About Gender Differences and the Social Environment in the Development of Entrepreneurial Intentions

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Abstract

This study analyzes the interplay between gender differences and the social environment in the formation of entrepreneurial intentions. Data were obtained from two different European regions. The results show that the formation of entrepreneurial intentions is similar for men and women. At the same time, men consistently exhibit more favorable intentions than women do. Nevertheless, the perception of the social legitimation of entrepreneurship only serves to reinforce male entrepreneurial intentions, and not those of women. This holds for both regions and probably is a consequence of women feeling entrepreneurship to not be an acceptable career option for them. The implications of these results are discussed.

Keywords: Entrepreneurship, gender, start-up, social environment, perceptions, regional context

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Introduction

The existence of a gap between men and women in entrepreneurship has long been acknowledged and it is attracting increasing academic attention (Hughes et al. 2012). Thus, the proportion of any country's adult female population participating in entrepreneurship is lower than that of men (Hindle, Klyver, and Jennings 2009). However, more research is needed to fully explain the gender gap in entrepreneurial activity, at least in two respects: individual perceptions and environmental influences (Neergaard, Shaw, and Carter 2005).

Firstly, individual cognitions and self-perceptions may help explain whether (and why) women interpret the reality around them differently from the way men do (de Bruin, Brush, and Welter 2007). In this sense, some authors stress the differences in

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world interpretation derived from the alternative-gendered perspectives (Bird and Brush 2002). As a result, perceptions such as self-efficacy differ by gender (Kickul et al. 2008). Women are also found to perceive fewer opportunities and to identify higher financial barriers than their male counterparts (Langowitz and Minniti 2007; Minniti and Nardone 2007).

Secondly, only a small proportion of research is presently considering the socio-economic context of female entrepreneurship and, in this sense, comparative works from different countries and regions are recommended (Ahl 2006). Cultural values and beliefs play a role in shaping the institutions of a country (Verheul, van Stel, and Thurik 2006). Hence, they may influence the decision to become self-employed (Mueller and Thomas 2001).

This paper aims to fill these two gaps in the literature. To do so, perceptions of both males and females from two different European regions (southern Britain and southern Spain) will be analyzed. Specifically, this research will focus on attitudes, capacities and intentions towards business start-ups. This will allow the consideration of new ideas about gender-specific perceptions of entrepreneurship (Bird and Brush 2002). It will also help to explain why the level of entrepreneurial intentions of women is found to be lower than that of men (Hindle et al. 2009).

To achieve these objectives, a cognitive approach has been followed based on two elements. Firstly, Ajzen's (1991) well-known theory of planned behavior (TPB) is used to explain entrepreneurial intentions (Krueger and Carsrud 1993). Secondly, the role of both the micro- and the macro-social environments on perceptions and intentions of men and women is considered (Busenitz and Lau 1996; Etzioni 1987).

Literature Review and Hypotheses

The Theory of Planned Behavior

Entrepreneurial intention has long been recognized as a key precursor of new venture creation (Bird 1988). The theory of planned behavior (TPB, Ajzen 1991) and the entrepreneurial event theory (Shapero 1982) have received special attention (Hindle et al. 2009). The latter explains intention as a function of desirability, feasibility and propensity to act (Shapero 1982). The TPB, in turn, was proposed to explain planned behavior in general (Ajzen 1991), and has frequently been applied to entrepreneurship (Kolvereid 1996; Krueger and Carsrud 1993; Liñán and Chen 2009). In practice, both models are considered as highly compatible (Krueger, Reilly, and Carsrud 2000) and as having substantial commonalities (Fitzsimmons and Douglas 2011).

The TPB considers entrepreneurial intentions to be directly influenced by three perceptions (Ajzen 1991; Kolvereid 1996; Krueger and Carsrud 1993; Krueger et al. 2000). According to Hindle et al. (2009), entrepreneurial personal attitude (PA) is the degree of attraction towards becoming an entrepreneur (very similar to desirability), while entrepreneurial perceived behavioral control (PBC) refers to the ability to develop the entrepreneurial behavior (very similar to feasibility). Finally, perceived subjective norm (SN) refers to the approval -or not- of the individual's firm-creation decision by the people in her/his closer environment. This social-norm element captures the influence of the society around the individual (Ajzen 1991).

The literature has found strong empirical evidence supporting the TPB, especially in the case of the influence of PA and PBC on intentions (Armitage and Conner 2001). Nevertheless, some studies have found the direct influence of

perceived SN on entrepreneurial intention to be quite weak (Autio et al. 2001; Krueger et al. 2000). This has led some authors to exclude SN from the analysis (Fitzsimmons and Douglas 2011). Other authors have , instead, suggested SN to be a way to “channel” the influence of the perceived closer and social environments on personal perceptions (Ferreira et al. 2012; Liñán, Urbano, and Guerrero 2011), thus mediating this relationship. SN is , then , an anticipation of the expected rewards or sanctions by people in the individuals’ closer environment if the behavior were performed (Meek, Pacheco, and York 2010).

Gender Differences in Entrepreneurial Intentions

As mentioned above, women are said to present some weaknesses in the context of entrepreneurial activity in comparison to men. Some of these weaknesses are fewer financial, human and network resources (Becker-Blease and Sohl 2007; Brush et al. 2002; Carter and Allen 1997; Fabowale, Orser, and Riding 1995; Marlow and Patton 2005; Smith-Hunter 2006) or less management experience (Brush et al. 2004; Loscocco et al. 1991). Nevertheless, once some of these variables -such as the starting capital or hours worked- are statistically controlled for, researchers have found more similarities than differences between male and female businesses (Neergaard et al. 2005; Watson 2002).

