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Socio-cultural factors and youth entrepreneurship in rural regions

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Abstract

Purpose – This paper aims to demonstrate the impact of two important socio-cultural factors on the level of the entrepreneurial activity of young individuals in rural regions.

Design/methodology/approach – Our empirical study is based on a sample collected from an adult population survey, and analyzed using a logit model that controls for territorial and aging sources of heterogeneity. Our theoretical framework is anchored on a contingency perspective that emphasizes the unique influences of the contextual environment in driving entrepreneurial behavior.

Findings – The main findings of our study is that in Spain the likelihood of being entrepreneurially active is no different for young and old individuals, and between rural and urban regions. Surprisingly, unlike shown in most studies, entrepreneurial role models do not have any effect on the entrepreneurship by young individuals in rural regions of Spain, while the negative impact of fear of failure in the entrepreneurship on young individuals in rural regions is much higher compared to the rest of the population.

Originality/value – Our findings reveal that the context (regional) has a more significant impact on entrepreneurship for some segments (younger individuals) of the population than for others.

Keywords – Youths; rural; entrepreneurship; fear of failure; role models.

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1 Introduction

Entrepreneurship is increasingly recognized as a fundamental component of economic growth, employment generation, and innovation (Carree & Thurik, 2010; Fritsch &Wyrwich, in press; Organisation for Economic Co-operation and Development [OECD], 2003; Van Praag, Versloot, 2007). The strong positive correlation between entrepreneurship and economic growth (Acs, Desai, & Hessels, 2008; Bosma & Levie, 2010) has led some authors to suggest entrepreneurship as the key to rural revitalization (North & Smallbone, 2006; Organisation for Economic Co-operation and Development [OECD], 2009b). It is argued that the benefits of entrepreneurship in rural regions are manifold. Entrepreneurship helps diversify the rural economy, reducing dependence on a mono-industrial base (Bryden & Hart, 2005). Entrepreneurship provides opportunities for skill diversification among the rural population as well as attracting new residents, thereby providing stimulus for the growth of the rural economy (Akgun, Nijkamp, Baycan, & Brons, 2010; Demurger & Xu, 2011; Reichert, Cromartie, & Arthun, 2014; Siemens, 2014; Vaillant, Lafuente, & Serarols, 2012). As such, in recent years we have seen development agencies such as the European Union and the OECD giving priority to entrepreneurship as a tool for rural development and growth (European Commission, 2003, 2008; OECD, 2003, 2006, 2012). However, notwithstanding the importance of entrepreneurship in the rural regions, important barriers to entrepreneurship in rural regions still remain.

Several studies show that the impact of macro-level factors on entrepreneurial activities across urban and rural regions is not uniform (Driga, Lafuente, & Vaillant, 2009; Lafuente, Vaillant, & Rialp, 2007; Noguera, Álvarez, & Urbano, 2013). More importantly, rural regions lag behind in entrepreneurial activity, not necessarily because of (macro-level) physical or economic disadvantages, but because of meso-level socio-cultural characteristics (Fornahl, 2003; Lafuente & Vaillant, 2008). In addition, evidence also suggests that such factors do not have a homogeneous impact on all segments of the population. In this regard, extant studies have mainly examined the distinctive effect of gender (see, *e.g.*, Carter, Anderson, & Shaw, 2001; Delmar & Holmquist, 2004; Driga et al., 2009), and/or being native and immigrant at an aggregate level (see, *e.g.*, Levie, 2007; Mancilla, Viladomiu, & Guallarte, 2010; Peroni, Riillo, & Sarracino, 2016). In this paper, we focus on young individuals at a regional level.

The study of young individuals and their involvement in entrepreneurial activities is increasingly gaining relevance due to the economic downturn of recent years (Brixiova, Ncube, & Bicaba, 2015; European Commission, 2012; Minola, Criaco, & Obschonka, 2016; O'higgins, 2012; Rojas & Siga, 2009; Thomas, 2009). Although it has affected all segments of the population, the figures are dire in Spain, where the unemployment of young individuals rose from 21 per cent in 2005 to a staggering 46 per cent and above between 2011 and 2014. The systematic rise of the unemployment amongst young individuals, together with the lack of new job opportunities for young people, especially in rural areas, has led to worries about the social and economic costs of youth inactivity (Vogel, 2015). Hence, the need to explore the impact of meso-level socio-cultural factors influencing entrepreneurship among the youth in the rural regions. It is argued that the positive impact of entrepreneurship on rural development is amplified when these entrepreneurial activities are carried out by young people residing in these areas (Brixiova et al., 2015; North & Smallbone, 2006). Therefore, the main objective of our study is to determine the impact of socio-cultural factors, such as entrepreneurial role models and fear of failure, in the entrepreneurial activity of rural youths in Spain.

This study is structured as follows. Section two presents the literature review along with the

hypotheses tested in this study, followed by data and methodology in section three. The empirical results are presented in section four. Section five discusses the conclusions and implications of the study. We conclude by indicating the possibilities for future studies.

