order to boost EI among academics, it is necessary to develop these abilities through public policies that result in the growth of these capacities because they are what define attitude. Hence, for entrepreneurship support institutions, it is necessary to make information on business incentives and concessions accessible to students and other stakeholders. There is the need to coordinate the workings and visibility of institutions like role model entrepreneurs, mentors, coaches, banks, enterprise support agencies, in order to promote entrepreneurial intention among Spanish students. Given the volume of job applicants, it is necessary to teach the students that there are relatively few white collar employment and that entrepreneurship is the best option. For instance, having entrepreneurs as role models come to universities and schools would be quite beneficial.

Our framework complements previous frameworks on the entrepreneurial intention literature. It is refreshing to note that social valuation impacts significantly on attitude towards entrepreneurship. Surprisingly, the relationship between closer valuation and attitude towards entrepreneurship was insignificant. This has implications for the family system in Spain since the country's culture is a collectivist one. Probably, the relevant stakeholders need to invent ways of positively impacting ATE at both the micro and macro levels. By virtue of the insignificant relationship between SV and PBC, the appropriate stakeholders should institute schemes like business accelerators to facilitate the formation of managerial teams to address human capital dearth by bringing together entrepreneurs and investors (Papagiannidis et al., 2009). Since Spain is a collectivist society (Hofstede, 1991, 2001; Hofstede et al., 2010; Leaptrott, 1996), such networking within the environment can propel ATE and, subsequently entrepreneurial intentions.

7 Conclusions

The integrated form of the entrepreneurial intention model, which has gotten less attention in previous research, was tested as part of this study, which added to the body of knowledge on entrepreneurial ambitions. Our results demonstrate the role of parental self-employment in TPB-based studies and the importance of carrying out multi-group analysis. A significant majority of the hypotheses were confirmed and the model explained a highly satisfactory percentage of the variance in entrepreneurial intention and its motivational antecedents. Most of the hypothesised relationships were significant. Despite the survey's limited scope, which only included students at one public university in Spain, the results were encouraging and clearly identified the gender gap.

8 Limitations

We would want to indicate some limitations that offer prospects for future research. A popular limitation of entrepreneurial intention research is the missing link between intentions and actual behaviour (Krueger et al., 2000). The fact that an individual possesses the intention to engage in certain behaviour does not necessarily imply that this intention will metamorphose into action. Perhaps, future studies may focus on intentions and actual behaviour, including opportunities for longitudinal studies. Although being representative, the sample could not be large enough to allow for findings generalisation and university comparisons. Another limitation of our study is that we did not investigate if it makes any difference whether one or both parents were entrepreneurs. Moreover, we did not look into whether the business was inherited one or actually started by their parents themselves. We believe all these dynamics may influence entrepreneurial intentions. Also, we did not distinguish between respondents with only one parent involved in an entrepreneurial venture.