Traits or demographic variables, such as risk-taking propensity, have been used to explain the specificities of female entrepreneurship (Masters and Meier 1988; Sexton and Bowman-Upton 1990). However, this approach has been criticized (Krueger et al. 2000; Robinson et al. 1991). Recently, cognitive elements have been proposed to explain the gender gap in entrepreneurial activity (Arenius and Minniti

2005; Fernández, Liñán, and Santos 2009; Krueger et al. 2000). In this sense, feminist/social feminist theory argues that research so far has been carried out following a masculine paradigm (Bird and Brush 2002).

Both at the aggregate and the individual levels of analysis, research has shown that there is a gender gap in entrepreneurial intentions and perceptions, regardless of the level of economic development (Langowitz and Minniti 2007; McGee et al. 2009; Minniti and Nardone 2007; Verheul et al. 2006). Similarly, there are gender differences in the manner in which self-beliefs and attitudes about entrepreneurship are processed and developed (Kickul et al. 2008).

One important perception influencing entrepreneurial intentions is entrepreneurial self-efficacy (ESE). This refers to the belief that one is capable of performing an activity (Bandura 1997). Specifically, women were found to have a lower ESE and lower entrepreneurial intentions than men have (Mueller and Dato-On 2008; Wilson, Kickul, and Marlino 2007). Nevertheless, it seems the effect of self-efficacy on intentions may be stronger for women (Kickul et al. 2008).

Likewise, some research has found that women perceive fewer opportunities, a higher fear of failure and higher financial barriers than their male counterparts (Langowitz and Minniti 2007; Minniti and Nardone 2007). Other studies, on the other hand, argue that these differences are in the contrasting way in which women and men recognize those opportunities (DeTienne and Chandler 2007). At least part of these differences could be due to the dissimilar effect of environmental influences on the individual perceptions of men and women (Byrne and Fayolle 2010). In this sense, a distinction between biological sex (man/woman) and socialized perspective (masculine/feminine) is advocated (Bird and Brush 2002)

The Influence of the Social Environment

Social cognitive theory (Bandura 2001) suggests that the social environment around individuals plays an important role in shaping their cognition and, ultimately, behavior (De Carolis and Saparito 2006). The social status of entrepreneurship (Begley and Tan 2001) or it being a respected career path (Busenitz, Gómez, and Spencer 2000) will raise the individuals' interest in entrepreneurship and new venture creation (Morris and Schindehutte 2005).

Social capital includes both strong ties (among members of a family or ethnic group) and weak ties (Woolcock and Narayan 2000). Cognitive social capital refers to types of understandings that develop amongst individuals depending on a shared meaning of language, codes and culture (Farr-Wharton and Brunetto 2007; Naphiet and Ghoshal 1998). From a cognitive perspective, both types of social capital (strong and weak ties) play a different and complementary role in transmitting values and ideas that will influence perceptions and intention (De Carolis and Saparito 2006; Simon, Houghton, and Aquino 2000).

As Fayolle, Basso and Bouchard (2010) point out, it is important to consider the interplay between different levels of social influence in explaining the entrepreneurial orientation. The social influence on entrepreneurial attitudes and behaviors is exerted at both the macro- and micro-levels: (Morris and Schindehutte 2005).

Thus, the micro-social or closer environment derives from links with family, friends or acquaintances (Uphoff 2000). Participation in this closer-environment network will provide, among other things, advice, support and legitimacy (Hindle et al. 2009). In this sense, closer valuation (CV) refers to the way individuals perceive the

entrepreneurial activity to be valued in their closer environment (family, friends and ethnic group). This influence received from the closer environment values(CV) contributes to the generation of more favorable perceptions towards start-up (Cooper and Dunkelberg 1987; Scherer, Brodzinsky, and Wiebe 1991). Therefore, the value assigned to entrepreneurship in this closer environment (CV) is likely to promote a more positive perception of personal support if the individual decides to start a venture (SN) (Neergaard et al. 2005). At the same time, these perceived valuations may increase self-confidence in the ability to successfully start a venture (entrepreneurial PBC) and the desirability towards the entrepreneurial career (entrepreneurial PA) (Rimal and Real 2003).

The macro-social environment, however, is made up of the social values and culture shared by the society (Thornton, Ribeiro-Soriano, and Urbano 2011). The value society puts 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; Busenitz et al. 2000). Thus, social valuation (SV) refers to the way individuals perceive the entrepreneurial activity is valued in society, as a consequence of macro-social values and culture (Liñán et al. 2011). The underlying system of values pertaining to a specific group or society shapes the development of personality perceptions (Davidsson and Wiklund 1997; Zahra, Jennings, and Kuratko 1999), modeling normative (SN), affective (PA) and also ability (PBC) perceptions towards the entrepreneurial activity (Thomas and Mueller 2000). It is expected, therefore, that potential entrepreneurs will be aware of what the social valuation of entrepreneurship is and their intentions will be shaped accordingly. This influence comes from social legitimation and the promotion of certain positive values regarding firm creation (Busenitz and Lau 1996; Davidsson and Wiklund 1997; Etzioni 1987).

From a gender perspective, some studies find women perceive their task environment as less suitable for entrepreneurial activity (Zhao, Siebert, and Hills 2005). The normative support from the females' closer environment seems to be embedded in overall attitudes about entrepreneurship and gender equality. Only when the normative support is strong is the influence on the start-up rate of women positive (Baughn, Chua, and Neupert 2006).

Similarly, it has also been pointed out that cognitive differences in entrepreneurial behaviors are explained by gender stereotypes and socially-conditioned perceptions of what it means to be masculine or feminine (Bird and Brush 2002; Byrne and Fayolle 2010; Gupta et al. 2009; Mueller and Dato-On 2008). In general, the masculine stereotype based on aggressiveness, competitiveness and risk-taking behavior has been assigned to men and it has been considered very important for entrepreneurship and the economic success of nations (Bird and Brush 2002; Byrne and Fayolle 2010; Kickul et al. 2008).