2 Literature review and hypotheses

2.1 Young entrepreneurs

Entrepreneurship through the creation of a new business can be considered as an alternative vocational choice that has the potential to harness the human capital of young individuals. In recent years, several factors have inspired young individuals to set up their own businesses. First, the increasing human capital of young individuals has provided them with a wider range of alternatives and a higher capacity for the identification and exploitation of business opportunities (Haynie, Shepherd, & McMullen, 2009). Young individuals today are generally better trained in comparison to previous generations. This, in turn, has made them more capable, for instance, to create and manage their own businesses (Honjo, 2004). This has been supported by the gradual change in the social attitude towards entrepreneurship. For instance, entrepreneurship through the creation of new business is increasingly being socially accepted (Begley & Tan, 2001; Blanchflower & Meyer, 1994; Kibler, Kautonen, & Fink, 2014). Development agencies have also contributed their bit by promoting entrepreneurship among the youth. For several years the European Commission (2003) and the OECD (2012) have been recommending programs to develop an entrepreneurial spirit among the younger population. Academia studies have also been directed towards understanding the issue of young individuals and entrepreneurship (Aidis & Van Praag, 2007; Brixiova et al., 2015; Fairlie, 2005; Honjo, 2004; Levesque & Minniti, 2006; Parker, 2006; Rojas & Siga, 2009; Thomas, 2009). Researchers comparing entrepreneurship by young individuals with respect to the rest of the population suggest that younger individuals are more likely to be entrepreneurs (Bonnett & Furnham, 1991; Honjo, 2004; Lamotte & Colovic, 2013; Levesque & Minniti, 2006; Minola et al., 2016). For instance, Bonnett and Furnham (1991) claim that people with a greater internal locus of control tend to develop entrepreneurial attitudes more easily. In their study, Bonnett and Furnham (1991) found that young individuals, unlike their older counterparts have a greater internal locus of control. In similar fashion, Honjo (2004) proposes that the capacity for learning and changing in young individuals when it comes to accepting business challenges is much greater than in older individuals. Moreover, as individuals get older they find the idea of starting a new business less desirable because the aversion to risk increases with age (Kautonen, Down, & Minniti, 2014; Levesque & Minniti, 2006). This greater propensity among young individuals to take risks therefore makes them more likely to choose entrepreneurship. In addition, young individuals have a lower opportunity cost when it comes to creating a business (Amit, Muller, & Cockburn, 1995) because it is easier for young individuals to return to salaried employment in case of a business failure compared to older individuals. Therefore, we suggest that:

> **H1:** *The probability to engage in entrepreneurial activities is greater among younger individuals compared to older individuals.*

An important concern among policy makers when it comes to promoting entrepreneurship is the identification of factors that make some young individuals more prone to entrepreneurship than others. Several studies in recent years have indicated that the region, the place where individuals reside, is a crucial factor in explaining differences in the level of the entrepreneurial activity among individuals (Aitken, 2006; North & Smallbone, 2006).

More specifically, young individuals in urban regions are more likely to pursue entrepreneurship compared to rural ones (Akgun et al., 2010; Fuller-Love, Midmore, Thomas, & Henley, 2006; Stathopoulou et al., 2004). In this context, classical and contemporary economic thinking has consistently portrayed urban agglomerations as the preferred setting for conducting business. It has been argued that urban centers offer a greater division of labor (Smith, 1776), a larger ('pool') labor market supply (Marshall, 1920), a greater provision of non-traded inputs (Marshall, 1920), an easier and cheaper access to markets (Hoover, 1948), a greater availability of complementary services (Mydral, 1957), better infrastructures (Jacobs, 1969), and greater volumes of demand (Krugman, 1981, 1991). Wagner and Sternberg (2004) found that regions with high population density and high population growth rates show higher rates of nascent entrepreneurship. On the other hand, in rural regions, as mentioned earlier, there are greater socio-cultural barriers to the entrepreneurial activity (Fornahl, 2003). In many cases, young individuals may feel attracted to the city lifestyle, and the better professional opportunities available in urban agglomerations make them leave their places of origin to settle in cities. This discourages them from considering the possibility of creating a business or developing their profession in a rural environment (Meccheria & Pelloni, 2006). In a similar fashion, the embedded and relatively immobile character of most business activities makes an entrepreneurial career unattractive for those rural youths who long for the city (Akgun et al., 2010). Given the aforesaid arguments, we hypothesize that:

> **H2:** *Younger individuals in rural regions are less likely to engage in entrepreneurship compared to older individuals.*

