
Effect of parental occupation and cultural values on entrepreneurial intention: A multicultural study across Spain, Italy and Germany.

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Structured Abstract

Purpose – Entrepreneurship is often regarded as an opportunity for productivity increase and wealth generation, especially if the new firm is technology-based. Therefore, the research of factors that may determine young engineers' positive attitude towards entrepreneurship is of great interest. The main purpose of this study is to verify the influence of close family and cultural values on the entrepreneurial intention of technical degrees' students.

Design – Data from 1136 students in three different technical universities across Europe (Universidad Politécnica de Madrid, Politecnico di Bari and Technische Universität Berlin) were analysed. A survey explored their entrepreneurial intention and their perception of the support provided by their closer environment in case they decided to found a company. Other items explored the parents' occupation (father and mother separately), as it is believed to be relevant for the success of entrepreneurial knowledge and attitude transfer from one generation to the next. Finally, cultural values based on Hofstede's studies (1980; 1991) were also explored and their relation with entrepreneurship was analyzed.

Value – In Mediterranean cultures family ties are relatively strong, at least when compared with North European countries and North American societies (Reher, 1998). The traditionally existing family ties in collectivistic cultures may affect the mediating role model effect over entrepreneurial intention, while it may be the other way round in individualistic cultures. Therefore, in this research the influence of the family background on the entrepreneurial intention with the mediation of cultural values is addressed in three different countries: Spain, Italy and Germany.

Practical implications – As the closer environment and the prevailing cultural values may foster (or hinder) entrepreneurial intention, it is relevant to know the extent of such influence. This is especially important for potential entrepreneurs in a technology-based field as the founding of technology-based companies is one of the best ways to increase productivity and wealth generation (Acs and Szerb, 2007). Therefore, technical universities play a key role on economic development as a technology transfer vehicle to society. For this reason, it is crucial to assess to what extent parents' knowledge transfer can affect the entrepreneurial intention of technical degrees' students.

Keywords – parental occupation, entrepreneurship, cultural values, technology-based companies, entrepreneurial intention.

Paper type – Academic Research Paper

1 Introduction

It is known that in a market economy, economic development begins when an entrepreneur decides to risk his money in a new venture (Audretsch, 1995; Schumpeter, 1942). The entrepreneur may be regarded as the *sine qua non* condition and detonating element for economic growth and job creation. This is the underlying reason for policy makers to foster entrepreneurship.

Nevertheless, scientific results posit that the type of new venture should also be taken into account before subsidizing it due to the very different growth capabilities of innovative new firms when compared with non-innovative ones (Baumol, 2008; Congregado, Golpe, and Carmona, 2010; Shane, 2009). The founding of non-innovative firms is usually attributed to unemployed individuals that are pushed towards entrepreneurship, with the ultimate goal of self-employing themselves, in what the Global Entrepreneurship Monitor (GEM) (Singer, Amorós and Moska, 2015) calls “necessity entrepreneurship”. According to the data gathered by the GEM Global Report 2014 (Singer et al., 2015), the rate of new firms created due to necessity is 22.8% in the European Region (EU28), while in the USA this figure is 13.8%, and in China 15.5%. These facts depict the EU28 as an economic region that can lose the race for innovation and economic development in favor of other socio-economic regions. One of the reasons for low growth capabilities of non-innovative firms is their trend of not having any other employee apart from the entrepreneur, thus being low value-added companies that will not contribute to economic growth to a great extent (Shane, 2009).

On the contrary, New Technology-Based Firms (NTBFs) are referred as those that could imply economic development and growth (Acs and Szerb, 2007; Audretsch, 1995; Carree and Thurik, 2010). However, there is an entry barrier for creating a NTBF: the technical expertise and knowledge. The education and professional background of entrepreneurs have been cited among the most important determinants of a firm’s human capital (Kim, Aldrich, and Keister, 2006), while the disposal of human capital in a company has been found to be a critical factor for its success and growth (Colombo, Delmastro and Grilli, 2004; Colombo & Grilli, 2005), as well as for its ability in accessing private funding (Colombo & Grilli, 2010).