In the case of less-developed countries, research has also focused on the influence of the national or regional environment on female entrepreneurship. In these environments, traditional attitudes and values transmitted through family and social links could specifically be behind the lower entrepreneurial activity of women with respect to men (Bertaux and Crable 2007; Roomi and Parrot 2008; Wells, Pfantz, and Byrne 2003). Conversely, in countries and regions with very low income levels and high female unemployment, it may also be true that women tend to undertake very marginal subsistence activities, thus showing apparently higher start-up rates than those of men (García-Cabrera and García-Soto 2008; Verheul et al. 2006).

It may be argued, then, that the environment exerts a different influence depending on the level of economic and social development (Iakovleva, Kolvereid,

and Stephan 2011; Liñán and Chen 2009).

Research Model and Hypotheses

Figure 1 presents the final research model to be tested, considering the four elements of the TPB model along with the two additional social perceptions defined above: CV and SV. As may be seen, it specifically hypothesizes that CV and SV influence entrepreneurial PA, entrepreneurial PBC and SN (Liñán et al. 2011).

Insert Figure 1 about here

Following the research model depicted in Figure 1, and taking into account the gender gap in entrepreneurial intentions and perceptions found by the recent entrepreneurship literature (Kickul et al. 2008; Langowitz and Minniti 2007; Minniti and Nardone 2007; Wilson et al. 2007), the following hypotheses are derived:

H1*: Across different regions, women exhibit, when compared to men:*

H1a*: lower intentions of becoming entrepreneurs*

H1b*: lower entrepreneurial PBC.*

H1c*: lower entrepreneurial PA.*

H1d*: lower subjective norm (SN) of becoming entrepreneurs.*

H1e*: lower closer valuation (CV) of becoming entrepreneurs.*

H1f*: lower social valuation (SV) of becoming entrepreneurs.*

Nevertheless, despite these expected differences, the influence of basic

perceptions on intention-model elements should be similar for both genders and in different contexts (Arenius and Minniti 2005; Minniti and Nardone 2007). Hence, based on the theory, the following hypotheses are proposed:

H2*:* *The following relations hold for both genders across different regions,*

H2a*:* *Entrepreneurial PA has a positive impact on entrepreneurial intentions*

H2b*:* *Entrepreneurial PBC has a positive impact on entrepreneurial intentions.*

H2c*:* *SN has a positive impact on entrepreneurial intentions.*

H2d*:* *SN has a positive impact on entrepreneurial PA.*

H2e*:* *SN has a positive impact on entrepreneurial PBC.*

However, the literature also points out that socio-environmental elements exert a different influence on male and female perceptions and intentions regarding entrepreneurship (Eddleston and Powell 2008; Gupta et al. 2009; Kickul et al. 2008; Mueller and Dato-On 2008; Watson and Newby 2005; Zhao et al. 2005). This influence tends to be weaker for women (Matthews and Moser 1996; Verheul, Uhlaner, and Thurik 2005; Watson and Newby 2005). These differences in environmental influences have been found to be stronger in less-developed regions or countries (Bertaux and Crable 2007; Roomi and Parrot 2008; Wells et al. 2003).This therefore leads to the following hypotheses being proposed:

H3*:* *There are differences in the following relationships depending on gender (stronger for men) and on the region,*

H3a*: Closer valuation has a positive influence on entrepreneurial PA*

H3b*: Closer valuation has a positive influence on entrepreneurial PBC*

H3c: *Closer valuation has a positive influence on SN*

H3d: *Social valuation has a positive influence on entrepreneurial PA*

H3e: *Social valuation has a positive influence on entrepreneurial PBC*

H3f: *Social valuation has a positive influence on SN*

Research Methodology

Data

Data come from a survey on final-year business undergraduate students of two different European regions. 516 questionnaires were collected: 267 British students from the University of Bedfordshire in Luton, and 249 Spanish students from the University of Seville (see Table 1).

Insert Table 1 about here

The two regions differ in some of their economic characteristics. Bedfordshire is located near London, it is very well connected with the British capital and its income level is one of the highest in the EU-15[*]. On the other hand, Seville is located in southern Spain, it is one of the least-industrialized regions of the country and its income level is therefore one of the lowest in the EU-15.

Insert Table 2 about here

[*] EU-15 means that the comparison is made between the 15 countries that were members of the European Union before the accession of several East European states in 2004

Regarding entrepreneurship, the Eurobarometer data show that the entrepreneurial activity index in the UK is above the EU-15 average but, on the contrary, this index for Spain is below the EU-15 average (European Commission 2007). This result is consistent with a higher entrepreneurship rate and a lower proportion of business failures in the UK.

Cultural values differ considerably between both countries, with the UK scoring higher than Spain in individualism and masculinity, while lower in uncertainty avoidance and power distance (Hofstede 2003). In this sense, a more pro-entrepreneurial set of values is present in the UK (Mueller, Thomas, and Jaeger 2002). Additionally, the UK also has a higher proportion of individuals with a low perception of financial difficulties for the start-up, a high risk-tolerance and a high probability of starting the business as a result of an opportunity.

Scales

The *Entrepreneurial Intention Questionnaire (EIQ)* developed by Liñán et al. (2011) was used to test the hypotheses proposed. The questionnaire was built to avoid some of the most common problems in this kind of analyses, such as common method bias, evaluation apprehension or acquiescence bias. Additionally, in the empirical analysis, reliability and validity analyses will be repeated to confirm the previous results and ensure the instrument's appropriateness.