2.2 Role models

Over the years, researchers have identified the importance of role models in entrepreneurship (Bosma, Hessels, Schutjens, Van Praag, & Verheul, 2012; Contin-Pilart & Larraza-Kintana, 2015; Gibson, 2004; Gnyawali & Fogel, 1994; Krueger & Brazeal, 1994; Lafuente et al., 2007; Lucas, Cooper, Ward & Cave, 2009; Walstad & Kourilsky, 1998). Role models are individuals who set examples to be emulated by others and therefore may stimulate or inspire other individuals to make certain (career) decisions and achieve certain goals (Bosma et al., 2012). According to Gnyawali and Fogel (1994), entrepreneurial role models are important because they not only provide awareness about entrepreneurship, but also have a motivational effect on the intention to start a new business. Wood and Bandura (1989) argue that entrepreneurial role models can be used to develop entrepreneurial skills in young individuals. Similarly, Krueger and Brazeal (1994) argue that role models increase the perception that setting up a business is a viable proposition. Several studies have confirmed the positive link between entrepreneurial role models and entrepreneurial activity (Chlosa, Patzell, Klein, & Dormann, 2012; Vaillant & Lafuente, 2007). Furthermore, role models are found to have a greater influence on the entrepreneurial activity of younger individuals than the rest of the population (Murrell, 2003; Vaillant & Lafuente, 2007). This is because young individuals are at a psychological stage in which they are more receptive to such stimuli than older individuals (Erikson, 1985).

Meanwhile, depending on the territory where they live and in the manner in which young individuals relate socially, younger individuals may be more or less influenced towards entrepreneurial activity by role models (North & Smallbone, 2006). According to Malecki (1994) and the OECD (2003) young individuals in rural regions are less influenced by entrepreneurial role models compared to young individuals in urban regions. The authors in turn emphasize the importance of putting young individuals in rural regions in contact with entrepreneurial examples in order to foster entrepreneurial ambitions. As a result of

these arguments this study proposes the following hypotheses:

> **H3a:** *Entrepreneurial role models increase the likelihood of a youth getting involved in entrepreneurial activities.*

> **H3b:** *The positive influence of role models on the entrepreneurial activity of younger individuals in rural regions is lower.*

2.3 Fear of failure

Emotions such as fear of failure have a strong influence on entrepreneurial behavior (Cacciotti & Hayton, 2015). Considered as a discrete negative emotion elicited by the appraisal of potential or actual threats such as business failure, evidence suggests that the likelihood of an individual becoming an entrepreneur is low(er) in regions with high levels of the social stigma of failure (Landier, 2004). In other words, in cultures where there are greater tolerance and acceptance of business failure, people tend to be more entrepreneurial (Landier, 2004). According to Landier, entrepreneurs fear social stigma if they do not achieve the expected business success. Other academics have also found this factor to be influential on entrepreneurial activity (Busenitz, Gomez, & Spencer, 2000; Brochaus, 1980; Herron & Sapienza, 1992; Sitkin & Pablo, 1992; Wennberg, Pathak, & Autio, 2013; Wyrwich, Stuetzer, & Sternberg, 2016).

However, it has been shown that the impact of this social stigma on entrepreneurs depends upon several factors. One of these factors is the individual's life cycle. People of different ages tend to react to the social stigma of failure in different ways (Levesque & Minniti, 2006). It is argued that among the different segments of the population, young individuals are less likely to consider the social stigma of failure an obstacle to creating a business. This is because young individuals face fewer opportunity costs in entrepreneurship (Amit et al., 1995). Also, younger individuals tend to be less swayed by the perception of risk (Kautonen et al., 2014; Simon, Houghton, & Aquino, 2000) because of lesser work experience than older people (Blanchflower & Meyer, 1994).

Similarly, it has been found that there is a differential impact of fear of failure across regions (Driga et al., 2009; Saxenian, 1994; Wagner, 2007). Vaillant and Lafuente (2007) find that in Spain individuals in regions with high levels of the social stigma of failure are relatively less likely to become entrepreneurs. They comment that the relatively tight social context found in certain rural areas increases the social consequences of entrepreneurial failure. In such a context, it is likely that young individuals in rural regions may be relatively more negatively influenced by the perception of a social stigma to entrepreneurial failure than is the case of youths living in urban areas. In accordance with these perspectives, the following hypotheses can be inferred:

> **H4a:** *The perception of fear of failure reduces the likelihood of the youth getting involved in entrepreneurial activities.*

> **H4b:** *The negative impact of the fear of failure on younger individuals in rural regions is greater than on their urban counterparts.*

3 Data and method

3.1 Data and definition of variables

The data used to carry out this research come from the adult population survey (APS) of the Spanish Global Entrepreneurship Monitor (GEM) for the year 2012. The GEM project began in 1998 and nowadays more than 72 countries are involved in this project. A more detailed description of the GEM methodology is presented in Reynolds et al. (2005). The GEM database has been used by a large number of researchers all around the world to study entrepreneurship and its determinants. After accounting for missing values, in this study, we

use a random and representative population level sample of 20,868 individuals aged between 18 and 64 years.

