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Entrepreneurial Intentions: The Moderating Role of Parental Self-Employment

Kwaku Amofah
University of Lleida

Ramon Saladrigues
University of Lleida

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c/ Jaume II, 73 (25001 Lleida)

Tf. 973 70 32 06 / Fax: 973 70 33 43

e-mail: dae.secretaria@udl.cat

ENTREPRENEURIAL INTENTIONS: THE MODERATING ROLE OF PARENTAL SELF-EMPLOYMENT

Abstract

Using the entrepreneurial intention model, we examine how parental self-employment/role models moderates (using Multi-Group Analysis) the relationship between the antecedents of entrepreneurial intention and Social Valuation, Closer Valuation, Entrepreneurial Skills and Environmental Support.

The data of three hundred and nineteen respondents were analysed by structural equation modelling (SEM). Thus, SEM was used to examine the structure model of developing entrepreneurial intentions and bootstrap confidence intervals were estimated to test the mediation role. Multi-Group Analysis was used to test the moderating role of parental self-employment (PSE) to determine whether there is significant relationship between respondents with PSE and respondents without PSE.

Consistent with prior studies, ATE and PBC have a positive effect on EI. The results prove that entrepreneurial skills have an influence on ATE, PBC and SN. Regarding the influence of perceived environmental knowledge (ENSUP) and ATE, the relationship was insignificant, though the impact of ENSUP on PBC and SN was significant. 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. This study revealed that respondents with parental self-employment perceive a higher attitude towards entrepreneurship, PBC, entrepreneurial skills, entrepreneurial support, and entrepreneurial intention than those without PSE. However, the MGA established that the formation of entrepreneurial intentions is similar for respondents with parental self-employment and respondents without PSE. Thus, there was no significant relationship between respondents with PSE and respondents without PSE.

A limitation of this study is the missing link between intentions and actual behavior.

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. 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 analyzing other variables that are considered critical to the antecedents of entrepreneurial intentions.

This study is perhaps one of the pioneering works to conduct an MGA to assess the relationship between respondents with parental self-employment and respondents without PSE, using the entrepreneurial intention model.

Keywords: Theory of Planned Behaviour, entrepreneurial intention, social valuation, closer valuation, entrepreneurial skills, entrepreneurial support, role models/PSE.

1. INTRODUCTION

Currently, entrepreneurship is of great importance to economic growth and reduced unemployment. Entrepreneurship accounts for the reduction in unemployment, enhancement in the productivity of people and resources, and the subsequent increase in one's income (Lang & Fink, 2019). Data from Eurostat (2020) suggest unemployment, as the biggest challenge for young people, taking into consideration that at European Union level and other settings, unemployment among the youth is two to three times higher than the overall unemployment. According to Georgescu and Herman (2020) an increase in employment through entrepreneurial activity among young people from different countries could among other things, address Goal 8- 'promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all' of the UN 2030 Agenda for Sustainable Development (UN Transforming Our World, 2020).

There is a connection between entrepreneurship and economic growth (Stoica, Roman, & Rusu, 2020) and one of the variables that influence entrepreneurship are institutions (Acs, Estrin, Mickiewicz, & Szerb, 2018; Bosma, Content, Sanders, & Stam, 2018; Boudreaux, Nikolaev, & Klein, 2019; Elert & Henrekson, 2017; Galindo-Martín, Méndez-Picazo, & Castaño-Martínez, 2019; Urbano, Aparicio, & Audretsch, 2019; Urbano et al., 2019). Institutions can both constrain and promote self-employment and entrepreneurship (Fayolle & Liñán, 2014; Feldman, Feller, Bercovitz, & Burton, 2002; Grimaldi, Kenney, Siegel, & Wright, 2011). Institutional variables affect the entrepreneur because they provide adequate motivations to entrepreneurs to help them develop and expand their activity (Bosma et al., 2018; Dilli, Elert, & Herrmann, 2018). The link among institutions, entrepreneurship and economic growth (Acs et al., 2018; Bosma et al., 2018; Galindo-Martín et al., 2019; Urbano et al., 2019), implies that the institutions would foster sustained growth over time, directly and indirectly, through entrepreneurship. According to Galindo-Martín, Castaño-Martínez, and Méndez-Picazo (2021) there is positive correlation between social climate and entrepreneurship.

This paper follows the cognitive approach, through the application of an Entrepreneurial Intention model, adapted from the theory of planned behavior. With the development of the

theory of reasoned action, the TPB was introduced, and the main constructs of the theory include attitude, subjective norms, and behavioural control, which have the capacity to predict behavioural intentions and behaviour (Ajzen, 2015). According to Henry, Hill and Leitch (2003) a cognitive approach is important because it symbolizes an attempt to appreciate the formation of new ventures and the underlying structures and processes. The upsurge of entrepreneurial intention is influenced by a number of personal and environmental variables, among which the factors connected to education and training in entrepreneurship is prominent ((Fayolle & Gailly, 2015). This perhaps explain why students' entrepreneurial intentions have become a major research (Badri & Hachicha, 2019). The development of entrepreneurial intentions is a popular topic in entrepreneurship research and entrepreneurial intentions are often used as a proxy for entrepreneurial action. Universities increasingly support such activities and scholars have started examining student entrepreneurship, often proxying it with the formation of entrepreneurial intentions (e.g., Criaco et al., 2017; Souitaris, Zerbiniati, & Al-Laham, 2007; Zellweger, Sieger, & Halter, 2011).

As for novelty this paper fills the gap in the available research since it focusses on the moderating effect of parental self-employment/role model on the relationship between the antecedents of the Theory of Planned Behaviour (TPB) (ATE, PBC and SN), and ES, ENSUP, SV, CV with respect to entrepreneurial intention of students. Relatively, few studies have conducted moderation analysis regarding the relationship between the TPB constructs and intentions (Carfora, Caso, Sparks, & Conner, 2017). According to Barbera and Ajzen (2020) evaluating moderating variables can promote a broader appreciation of people's intentions. Prior research investigates the relationship between PSE and students' entrepreneurial intention. We examine the extent to which students possess the attitudes, subjective norms, PBC, SV, CV, ES and ENSUP considered critical ingredients of becoming an entrepreneur. We add to literature by investigating not only the direct effects of these constructs, but in treating them as moderators of the antecedents of TPB and SV, CV, ES and ENSUP relationships. Authors like Maresch, Harms, Kailer, and Wimmer-Wurm (2016)and Georgescu and Herman (2020) have conducted similar studies in the past. We seek to enhance the knowledge in this filed by investigating role model differences in entrepreneurial intention. This study will bring additional knowledge to this field, by analyzing the impact of PSE or Role Models on the antecedents of entrepreneurial intentions.