The questionnaire uses Likert-type scales to measure each construct (response range is 1 to 7, with 4 being the central value). Thus, twenty items in the first part of the questionnaire measure the four core constructs of the TPB (entrepreneurial

intention, entrepreneurial PA, entrepreneurial PBC and entrepreneurial SN). A sample item for entrepreneurial intention is: “I am determined to create a business venture in the future”. On the other hand, the EIQ also provides measures of CV and SV. The following are example items: “My friends value entrepreneurial activity above other activities and careers” (for CV) and “The culture in my country is highly favorable towards entrepreneurial activity” for (SV). In the present study, all six constructs have been measured through reflective indicators.

Data Analysis

Given the relationships between different perceptions and the entrepreneurial intention, structural equation modeling has been chosen for the analysis. In particular, Partial Least Squares (PLS) is applied and PLS Graph V. 3.00 Build 1126 software is used for the data analysis (Chin and Frye 2003). This multivariate statistical technique is suitable when exploratory studies are carried out and relatively small samples are used (Sánchez-Franco and Roldán 2005).

To test the hypotheses H1a to H1f, a PLS model was built using data from the full sample (Bedfordshire and Seville). Then, with the resulting constructs (entrepreneurial intention, entrepreneurial PBC, entrepreneurial PA, SN, CV and SV) we performed an ANOVA test to check for the existence of possible gender differences in the constructs of the two sub-samples.

To test hypotheses H2a to H2e, two PLS models for the full sample were built (Bedfordshire and Seville together): one for men and the other for women.

Finally, regarding hypotheses H3a to H3f, a dichotomous control variable (BED) was included in the two previous PLS models (for men and women) to reflect the

influence of the regional environment (value 1 for the Bedfordshire sub-sample and value 0 for the Seville sub-sample). Then, a multigroup analysis was performed to look for statistically-significant differences in path coefficients (Chin 1998).

Results

The analysis of the measurement model for the full sample found low loadings for a small number of items. They were removed and the model was run again. Scores regarding item reliability, construct reliability and convergent and discriminant validity were then satisfactory (see Tables 3 and 4).

Insert Table 3 about here

Insert Table 4 about here

When we repeated the analysis for each region individually, the results were similar. Entrepreneurial intention levels are notably higher in Bedfordshire (mean value of 4.95) than in Seville (3.94), as was expected given the economic and cultural differences between both regions. This is in accordance with respondents in Bedfordshire showing more positive PA (5.41 vs. 4.85) and PBC (4.53 vs. 3.73) than those in Seville. Then, ANOVA analyses were performed in each region to compare male and female scores for the six constructs.

Insert Table 5 about here

As seen in Table 5, men always had higher entrepreneurial intentions and perceptions in each region individually considered (the mean is higher for men than for women). Regarding entrepreneurial intentions, the share of respondents stating a high intention (5 or higher in the 1-7 scale) is 53.6% for males (65.6% in Bedfordshire and 39.6% in Seville) and 30% for women (41.2% in Bedfordshire and 19.5% in Seville). However, the ANOVA test showed that these gender differences were only significant for three of the four central elements of Ajzen's model: entrepreneurial intention, entrepreneurial PA and entrepreneurial PBC. Therefore, *hypotheses H1a, H1b and H1c are supported, but hypotheses H1d, H1e and H1f are not.*

Secondly, the models were tested separately on the sub-sample for all men (Bedfordshire and Seville) and the sub-sample for all women (Bedfordshire and Seville). Results showed that the relationships were significant for both men and women in the two regions. The model explained 66.1 percent (for men) and 67.6 percent (for women) of the variance in entrepreneurial intentions (see Figure 2). Only the relationship between SN and entrepreneurial intentions was not significant, in accordance with results by other researchers (Autio et al. 2001; Krueger et al. 2000; Liñán and Chen 2009). Therefore, *hypotheses H2a, H2b, H2d and H2e are supported, whereas hypothesis H2c is not.*

Insert Figure 2 about here

To take into account the regional context, a dummy variable (BED) was included in the model. As shown in Figure 3, the path coefficients are broadly similar and the

explained variance for entrepreneurial intention is also notably high (68.7 percent for men and 68.3 percent for women). The same as before, the links between SN and the entrepreneurial intention were not significant, while the links between all other constructs of the TPB model were significant.

Insert Figure3 about here

Regarding the links between the dummy variable (BED) and the six constructs, all path coefficients were significant in both models (women and men). This means that the region-specific characteristics exert an influence on the perceptions and intentions regarding the start-up, being in general more positive in Bedfordshire. This is in accordance with its higher development level and more pro-entrepreneurial culture. Only SN was perceived more negatively in Bedfordshire.

Insert Table 6 about here

Finally, to statistically test Hypotheses H3, a multigroup analysis was carried out (Table 6). As may be seen, only two path-coefficient differences were significant: the one between SV and entrepreneurial PA, and the one between SV and entrepreneurial PBC. Therefore, *this result leads to the rejection of hypotheses H3a, H3b, H3c and H3f, whereas hypotheses H3d and H3e are supported*.

Discussion

The empirical analysis carried out in this paper has yielded two main results. Firstly entrepreneurial intention is, both for females and males, the result of socialization processes in which personal perceptions about entrepreneurship (entrepreneurial Personal Attitude –PA- and Perceived Behavioral Control –PBC) play a key role. Thus, this paper once again confirms the applicability of the TPB model to entrepreneurship, irrespective of gender. Men are found to exhibit higher entrepreneurial intentions than women do, but this is the logical consequence of their more favorable PA and PBC.

Regarding their views of the environment around them, both genders have similar perceptions about their macro-social (SV), micro-social or closer environment (CV) and support towards the entrepreneurial activity (SN). Therefore, perceived social valuation (SV) does not differ by gender. Instead, what is different is the way SV affects personal perceptions (PA and PBC).