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Appendix 1

Questionnaire

1	Gender Male [ ] Female [ ] Prefer not to say [ ] Other [ ]					
2	How old are you?					
	[ ] Less than 20 years [ ] 20–24 years [ ] 25–29 years					
	[ ] 30–34 years [ ] 35 and over [ ] No response					
3	Year 1st [ ] 2nd [ ] 3rd [ ] 4th [ ]					
4	Programme [ ] BUSINESS [ ] SCIENCE [ ] HUMANITIES					
5	Are you currently self-employed? [ ] YES [ ] NO					
6	Are your parents currently self-employed? [ ] YES [ ] NO					
	Based on your opinion, please indicate the most appropriate response with the scale given below: (1) SD = strongly disagree (2) D = disagree (3) N = neutral (4) A = agree (5) SA = strongly agree					
	ATTITUDE TOWARDS ENTREPRENEURSHIP					
7	Being an entrepreneur implies more advantages than disadvantages to me	1	2	3	4	5
8	A career as an entrepreneur is attractive for me	1	2	3	4	5
9	If I had the opportunity and resources, I'd like to start a firm	1	2	3	4	5
10	Being an entrepreneur would entail great satisfactions for me	1	2	3	4	5
11	Among various career options, I'd rather be an entrepreneur	1	2	3	4	5
	PERCEIVED BEHAVIOURAL CONTROL					
12	Start a firm and kept it working would be easy for me	1	2	3	4	5
13	I am prepared to start a viable firm	1	2	3	4	5
14	I can control the creation process of a new firm	1	2	3	4	5
15	I know the necessary practical details to start a firm	1	2	3	4	5
16	I know how to develop an entrepreneurial project	1	2	3	4	5
17	If I tried to start a firm, I would have a high probability of succeeding	1	2	3	4	5
	ENTREPRENEURIAL INTENTIONS					
18	I am ready to do anything to be an entrepreneur	1	2	3	4	5
19	My professional goal is to be an entrepreneur	1	2	3	4	5
20	I will make every effort to start and run my own enterprise	1	2	3	4	5
21	I am determined to create a firm in the future	1	2	3	4	5
22	I have very seriously thought of starting a firm	1	2	3	4	5
23	I have got the firm intention to start a company some day	1	2	3	4	5
	Measures of CV and SV					
24	My friends value entrepreneurial activity above other activities and careers	1	2	3	4	5
25	My immediate family values entrepreneurial activity above other activities and careers	1	2	3	4	5

Questionnaire (continued)

26	The culture in my country is highly favourable towards entrepreneurial activity	1	2	3	4	5
27	The entrepreneur's role in the economy is generally undervalued in my country	1	2	3	4	5
28	Most people in my country consider it unacceptable to be an entrepreneur	1	2	3	4	5
29	In my country, entrepreneurial activity is considered to be worthwhile, despite the risks	1	2	3	4	5
30	My colleagues value entrepreneurial activity above other activities and careers	1	2	3	4	5
31	It is commonly thought in my country that entrepreneurs take advantage of others	1	2	3	4	5
	SUBJECTIVE NORM					
32	My closest family members think that I should pursue a career as an Entrepreneur	1	2	3	4	5
33	My closest friends think that I should pursue a career as an entrepreneur	1	2	3	4	5
34	People who are important to me think that I should pursue a career as an entrepreneur	1	2	3	4	5
	How do you rate yourself on the following entrepreneurial abilities/skill sets? Indicate from 1 (no aptitude at all) to 5 (very high aptitude)					
35	Recognition of opportunity	1	2	3	4	5
36	Creativity	1	2	3	4	5
37	Problem solving skills	1	2	3	4	5
38	Leadership and communication skills	1	2	3	4	5
39	Development of new products and services	1	2	3	4	5
40	Networking skills, and making professional contacts	1	2	3	4	5
	Pleased indicate your level of knowledge about business associations, support bodies and other sources of assistance for entrepreneurs from 1 (no knowledge) to 5 (complete knowledge)					
41	Private associations (e.g., Chamber of Trade, Institute of Directors, etc.)	1	2	3	4	5
42	Public support bodies (e.g., business link, etc.)	1	2	3	4	5
43	Specific training for young entrepreneurs	1	2	3	4	5
44	Loans in specially favourable terms	1	2	3	4	5
45	Technical aid for business start-ups	1	2	3	4	5
46	Business centres	1	2	3	4	5

