

FEMALE SOCIAL ENTREPRENEURSHIP AND SOCIO-CULTURAL CONTEXT: AN INTERNATIONAL ANALYSIS

EMPRENDIMIENTO SOCIAL FEMENINO Y CONTEXTO SOCIO-CULTURAL: UN ANÁLISIS INTERNACIONAL

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ABSTRACT

In this article we analyse the socio-cultural factors that influence the likelihood of women becoming social entrepreneurs, using institutional economics. Binary logistic regression has been applied as the statistical method to test the hypotheses proposed, using data (40 countries and 56,875 individuals) from the World Value Survey (WVS) and the World Bank (WB). The main findings of the study reaffirm the relevance of socio-cultural factors to social entrepreneurship. Particularly, we have found that altruistic attitudes and being a member of a social organization are the most relevant socio-cultural factors for social female entrepreneurship.

Key words: Female social entrepreneurship, social female entrepreneurial activity, socio-cultural factors, institutions, institutional economics. **JEL:** B52, L26, M13, O35.

RESUMEN

El presente artículo analiza los factores socio-culturales que influyen en la probabilidad de que las mujeres lleven a cabo un emprendimiento social, bajo el marco conceptual de la teoría económica institucional. En la parte empírica del trabajo se aplica una regresión logística con datos (40 países y 56.875 individuos) del World Value Survey (WVS) y del World Bank (WB). Los resultados más relevantes reafirman la importancia de los factores socio-culturales en el emprendimiento social femenino, especialmente en lo relativo a las actitudes altruistas y la pertenencia a organizaciones sociales, por parte de las mujeres emprendedoras.

Palabras claves: Emprendimiento social femenino, actividad emprendedora social femenina, factores socio-culturales, instituciones, teoría económica institucional. **JEL:** B52, L26, M13, O35.

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Recibido: Noviembre de 2014. Aceptado: Diciembre de 2014.

1. INTRODUCTION

In recent decades, both academia and governments have shown interest in the study of social entrepreneurship, defining this phenomenon as the process in which an entrepreneur or an entrepreneurial team identifies and exploits social opportunities using management methods in order to create social wealth for societies (Mair & Marti, 2006; Morris et al., 2011). Thus, social entrepreneurship is considered a key driver for social and economic development, due to its role in the process of tackling social challenges in an innovative way, as well as seeking financial sustainability with a market orientation (Nicholls & Cho, 2008; Nicholls, 2010; Haugh, 2005).

Previous studies have highlighted the important role of women in (social/commercial) entrepreneurial activities (Harding & Cowling, 2006; Noguera et al., 2013; Verheul *et al.*, 2006). According to Wilson and Kickul (2006), women who are interested in becoming entrepreneurs do so due to social motives, while men show more focus on economic goals than on the social aspects of entrepreneurship. Similarly, Handy *et al.* (2002) highlight the significant contribution that women make on social issues. Additionally, Harding and Cowling (2006) suggest that both females and individuals who are inactive in the labor market are more likely to choose social entrepreneurship than commercial entrepreneurship.

Likewise, the role of women in social entrepreneurship and their participation in business creation has increased in recent decades (Brush *et al.*, 2009; Langowitz & Minniti, 2007). Due to this, different levels of governments, both regional and local, have been developing and implementing several tools to foster female entrepreneurial activity. In 2009, the Spanish Ministry for Equality, together with the Spanish Confederation of Savings Banks, provided micro-credits for women entrepreneurs. Also, in 2012, the OECD's Middle East and North Africa (MENA) *Women's Business Forum* worked with governments to improve policies and legislation which impact women's economic integration in the MENA regions, with the aim of overcoming the specific gender difficulties that exist when creating a business. Hence, given the lack of research on women's contribution as social entrepreneurs, the current study seeks to improve our knowledge of the role of women in social entrepreneurship phenomena.