To sum up, the creation of successful NTBFs requires individuals with technical education and backgrounds, who also possess entrepreneurial attitudes and intentions. The presence of these individuals triggers innovation and economic dynamism, fostering growth and potential for the generation of employment in a given region.

Hence, from an academic point of view, what determines the creation of a new company is the existence of an individual with a high entrepreneurial intention. However, the entrepreneurial intention can be modified by the cultural context in which he was born and raised. That is, the cultural values of the individual may cause his entrepreneurial intention to be higher or lower. Moreover, one of the determinants of entrepreneurial intention is the support of the immediate environment (parents, family, friends, colleagues at work or studies, etc.), and this support can also be modified by the cultural values of the individual.

This research examines the influence that cultural values have in a cross-cultural setting, comparing the entrepreneurial intention and associated factors of students in their last year of an engineering degree from three different European countries: Spain, Italy and Germany.

2 Research framework

2.1 Entrepreneurial intentions

The decision of creating a new firm depends on entrepreneurial intentions. In accordance with the Theory of Planned Behavior (TPB) (Ajzen, 1991), an individual will take the decision of starting up a business due to three socio-cognitive factors: (i) what he understands to be an interesting career opportunity, (ii) the support provided by his closer environment and (iii) the belief of possessing the required knowledge to be successful on his new venture. In this model both individual and situational variables are considered antecedents of attitudes (see Figure 1). The TPB model has been stated to be effective in predicting both intentions and behaviors (Armitage and Conner, 2001; Fayolle and Gailly, 2004; Kolvereid and Isaksen, 2006; Krueger, Reilly, and Carsrud, 2000).

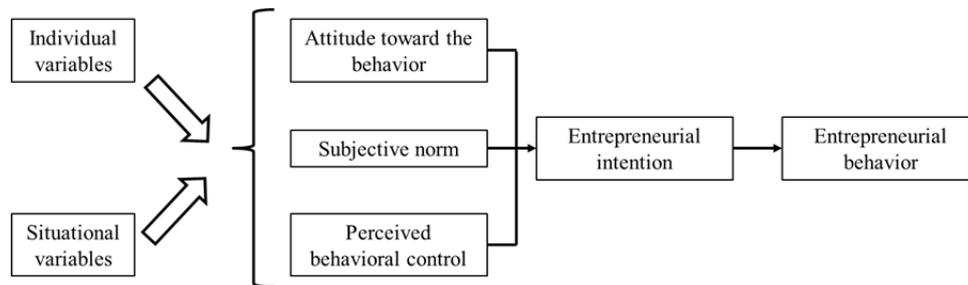


Figure 1. Theory of Planned Behavior (TPB) (Ajzen, 1991).

Situational variables that affect the three factors of the TPB model make reference to the context where the individual lives, e.g. unemployment rates or the difficulties in accessing financial credits. On the other hand, individual variables stand for gender, age, exposure to entrepreneurial role models, and cultural values of the individual, among others. This research posits that cultural values can affect entrepreneurial intentions through the subjective norm, that is, the support towards entrepreneurship provided by the closer environment.

2.2 Cultural values

As abovementioned, the scope of the present study is to shed light on the development of entrepreneurial intentions in individuals from different international settings, within the EU28: Spain, Italy and Germany. When dealing with cultural values from different countries, the cultural dimensions of Hofstede are an inevitable reference. These are six statistically independent dimensions that explain cross-country cultural variations, namely (i) power distance (PDI), (ii) individualism (IDV), (iii) masculinity (MAS), (iv) uncertainty avoidance (UAI), (v) long term orientation (LTO) and (vi) indulgence (IND) (Hofstede, 1980, 1991). The PDI dimension stands for how comfortable the less powerful individuals in a society feel with regard to the unequal distribution of power. IDV represents to what extent an individual looks preferably after himself and his closest relatives. The MAS dimension pays attention to the importance given to quality of life (the so-called feminine values by Hofstede) in comparison with competitiveness and success, which would be termed as masculine values. UAI rates the level of anxiety generated due to unpredictable and risky situations. LTO accounts for the importance given to the past in a given culture. A short-termed culture tends to focus on the present time or the near future, disregarding saving or planning for the future, while long-term

oriented cultures adapt better to the environment changes. The sixth and last dimension IND expresses to what extent leisure and enjoying life is considered acceptable (indulgence) or not (restraint).