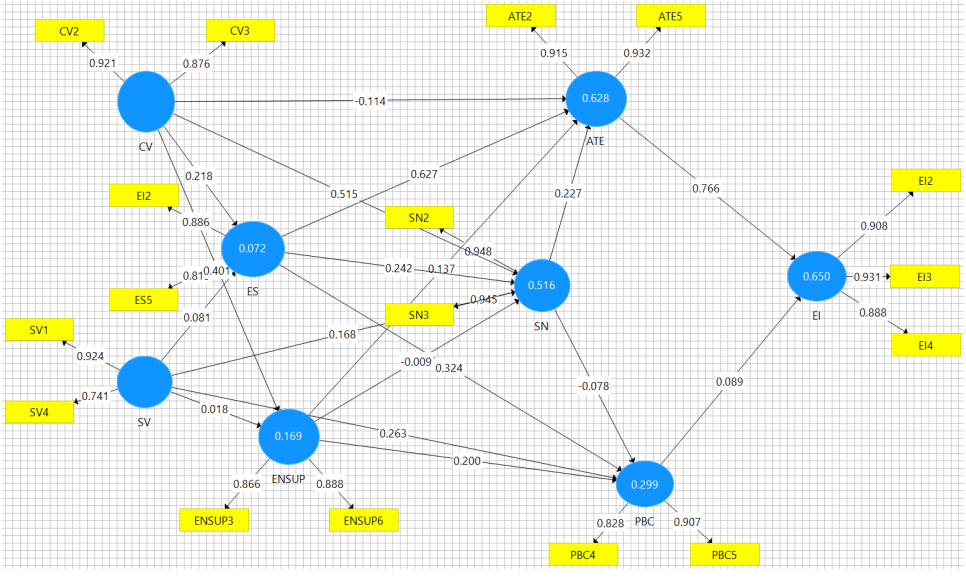
Appendix 2

Collinearity assessment

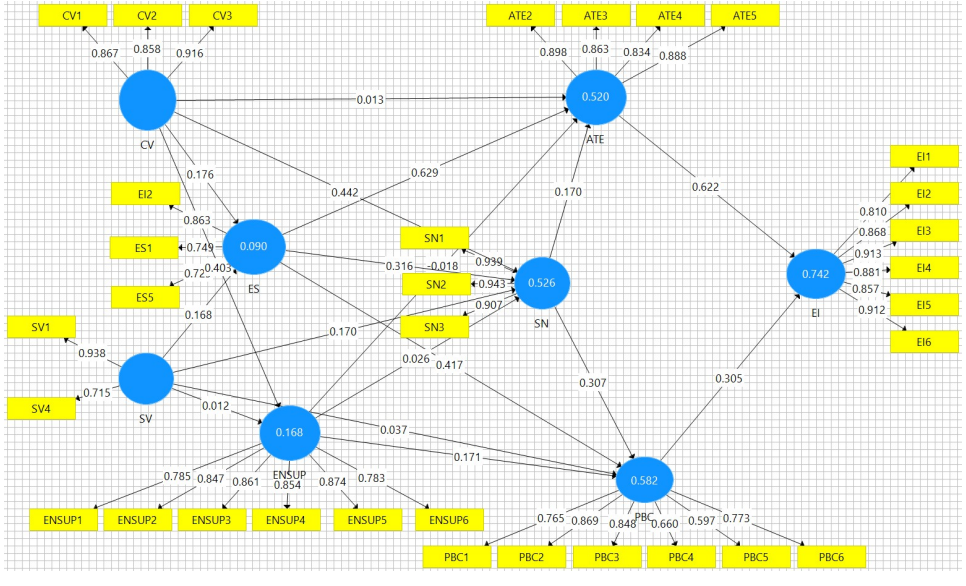
ITEMS	*VIF*
ATE2	2.886
ATE3	2.203
ATE4	2.365
ATE5	2.846
CV1	2.199
CV2	1.613
CV3	2.340
EI1	1.707
EI2	3.185
EI3	4.229
EI4	3.490
EI5	2.401
EI6	3.586
ENSUP1	2.460
ENSUP2	2.658
ENSUP3	2.921
ENSUP4	2.649
ENSUP5	3.434
ENSUP6	2.351
ES1	1.385
ES2	1.448
ES5	1.255
PBC1	1.888
PBC2	2.635
PBC3	2.565
PBC4	1.764
PBC5	2.096
PBC6	1.701
SN1	2.206
SN2	2.799
SN3	2.566
SV1	1.276
SV4	1.276

Appendix 3

Yes-respondents with PSE (A1) (see online version for colours)