Thus, for males, more positive SV leads them to feel entrepreneurship as more attractive and feasible. In the case of women, perceived SV has no effect on personal perceptions. Following the so-called social feminism view of entrepreneurship (Ahl 2006; Byrne and Fayolle 2010), it may be argued that females do not see entrepreneurship as a career option for them (Bird and Brush 2002). As a consequence, women's personal perceptions and intentions are not affected by the value society puts on this activity.

Interestingly enough, these relationships hold for two notably-different regions. In Bedfordshire, the perceived valuation of entrepreneurship in the wider (SV) and closer (CV) environments is higher, as are the personal levels of PA, PBC and entrepreneurial intentions. But this does not affect the nature of these relationships. The results are the same for both regions. In fact, once the country dummy is included

(Figure 3), the influence of SV on PA, PBC and SN is much clearer and more consistent (compared to Figure 2). The other relationships in the model remain essentially unaffected however.

This should make researchers be especially careful when analyzing data from different social environments. The social and economic situation matters. Failure to recognize this may yield biased and/or misleading results. As some authors point out, more comparative studies are needed to fully understand the socio-cultural influence on female entrepreneurship (Ahl 2006; Verheul et al. 2006).

In turn, when the family, friends and ethnic group (CV) are considered, the value they put on entrepreneurship does not have any differential effect by gender. As the comparison of Figures 2 and 3 clearly shows, results are essentially the same, regardless of the country dummy being included or not. Therefore, both males' and females' personal entrepreneurial perceptions are similarly affected by the valuation of entrepreneurship in their closer environment. In this case, there is no gender difference. This result is in line with that of Verheul et al. (2006), who found the effect of "importance of family" to be the same for males and females.

A great majority of men probably exhibit a masculine stereotype and they do not feel gender discrimination (Bird and Brush 2002; Byrne and Fayolle 2010). They tend to consider entrepreneurship as a way to win social prestige or recognition. In contrast, women are more worried about access to some relevant resources because they feel more barriers for the entrepreneurial activity (Becker-Blease and Sohl 2007; Brush et al. 2002; Carter and Allen 1997; Fabowale et al. 1995; Marlow and Patton 2005; Smith-Hunter 2006). Summarizing, one thing is whether women feel their social environment values the entrepreneurial activity, and another very different one is whether they feel the social environment values their initiatives with the same

intensity as those of men.

Previous results have found that less entrepreneurial societies face a shortage of entrepreneurship because the social valuation effect is not present (Liñán et al. 2011). Only families providing a favorable CV (because there is already an entrepreneur within it, for instance), will promote higher entrepreneurial intentions among their members. But these 'entrepreneurial families' are comparatively scarce. However, the relative participation of women in entrepreneurship needs not be very different from that in more entrepreneurial societies. That is, those families and ethnic groups positively valuing entrepreneurship will provide a supporting environment for both males and females (Verheul et al. 2006).

At most, it is the step from intention to action that may differ. That is, if women perceive higher barriers than men, a lower fraction of them will try to start up. In turn, it may be argued that in areas with a more positive social valuation of entrepreneurship, social institutions are shaped to facilitate start-ups, and therefore, females (and also males) will find fewer barriers. Thus, a higher fraction of women will attempt to start their ventures.

Implications

The results of this paper show that women are not born with lower entrepreneurial intentions than men (Wilson et al. 2007). Rather, they perceive the entrepreneurial role as being less adequate for them. This makes them perceive a lower entrepreneurial PA and PBC, which, in turn, explains why their intention levels are lower. Therefore, actions to increase female's perceived attraction and feasibility towards entrepreneurship will have an effect on intentions and, eventually, on actual

start-ups (Kickul et al. 2008).

On the theoretical side, this result calls for the need to fully understand why a more positive entrepreneurial SV does not lead to higher PA and PBC in women. It probably has to do with entrepreneurship being considered a “male” career option. If this is true, active policy measures to change this view are needed. Measures to increase the perceived social valuation of entrepreneurship in general will help promote entrepreneurship (Liñán et al. 2011), but especially that of men. They will have little or no effect on the entrepreneurial activity of women.

In turn, the specific promotion of “women entrepreneurs” clubs or associations will increase the visibility of entrepreneurship as a career option for women. At the same time, policies must continue focusing on providing women with a higher infrastructure of tangible and intangible support to facilitate their decision to set up a firm (Marlow and Patton 2005). However, this action is even more necessary in the case of relatively backward regions, such as Seville.

Likewise, higher education at universities can play an important role in the promotion of female entrepreneurship (Kickul et al. 2008; Wilson et al. 2007). Entrepreneurship education should be designed not only to overcome actual discrimination (in practical knowledge or access to resources, for instance), but also to take into account the particular perceptions and motivations of women (Bird and Brush 2002; Byrne and Fayolle 2010; Liñán, Rodríguez-Cohard, and Rueda 2011). The inclusion of female role-models as guest speakers is a relevant measure in this respect (Kickul et al. 2008).

Limitations

The generalizability of these results should not be taken for granted. A number of limitations may have affected the results. The use of student samples is the first one, since they may not be fully representative of the general adult population. However, despite some criticism regarding the use of student samples (Robinson et al., 1991), some research has shown that the entrepreneurial intentions of university students remain quiet stable after graduation (Audet 2004; Liñán, Rodríguez-Cohard, and Guzmán 2011), since they are at the stage of making a decision about their professional careers (Fitzsimmons and Douglas 2011; Shepherd and DeTienne 2005). Additionally, such a population is repeatedly used in entrepreneurship research, facilitating comparisons (Autio et al. 2001; Kickul et al. 2009; Krueger et al. 2000; Liñán and Chen 2009; Zhao et al. 2005).

Another limitation derives from the geographic scope of this analysis. It is possible for samples coming from different countries or regions to yield conflicting results. In particular, this sample comes from two developed countries. The results may not be equally applicable to developing economies. Therefore, more research is necessary to confirm or refute these results in alternative settings.