Culture contributes to shaping the individual's interpretations and perceptions, triggering different behaviors (Engelen and Heinemann, 2009). For instance, low PDI offers the individual more autonomy and less hierarchical bureaucracy, which fosters entrepreneurship (Ozgen, 2012). The extent to which a society can be considered collectivist or individualist affects the moral behavior. Individuals embedded in a collectivist culture tend to behave as expected by the group, even when they disagree with the group norm (Triandis and Gelfand, 1998). This makes entrepreneurship more likely to appear in societies that have a high level of individuality (Liñán and Chen, 2009). Masculinity has been linked with economic success and social development, being thus related to higher rates of entrepreneurship involvement (Tiessen, 1997). Low UAI is related to self-confidence and therefore, higher entrepreneurial behaviors (Calvelli, Cannavale, Parmentola, and Tutore, 2012). A long term orientation enables for a higher entrepreneurial activity (Ozgen, 2012), so as a high IND, which represents an optimistic way of living and self-confidence (Zhao, Li, and Rauch, 2012).

This study uses data gathered in three different international settings within the UE28: Spain, Italy and Germany. As the interest is on entrepreneurial intentions among students of technical degrees, respondents of the survey are last semester students of engineering degrees at three different technical universities. The cultural values as defined by Hofstede for these settings are presented in Figure 2.

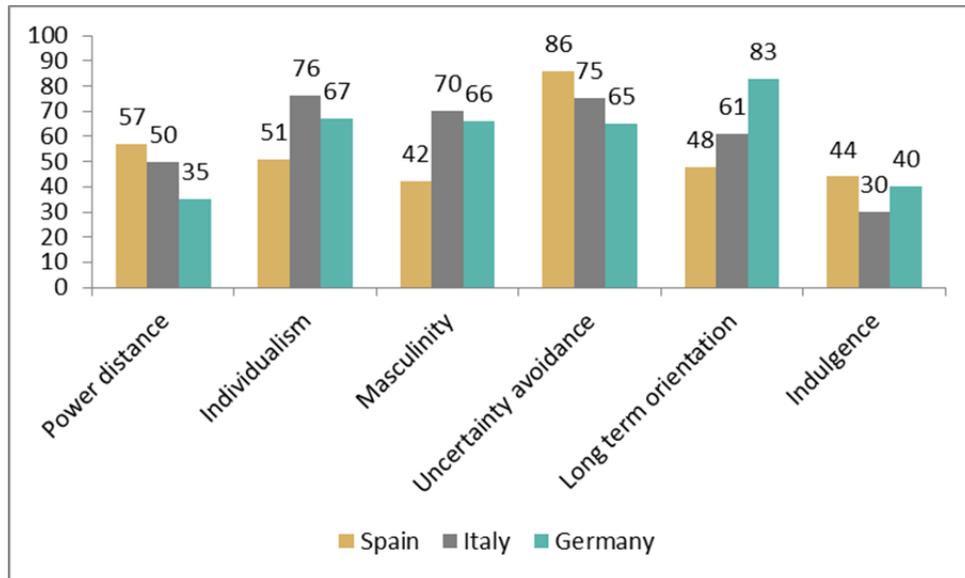


Figure 2. Cultural values of the three settings under study (Hofstede, 2016).

Besides affecting entrepreneurial intentions, cultural values may also affect the subjective norm as defined in the TPB model. That is, how the support towards entrepreneurship (or the lack of it) from the close environment affects the respondents' decision of founding a new business. We posit that the subjective norm is affected to a greater extent in societies with higher collectivist values.

Last, in a collectivist society like Spain the occupation of their parents can also affect the proneness towards entrepreneurial intention (Morales-Alonso, Pablo-Lerchundi, and Núñez-del- Río, 2015; Pablo-Lerchundi, Morales-Alonso, and Vargas-P., 2014; Pablo-Lerchundi, Morales-Alonso, and González-Tirados, 2015). This is associated to a role model effect, in which the offspring of business owners show a significantly higher entrepreneurial intention than the sons/daughters of civil servants. This allows for identifying civil servants as a negative role model for entrepreneurship.