According to several international bodies, such as the United Nations, the OECD, the International Labor Organization and the World Bank, young individuals are considered to be those who are aged between 16 and 24 years. However, the European Union and specifically the Spanish Government (INJUVE, http://www.injuve.migualdad.es/injuve/portal, accessed on June 15, 2013) share the criterion that young individuals are those aged between 16 and 29 years. Many academic studies have considered young entrepreneurs as those that have created or want to create a business and are aged between 18 and 29 years (Blanchflower & Meyer, 1994; Bonnett & Furnham, 1991; Honjo, 2004; Levesque & Minniti, 2006; Rojas & Siga, 2009; Schiller & Crewson, 1997; Thomas, 2009; Walstad & Kourilsk, 1998). So, to ensure academic continuity, our study adopts this criterion (which is shared by the European Union, Government of Spain and the aforesaid studies) in order to classify an individual as young. Similarly, in relation to the method adopted to differentiate urban areas from rural ones, this study uses the criterion proposed by the law (Real Decreto nº 752, 2010) of the Government of Spain. In our sample, 4,428 observations or 21.21% of the sample represent individuals younger than 30 years of age.

Table 1 shows the descriptive statistics for the variables used in this study, making a distinction between rural and urban regions, and also between young and non-young individuals in the different sub-samples (region-wise).

Table 1
Descriptive statistics for the selected variables

	Full sample			Rural sample			Urban sample		
	Youth	**Non-youth**	**Overall**	**Youth**	**Non-youth**	**Overall**	**Youth**	**Non-youth**	**Overall**
Entrepreneurial activity	0.0449** (0.2071)	0.0541 (0.2264)	0.0522 (0.2220)	0.0529 (0.2241)	0.05174 (0.2215)	0.0519 (0.2220)	0.0436*** (0.2041)	0.0546 (0.2042)	0.0522 (0.2225)
Territory (1 for rural)	0.1406*** (0.3477)	0.1633 (0.3697)	0.1585 (0.3652)	-	-	-	-	-	-
Gender (1 for male)	0.5476*** (0.4977)	0.4920 (0.4999)	0.5038 (0.4999)	0.5345*** (0.4992)	0.4668 (0.4989)	0.4796 (0.4996)	0.5498*** (0.4975)	0.4969 (0.5000)	0.5084 (0.4999)
Age (years)	23.3080*** (3.4700)	41.226 (12.796)	41.226 (12.796)		46.5368 (9.6157)	42.2024 (12.583)	23.274*** (3.4695)	45.9576 (9.7595)	41.0422 (12.8280)
Primary education	0.2669*** (0.4424)	0.3763 (0.4844)	0.3531 (0.4779)	0.2580*** (0.4376)	0.3501 (0.4770)	0.3302 (0.4702)	.2580*** .4376	.3501 .4770	.3302 .4702
Secondary Education	0.4683 (0.4990) ***	0.3071 (0.4613)	0.3413 (0.4740)	0.4269*** (0.4950)	0.2825 (0.4503)	0.3097 (0.4624)	0.4751*** (0.4994)	0.3119 (0.4633)	0.3473 (0.4761)
Tertiary Education	0.2646 (0.4412)	0.3160 (0.4651)	0.3054 (0.4606)	0.2520** (0.4345)	0.2069 (0.4050)	0.2154 (0.4112)	0.2667*** (0.4423)	0.3378 (0.4729)	0.3224 (0.4674)
Entrepreneurial Self-confidence	0.4202*** (0.4936)	0.5038 (0.5000)	0.4861 (0.4998)	0.4815 (0.5000)	0.4944 (0.5000)	0.4919 (0.5000)	0.4102*** (0.4919)	0.5057 (0.4999)	0.4850 (0.4997)
Entrepreneurial Role-Model	0.3328*** (0.4712)	0.2924 (0.4549)	0.3010 0.4587	0.3242* (0.4684)	0.2870 (0.4524)	0.2940 (0.4556)	0.3342*** (0.4718)	0.2935 (0.4553)	0.3023 (0.4592)
Fear of failure	0.5372** (0.4986)	0.5156 (0.4997)	0.5202 (0.4996)	0.5634 (0.4963)	0.5390 (0.4985)	0.5436 (0.4981)	0.5329** (0.4989)	0.5110 (0.4998)	0.5158 (0.4997)
Observations	4428	16440	20868	623	2686	3309	3809	13754	17559

Note. Standard deviation is presented in between brackets. *, **, *** indicates significance at the 10%, 5%, and 1% levels, respectively (Kruskal-Wallis test).

For the purposes of this study, young individuals in the sample are measured using a dummy variable taking the value of one if the individual is under 30 years old, and zero otherwise. Table 1 shows that young individuals in our sample have a mean age of 23.308 years while the same for the rural sub-sample is 23.515 years. The dependent variable used in this research is entrepreneurial activity (Reynolds et al., 2005). This dichotomous variable takes the value of one if, in the last 12 months, a person was actively involved in the process of creating his/her own business or has a baby business less than 42 months old, and zero if the person is not entrepreneurially active. With respect to the descriptive statistics presented in Table 1, it is observed that individuals involved in entrepreneurial activities represent 5.22 per cent of the whole sample (Table 1). The rural population makes up 15.85 per cent of the full sample, and the entrepreneurship among them is 5.19 per cent. Moreover, of the full sample, 4.49 per cent of the young individuals are involved in entrepreneurial activities, a value that is significantly lower than the entrepreneurship rate for individuals above 30 years of age (5.41 per cent).