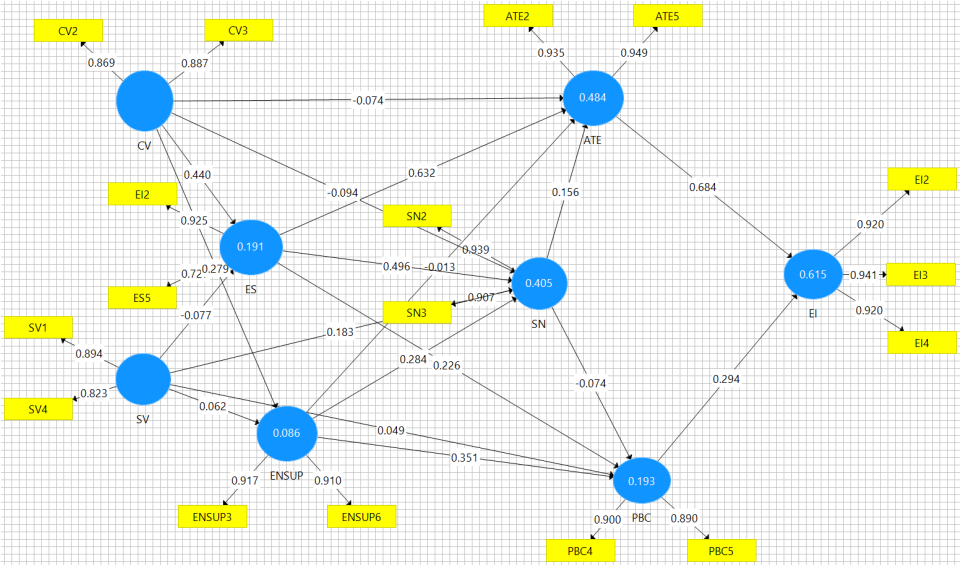


Yes-respondents with PSE (A2) (see online version for colours)

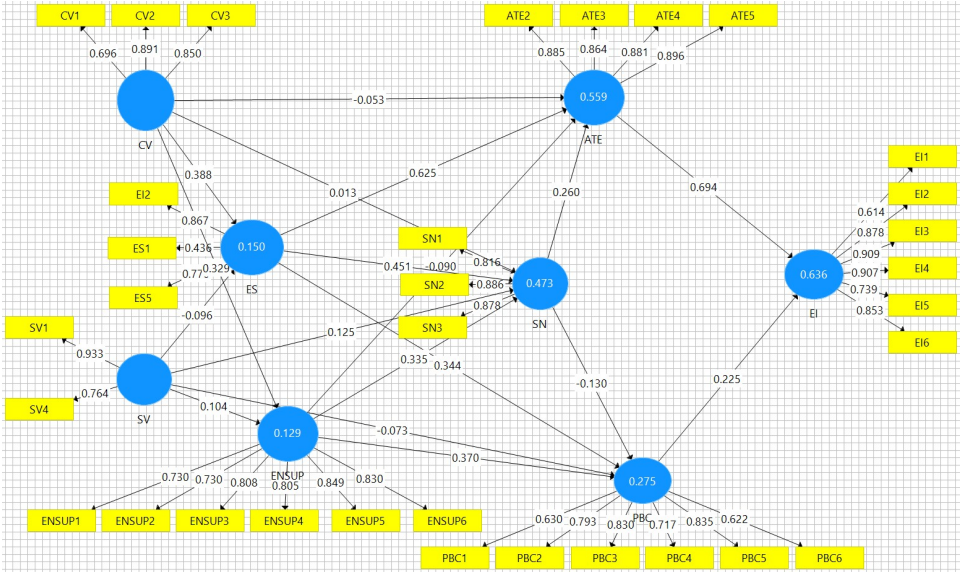


Appendix 4

No-respondents without PSE (B1) (see online version for colours)



No-respondents without PSE (B2) (see online version for colours)



Note: Appendixes 3 (A1) and 4 (B1) were as a result of deletions of loadings that did not meet the MICOM run. Thus, some of the items on Appendixes 3 (B1) and 4 (B2) were deleted before running MICOM. However, the results were consistent with respect to ATE, PBC, ES, ENSUP and EI, when we were comparing respondents with PSE and respondents without PSE as depicted on the figures.