2.3 Research question and hypotheses

The research question of this study could be formulated as: *'What is the importance that different cultural values have on entrepreneurial intentions (EI)?'* A second term question would be *'How do cultural values mediate in the influence that the family and close environment have on entrepreneurial intentions (EI)?'*

In accordance with the literature review on the effect of cultural values over entrepreneurial intentions, presented in the previous section, the following relations (see Table 1.) have been developed.

Table 1. Relationships between cultural values and entrepreneurship

Cultural Value	Country under study with the associated low/high cultural value	Entrepreneurial Intentions
Low PDI	Germany	High EI
High IDV	Italy	High EI
High MAS	Italy	High EI
Low UAI	Germany	High EI
High LTO	Germany	High EI
High IND	Spain	High EI

Moreover, it is hypothesized that, out of the six cultural values, the ones that result determinant in fostering entrepreneurial intentions are high IDV and high MAS, as pointed in Hofstede et al. (2004). Hence, our first hypothesis is:

H1: Respondents from POLIBA (Italy) will have the highest EI.

On the other hand, the effect of family ties on entrepreneurial intention, through the mediating effect of cultural values is also sought after in this study. It is hypothesized that the higher the collectivist value, the more important the subjective norm is. Thus:

H2: Respondents from UPM (Spain) are more sensible to support / lack of support from their close environment.

H3a: Respondents from UPM (Spain) show higher influence of their parents' occupation: offspring of business owners have higher EI than sons/daughters of civil servants.

H3b: Respondents from POLIBA (Italy) and TUB (Germany) show no influence of their parents' occupation comparing offspring of business owners *versus* civil servants.

3 Methodology

3.1 Procedure and variables

In order to explore to what extent young people's closer environment and their prevailing cultural values may be fostering or hindering their entrepreneurial intention, a questionnaire was designed. Among other factors not included in the present analyses, it included an item about the father's and mother's occupation, where respondents had to

indicate if their parents were civil servants, employees, entrepreneurs, unemployed or other. Their EI was measured with seven items based on a previous study by Liñán and Chen (2009). Respondents were asked to rate seven statements about their intention to found their own firm on a Likert scale from 1 to 7. The mean in these seven items provided the EI variable. Also with a 1 to 7 Likert scale, and in accordance to Ajzen's TPB model (1991), subjective norm was measured by four items that addressed to what extent their environment (family, friends, colleagues or overall society) would approve of their creating a new company.

Finally, the survey included items directed to collect specific information related to cultural values of which MAS and IDV are considered for this study. So, based on the descriptions offered by Hofstede (1980, 1991), three items explored students' attitude towards individualism and two items addressed masculinity. All these items used a Likert scale from 1 to 5.

The study was conducted in three different technical universities, namely Universidad Politécnica de Madrid (UPM) in Spain, Politecnico di Bari (POLIBA) in Italy and Technische Universität Berlin (TUB) in Germany. All students were in their final semester at university and they were completing a degree either in industrial engineering, mechanical engineering, civil engineering or chemical engineering. The data were collected between September 2014 and October 2015 in the frame of a bigger project that explores entrepreneurial intention and related factors in an intercultural setting.

3.2 Sample

Data from 1136 students at UPM, POLIBA and TUB were collected. In order to maintain cultural homogeneity, data from respondents whose father or mother had been born in a different country than the one explored, were eliminated for further analyses. With this, a total of 993 surveys were considered for this study. Of these, 555 correspond to students enrolled at UPM, 189 are of Italian students and the remaining 249 are data collected at TUB.

Concerning gender, out of the total sample 34.8% are women and 65.2% men. If we look at these data for each country, we find that in Spain the percentage of women is 37.8%, in Italy 46.0% and in Germany 19.7%. As regards age, the mean is 23.83 years old with a standard deviation of 1.98. The youngest respondent is 20 years old and the oldest 38.