Several theoretical approaches have been proposed to study the processes of business creation by women (Brush, 1992; Greene *et al.*, 2003) and social entrepreneurship (Choi & Majumdar, 2014; Dacin *et al.*, 2010; Mair & Marti, 2006; Short *et al.*, 2009). Among them, an emerging body of literature, discussed below, suggests the suitability of institutional economics (North, 1990, 2005), used as the theoretical framework of this research, for the analysis of environmental factors that influence business creation by women (Alvarez *et al.*, 2012; Baughn *et al.*, 2006; Brush *et al.*, 2009) and the development of social entrepreneurial activities (Mair & Marti, 2009; Urbano *et al.*, 2010).

North (1990, 2005) defines the concept of institution as the set of rules that articulate and organize human interaction, having an impact on economic and social development. He distinguishes between two types of institutions: formal and informal. Formal institutions refer to laws, regulations and government procedures, while informal institutions include the ideas, beliefs, attitudes and values of people, such as the culture of a given society. For the present study we focus on informal institutions or socio-cultural factors in order to understand their effect on female entrepreneurship and social entrepreneurship.

In this context, the aim of this research is to analyze the socio-cultural factors which influence the likelihood of women becoming social entrepreneurs, using institutional economics (North, 1990, 2005) as the theoretical framework. To test our hypotheses, we

apply logistic regression models, using data from the *World Value Survey* (WVS) and the World Bank (WB). The main findings of the study reaffirm the relevance of socio-cultural factors to social entrepreneurship. Particularly, we have found that altruistic attitudes and being a member of a social organization are the most relevant socio-cultural factors for social female entrepreneurship.

This paper has both theoretical and practical contributions. Firstly, this work could be useful for the progress of studies on social entrepreneurial activity carried out by women, especially using the institutional approach, where gender variables can be crucial. Secondly, this study contributes theoretically to the literature on social entrepreneurship, with the creation of knowledge related to how socio-cultural factors affect female social entrepreneurship in Spain. Finally, our results may help in the process of designing government policies to foster female social entrepreneurship.

This article is structured as follows. After this brief introduction, the conceptual framework is explained; later the methodology of the research is presented; in the next section we discuss the main results; and finally, we include the conclusions and implications of the research.

2. CONCEPTUAL FRAMEWORK

In the extant literature, the focus of a significant number of articles in the field of female entrepreneurship and social entrepreneurship falls within the context of developing and developed economies (e.g. Carr *et al.*, 1996; Gimmon & Spiro, 2013; Kirby & Ibrahim, 2011; Mair & Shoen, 2007; Salamzadeh *et al.*, 2013). In this way, several authors noted the role of females in the social entrepreneurial process. For instance, Van Ryzin *et al.* (2009) suggest that social entrepreneurs are more likely to be non-white, young, college-educated females who live in major cities and who have some business experience. The results of this study highlight that women are more likely to be social entrepreneurs, in contrast to their male counterparts. Another example we found is a study conducted by the *National Foundation for Women Business Owners* (2000) where it was established that women entrepreneurs usually take on leadership roles in volunteer organizations and are highly motivated philanthropists.

On the other hand, there has been a growing recognition that socio-cultural factors have a significant effect on the entrepreneurial process (e.g. Alvarez & Urbano, 2011; Castrogiovanni *et al.*, 2011; Coduras *et al.*, 2008; Knörr *et al.*, 2013; Liñán *et al.*, 2011; Noguera *et al.*, 2013; Thornton *et al.*, 2011) as well as on the social entrepreneurial process (Dorado & Ventresca, 2013; Hartog & Hoogendoorn, 2011; Nga & Shamuganathan, 2010; Urbano *et al.*, 2010). Also, these processes can be differentiated according to the gender of the entrepreneur (BarNir, 2012; BarNir *et al.*, 2011; Díaz-García & Jiménez-Moreno, 2010; Langowitz & Minniti, 2007; Marlow & Patton, 2005); relevant differences have been identified between female and male entrepreneurship. In this sense, Griffiths *et al.* (2013) highlight the role of socio-cultural factors and their influence on gender patterns in entrepreneurial activity. These authors affirm that cultural value could influence the types of work and career opportunities acceptable for women. Additionally, although the rate of female entrepreneurship continues to grow, gender issues and cultural stereotypes persist in some regions, becoming limitations to business growth (Gatewood *et al.*, 2009). Hence, as noted by Baughn *et al.* (2006), countries that foster and support women entrepreneurs, encouraging this kind of attitude through respect along with gender equality, are likely to observe a higher level of female entrepreneurship.