Our first independent variable of interest relates to entrepreneurial role models. This variable takes the value of one for those who personally know an entrepreneur who has created a business over the past two years, and zero otherwise. In the final sample, 30.10 per cent of respondents report the personal knowledge of an entrepreneur, and the proportion of youths who knows an entrepreneur (33.28 per cent) is significantly higher than the proportion shown by non-youths (29.24 percent) (Table 1). Our second independent variable fear of failure takes the value of one if the person states that the fear of failure is an impediment to creating a business. Table 1 shows that the youths perceive significantly higher fear of failure (53.72 percent) than the rest of the adult population (51.56 per cent).

Finally, three control variables are considered in the empirical analysis. First, we introduce gender. This variable has been used, among others, by Driga et al. (2009), and Verheul, Thurik, Grilo and Van Der Zwan (2012) in the study of the gender gap in entrepreneurial activities, and was found to influence both the dependent and independent variables. The second control variable relates to educational attainment. To create the education variable we considered three categories (dummy variables): 1) primary education, 2) secondary education, and 3) tertiary education. These variables take the value of one to indicate the corresponding level of education. The last control variable used in this paper is the self-confidence in one's entrepreneurial ability. This variable was added to the model as a control variable because of its impact on entrepreneurial activity (Lafuente et al., 2007; Mcgee, Peterson, Mueller, & Sequeira, 2009; Van Praag & Cramer, 2001).

3.2 Modeling entrepreneurial activity in the presence of different sources of heterogeneity

To determine the differential impact of the selected explanatory variables on entrepreneurial activities by youths, we perform a logistic regression analysis (Greene, 2003). In our logit model, the probability of engaging in the entrepreneurial activity ($\Pr(Y_i = 1) = \hat{p}_i$) is modeled as a function of the aforementioned set of independent variables (X_i) where $\hat{p}_i$ is expressed as $\hat{p}_i = e^{X_i b_j} / 1 + e^{X_i b_j}$, and parameters ($b_j$) are estimated by maximum likelihood method.

We carry out two applications of the above model. The first application, presented in equation (1), takes into consideration the joint effect of being young and rurality over entrepreneurship.

$$\text{Entrepreneurial Activity}_i = b_0 + b_1\text{Control}_i + b_2\text{Rural}_i + b_3\text{Youth}_i + b_{23}\text{Rural}_i' \text{ Youth}_i + b_4 T_i + e_i \quad (1)$$

In the equation (1) e_i is the logistic distributed error term for the *ith* cases. Control variables correspond to the entrepreneur's profile, namely, gender, educational attainment and self-confidence in one's own entrepreneurial skills. In our model specifications, T refers to the variables related to the analyzed socio-cultural factors, i.e., the personal knowledge of recent entrepreneurs (role models), and the fear of entrepreneurial failure.

The magnitude of key explanatory variables is determined by the marginal effect (g_X). However, unlike linear models, in non-linear models the interaction effect, i.e., the change in both interacted variables with respect to the dependent variable, does not equal the marginal effect of changing just the interaction term. In addition, the interaction effect in non-linear models may have different signs for different values of the covariates. Thus, the parameter estimate of the interaction term in non-linear models does not necessarily indicate the sign of the interaction effect. Hence we use the method proposed by Ai and Norton (2003) which allows us to obtain robust interaction effects for the variables of interest. In this method the change in the predicted probability to pursue entrepreneurial activity results from the double discrete difference with respect to the rural dummy variable (x_2) among young individuals (x_3), i.e., $g_{23} = \frac{\mathrm{D}^2 F(X,b)}{\mathrm{D}x_2 \mathrm{D}x_3}$, where $X = x_2, x_3$. The procedure developed by Ai and Norton (2003) also allows us to test whether the real magnitude of the interaction term is different from zero, gx^1 0, even if the coefficient obtained from the logistic model is not statistically significant.

In terms of our hypotheses, we expect that$g_3 > 0$ in equation (1), meaning that young individuals are more likely to pursue entrepreneurial activities (**H1**). We also expect that $g_{23} < 0$ indicating that rural youths are less likely to be involved in entrepreneurship (**H2**). Concerning our hypothesis **H3a,** we expect $g_4 > 0$ where T refers to the role-model variable, indicating that the probability to engage in entrepreneurship increases among people who personally know an entrepreneur. A negative sign in the parameter estimate related to the fear of failure variable$g_4 < 0$ would be an indication that the fear of failure reduces the likelihood of being involved in entrepreneurial activities (**H4a**).