Although previous studies acknowledge the importance of role models for prospective entrepreneurs, there is no common appreciation of the effect of role models on entrepreneurship, and research in this field is rather fragmented (Bosma, Hessels, Schutjens, Praag, & Verheul, 2012). According to BarNir, Watson, and Hutchins (2011) exposure to role models has a positive relationship on entrepreneurial intentions by providing specific guidance and support or by creating an environment that triggers entrepreneurial behavior. Role model theory expounds the process of learning by emulating the action of other persons through observing

them doing it. This theory has been applied to entrepreneurial research to elucidate why individuals whose parents are entrepreneurs become entrepreneurs (Arenius & Minniti, 2005). Parents, as early role models can act as positive or negative models for entrepreneurship (Pablo-Lerchundi, Morales-Alonso, & González-Tirados, 2015). Abbasianchavari and Moritz (2020) suggest that entrepreneurial intentions and behavior are affected by exposure to role models. Previous studies (e.g., Geldhof, Weiner, Agans, Mueller, & Lerner, 2014; Chlosta et al., 2012; Laspita, Breugst, Heblich, & Patzelt, 2012; Criaco, Sieger, Wennberg, Chirico, & Minola, 2017; Andersson & Hammarstedt, 2011; Zapkau, Schwens, Steinmetz, & Kabst, 2015) have suggested that entrepreneurial parents impact the probability of entrepreneurial intentions. Professional networks, personal networks and family environment can encourage individuals to have higher entrepreneurial intentions (Foo, Knockaert, Chan, & Erikson, 2016; Tartari & Breschi, 2012). Some researchers found that social influence via parents is an important determinant of entrepreneurial career decisions. Thus parental roles, from an early stage, influence ‘the children’s attitude towards becoming self-employed themselves’ (Chlosta, Patzelt, Klein, & Dormann, 2012, p.122).

Though a lot of studies have been conducted to better appreciate the factors affecting entrepreneurial perceptions and intentions, there is still the need to develop a more adequate, reliable and valid instruments (Liñán & Chen, 2009). According to Sok, Borges, Schmidt, and Ajzen (2020), the main concerns of data analysis in research with the TPB are the model’s predictive validity and the relative effect of attitude, subjective norm and perceived behavioural control on intention. And multiple regression and structural equation modelling (SEM) are the most popular methods used. 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 structural equation techniques (SMART-PLS).

Another aim of this paper is to draw some of the strands in TPB-based intention models, as cited by Liñán, Nabi, & Kueger (2013). Liñán (2008) in his paper, tested the extent to which perceived social valuation of entrepreneurship and perceived personal skills impacted on entrepreneurial skills, either directly or through the motivational factors determining it. Santos, Roomi, and Liñán (2016) researched into the gender differences and social environment in the development of entrepreneurial intentions. But this paper looks into the differences in parental self-employment 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 (SV), closer environment valuation (CV) and entrepreneurial skill perceptions, which are considered as critical ingredients for entrepreneurial venture. However, scholars have noted the significance of two other variables (Ajzen, 2020; Bosma, Acs, Autio, Coduras & Levie, 2008; Liñán et al., 2013; Liñán, Battistelli, & Moriano, 2008). The first is the importance of a greater knowledge of the entrepreneurial environment. The second is the importance of a cross-sectional perspective

to better appreciate the effect of cultural environments on entrepreneurial motivation and intention (Liñán et al., 2013). However, this study will focus on the former. A plethora of research studies (e.g., Herman & Stefanescu, 2017; Franco, Haase, & Lautenschläger, 2010; Pruett, Shinnar, Toney, Llopis, & Fox, 2009) have established that EIs of individuals can be determined by different forces (environmental or contextual factors and personal background factors), which can have a positive or negative influence, a direct or indirect influence, respectively. This paper is motivated mainly by the studies of Liñán (2008) and Liñán et al. (2013), but as a novelty, we treat parental self-employment/role model (an integral part of CV) as an antecedent of the variables of the TPB and also as a moderator. Thus, we will treat PSE as a direct variable of the antecedents of the TPB and a moderator.

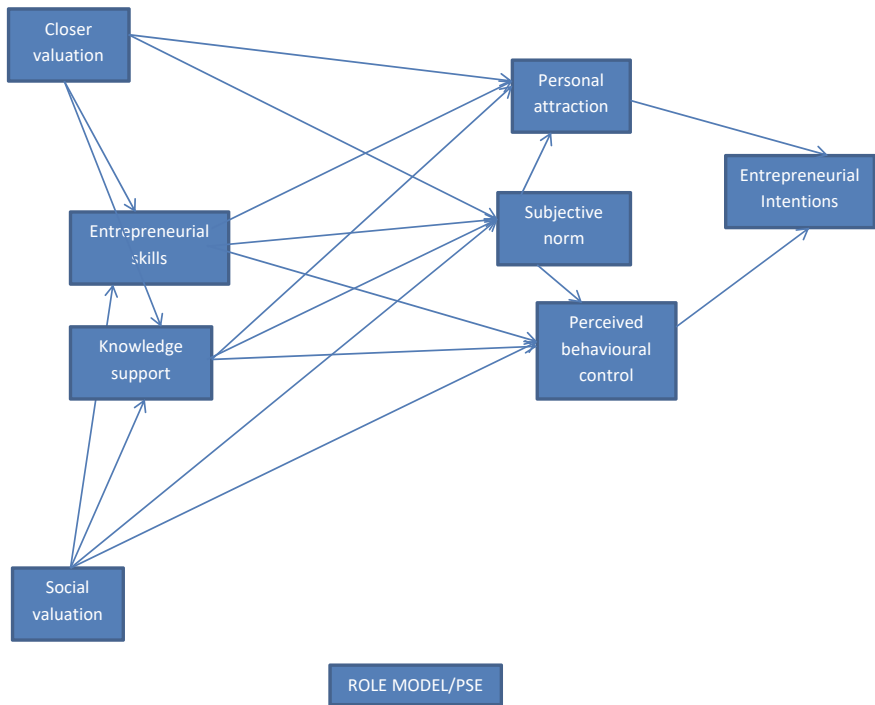


Figure 1. entrepreneurial intention model.

This study will hopefully extend literature, as a confirmation of the applicability of the cognitive model to the entrepreneurial decision. It will also contribute to clarifying the specific pattern of relationships among the intention antecedents. Also, the effects of culture and/or

entrepreneurial intentions will be tested. According to Liñán, Santos, and Fernández (2011) a positive perception about entrepreneurial cultural values, such as perceived social legitimation, will exert a positive influence on the entrepreneurial intention. Also, relevant implications for educators and policy makers could be realized.

The organization of the paper is as follows. The next section reviews literature and development of hypotheses. The third section describes the methodology. The fourth section presents the results for the study. The fifth section includes a discussion and the paper ends with a brief conclusion.

2. THEORY AND HYPOTHESES DEVELOPMENT

2.1 Entrepreneurial Intention defined plus its antecedents

Entrepreneurial intention is state of mind that aims actions towards behaviour (López-Núñez, Rubio-Valdehita, Aparicio-García, & Díaz-Ramiro, 2020). It is a desire to start a business (Krueger, Reilly, & Carsrud, 2000) or a disposition to complete an act (Liñán & Fayolle, 2015). Research on EIs is necessary because students are potentially enterprising (Bird, 2015; Krueger et al., 2000). In recent years, there has been a tremendous surge in usage and applicability of Theory of Planned Behaviour (TPB) (Ajzen, 2019). There are a number of studies conducted with the help of TPB in different fields and continents (Kumar, Prakash, & Kumar, 2021; Prakash et al., 2019; Spence, Stancu, Elliott, & Dean, 2018; Taufique & Vaithianathan, 2018; Verma & Chandra, 2018).