As mentioned before, the institutional approach and, more specifically, the assumptions made by North (1990; 2005) comprise the theoretical framework used in this study. This

theory is based on the concept of institutions, which is understood as the limitations (also known as ‘the rules of the game’) conceived of by those who define the setting in which human interaction occurs. Thus we established, through the literature studied, that some socio-cultural factors could be important key drivers for social entrepreneurial development, such as post-materialism, altruism, being a member of a social organization, equal income and change in society. The following provides the hypotheses of the present study which explore the relationship between gender issues and social entrepreneurship along with their socio-cultural contexts.

Research has shown that social ties which are not related to material needs are an important resource for overcoming existing problems when starting and developing a business (Davidsson & Honig, 2003; Greve & Salaff, 2003) and also provide opportunities and resources for social ventures (Haugh, 2007). Cultural values are also important for women entrepreneurs in developed countries (Caputo & Dolinsky, 1998; Manolova *et al.*, 2007; Manolova *et al.*, 2012) and for entrepreneurs developing businesses in turbulent environments, such as in former Soviet Bloc countries (Smallbone & Welter, 2001; Welter & Smallbone, 2008). In their study, Welter and Smallbone (2008) indicate that entrepreneurship may have represented one way for Uzbek women to gain independence and self-expression, especially during the years of political transition, when Islamic ideas were gaining political ground (Hanks, 2007).

There are also a growing number of entrepreneurship researchers who, in their investigations, emphasize the family context (Aldrich & Cliff, 2003; Bruni *et al.*, 2004; Brush *et al.*, 2009) and its link to work–life balance (Jennings & McDougald, 2007). Jennings and McDougald (2007) find that family or household contexts may have a greater impact on women than on men. In the most recent studies carried out in this area, the quality of family life is presented as a key element in female entrepreneurship (Aldrich & Cliff, 2003; Brush *et al.*, 2009). The higher the level of post-materialism in a country, the more likely it is that the population will consider the well-being of others, finding its expression in activities such as social entrepreneurship (Hartog & Hoogendoorn, 2011). In contrast, in the entrepreneurship field, Uhlaner and Thurik (2007) find a negative relationship between post-materialism and total early-stage entrepreneurial activity across countries. They argue that material gains, which are less valuable to post-materialist individuals, are crucial to commercial entrepreneurship. From this perspective, post-materialism is expected to have a larger impact on social entrepreneurs than on traditional entrepreneurs. This leads us to query the following hypotheses:

Hypothesis 1a: *Post-materialism has a positive effect on the probability to become a social entrepreneur.*

Hypothesis 1b: *Post-materialism has a more positive effect on the probability of females becoming social entrepreneurs than their male counterparts.*

Studies such as that conducted by Van Ryzin *et al.* (2009) provide some explanation regarding the individual characteristics that might describe or explain which individuals in society are likely to be social entrepreneurs. Their results suggest that women residing in large cities are more likely to be social entrepreneurs within the American context. These women tend to show more solidarity towards less fortunate members of society and regularly contribute to charity. These results are consistent with the findings arrived at by Korosec and Berman (2006). In the same vein, this study added that when the entrepreneurs in question are non-white women, they are more likely to become social entrepreneurs, since they may be motivated to some extent by their own life experiences or by a historical awareness of social injustice and inequality. A social entrepreneur’s involvement with the social sector allows

them to recognize new opportunities as well as to turn themselves into altruistic and more sensitive citizens who are dissatisfied with the status quo and are motivated to act with social responsibility (Corner & Ho, 2010; Zahra *et al.*, 2008). Accordingly, the following is proposed:

Hypothesis 2a: *Altruism has a positive effect on the probability to become a social entrepreneur.*