In the second application as shown in equation (2), we test whether the impact of the selected socio-cultural factors on the probability of entrepreneurship in rural and urban regions differs between youths and non-youths in our sample.

$$\begin{aligned}\text{Entrepreneurial Activity}_i = {} & d_0 + d_1\text{Control}_i + d_2\text{Rural}_i + d_3\text{Youth}_i + d_4 T_i + d_{23}\text{Rural}_i' \ \text{Youth}_i \\ & + d_{24}\text{Rural}_i' \ T_i + d_{34}\text{Youth}_i' \ T_i + d_{234}\text{Rural}_i' \ \text{Youth}_i' \ T_i + e_i \end{aligned} \quad (2)$$

In equation (2), second level interaction terms control for changes in the probability of entrepreneurship among rural and urban young (d_{23}), and for changes in the impact of the selected socio-cultural factors across regions (d_{24}) and among youth and non-youth (d_{34}). The triple interaction term (d_{234}) captures the effect of entrepreneurial activities of the analyzed socio-cultural factors (relative to those who are not exposed) in rural (relative to urban) youths (relative to non-youths). As in equation (1), the hypotheses are tested based on the magnitude and significance of the marginal effects, and cross differences are estimated à la Ai and Norton (2003). The triple interaction effect is the third difference and it can be derived analogously, as it represents the change in the second difference, $g_{23} = \frac{\mathrm{D}^2 F(X,d)}{\mathrm{D}x_2 \mathrm{D}x_3}$, when d_4 changes from zero to one, holding the rest of the variables constant at their means. A detailed description of the derivation of third differences is offered by Cornelißen

and Sonderhof (2009). With respect to our hypotheses, a lower value of the triple interaction term $g_{234} < 0$[1] is an indication that the positive influence of role models over entrepreneurial activities is weaker among rural youths (**H3b**). A higher absolute value of the impact of the variable related to the fear of failure among rural youths would support our hypothesis **H4b**.

4 Results

Table 2 below presents the results from the logit model used to determine the influence as well as the impact of entrepreneurial role-models and fear of failure on the entrepreneurial activity of young individuals in rural regions. Rather than reporting coefficients, Table 2 reports the estimated change in the probability of engaging in entrepreneurial activities (Marginal effect). The complete set of logit estimates is presented in the Appendix.

In our results, table 2, column I, presents the model that includes all independent variables (direct effects), while columns II, III, and IV introduce several interaction terms. The interaction term (Column II) between territorial regions classified as rural and urban regions with youths and non-youths is used to take into account the fact that rural and urban youths are exposed to different economic settings, as well as respond to different incentives when it comes to their engagement in entrepreneurship. The territorial differences in the probability of entrepreneurship among youths and non-youths become visible if such effects are accounted for with respect to the two main socio-cultural variables considered in this study. Column III of table 2 shows the results of the triple interaction between entrepreneurial role model, being young and living in rural regions, while column IV shows the same for the fear of failure variable. Unlike Honjo (2004) and as suggested by Levesque and Minniti (2006), empirical results in columns I and II suggest that younger individuals are no different from their older counterparts as far as involvement in entrepreneurial activity is concerned, and this effect is similar in rural and urban regions. Therefore, our hypothesis **H1** which suggested that younger individuals are more likely to engage in entrepreneurship is not supported. From the results of column II in Table 2, it can be observed that the territorial source of heterogeneity (g_{23}) does not help explain differences in the entrepreneurial activity between younger individuals and their older counterparts residing in rural areas. Thus, our second hypothesis **H2** is also not supported.

The results from estimations as shown in column III of Table 2 (the double and triple interaction of entrepreneurial role model) indicate that although entrepreneurial role models have a positive effect on entrepreneurial activities in general, it has no effect among young individuals in rural regions. Thus, we find support for hypothesis **H3a,** but not **H3b**. Concerning the findings related to the fear to failure variable (column IV of Table 2), we find that fear of failure has a negative effect on entrepreneurial activities. This result is similar to other studies and supports our hypothesis **H4a**. However, if we look at the double interaction terms, we find that fear of failure has no impact on the level of entrepreneurial activity of young individuals (as compared to older individuals) as well as in rural regions (as compared to urban regions). In fact, the effect of fear of failure is seen only if we take into account age and region. In other words, the negative impact of fear of failure on entrepreneurial activity by the younger individuals living in rural regions is much higher (the marginal effect of -2.52 percentage points compared to the aggregate level of -1.66 percentage points) thus providing support to our hypothesis **H4b**.

Table 2
Logit estimates: the marginal effect of the probability of involvement in entrepreneurial activity

	(1)	(2)	(3)	(4)
Gender (male)	0.0063***	0.0063***	0.0062***	0.0063***
Secondary education	0.0086***	0.0086***	0.0086***	0.0086***
Tertiary education	0.0073***	0.0072***	0.0072***	0.0074***
Entrepreneurial Self-confidence	0.0573***	0.0573***	0.0570***	0.0571***
Young (less than 30 years old)	-0.0028	-0.0034	-0.0043*	-0.0036*
Rural	0.0014	0.0007	0.0042	0.0022
Rural X Young		0.0038	0.0069	0.0006
Entrepreneurial Role-Model	0.0406***	0.0406***	0.0408***	0.0403***
Entrepreneurial Role-Model X Rural			-0.0096	
Entrepreneurial Role-Model XYoung			-0.001	
Entrepreneurial Role-ModelXRural X Young			-0.0081	
Social stigma of failure	-0.0164***	-0.0164***	-0.0162***	-0.0166***
Social stigma X Rural				0.0059
Social stigma of failure X Young				-0.0041
Social stigma of failure X Rural XYoung				-0.0252*
Observations	20868	20868	20868	20868

Note. *, **, *** indicates significance at the 0.10, 0.05 and 0.01 levels, respectively.