The TPB proposes that human behavior is guided by three types of considerations: beliefs about the likely implications of the behaviour (behavioural beliefs), beliefs about the normative expectations of others (normative beliefs), and beliefs about the presence of factors that may aid or hinder performance of the behavior (control beliefs). On the whole, behavioural beliefs produce a favourable or unfavourable attitude toward the behaviour; normative beliefs result in perceived social pressure or subjective norm; and control beliefs give rise to perceived behavioural control or self-efficacy. The effects of attitude toward the behavior and subjective norm on intention are moderated by perception by perception of behavioural control. Basically, the more favourable the attitude and subjective norm, and the greater the perceived control, the stronger should be the person's intention to perform the behavior in question. Also, given an ample measure of actual control over the behavior, people are expected to carry out their intentions when the opportunity arises. Thus intention is assumed to be the immediate antecedent of behavior (Bosnjak, Ajzen, & Schmidt, 2020).

In TPB, attitude plays a vital role in predicting the behavioural intentions of an individual (Kuo, Tseng, Lin, Wang, & Lee, 2018). Attitude is defined as favourable or unfavourable assessments of cognitive beliefs about an idea, people, objects, events or behavior in question (Miao, Haddock & Verplanken, 2018).

Subjective norms refers to a person's beliefs or perception that significantly emerges from peers, society or family (Bong Ko & Jin, 2017). In TPB, subjective norm is an essential component to predict behavioral intention (Nguyen, Nguyen, & Nguyen, 2019).

Perceived behavior control (or self-efficacy) can be defined as an individual's perception or individual's beliefs that control over the ability to carry out the behavior (Mishal, Dubey, Gupta, & Luo, 2017; Sreen, Purbey, & Sadarangani, 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, Berger, Golla, & Kuckertz, 2018). Attitude and PBC have a significant impact on intention (Abadi, Mahdavian, & Fattahi, 2021; Dalila, Latif, Jaafar, Aziz, & Afthanorhan, 2020; Soorani & Ahmadvand, 2019).

Some scholars (Liñán, Urbano, & Guerrero, 2011; Rueda, Moriano, & Liñán, 2015) have provided evidence of the validity of the TPB for Spanish universities. Fayolle, Gailly and Lassas-Clerc (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; US (Krueger et al., 2000), Norway (Kolvereid, 1996), Ghana (Amofah & Saladrighes, 2020; Amofah et al., 2020) and the Netherlands (Van Gelderen et al., 2008).

Attitude and PBC are predictors of entrepreneurial intention (Aloulou, 2016; Fayolle & Gailly, 2015; Liñán & Chen, 2009; Youssef, Boubaker, Dedaj, & Carabregu-Vokshi, 2020), though Youssef et al. (2020) found attitude to have a stronger effect than PBC. Entrepreneurial mindset is an important variable in entrepreneurship studies (Allen, 2020) and the foundation of entrepreneurial intention reclines adaptability (Haynie, Shepherd, Mosakowski, & Earley, 2010).

Parental Self-employment/Role model differences in entrepreneurial intentions

Individuals are more likely to opt for an entrepreneurial option when their parents have owned businesses. This is because parents act as role models and those with entrepreneurial background tend to have a positive inclination towards entrepreneurial activities. Role models are individuals 'who can influence role aspirants' achievements, motivation, and goals by acting as behavioral models, representation of the possible, and/or inspirations' (Morgenroth,

Ryan, & Peters, 2015, p.4). Both men and women can serve as role models (Porter & Serra, 2020). Role models are individual that others identify with, who have desirable qualities and exemplify attitudes and behaviors that are considered worth emulating (Perry, 2009). Role models play an important part in the education of students and contribute to the development of skills, attitude, behaviors and identity (Nieuwenhuijze, Thompson, Gudmundsdottir, & Gottfreðsdóttir, 2020).

Prior studies have acknowledged a broad influence of parental self-employment on the EIs of children; modelling career options (Carr & Sequeira, 2007; Criaco et al., 2017) acquiring human capital (e.g., entrepreneurial knowledge and skills) (Eesley & Wang, 2017) and allocating financial and social capital to their children (Zellweger et al., 2011). Empirical research (Eesley & Wang, 2017, Sieger, Fueglistaller, Zellweger, & Braun, 2018; Laspita et al., 2012) underscored that children from families with entrepreneurial backgrounds are more likely 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. Sieger, Fueglistaller, Zellweger, and Braun (2018) in the GUESSS Project Report, stressed that the higher intention to become an entrepreneur among students with entrepreneurial parents, compared with students without entrepreneurial parents, depends on the parents' entrepreneurial performance. Entrepreneurial intentions can be indirectly influenced by the family business background (Peterman & Kennedy, 2003) which has implications for antecedents of entrepreneurial intention. Peterman and Kennedy (2003) established a significant positive relationship between prior exposure to family business and entrepreneurship education, and the antecedents of EI. Carr and Sequeira (2007) established a significant, direct as well as indirect influence, by means of variables such as ATE, perception of family support, and entrepreneurial self-efficacy.

The influence of Social Environment

Following Liñán et al. (2013) our model incorporates the two specific factors of social valuation and closer environment valuations (Liñán, 2008). Fayolle, Basso and Bouchard (2010) emphasized the relationship between different strands of social influence in explaining entrepreneurial orientation. The social influence on entrepreneurial attitudes and behaviors is exerted at both the macro (social valuation) and micro levels (closer valuation) (Morris & Schindehutte, 2005).

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, Fini, Sobrero, & Wiklund, 2020). Through daily contact and interaction, the prospective entrepreneur is influenced by the valuation of entrepreneurship by their family members, friends and colleagues (Liñán, Santos, et al., 2011; Liñán, Urbano, et al., 2011). According to (Rosado-Cubero, Freire-Rubio and Hernández (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, Aldrich, & Keister, 2006). They could exert their influence directly on attitude towards the behavior 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, Klyver, & Jennings, 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, Shaw, & Carter, 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 & Real, 2003). Kennedy, Drennan, Renfrow, and Watson (2003) suggested that expectations from family, friends and significant others are key variables influencing students' responses, and that closer environment expectations were related to attitude towards the behavior and subjective norms.