4 Results

4.1 Cultural values

Analysis of variance (ANOVA) comparing EI between the three countries shows significant differences in the means of the independent variable ($F(2, 932) = 6.48, p < .01$). Italians have an EI mean of 3.40, Spaniards of 3.18 and Germans show the lowest mean with 2.88. Additional t-tests comparing the means for every two countries show that Italians have a significantly higher entrepreneurial intention than Germans ($t_{415} = 3.58; p < .001$) but not than Spaniards ($t_{692} = -1.68; p > .05$). The difference in the EI means between Germany and Spain is also significant ($t_{757} = 2.56; p < .05$). Therefore, it can be stated that the students at TUB have a significantly lower EI than their counterparts at POLIBA or UPM. Therefore, H1 is confirmed partially as Italian students show the highest IE, but this data is only significant when compared to German students.

Regarding the items designed in our survey about cultural values, we find that Spain shows significantly higher means in collectivism, namely when asked about following their own ideas ($F(2, 985) = 4.53, p < .05$) and because they are worried about the greater good more than themselves ($F(2, 984) = 4.38, p < .05$), which is congruent with Hofstede's findings. For the other value considered central for fostering entrepreneurship, MAS, our data show that Italy has the highest mean ($\bar{x} = 4.17$), followed by Spain ($\bar{x} = 3.97$) and Germany, which shows the lowest mean for MAS ($\bar{x} = 3.57$). These differences are significant ($F(2, 982) = 29.39, p < .001$) and show that Italians and Spaniards are more worried than Germans about results in their studies or work. These data are congruent with the means found in this study for EI (as Italy had the highest mean, followed by Spain and then Germany), but not with Hofstede's values about MAS for Spain and Germany, as the first would be expected to rate lower on this value. This may lie in the specific formulation of our questions.

4.2 Influence of close environment

Regarding the global influence of the environment on the EI, namely Subjective Norm (SN), ANOVA analysis shows that Spanish students feel a greater support to found a new firm from their family, friends, colleagues and the overall society than Italian or German respondents (see Table 2). Therefore, H2 is confirmed.

Table 2 ANOVA results for Subjective Norma by country

Dependent Variable	Mean			F(2,959)
	<u>Spain</u>	<u>Italy</u>	<u>Germany</u>	
Subjective Norm	5.50	4.97	4.99	21.32***

*p<.05; **p<.01; ***p<.001

In order to explore the influence of parental occupation on the EI of their children, ANOVA analysis was again used, selecting the data from each country and differentiating father from mother. In Spain students show differences in their EI according to the occupation of their father ($F(4, 508) = 4.80, p < .01$). Looking at the data in detail (see Table 3) it is clear that in Spain the sons/daughters of entrepreneurs have by far the highest mean in EI. The lowest mean is found for children of civil servants, followed by unemployed fathers. Curiously no significant results are obtained when considering the occupation of the mother, although the highest mean is again found for mothers with their own business and the lowest for children of civil servant mothers.

The occupation of the father also shows a significant effect in Germany ($F(4, 234) = 2.74, p < .05$). Surprisingly, and as may be seen in Table 3, the highest EI is for children of unemployed fathers and the lowest mean is for the sons or daughters of employees, which constitute the 50% of the sample. No significant effect is found regarding the occupation of the mother, but the pattern is the same: German children of unemployed mothers show the highest means in EI, being the lowest means for the children whose mother is an employee.

In Italy no effect of parental occupation, regardless if father or mother, is found for entrepreneurial intention. In this country, children of entrepreneurs show the highest mean in EI, but the lowest mean is found for students who declared that their father had “other” occupation or was unemployed. Children of civil servants have an intermediate EI close to the total mean for Italians. If it is the maternal occupation which is taken into account, the highest mean is found for students whose mothers are entrepreneurs, but children of unemployed mothers or whose mother is an employee show similar means for EI close to the middle of the scale. The lowest mean is found for Italian children of civil servant mothers. Nevertheless, as these last results show no significant effect of parental occupation they remain a descriptive anecdote from which no conclusions may be drawn.

Table 3. EI mean of technical students in each country regarding the occupation of their father and distribution in percentage of father's occupation.