Hypothesis 2b: *Altruism has a more positive effect on the probability of females becoming social entrepreneurs than their male counterparts.*

Women may consider an entrepreneurial career to be desirable if they observe management to be a participative, communicative, empathetic and flexible activity, within an environment in which information is shared and members work together as a team (Brush, 1992; Eddleston & Powell, 2008). The investigation also reveals the importance of prior experience and collaborative networks and reveals that women use their contacts at a business level to obtain more personal support, rather than operational support (Díaz & Carter, 2009; Noguera *et al.*, 2013; Sorenson *et al.*, 2008). In the same vein, The National Foundation for Women Business Owners (2000) found that 92% of female entrepreneurs supported charitable and community organizations. Furthermore, recent studies demonstrate that female entrepreneurs prefer using collaborative networks in which the proportion of friends and family members tends to be high (Brush *et al.*, 2009; Greve & Salaff, 2003; Ogunrinola, 2011; Sorenson *et al.*, 2008).

Meanwhile, those people who have been members of associations or foundations and have socialized with other entrepreneurs are more likely to start a new business venture (Busch, 2014; Davidsson & Honig, 2003; Dufays & Huybrechts, 2014). The presence of entrepreneurs with experience and of successful role models can reduce the ambiguity associated with starting a business (Gnyawali & Fogel, 1994; Minniti & Nardone, 2007); these role models are particularly appreciated by women and have a stronger positive effect for women than for men (BarNir *et al.*, 2011; Langowitz *et al.*, 2006). Consequently, the following hypotheses are proposed:

Hypothesis 3a: *Being a member of a social organization has a positive effect on the probability to become a social entrepreneur.*

Hypothesis 3b: *Being a member of a social organization has a more positive effect on the probability of females becoming social entrepreneurs than their male counterparts.*

3. METHODOLOGY

At the present, not many databases exist that measure social entrepreneurship phenomena. Many researchers alert to difficulties in completing quantitative studies as well as the necessity to find new ways to establish global databases. Even though these limitations have to be acknowledged, some international databases could be useful to overcome this situation. In this article we used several questions from the WVS, a global network of social scientists focused on the study of changing values. The WVS carried out surveys in 97 countries representing about 90% of the world's population (see Inglehart, 2000, 2004). Five waves of the WVS have been published (1981–1984; 1989–1993; 1994–1999; 1999–2004; 2005–2008) in order to enquire into individuals' basic values and attitudes across a broad range of issues, including politics and economics, family and religious values, gender issues and environmental awareness.

This database has been widely used by researchers, for example to analyze economic and political change (Inglehart, 2000); trust in large organizations; trust and well-being across

nations (Inglehart, 2004); post-materialism (Abramson & Inglehart, 1999); values and cultural change (Inglehart & Baker, 2000). Specifically, we used data from the 1999–2004 wave, based on 82,992 respondents from 57 countries across five continents. The final sample size in this study is smaller (40 countries and 56,875 individuals) because we eliminated those countries that were not included in the survey data of the variables of interest for our research.

Dependent variables. Three different dependent variables were utilized in this study: social entrepreneurship, female social entrepreneurship and male social entrepreneurship. All of these are dummy variables indicating if the individual asked is a (female/male) unpaid worker for voluntary organizations and self-employed.

Independent variables. As stated earlier, social entrepreneurship, and especially female social entrepreneurship, is conditioned by socio-cultural factors such as post-materialism, altruism, membership of a social organization, income equality, and changes in society.

Control variables. This paper uses some socio-economic characteristics such as the age of the individual and the individual's age squared, their educational level, their income level and their country's Gross Domestic Product (GDP). Also, we controlled for the specific year of analysis. A summary of the variables used is presented in Table 1.