Social Valuation

In the process of making career choices, individuals are influenced not only by their closer circles, but they are also affected by the objective and perceived larger environment (Social valuation) (Meoli et al., 2020). Social valuation refers to the way individuals perceive the entrepreneurial activity is valued in society as a result of macro-social values and culture (Liñán, Urbano, et al., 2011). It refers to the wider cultural values in society which may encourage or discourage certain attitudes, personal traits, capacities, and shape normative perceptions towards entrepreneurial behavior (Zahra, Jennings, & Kuratko, 1999). The macro-social environment is made up of the social values and culture shared by the society (Thornton, Ribeiro-Soriano, & Urbano, 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 & Tan, 2001). The underlying system of values pertaining to a specific group or society shapes the development of personality perceptions (Zahra et al., 1999), modeling normative (SN), affective (ATE) and ability (PBC) perceptions towards the entrepreneurial activity (Thomas & Mueller, 2000). A more positive social valuation of entrepreneurship would make individuals consider this option as a viable career path, thus affecting perceptions (Fernández, Liñán, & Santos, 2009)

The role of Entrepreneurial skills

Since it is generally acknowledged in literature that entrepreneurs are made, and not born (Dana, 2001)), becoming an entrepreneur is also a learning process, which normally starts at the university level (Gieure, Benavides-Espinosa, & Roig-Dobón, 2020). Hence, educational programs aimed at transferring knowledge and developing entrepreneurial skills are important for the development of prospective entrepreneurs (Elmuti, Khoury, & Omran, 2012).

Entrepreneurial skills perceptions refers 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 (Gieure et al., 2020; Liñán, 2008).

Also, cultural variables could positively affect self-perceptions of entrepreneurial skills through wider social valuation and closer valuation (Liñán, 2008; Thomas & Mueller, 2000). Throughout the literature on cognitive models of entrepreneurship, some scholars have examined direct as well as moderating effects of cultural values on entrepreneurship (Liñán & Chen, 2009; Liñán, Urbano, et al., 2011). Differences in cultural values of various societies produces various levels of entrepreneurial intentions and activities (Bruton, Ahlstrom, & Li, 2010; Turró, Urbano, & Peris-Ortiz, 2014).

Knowledge of Entrepreneurial Environment

Following Liñán et al. (2013), we integrate 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, Battistelli, & Moriano, 2008; Liñán, 2008). Thus knowledge of facts, concepts, and relationships concerning the environment (entrepreneurial and its major ecosystems (Lo & Fryxell, 2003). This may include awareness of associations, support bodies, training and support measures, and access to favourable loans terms. Greater knowledge could contribute to a 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 & Balaji, 2016; Kumar, Manrai, & Manrai, 2017; Wang, Liu, & Qi, 2014; Yadav & Pathak, 2016). A plethora of studies have proved the effect of perceived environmental knowledge on attitude formation (Jaiswal & Kant, 2018; B. Kumar et al., 2017; Maichum, Parichatnon, & Peng, 2016; Yadav & Pathak, 2016; Zhao, Gao, Wu, Wang, & Zhu, 2014).

Social and closer valuation influence the knowledge of entrepreneurial environment (Liñán et al., 2013). According to Stephen (2008), the greater the ‘legitimation’ within society, the more attention there is to developing entrepreneurially aware individuals. Also, closer valuations could exert their influence on encouraging or discouraging the acquisition of knowledge of entrepreneurial career path.

From the foregoing, we hypothesize a direct impact of TPB constructs on EI, based on the findings of previous studies (as discussed above) and incorporate the role of culture, motivational skills and knowledge of entrepreneurial knowledge. We add to the literature by proffering hypotheses on parental self-employment or role models of students as a moderator. Thus, this paper will test the following hypotheses;

- H1: ATE positively influences EI
- H2: PBC positively influences EI
- H3: SN positively influences ATE
- H4: SN positively influences PBC
- H5: SV positively influences SN
- H6: SV positively influences PBC
- H7: CV positively influences ATE
- H8: CV positively influences SN
- H9: ES positively influences ATE
- H10: ES positively influences SN
- H11: ES positively influence PBC
- H12: SV positively influences ES
- H13: CV positively influences ES
- H14: Entrepreneurial environment knowledge (ENSUP) positively influences ATE
- H15: Entrepreneurial environment knowledge (ENSUP) positively influences SN
- H16: Entrepreneurial environment knowledge (ENSUP) positively influences PBC
- H17: CV positively influences Entrepreneurial environment knowledge (ENSUP)
- H18: SV positively influences Entrepreneurial environment knowledge (ENSUP)
- H19: Students with PSE exhibit greater entrepreneurial intentions than those without PSE

3. METHODOLOGY

3.1. Research design

The empirical research methodology was quantitative, based on a questionnaire applied to a sample of 319 students in a Spanish university. The questionnaire was developed based on the measurement scales used by (Liñán & Chen, 2009; Liñán et al., 2013). The questionnaire

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. Convenience sampling technique was used because it is a widespread instrument in entrepreneurial studies (Fayolle & Gailly 2005; Krueger et al., 2000).

We performed analysis to validate the model and test hypotheses, which we based on theoretical arguments from literature. We used multivariate analysis to validate the model and test hypotheses. The analysis was based on structural equation modeling using the partial least squares algorithm in SMART PLS software. We used the SEM-PLS technique to examine the constructs of the paper and the relationship among them.

Measurement instrument

The aim of our study was to test the entrepreneurial intentions model on university students, where parental self-employment served as a moderator. We identified studies by (Liñán, 2008; 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). The constructs and their respective items are found at Appendix 1 (Questionnaire).

Entrepreneurial intention is measured by the Entrepreneurial Intention Questionnaire developed by (Liñán & 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 confidence of reliability of our measure. The other constructs produced satisfactory results with the exception of SV (see Table 1).

Data analysis

Data analysis was conducted using SMART-PLS 3.0 software. 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 (Joe F. Hair, Sarstedt, Ringle, & Mena, 2012).

4. RESULTS

The structural equation modelling consists of two components (Henseler, Ringle, & Sarstedt, 2014; Henseler, Ringle, & Sinkovics, 2009): a) the structural model or inner model represents the constructs (circles) or latent variables and the relationship between exogenous and endogenous variables, and b) the measurement models or outer models of the constructs and the indicator variables (rectangles) (Hair, Ringle, & Sarstedt, 2011; Hair, Hult, Ringle & Sarstedt, 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, Risher, Sarstedt, & Ringle, 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 number 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.

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
EI 1	0.717				
EI 2	0.873				
EI 3	0.912				
EI 4	0.893				
EI 5	0.811				
EI 6	0.886				
PBC		0.862	0.898	0.595	0.870
PBC 1	0.731				

PBC 2	0.841				
PBC 3	0.854				
PBC 4	0.709				
PBC 5	0.750				
PBC 6	0.731				
SN		0.882	0.927	0.808	0.890
SN 1	0.891				
SN 2	0.918				
SN 3	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				
CV		0.831	0.894	0.738	0.893
CV1	0.825				
CV2	0.881				
CV3	0.871				

The most frequently used measure of reliability is the Cronbach's alpha coefficient (1951). 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 & Bernstein, 1994), standard Cronbach's alpha $\alpha \geq 0.70$ (Allen & Yen, 2002), and average variance extracted (AVE) ≥ 0.50 (Hair Jr et al., 2016). The results are shown in Table 1 and Figure 2. Thus, Composite reliabi-

lity 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 value (Fornell & Larcker, 1981). The Rho_A values for the constructs were also all reliable (>0.70) approximately. 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, Sarstedt, Ringle, Ramayah, & Ting, 2018). Table 2 depicts the results, which means that the constructs are purely unrelated and valid to pursue further statistical tests.