Father's occupation	<u>Spain</u>		<u>Italy</u>		<u>Germany</u>	
	EI mean of respondents	% of fathers with this occupation	EI mean of respondents	% of fathers with this occupation	EI mean of respondents	% of fathers with this occupation
Civil servant	2.87	25.3%	3.28	23.4%	2.78	13.4%
Employee	3.10	31.5%	3.39	26.1%	2.62	50.2%
Entrepreneur	3.67	22.0%	3.85	26.1%	3.24	29.6%
Unemployed	2.98	4.4%	3.00	4.3%	3.57	4.0%
Other	3.11	16.8%	2.96	20.2%	2.71	2.8%

The means in EI for children of entrepreneurs were compared in each country to those of children of civil servant in order to explore the effect of specific professions on the entrepreneurial intention of their offspring. T-tests per country showed that in Spain children of entrepreneurs rank higher in EI than those of civil servants, regardless if looking at the profession of the father or mother (see Table 4). This effect was not found in the other two countries explored. Hence, H3a and H3b are supported by the obtained results.

Table 4. t-tests comparing EI in children of civil servants compared to the EI of children of entrepreneurs.

	Country	Children of civil servants		Children of entrepreneurs		df	t
		N	\bar{x} for EI	N	\bar{x} for EI		
Occupation of father	Spain	129	2.86	116	3.67	243	-4.20***
	Italy	40	3.28	47	3.85	85	-1.76
	Germany	31	2.78	71	3.24	100	-1.52
Occupation of mother	Spain	165	3.09	46	3.66	209	-2.23*
	Italy	28	3.07	9	3.61	35	-0.81
	Germany	32	2.79	34	2.93	64	-0.35

*p<.05; **p<.01; ***p<.001

5 Discussion and conclusions

A research on the effect of cultural values and the close environment on the entrepreneurial intention of technical degrees' students in their last semester has been carried out. For this, data from 993 surveys in technical universities across three different European countries have been collected.

The results of entrepreneurial intention show that the respondents with the highest EI are the Italian students ($\bar{x} = 3.40$) and that this difference is significant when compared to Germany ($\bar{x} = 2.88$), being Spain in the middle position ($\bar{x} = 3.18$). These results are consistent with the ones shown in the Global Report of the GEM (Singer et al., 2015): Italy has a higher EI (11.4%) than Spain (7.1%) and Germany (5.9%). Furthermore, this result is consistent with the cultural values measured by Hofstede (2016), which indicate that of the three studied countries, the one which is more individualistic and gives more importance to achievement (masculinity) is Italy, being these two values central for entrepreneurial attitudes (Hofstede et al., 2004). Of the different variables measured by the GEM, the EI as measured in this study only seems to be linked with the concept of 'Entrepreneurship as a good career choice', in which the percentages for the studied countries are 65.1 % for Italy, 53.9% for Spain and 51.7% for Germany.

Moreover, this study attempts to shed light on how family ties and other social actors affect EI. It has been hypothesized that in the most collectivist country under study (Spain), the respondents would be more sensitive to the support (or lack of it) by their close environment. The results confirm this: Spanish students perceive more support from their environment when creating a company. Considering the subjective norm, namely the support perceived by their environment in case they would found their own firm, ANOVA analysis shows that Spanish students results are significantly higher ($\bar{x} = 5.5$) than those in the other two countries, being their mean identical (Italy and Germany $\bar{x} = 4.9$). Surprisingly GEM data contradict our social perceptions result. The results for the concept about the status conferred to successful entrepreneurs show Spain in the last position (49%) followed by Italy (72.1%) and Germany (79.1%). Another related item, namely, 'Media attention for entrepreneurship' shows the same pattern (Spain: 46.3%, Italy: 48.3% and Germany: 51.4%), contrary to the social support perceived by Spanish students in our research.

Finally, it has been studied whether parental occupation influences the EI in a more collectivist society such as Spain. It has been found that, in this case, the occupation of the parents is important as ANOVA results depict that children of Spanish entrepreneurs show a higher EI. Comparing EI differences between children of civil servants and children of entrepreneurs we found significant results that confirm that parental occupation (both the father's and the mother's) influences the EI of their offspring. This is not the case for more individualistic countries such as Italy or Germany.

This study contributes to widen our knowledge about determinant factors, namely, cultural values, parental occupation and social support, that may be fostering or hindering the entrepreneurial intention of technical degrees' students who are better qualified to create companies that may encourage economic growth.

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