Conclusions

We consider that this paper has contributed to an advance in the understanding of the interplay between gender differences and the social environment in entrepreneurship. It has, firstly, confirmed that women and men form their intention to start a venture in the same manner. Thus, women have lower entrepreneurial intentions because they see this option as being less attractive and less feasible than men do.

It has also shown that a more positive perception about the social valuation of entrepreneurship leads men, but not women, to increase their attraction and sense of feasibility towards the entrepreneurial activity. Hence, women may feel starting a venture is highly valued by the society, but do not think this is an acceptable option for them. This needs to be changed if a substantial increase in the share of female entrepreneurship is sought.

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Figure 1: Research model

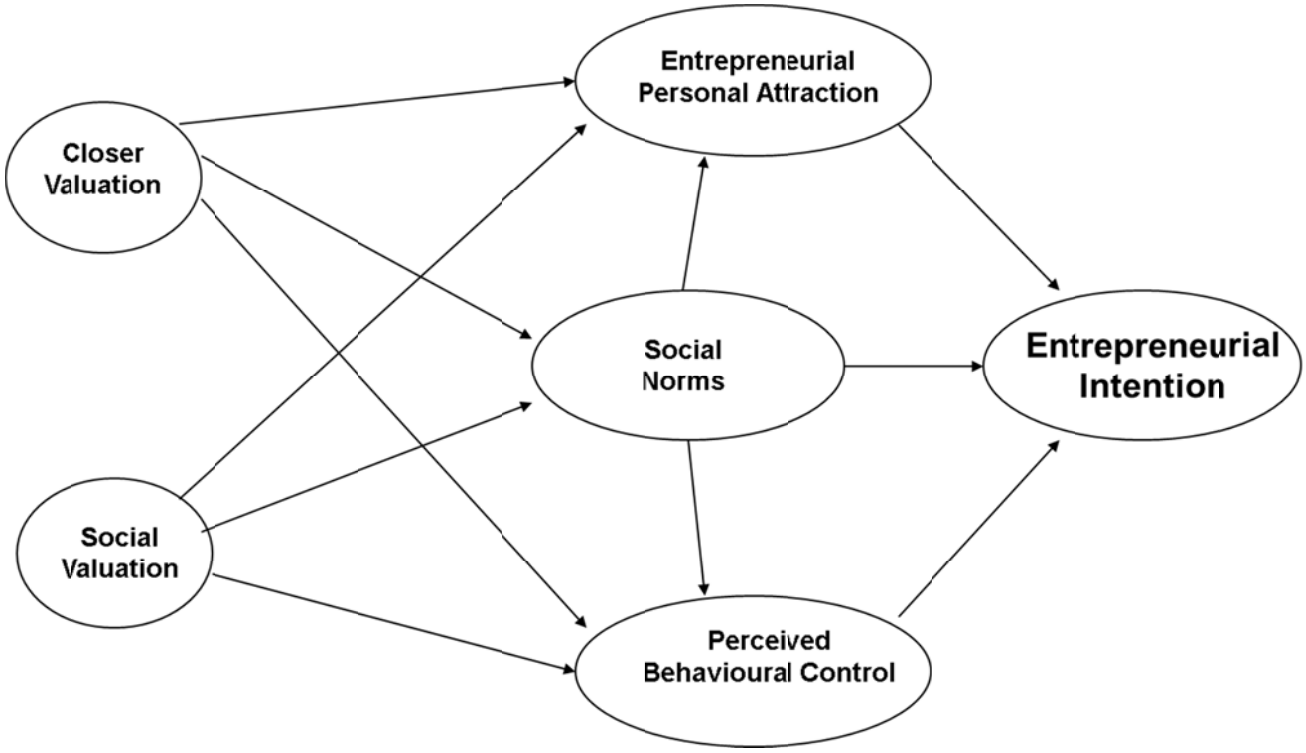
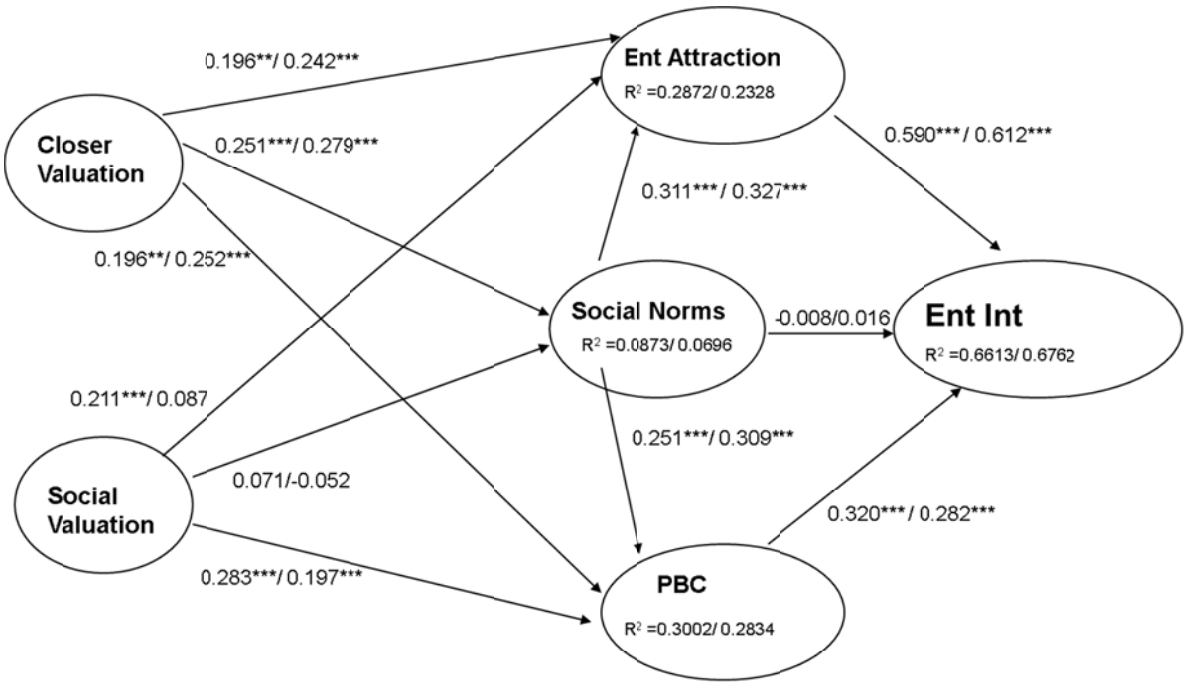