TABLE 1: DEFINITION OF VARIABLES			
	Variable	Description	Source
Dependent variables	Social entrepreneurship	Dummy variable takes the value 1 if the individual is an unpaid worker for voluntary organisations and self-employed and 0 otherwise.	WVS (1999-2004)
	Female social entrepreneurship	Dummy variable takes the value 1 if the individual is a female unpaid worker for voluntary organisations and self-employed and 0 otherwise.	WVS (1999-2004)
	Male social entrepreneurship	Dummy variable takes the value 1 if the individual is a male unpaid worker for voluntary organisations and self-employed and 0 otherwise.	WVS (1999-2004)
Independent variables: Informal factors	Post-materialism	Post-Materialist Index 12-item. Index from 0 to 5.	WVS (1999-2004)
	Altruism	Dummy variable which indicate if the respondent agreed with a statement "how important it is in your life: Service to others".	WVS (1999-2004)
	Member of a social organization	Dummy variable takes the value 1 if the individual belongs to voluntary organization and 0 otherwise.	WVS (1999-2004)
Control variables	Age	Respondents were asked to provide their age.	WVS (1999-2004))
	Age-squared	It represents the square of age.	WVS (1999-2004)
	Income level	Classification of countries in three level of income, according to the WVS: 1) Low, 2) Medium and 3) High.	WVS (1999-2004)
	GDP	Natural logarithm of gross domestic product (GDP) at purchasing power parity (PPP).	WB (1999-2004)
WVS – World Value Survey. http://www.worldvaluessurvey.org			
WB – World Bank. http://data.worldbank.org			

Given the binary nature of the dependent variables, we tested the above-noted hypotheses using models of binary logistic regression, also known as probabilities models, so that the probability of the event occurring can be estimated. The model includes informal institutions as well as control variables, and may be expressed as:

$$P(SEA_i = 1) = \alpha + \beta_1 IF_i + \beta_2 CV_i + \varepsilon_i$$

$$H_0: \beta_{1,2} \neq 0$$

Where IF_i is a vector about the informal factors and CV_i is a vector about the control variables, and ε_i is the random disturbance.

4. RESULTS AND DISCUSSION

Table 2 presents the mean, standard deviation and correlation matrix for the variables of the econometric model presented previously. The table shows that in our sample the average of social entrepreneurial activity is 3% across the countries. As expected, the level of male entrepreneurial activity is higher than that of female entrepreneurial activity (2% and 1%, respectively).

Variables	Mean	Std. Dev.	1.	2.	3.	4.	5.
1. SE	0,03	0	1,00				
2. Female SE	0,01	0	0,55***	1,00			
3. Male SE	0,02	0	0,83***	-0,01**	1,00		
4. Post-materialism	0,02	0	0,01**	0,01	0,01*	1,00	
5. Altruism	0,83	0	0,02***	0,02***	0,01*	0,02***	1,00
6. Member of a social organization	0,28	0	0,21***	0,11***	0,18***	0,06***	0,05***
7. Age	39,53	0,1	0,00	0,00	0,00	-0,01***	0,00
8. Age-squared	1.796,20	8,95	-0,01	0,00	0,00	-0,01***	0,00
9. Middle income	0,37	0	-0,02***	-0,01*	-0,01**	-0,01**	-0,01
10. Higher income	0,31	0	0,04***	0,01**	0,04***	0,04***	0,00
11. Ln GDP	7,8	0,01	-0,07***	-0,02***	-0,07***	0,10***	-0,01*
Variables	6.	7.	8.	9.	10.	11.	
6. Member of a social organization	1,00						
7. Age	-0,03***	1,00					
8. Age-squared	-0,02***	0,98***	1,00				
9. Middle income	-0,02***	-0,04***	-0,04***	1,00			
10. Higher income	0,10***	-0,04***	-0,05***	-0,48***	1,00		
11. Ln GDP	0,02***	0,16***	0,13***	-0,02***	0,01***	1,00	

Note: *** significant at $p \leq 0.01$; ** significant at $p \leq 0.05$; *significant at $p \leq 0.10$

Additionally, the correlation analysis shows several significant correlations which met our expectations. In order to test for the problem of multicollinearity, we calculated the VIF for each individual predictor and found that they were low (lower than 1.64), except for the cases of age and age squared. Additionally, to address the possibility of heteroskedasticity and autocorrelation among observations pertaining to the same country, robust standard errors, clustered by country, were estimated (White, 1980).