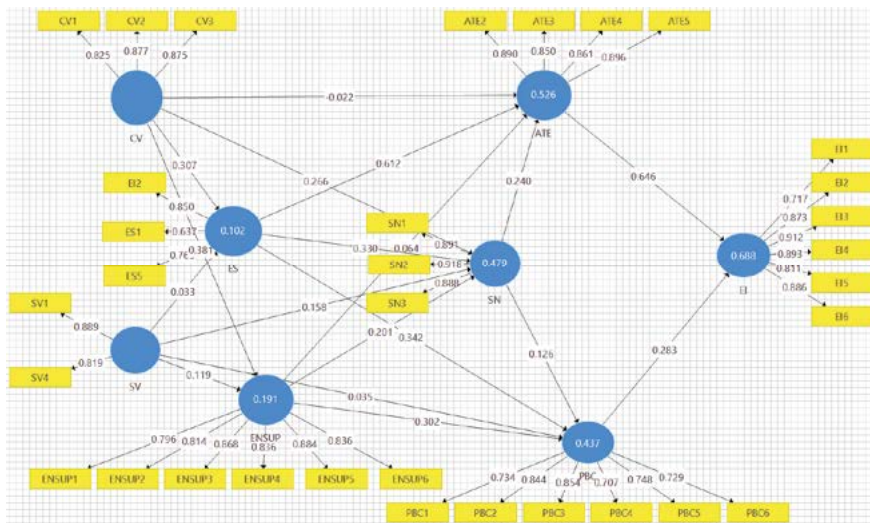


Figure 2. PLS algorithm.

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

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. Our aim was to test the entrepreneurial intention model used by (Liñán et al., 2013). Table 3 summarizes the hypotheses, and Figure 3 illustrates the relationships.

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

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 measure of the model's predictive in-sample predictive power (Ringle, Sarstedt, Mitchell, & Gudergan, 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.

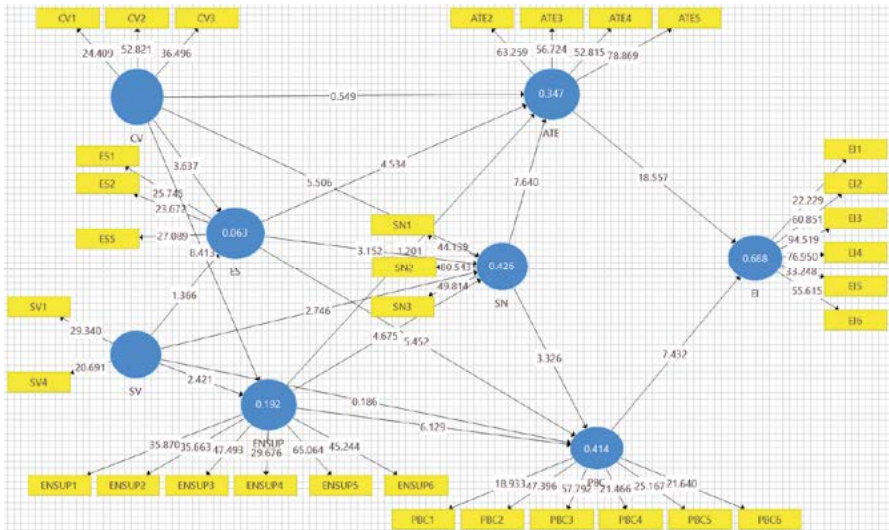


Figure 3. PLS bootstrap

TABLE 4. R SQUARE

	R Square
ATE	0.526
EI	0.688
ENSUP	0.191
ES	0.102
PBC	0.437
SN	0.479

Collinearity Assessment

Collinearity assessment typically includes calculating each item's variance inflation factor (VIF). There are diverse criteria of acceptable VIF values, such as 10.00 (Sarstedt & Mooi, 2014), 3.33 (Diamantopoulos & Sigua, 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.

Mediation Analysis

Sok et al. (2020) recommended two types of analysis to explore the role of background factors in the TPB. First, the fully mediated model predicted by the theory should be examined against a partially mediated model allowing direct effects on intention. Second, in the most conceptualization of the TPB, the effects of attitude and subjective norm are assumed to be moderated by behavioural control, as is the effect of intention on behavior. These hypotheses require testing the relevant interaction terms.

The mediation testing procedure suggested by Henseler, Hubona, and Ray (2016) and Nitzl, Roldan, and Cepeda (2016) was adopted to test the mediating role of ATE, SNs and PBC between SV, CV, ES, ENSUP, and entrepreneurial intentions. Also, a bootstrap procedure was used as means of inferential statistics to calculate the t-values for determining the significance of proposed mediating variables. In the bootstrapping stage, 5000 subsamples were created (with replacement) for the available study sample. Thus, following bootstrap inferential statistics on these sub-samples, the significance of mediating variables was estimated. Appendices 3 and 4 show the results for the PLS Algorithm Total Indirect Effects and PLS Algorithm Specific Indirect Effects respectively. Appendices 5 and 6 depict the Bootstrapping Total Indirect Effects and Bootstrapping Specific Indirect Effects respectively.

The theoretical framework for this research necessitated for multiple mediation. As shown on the table at Appendix 3, there are 15 total indirect effects. However, the Specific indirect Effects are 60 as found on table at Appendix 4. Appendix 3 and 4 reveal the running of the Consistent Algorithm. To delve into which of the relationships are significant we run the Consistent Bootstrapping. The results are found in the tables at Appendix 5 and 6, respectively. As indicated at Appendix 6, the following relationships are significant; $CV \rightarrow ES > ATE$, $CV \rightarrow ES > ATE \rightarrow EI$, $ES \rightarrow ATE \rightarrow EI$, $CV \rightarrow ENSUP > PBC \rightarrow EI$, $ENSUP > PBC \rightarrow EI$, $SV > PBC \rightarrow EI$, $CV \rightarrow ENSUP \rightarrow PBC$, $CV > ES \rightarrow SN$. Also, $ES \rightarrow PBC \rightarrow EI$ AND $CV \rightarrow ES \rightarrow PBC$ are partially significant. And the relationship of $CV > ATE \rightarrow EI$ is negative and partially significant.

Measurement Invariance of Composite Models (MICOM)

The MICOM (measurement invariance of composite models) procedure specifies the technique for analyzing the invariance prior to 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, and c) the equality of composite mean values and variances. After confirming the existence of invariance, the next step is to apply the MGA, comparing the explained variance for each group.

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

TABLE 5. MICOM STEP 2

	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

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. The results 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

Investigating the impact of Role Model or Parental Self-employment on the antecedents of entrepreneurial intention of students, we classified PSE (part of Closer Valuation) as a moderating variable. Specifically, social and skills perceptions, combined with entrepreneurial environment knowledge were examined to see how they may affect the motivational antecedents of entrepreneurial intention.