Figure 2: Structural models for women and men in the two regions (N_{women}=250 and N_{men}=254).



* = p<0.05, ** = p<0.01, *** = p<0.001 men / women

Figure 3: Structural model for women and men of the two samples including regional effect (N_{women}=250 and N_{men}=254).

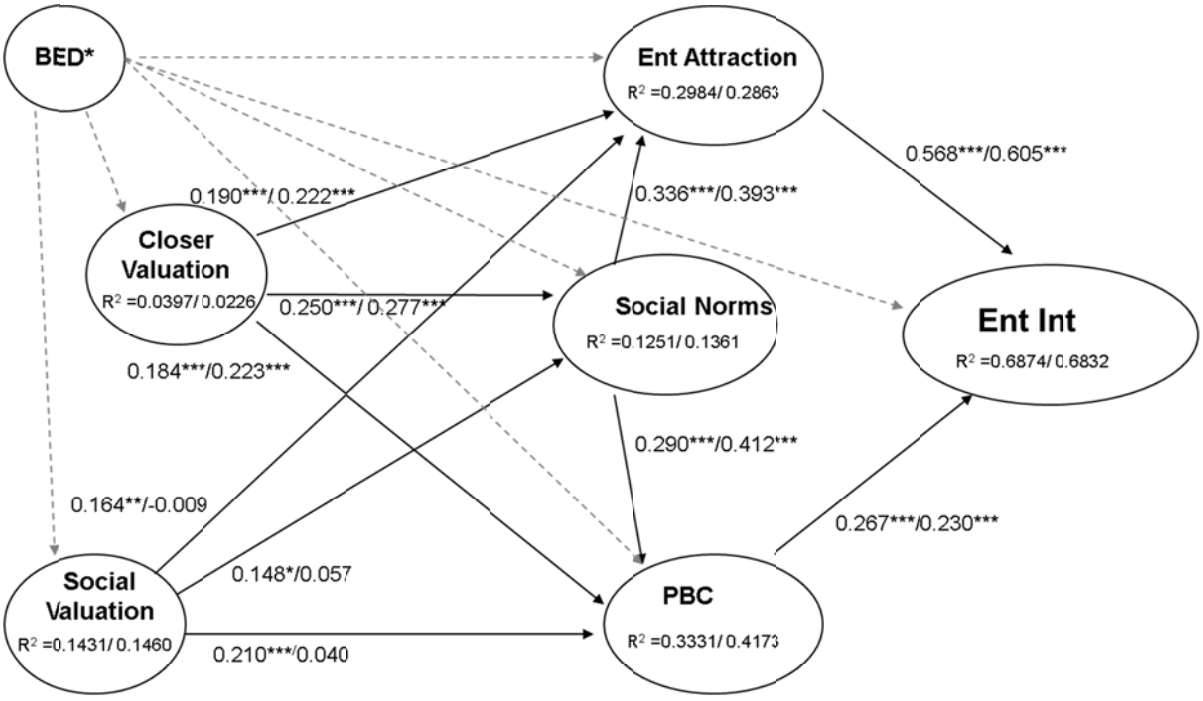


Table 1. Descriptive characteristics of the sub-samples (%)

Description		Full sample	Bedfordshire sub-sample	Seville sub-sample
Gender	Male	50.4	53.2	47.3
	Female	49.6	46.8	52.7
Age	18-24	67.8	57.3	75.1
	25-30	22.7	31.1	17.7
	>31	5.8	11.6	2.4
	Total (number)	**516**	**267**	**249**

Table 2. Basic economic data in the two regions

Indicator	Bedfordshire[a]	Seville[b]
Income per capita 2007(GDP PPS per capita)	31,600	20,200
Activity rate (2003-2006)	70.9	64.6
Unemployment rate (2009)	5.9	25.4
Female unemployment rate (2009)	4.7	27.1
Male unemployment rate (2009)	6.9	24.1
Employment in high-tech sectors (2008, % of total employment)	8.08	2.43
Individuals regularly using Internet (2010, % of individuals who accessed the Internet, on average, at least once a week)	86.0	52.0

[a] Data for Bedfordshire, Hertfordshire [b] Data for Andalusia

Source: Eurostat, Regional Statistics NUTS 2.