The logistic regression analysis is presented in Table 3, where we report the estimated coefficients and robust standard errors for all models. All the models are highly significant ($p \leq 0.000$). Models 1 presents the logistic regression results for socio-cultural factors and social entrepreneurship, and Models 2 shows the results for female entrepreneurship. Also, for the purposes of comparison, Model 3 presents the results for male entrepreneurship. Finally, following Arenius and Minniti (2005), and Langowitz and Minniti (2007), we include control variables related to socio-demographic factors in all models estimated, both individual (age, age squared) and country level (income level of country and Ln GDP) in order to analyze the probability of becoming a social entrepreneur.

With regards to the first hypotheses, where we proposed that post-materialism has a positive effect on one's probability of becoming a social entrepreneur, we found support of Hypothesis 1a (due to the marginal effect of this variable) as positive and significant in Model 1 ($p \leq 0.001$). This result is in accordance with evidence that a higher level of post-materialism can be related to a higher level of social entrepreneurial activity (Hartog & Hoogendoorn, 2011). In contrast, as we expected, our results suggest that post-materialism has a more positive influence on male social entrepreneurship rather than their female counterparts (see Model 3, $p \leq 0.001$). However, if female social entrepreneurship is positively affected by post-materialism, as we expected and according to previous studies (Manolova et al., 2012), this effect is not statistically significant (see Model 2). Note that these findings are in contradiction with Hypothesis 1b. These results could be explained by the fact that, as compared to men, women are less impacted by the non-materialistic values of their society, as they tend to be more driven by social projects; however, their society is characterized by materialistic values. Then, for women the decision to start a social organization may be less dependent on their societies' values.

Regarding the second set of hypotheses, which refer to the importance of altruistic attitudes on social entrepreneurship (Harris, 2009), particularly for female social entrepreneurs (Van Ryzin et al., 2009), the coefficient of this variable in the Models 1 and 2 is statistically significant ($p \leq 0.1$ and $p \leq 0.001$) and constant for all models. Thus, Hypothesis 2a and Hypothesis 2b are not rejected. Thus, the results show the positive influence of altruistic attitudes on female social entrepreneurship, in contrast to their male counterparts.

On the other hand, Hypothesis 3a and Hypothesis 3b, regarding membership of a social organization, are supported by our data. All models show that each is significant at the 99 % level and with the sign expected. Therefore, according to the results, those entrepreneurs who participate in social organizations have a significant impact on social entrepreneurship (Model 1), female social entrepreneurship (Model 2), and on male social entrepreneurship (Model 3). This findings are in line with previous studies (Alvord et al., 2004; Austin et al., 2006; Certo & Miller, 2008), which assert the importance of the fact that being a member of social organizations could encourage and stimulate social entrepreneurs to start their own social projects. The fact of being part of a social organization can probably help individuals to perceive more feasibility and ease the possibility of taking in a social setting. In addition, previous social experience is an important aspect for understanding social entrepreneurship as a process.

TABLE 3: RESULTS OF LOGISTIC REGRESSION MODELS

	Model 1. Social entrepreneurship		Model 2. Female Social Entrepreneurship		Model 3. Male Social Entrepreneurship	
	dF/dx	Robust. Std. Err	dF/dx	Robust. Std. Err	dF/dx	Robust. Std. Err
Informal Factors						
Post-materialism	0,621***	-0,231	0,309	-0,392	0,761***	-0,276
Altruism	0,229*	-0,122	0,707***	-0,264	0,046	-0,137
Member organization	social 2,995***	-0,119	2,736***	-0,196	3,062***	-0,149
Control Variables						
Age	0,112***	-0,018	0,145***	-0,03	0,094***	-0,021
Age ²	-0,001***	0,000	-0,002***	0,00	-0,001***	0,000
Income Level						
Middle income	-0,121	-0,108	-0,335*	-0,182	0,005	-0,132
Higher income	0,201*	-0,106	-0,108	-0,176	0,349***	-0,130
Ln(GDP)	-0,252***	-0,027	-0,026	-0,045	-0,355***	-0,033
Constant	-5,771***	-0,455	-9,212***	-0,756	-5,157***	-0,556
Number of obs	24.013		24.001		24.001	
Pseudo R-squared	0,211		0,145		0,213	
Log pseudolikelihood	-2.457,12		-1.021,25		-1.838,91	
Percent correctly predicted	97,14%		99,13%		98,02%	
AIC	4.940,24		2.068,49		3.703,82	
BIC	5.045,36		2.173,61		3.808,94	