In line with previous studies (Abadi, Mahdavian, & Fattahi, 2021; Barbera & Ajzen, 2020; Dalila, Latif, Jaafar, Aziz, & Afthanorhan, 2020; Soorani & Ahmadvand, 2019; Kumar et al., 2021; Mahfud, Triyono, Sudira, & Mulyani, 2020; Maresch et al., 2016; Rausch & Kopplin, 2021; Sher, Abbas, Mazhar, & Lin, 2020; Thelken & de Jong, 2020; Willis, Lee, Reynolds, & Klik, 2020; Youssef et al., 2020), the hypotheses regarding the original TPB model were supported, as either attitudes and/or PBC predicted intentions. Thus ATE and PBC have a positive effect on EI. Personal attitude and behavioral 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 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, Benavides-Espinosa, & Roig-Dobón, 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 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, emphasize 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 & 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 entrepreneurial environment and support systems contributing to the sense of capacity of venture creation. Thus, entrepreneurial knowledge directly contributes to feeling able to engage in entrepreneurial behavior and controllability of that behavior.

With respect to the correlations between SV and CV and the antecedents of TPB respectively, all the hypotheses were accepted except $CV \rightarrow ATE$ and $SV \rightarrow PBC$ relationships. Aspects of these findings ($SV \rightarrow PBC$) 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 $CV \rightarrow ATE$ and $CV \rightarrow SN$. Liñán (2008) reported an insignificant relationship for $SV \rightarrow SN$ and $SV \rightarrow PBC$, contrary to our findings, where we reported a positive relationship between SV and SNs. According to Liñán et al. (2013), there is 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). 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 & Perryman, 1999). However, $SV \rightarrow ES$ was insignificant, though by attaining entrepreneurial skills, students will feel more capable to exercise control over entrepreneurial behavior. Although research on entrepreneurship shows how supportive environmental influences are conducive to entrepreneurship in general, but 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, PBC, entrepreneurial skills, entrepreneurial support, and entrepreneurial intention than those without PSE (see Appendix 7 and 8). Interestingly, the results of the multi-group analysis (H19) show that majority of the relationships or hypotheses were not supported. This outcome is similar 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 path coefficients.

5.1 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 analyzing other variables that are considered critical to the antecedents of entrepreneurial intentions.

In relation to the aforementioned, the findings portray significant dependent relationships 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 intentions are concerned.

5.2 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, characterized 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 & Rider, 2007; Dahl & Sorenson, 2009).

A more favourable environment towards entrepreneurship will contribute to people feeling more attracted and more supported to become entrepreneurs. 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 the students.

From a policy perspective, to arouse the entrepreneurial spirit of students, there is the urgency for a holistic and multifaceted approach. Thus, strategic policies and programmes are required to enhance entrepreneurial intention through beneficial regulations, cognitive and normative institutions for entrepreneurial venture creation. This is perhaps important due to the insignificant correlations between entrepreneurial support and ATE. Furthermore, despite the importance of entrepreneurial skills to business creation, the relationship between SV and ES was insignificant.

Our framework complements previous frameworks of 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, Li, Eitzkowitz, & Clouser, 2009). Since Spain is a collectivist society, such networking within the environment can propel ATE and, subsequently entrepreneurial intentions.

6. 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 possess the intention to engage in a certain behavior does not necessarily imply that this intention will metamorphose into action. Perhaps, future studies may focus on intentions and actual behavior, including opportunities for longitudinal studies.

Another limitation in our study is that we did not investigate if it makes any difference whether one or both parents were entrepreneurs. We didn't also look into whether the business was inherited one or actually started by their parents themselves. We believe all these dynamics may have influence on entrepreneurial intentions. Also, we did not distinguish between respondents with only one parent involved in an entrepreneurial venture, and the other not.

7. CONCLUSION

This research has contributed towards the literature on entrepreneurial intention by testing an integrated version of the entrepreneurial intention model, which has received little attention in prior research. Our results exhibit the role of moderators in TPB-based studies, and the importance of carrying out mediation and multi-group analyses. 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 hypothesized relationships were significant. The various conditions identified in this empirical study also yield significant managerial, research and policy implications.

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Competing Interests

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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 & 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 BEHAVIORAL 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
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)	1	2	3	4	5
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. PLSC ALGORITHM TOTAL INDIRECT EFFECTS

	ATE	CV	EI	ENSUP	ES	PBC	SN	SV
ATE								
CV	0.540		0.359			0.290	0.250	
EI								
ENSUP	0.004		0.058			-0.008		
ES	0.040		0.844			-0.082		
PBC								
SN			0.029					
SV	-0.091		-0.024			-0.034	-0.043	

APPENDIX 4. PLSC ALGORITHM SPECIFIC INDIRECT EFFECTS

	SPECIFIC INDIRECT EFFECTS
CV -> ENSUP -> ATE	-0.027
SV -> ENSUP -> ATE	-0.005
CV -> ES -> ATE	0.523
SV -> ES -> ATE	-0.106
CV -> SN -> ATE	0.022
CV -> ENSUP -> SN -> ATE	0.002
ENSUP -> SN -> ATE	0.004
SV -> ENSUP -> SN -> ATE	0.000
CV -> ES -> SN -> ATE	0.021
ES -> SN -> ATE	0.040
SV -> ES -> SN -> ATE	-0.004
SV -> SN -> ATE	0.024
CV -> ATE -> EI	-0.128
CV -> ENSUP -> ATE -> EI	-0.021
ENSUP -> ATE -> EI	-0.045
SV -> ENSUP -> ATE -> EI	-0.004
CV -> ES -> ATE -> EI	0.409
ES -> ATE -> EI	0.761
SV -> ES -> ATE -> EI	-0.083
CV -> SN -> ATE -> EI	0.017

	SPECIFIC INDIRECT EFFECTS
CV -> ENSUP -> SN -> ATE -> EI	0.001
ENSUP -> SN -> ATE -> EI	0.003
SV -> ENSUP -> SN -> ATE -> EI	0.000
CV -> ES -> SN -> ATE -> EI	0.017
ES -> SN -> ATE -> EI	0.031
SV -> ES -> SN -> ATE -> EI	-0.003
SN -> ATE -> EI	0.072
SV -> SN -> ATE -> EI	0.019
CV -> ENSUP -> PBC -> EI	0.048
ENSUP -> PBC -> EI	0.102
SV -> ENSUP -> PBC -> EI	0.009
CV -> ES -> PBC -> EI	0.037
ES -> PBC -> EI	0.070
SV -> ES -> PBC -> EI	-0.008
CV -> SN -> PBC -> EI	-0.010
CV -> ENSUP -> SN -> PBC -> EI	-0.001
ENSUP -> SN -> PBC -> EI	-0.002
SV -> ENSUP -> SN -> PBC -> EI	-0.000
CV -> ES -> SN -> PBC -> EI	-0.010
ES -> SN -> PBC -> EI	-0.018
SV -> ES -> SN -> PBC -> EI	0.002
SN -> PBC -> EI	-0.042
SV -> SN -> PBC -> EI	-0.011
SV -> PBC -> EI	0.055
CV -> ENSUP -> PBC	0.215
SV -> ENSUP -> PBC	0.042
CV -> ES -> PBC	0.167
SV -> ES -> PBC	-0.034
CV -> SN -> PBC	-0.045
CV -> ENSUP -> SN -> PBC	-0.004
ENSUP -> SN -> PBC	-0.008
SV -> ENSUP -> SN -> PBC	-0.001
CV -> ES -> SN -> PBC	-0.044
ES -> SN -> PBC	-0.082
SV -> ES -> SN -> PBC	0.009