The marginal effect represents the change in the probability as a result of a change in the independent variable. In the following equations (1) and (2), the marginal effect of the interaction term for changes in two variables (x_2, x_3) is estimated by $g_{x2,x3} = \frac{D^2F(X,b)}{Dx_2Dx_3}$, whereas for the triple interaction term the marginal effect emerges from $g_{x2,x3,x4} = \frac{D^3F(X,d)}{Dx_2Dx_3Dx_4}$.*, **, *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

5 Discussion and implications

Entrepreneurship has become an alternative way for young individuals to satisfy their work and professional development needs (Blanchflower & Oswald, 1998). Although several scholars have suggested that young individuals have the advantages in the pursuit of an entrepreneurial career (Bonnett & Furnham, 1991; Honjo, 2004; Levesque & Minniti, 2006), empirical evidence though reveals that the probability of entrepreneurship decreases with respect to age (Katz, 1994; Parker, 2009; Vaillant & Lafuente, 2007). Several institutional, as well as socio-cultural factors, have been found to influence the choice of entrepreneurship among younger individuals. In this study, we focused on the role of entrepreneurial role models and fear of failure among younger individuals living in rural regions.

Based on the analyzed sample, we find that there is no significant difference in the level of entrepreneurial activity in rural regions as compared to urban regions of Spain as well as entrepreneurship among the youths (age=30 or less) as compared to those above 30 years of age. Similarly, there is no significant difference between the level of entrepreneurial activity of young individuals in rural regions as compared to young individuals in urban regions. We also find that at an aggregate level the effect of entrepreneurial role model (positive) and fear of business failure (negative) is similar to what has been found in other studies (Arenius & Minniti, 2005; Wennberg et al., 2013). However, we find no effect of entrepreneurial role models on the

entrepreneurial activity of younger individuals as well as on the entrepreneurial activity in rural regions. In other words, entrepreneurial role models are not a significant factor in influencing entrepreneurship among young individuals neither do they influence entrepreneurship in rural regions (as compared to urban regions). When both age and region are taken into account there is still no effect of entrepreneurial role models on entrepreneurship. One explanation for this result could be that the economic downturn in Spain has made people more aware of the bleak prospects of self-employment and therefore indifferent to role models. In regard to the influence and impact of fear of failure, we find that the negative effect of fear of failure is significantly higher among younger individuals in rural regions.

Overall, our results show that important socio-cultural variables, like entrepreneurial role models and fear of failure, which have shown consistent effects at the aggregate level across many national contexts do not have similar effects in the presence of territorial and age related differences. This evidence lends support to the contingency model in which the context surrounding the individual play a more dominant role in influencing entrepreneurial behavior (Welter, 2011; Zahra, Wright, & Abdelgawad, 2014). This is supported by the results of our study, in which when we take into account territorial context (urban/rural location) the importance of location on entrepreneurial activity diminishes. Similarly, by accounting for age-related differences it is found that the impact of socio-cultural variables differs for aggregate level outcomes. As such our study reveals the importance of a disaggregate analysis that takes into consideration contextual heterogeneity surrounding entrepreneurial activity. Overall, the two main conclusions of our study are: 1) Context (regional) has a significant impact on entrepreneurship for some segments (younger individuals) of the population than for others; 2) The main inhibitor of entrepreneurship among young individuals in rural regions is the significant fear of business failure that needs to be addressed by appropriate policy level interventions.

The main policy implication of our study is that policy to promote entrepreneurship needs to be more context specific and focused on interventions aligned with the needs of the focal population. As such, unlike other contexts in which entrepreneurial role models are a useful tool for motivation training among aspiring entrepreneurs, such methods are less likely to be effective in Spain. Instead, policy makers should focus on addressing the significant fear of failure among young individuals in rural regions of Spain. The exact reasons why young individuals in rural regions suffer from high fear of failure go beyond the scope of this study, but recent analysis from the Global Entrepreneurship Monitor in Catalonia and Spain (Corduras et al., 2012) suggest that social desirability could be a factor. For instance, in many rural communities, talented youths are expected to move to the cities to further their studies and careers. The social perception in many rural communities is that professional and personal success for young individuals is determined by whether they have managed to move and establish themselves within a metropolitan region. The reverse would mean that young individuals who stay behind and become entrepreneurs are socially judged as less successful. A similar observation has been made by the OECD in rural regions of Sweden, which was limiting the generational continuity of Smaland's strong entrepreneurial tradition (OECD, 2012). As such, at the policy level, the promotion of entrepreneurship requires long-term measures, which, among others, could include the social celebration of entrepreneurship as a career choice without emphasizing too much the person-related aspects of entrepreneurship. Such social celebration could be through mass media. Alternatively, entrepreneurship related training among the young individuals should emphasize the needs of the 21st-century workforce in which being entrepreneurial is not limited to being a founder/entrepreneur, but a basic requirement of the workplace.