Note: *** significant at $p \leq 0.01$; ** significant at $p \leq 0.05$; *significant at $p \leq 0.10$

With respect to the control variables we see that both age and age squared have a positive effect in all models. In contrast, the impact of income levels and GDP is not supported in all models.

In general terms, our main findings indicate that socio-cultural factors have a significant impact on social entrepreneurship (Model 1). However, their influence on gender issues is not clear (Model 2 and 3). As we mentioned, we found that post-materialism affects male social entrepreneurship more than for females, and in contrast, the altruistic attitude is more important in female social entrepreneurship. Also, being a member of a social organization can influence both female and male social entrepreneurs.

5. CONCLUSIONS AND IMPLICATIONS

The main objective of this article was to explore the socio-cultural factors influencing female and male entrepreneurship at a country level. Using the WVS data for 41 countries we tested hypotheses concerning the impact of socio-cultural factors on female and male social entrepreneurship.

We find that female and male social entrepreneurial activity rates are influenced by the same factors in the same direction. Hence, conditions for female entrepreneurship in a country tend to be similar to those for social entrepreneurship in general. However, for some factors we find a significant differential impact on female and male social entrepreneurship.

Regarding the determinants of social entrepreneurship in general, we find positive effects from being a member of a social organization and from age. With respect to the differential impact of factors on female and male social entrepreneurial activity, we find a significant positive impact of altruism on the probability of women becoming social entrepreneurs. More specifically, the positive effect of altruism is higher for women. In contrast, the effects of post-materialism and higher income levels on social entrepreneurial activity are positive for men and non-existent for women. Furthermore, we find evidence of a negative relationship between male social entrepreneurial activity and per capita income.

The results suggest a series of implications at the academic level as well as the policy level. On the one hand, these results may help advance the analysis of social entrepreneurial activity from an institutional point of view, giving greater robustness to environmental factors as determinants of the creation of social organizations. This research reaffirms and empirically validates the importance of environmental factors to the process of female social entrepreneurship, using quantitative methodology. As a consequence, these results imply that the environmental factors in which female social entrepreneurship emerged should not be ignored. Then, we advance the literature by proposing an integrated model that relates institutions and entrepreneurship by considering female social entrepreneurial activity. Also, this investigation helps to answer the call for more quantitative research (Mair & Marti, 2006; Short *et al.*, 2009). Quantitative works centred on the analysis of institutional factors as determinants of social entrepreneurial activities across countries are noticeably lacking. In this sense, the current research covers this academic gap by using huge and reliable databases, as well as applying econometric techniques. Thus, in contrast to the majority of empirical research on social entrepreneurship, which mainly involves case studies (Short *et al.*, 2009), we employ a well-defined sample of social entrepreneurs, in different contexts and countries, to test our conceptual models and hypotheses through logistic regression and empirical techniques, among others.

On the other hand, from the policy point of view, this research could be useful for the design of courses and support programs (at all educational levels) aimed at fostering a more positive perception of social entrepreneurial skills and increasing the visibility of female role models, with the ultimate objective of increasing the levels of female social entrepreneurship.

Finally, future research could develop more longitudinal studies that permit to compare different periods of time. Moreover, we believe that a study on the influence of socio-cultural factors, not independently but in terms of their overall effects, would be a very worthwhile endeavor. In this sense, future works should focus on including more countries in the analysis and investigate more explanatory factors. Institutional factors, both formal and informal, should be included to rule out country differences (North, 1990, 2005).

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