	SPECIFIC INDIRECT EFFECTS
SV -> SN -> PBC	-0.051
CV -> ENSUP -> SN	0.019
SV -> ENSUP -> SN	0.004
CV -> ES -> SN	0.231
SV -> ES -> SN	-0.047

APPENDIX 5. BOOTSTRAPPING (C) TOTAL INDIRECT EFFECTS

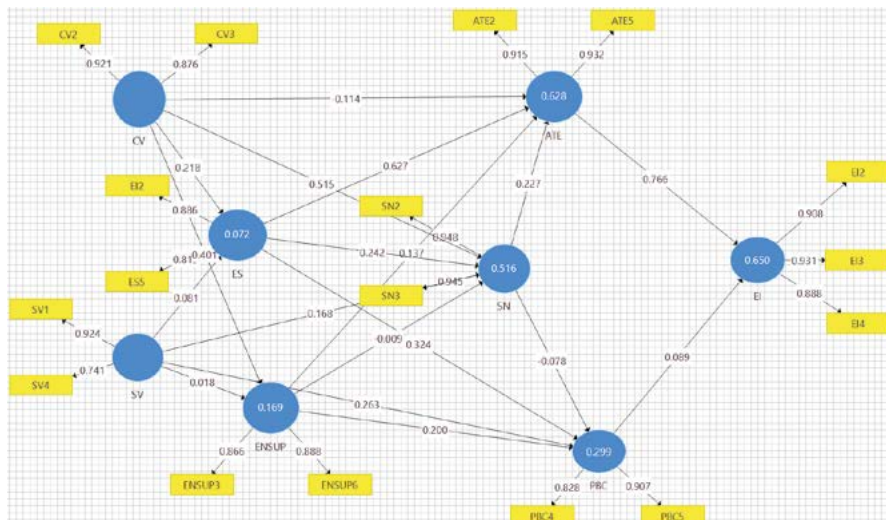
	Original	Sample	Standard	T Statistic	P Values
ATE -> EI		-0.000	0.000		
CV -> ATE	0.540	0.552	0.126	4.288	0.000
CV -> EI	0.359	0.371	0.094	3.804	0.000
CV -> ENSUP					
CV -> ES		-0.000	0.000		
CV -> PBC	0.290	0.294	0.064	4.523	0.000
CV -> SN	0.250	0.250	0.065	3.816	0.000
ENSUP -> ATE	0.004	0.008	0.019	0.194	0.846
ENSUP -> EI	0.058	0.045	0.103	0.564	0.573
ENSUP -> PBC	-0.008	-0.003	0.031	0.244	0.807
ENSUP -> SN		-0.000	0.000		
ES -> ATE	0.040	0.025	0.057	0.700	0.484
ES -> EI	0.844	0.865	0.113	7.477	0.000
ES -> PBC	-0.082	-0.090	0.067	1.213	0.225
ES -> SN		-0.000	0.000		
PBC -> EI					
SN -> ATE		0.000	0.000		
SN -> EI	0.029	0.014	0.109	0.270	0.788
SN -> PBC		0.000	0.000		
SV -> ATE	-0.091	-0.103	0.121	0.750	0.453
SV -> EI	-0.024	-0.036	0.107	0.225	0.822
SV -> ENSUP					
SV -> ES		0.000	0.000		
SV -> PBC	-0.034	-0.042	0.082	0.417	0.677

APPENDIX 6. BOOTSTRAPPING(C) SPECIFIC INDIRECT EFFECTS

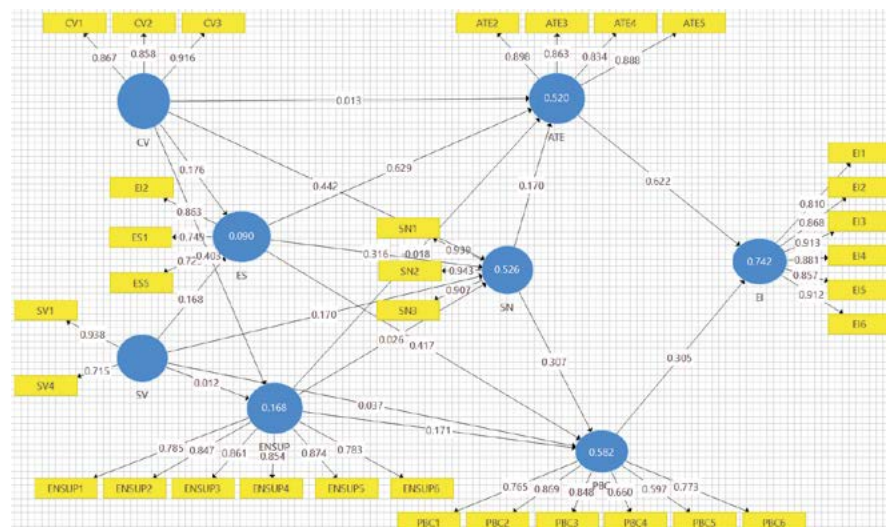
	Original	Sample	Standard	T Statistic	P Values
CV -> ENSUP -> ATE	-0.027	-0.038	0.062	0.437	0.662
SV -> ENSUP -> ATE	-0.005	-0.005	0.018	0.302	0.763
CV -> ES -> ATE	0.523	0.555	0.148	3.533	0.000
SV -> ES -> ATE	-0.106	-0.116	0.117	0.904	0.366
CV -> SN -> ATE	0.022	0.018	0.036	0.592	0.554
CV -> ENSUP -> SN -> ATE	0.002	0.004	0.009	0.184	0.854
ENSUP -> SN -> ATE	0.004	0.008	0.019	0.194	0.846
SV -> ENSUP -> SN -> ATE	0.000	0.001	0.003	0.121	0.903
CV -> ES -> SN -> ATE	0.021	0.013	0.032	0.655	0.512
ES -> SN -> ATE	0.040	0.025	0.057	0.700	0.484
SV -> ES -> SN -> ATE	-0.004	-0.003	0.010	0.427	0.669
SV -> SN -> ATE	0.024	0.021	0.034	0.729	0.466
CV -> ATE -> EI	-0.128	-0.128	0.074	1.719	0.086
CV -> ENSUP -> ATE -> EI	-0.021	-0.029	0.049	0.436	0.663
ENSUP -> ATE -> EI	-0.045	-0.061	0.096	0.468	0.640
SV -> ENSUP -> ATE -> EI	-0.004	-0.004	0.014	0.301	0.763
CV -> ES -> ATE -> EI	0.409	0.435	0.121	3.367	0.001
ES -> ATE -> EI	0.761	0.792	0.133	5.717	0.000
SV -> ES -> ATE -> EI	-0.083	-0.091	0.093	0.892	0.372
CV -> SN -> ATE -> EI	0.017	0.014	0.029	0.584	0.559
CV -> ENSUP -> SN -> ATE -> EI	0.001	0.003	0.007	0.182	0.855
ENSUP -> SN -> ATE -> EI	0.003	0.006	0.015	0.192	0.848
SV -> ENSUP -> SN -> ATE -> EI	0.000	0.000	0.002	0.120	0.905
CV -> ES -> SN -> ATE -> EI	0.017	0.011	0.026	0.648	0.517
ES -> SN -> ATE -> EI	0.031	0.020	0.045	0.695	0.487
SV -> ES -> SN -> ATE -> EI	-0.003	-0.003	0.008	0.420	0.675
SN -> ATE -> EI	0.072	0.059	0.094	0.763	0.446
SV -> SN -> ATE -> EI	0.019	0.017	0.027	0.719	0.472
CV -> ENSUP -> PBC -> EI	0.048	0.048	0.017	2.775	0.006
ENSUP -> PBC -> EI	0.102	0.100	0.031	3.285	0.001
SV -> ENSUP -> PBC -> EI	0.009	0.008	0.011	0.822	0.411
CV -> ES -> PBC -> EI	0.037	0.040	0.024	1.579	0.114
ES -> PBC -> EI	0.070	0.073	0.041	1.711	0.087