Table 3. Reliability and convergent validity analysis for the full sample. (Bedfordshire and Seville *N*=516)

Construct	Items	Loadings	Composite reliability	Average Variance Extracted (AVE)
Entrepreneurial intention	A04 A06 A13 A17 A19-rev-	0.7591 0.7835 0.8864 0.8713 0.8156	0.914	0.680
Entrepreneurial PA	A10 A15 A18	0.8443 0.8680 0.8129	0.880	0.709
Social Norms	A03 A08 A11	0.7989 0.7758 0.8800	0.859	0.672
Entrepreneurial PBC	A01 A07 A14 A20	0.7961 0.7756 0.8112 0.6579	0.847	0.582
Closer Valuation	C1 C4 C7	0.7704 0.8055 0.8355	0.846	0.647
Social valuation	C2 C6	0.8676 0.8622	0.856	0.748

Table 4. Convergent and discriminant validity of constructs for the full sample (Bedfordshire and Seville, *N*=516)

	Entrep. Intention	Entrep. PA	Social Norms	Entrep. PBC	Closer Valuation	Social Valuation
Entrep. Intention	**0.824**					
Entrep. PA	0.790	**0.842**				
Social Norms	0.354	0.398	**0.819**			
Entrep. PBC	0.669	0.603	0.367	**0.762**		
Closer Valuations	0.427	0.381	0.266	0.419	**0.804**	
Social Valuations	0.308	0.283	0.128	0.372	0.469	**0.864**

Note: Diagonal elements (bold) are the square root of the average variance extracted (AVE) between the constructs and their measures. Off-diagonal elements are correlations between constructs. For discriminant validity, diagonal elements should be larger than off-diagonal elements in the same row and column.

Table 5. ANOVA to test gender differences in entrepreneurial intentions and perceptions in Bedfordshire and Seville subsamples.

	Gender	*N*	*M*	SD		SSq	d.f.	MSq	*F*	*p*
Entrep. Inten.	Bed. men	128	5.2938	1.27309	Inter	31.569	1	31.56	15973	.000
	Bed. women	114	4.5702	1.54146	Intra	474.334	240	1.976		
					Total	505.903	241			
	Sev. men	111	4.2559	1.48009	Inter	20.931	1	20.93	10.69	.001
	Sev. women	123	3.6569	1.32183	Intra	454.135	232	1.957		
					Total	475.066	233			
									H_{1a} Supported	
Entrep. PA	Bed. men	135	5.6247	1.24883	Inter	13.350	1	13.35	8.160	.005
	Bed. women	119	5.1653	1.31260	Intra	412.290	252	1.636		
					Total	425.640	253			
	Sev. men	112	5.1429	1.28806	Inter	17.896	1	17.89	10.26	.002
	Sev. women	124	4.5914	1.34339	Intra	408.123	234	1.744		
					Total	426.019	235			
									H_{1b} Supported	
Entrep. PBC	Bed. men	134	4.6791	1.10476	Inter	5.920	1	5.920	4.696	.031
	Bed. women	121	4.3740	1.14251	Intra	318.967	253	1.261		
					Total	324.887	254			
	Sev. men	111	3.9797	1.03415	Inter	13.490	1	13.49	13.20	.000
	Sev. women	122	3.4980	0.98883	Intra	235.954	231	1.021		
					Total	249.444	232			
									H_{1c} Supported	
SN	Bed. men	132	5.0000	1.20079	Inter	4.508	1	4.508	3.140	.078
	Bed. women	121	4.7328	1.19538	Intra	360.360	251	1.436		
					Total	364.868	252			
	Sev. men	111	5.2643	1.32659	Inter	.023	1	.023	.013	.909
	Sev. women	122	5.2842	1.33035	Intra	407.731	231	1.765		
					Total	407.754	232			
									H_{1d} Not supported	
CV	Bed. men	141	4.5201	1.22952	Inter	3.397	1	3.397	2.550	.112
	Bed. women	123	4.2927	1.06148	Intra	349.101	262	1.332		
					Total	352.498	263			
	Sev. men	112	4.0298	1.08549	Inter	.411	1	.411	.319	.573
	Sev. women	114	3.9462	1.17593	Intra	300.286	234	1.286		
					Total	301.286	235			
									H_{1e} Not supported	
SV	Bed. men	142	4.7500	1.25159	Inter	.007	1	.007	.005	.944
	Bed. women	143	4.7398	1.08142	Intra	363.550	263	1.382		
					Total	363.557	264			
	Sev. men	110	3.7227	1.22397	Inter	.000	1	.000	.000	.995
	Sev. women	124	3.7218	1.29775	Intra	370.444	232	1.597		
					Total	370.444	233			
									H_{1f} Not Supported	

Table 6. *t*-tests for multi-group analysis: men and women from the full sample.

Links	Path Men	Path Women	Path Difference	Standard Error Men	Standard Error Women	SP	*t*-statistic	
Ent PA-EntInt	0.5680	0.6050	-0.0370	0.0452	0.0526	0.7760	-0.6702	ns
PBC-EntInt	0.2670	0.2300	0.0370	0.0469	0.0493	0.7620	0.6826	ns
SN-EntInt	0.0410	0.0630	-0.0220	0.0354	0.0487	0.6728	-0.4596	ns
SN-Ent. PA	0.3360	0.3930	-0.0570	0.0738	0.0546	1.0309	-0.7773	ns
SN-PBC	0.2900	0.4120	-0.1220	0.0621	0.0515	0.9052	-1.8947	ns
CV-Ent PA	0.1900	0.2230	-0.0330	0.0717	0.0632	1.0718	-0.4328	ns
CV-SN	0.2500	0.2770	-0.0270	0.0747	0.0653	1.1127	-0.3411	ns
CV-PBC	0.1840	0.2230	-0.0390	0.0787	0.0584	1.1004	-0.4982	ns
SV-Ent PA	0.1640	-0.0090	0.1730	0.0730	0.0687	1.1236	**2.1645**	*
SV-SN	0.1480	0.0570	0.0910	0.0877	0.0757	1.2994	0.9845	ns
SV-PBC	0.2100	0.0440	0.1660	0.0690	0.0579	1.0105	**2.3093**	*

*** p <0.001, ** p <0.01, * p <0.05, ns=not significant (based on $t_{(502)}$, two-tailed test).
t(0.001; 502)=3.32834; t(0.01; 502)=2.59487; t(0.05; 502)=1.96913

[a] Multigroup analysis of links between BED and the six indicators has been omitted for clarity. Differences between the path coefficients were not significant.