6 Conclusion and further research

Using a sample from the Global Entrepreneurship Monitor's 2012 Spanish Adult Population Survey, this study uses a logit model to test the influence and impact of entrepreneurial role models and the fear of failure on the level of entrepreneurial activity of young individuals in rural regions of Spain. The main result of our study is that in Spain the likelihood of being entrepreneurially active is no different for young and older individuals, and between rural and urban regions. Surprisingly, unlike shown in most studies, entrepreneurial role models do not have any effect on the entrepreneurship of young individuals in rural regions of Spain, while the negative impact of fear of failure in the entrepreneurship on young individuals in rural regions is much higher compared to the rest of the population.

The results of our study reveal the importance of disaggregation and an empirical analysis that takes into account contextual sources of heterogeneity in entrepreneurship. Our study focuses on territorial sources of heterogeneity and age-related differences in entrepreneurial activity. Extant studies have also demonstrated gender-related differences in entrepreneurship. Future studies can include the moderating effect of gender along with contextual variables like territory and age in influencing entrepreneurship. Secondly, our study considers two important socio-cultural variables. Further studies can add more socio-cultural variables. Thirdly, our study is limited to Spain. Similar studies if replicated in other territorial contexts, both in developed and developing economies, could establish more firmly the role and importance of socio-cultural factors in entrepreneurial activity. Finally, a longitudinal analysis could provide even more rigor to the findings presented in this study.

Note

[1]It should be kept in mind that the results of the third difference can be interpreted in different ways. However, the paper has adopted an interpretation of this marginal effect based on the results of the cross differences.

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Appendix – Logit estimates: change in the probability to being involved in entrepreneurial activity

	(1)	(2)	(3)	(4)
Gender (male)	0.2506*** (0.0670)	0.2506*** (0.0670)	0.2504*** (0.0670)	0.2530*** (0.0671)
Secondary studies	0.3252*** (0.0851)	0.3247*** (0.0850)	0.3287*** (0.0849)	0.3271*** (0.0851)
Tertiary	0.2755*** (0.0853)	(0.2740)*** (0.0853)	0.2763*** (0.0853)	0.2805*** (0.0855)
Entrepreneurial self-confidence	1.9554*** (0.1019)	1.9533*** (0.1019)	1.9531*** (0.1019)	1.9562*** (0.1018)
Young (less than 30 years old)	-0.1180 (0.0840)	-0.1407 (0.0914)	-0.2960* (0.1637)	-0.0972 (0.1119)
Rural	0.0566 (0.0897)	.0300 (0.0996)	0.1788 (0.1497)	-0.1537 (0.1306)
Rural X Young		0.1429 (0.2283)	0.4183 (0.3405)	0.4894* (0.2885)
Entrepreneurial Role-Model	1.2225*** (0.0667)	1.2229*** (0.0667)	1.2393*** (0.0804)	1.2203*** (0.0668)
Entrepreneurial Role-Model X Rural			-0.2581 (0.1994)	
Entrepreneurial Role-Model X Young			0.2283 (0.1960)	
Entrepreneurial Role-Model X Rural X Young			-0.4404 (0.4560)	
Social stigma of failure	-0.6372*** (0.0678)	-0.6376*** (0.0678)	-0.6342*** (0.0679)	-0.6626*** (0.0824)
Social stigma of failure X Rural				0.4442** (0.2013)
Social stigma of failure X Young				-0.1196 (0.1920)
Social stigma of failure X Rural X Young				-0.8624* (0.4831)
Intercept	-4.9213*** (0.1182)	-4.9157*** (0.1184)	-4.9289*** (0.1206)	-4.913*** (0.1209)
Pseudo R2	0.1592	0.1592	0.1598	0.1602
Log likelihood	-3597.5873	-3597.3903	-3594.7947	-3593.312
LR (chi2)	924.38	923.86	927.58	950.16
Correctly predicted cases (full sample)	94.78%	94.78%	94.78%	94.78%
Observations	20868	24,695	24,695	24,695

Robust standard errors are presented in brackets. *, **, *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

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Contribution	Eduardo Gómez-Araujo	Manoj Chandra Bayon
1. Definition of research problem	√	
2. Development of hypotheses or research questions (empirical studies)	√	
3. Development of theoretical propositions (theoretical work)	√	
4. Theoretical foundation / Literature review	√	√
5. Definition of methodological procedures	√	√
6. Data collection	√	√
7. Statistical analysis		√
8. Analysis and interpretation of data		√
9. Critical revision of the manuscript		√
10. Manuscript writing	√	√