	Original	Sample	Standard	T Statistic	P Values
SV -> ES -> PBC -> EI	-0.008	-0.008	0.010	0.723	0.469
CV -> SN -> PBC -> EI	-0.010	-0.011	0.010	1.032	0.302
CV -> ENSUP -> SN -> PBC -> EI	-0.001	-0.000	0.004	0.218	0.828
ENSUP -> SN -> PBC -> EI	-0.002	-0.001	0.007	0.234	0.815
SV -> ENSUP -> SN -> PBC -> EI	-0.000	-0.000	0.001	0.164	0.870
CV -> ES -> SN -> PBC -> EI	-0.010	-0.011	0.010	1.019	0.308
ES -> SN -> PBC -> EI	-0.018	-0.020	0.017	1.106	0.269
SV -> ES -> SN -> PBC -> EI	0.002	0.002	0.003	0.579	0.562
SN -> PBC -> EI	-0.042	-0.045	0.030	1.414	0.157
SV -> SN -> PBC -> EI	-0.011	-0.012	0.011	1.066	0.286
SV -> PBC -> EI	0.055	0.055	0.027	1.985	0.047
CV -> ENSUP -> PBC	0.215	0.218	0.064	3.364	0.001
SV -> ENSUP -> PBC	0.042	0.037	0.051	0.835	0.404
CV -> ES -> PBC	0.167	0.176	0.089	1.881	0.060
SV -> ES -> PBC	-0.034	-0.038	0.044	0.768	0.443
CV -> SN -> PBC	-0.045	-0.049	0.041	1.094	0.274
CV -> ENSUP -> SN -> PBC	-0.004	-0.001	0.016	0.225	0.822
ENSUP -> SN -> PBC	-0.008	-0.003	0.031	0.244	0.807
SV -> ENSUP -> SN -> PBC	-0.001	-0.000	0.004	0.172	0.864
CV -> ES -> SN -> PBC	-0.044	-0.050	0.040	1.091	0.276
ES -> SN -> PBC	-0.082	-0.090	0.067	1.213	0.225
SV -> ES -> SN -> PBC	0.009	0.010	0.015	0.588	0.556
SV -> SN -> PBC	-0.051	-0.052	0.044	1.144	0.253
CV -> ENSUP -> SN	0.019	0.010	0.059	0.315	0.752
SV -> ENSUP -> SN	0.004	0.002	0.016	0.223	0.824
CV -> ES -> SN	0.231	0.239	0.074	3.120	0.002
SV -> ES -> SN	-0.047	-0.050	0.051	0.912	0.362

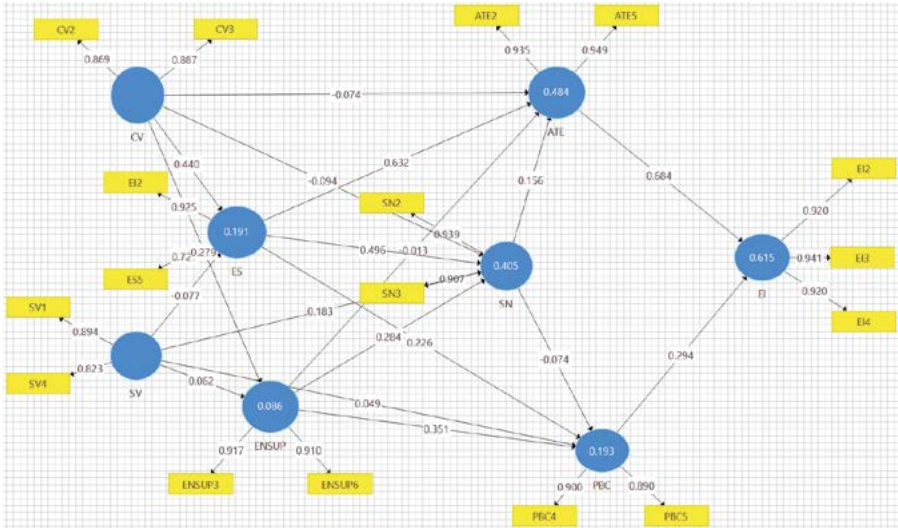
APPENDIX 7. YES-RESPONDENTS WITH PSE (A1)



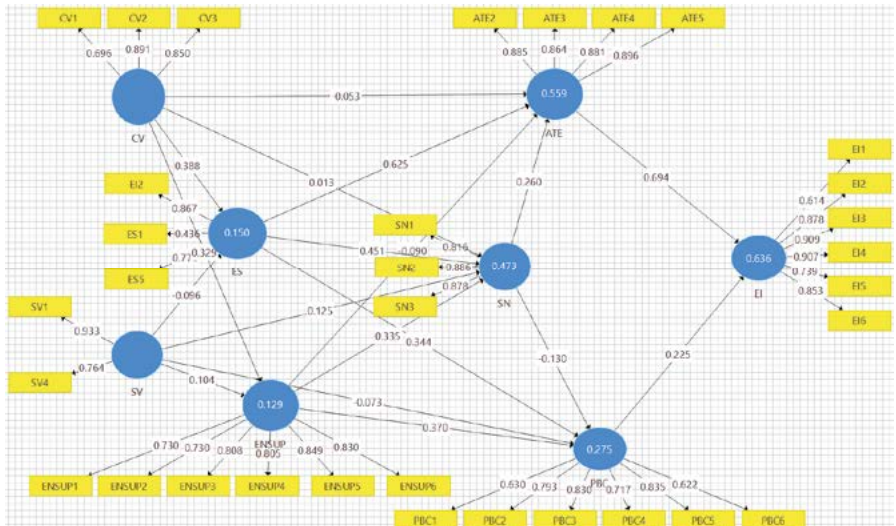
APPENDIX 7. YES-RESPONDENTS WITH PSE (A2)



APPENDIX 8. NO-RESPONDENTS WITHOUT PSE (B1)



APPENDIX 8. NO-RESPONDENTS WITHOUT PSE (B2)



* Appendix 7 (A1) and 8 (B1) were as a result of deletions of loadings that didn't meet the MICOM run. Thus, some of the items on Appendix 7 (B1) and 8 (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.

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