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A missing link: the behavioral mediators between resources and entrepreneurial intentions

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Abstract

Purpose – Based on the theory of planned behaviour and the resource-based perspective, the purpose of this paper is to provide a well-supported explanation of how access to resources, defined as those controlled by the family context and not necessarily controlled by the student, changes attitudes, subjective norms and perceived control and, consequently, the entrepreneurial intentions of secondary students.
Design/methodology/approach – In contrast to traditional research methodologies, this study used a different approach based on primary survey data collected from secondary students to study future entrepreneurial intentions. Structural equation models were used in the empirical analysis.
Findings – Secondary students with more access to resources – financial and human capital – have stronger entrepreneurial intentions because they have more favourable attitudes and subjective norms, and greater perceived behavioural control. This study finds that cultural capital has no significant impact on entrepreneurial intention.
Practical implications – Key policy actions should increase access to resources for young people.
Originality/value – This study shows that the effect of access to resources on entrepreneurial intention is mediated by attitudes, social norms and perceived behavioural control. The results suggest that the relationship between access to resources and entrepreneurial intentions is more complex and nuanced than previously thought.

Keywords Entrepreneurship, Perceived behavioural control, Attitude, Subjective norm, Resource-based perspective

Paper type Research paper

Introduction

Unemployment remains a major problem for the European Union. Although its growth has been controlled, it is still very high in the countries of Southern Europe such as Spain and Greece. They have unemployment rates above 20 per cent, much higher than the average rate of other European countries, which is estimated at 9 per cent. This problem is further aggravated for younger age groups, especially those between 16 and 19 years, for whom the unemployment rate is estimated at more than 60 per cent in Southern European countries such as Spain, Italy or Greece, while the average rate in European countries is 22 per cent (data from Eurostat). Entrepreneurship is viewed as a solution to youth unemployment.

The theory of planned behaviour (Ajzen, 1991) is widely used to analyse entrepreneurial intentions (Kolvereid, 1996; Krueger *et al.*, 2000; Veciana *et al.*, 2005; Souitaris *et al.*, 2007). According to this theory, intentions are the best predictors of behaviour. Hence, entrepreneurial behaviour – starting a new business – is promoted by entrepreneurial intentions. The theory identifies three determinants of intentions: attitudes, subjective norms and perceived control or self-efficacy.

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Research on individual access to financial, human and social resources has focused on the decision to create new ventures and their survival, growth and profitability. However, there is less evidence on the determinants of entrepreneurial intentions. The resource-based perspective takes a firm perspective, but it can be compatible with entrepreneurial theory (Alvarez and Busenitz, 2001). The resource-based perspective (Wernerfelt, 1984) states that an entrepreneur's competitive advantage is generated by the available resources. To obtain a competitive advantage, a firm must acquire and control valuable, rare, inimitable, and non-substitutable resources and capabilities. Wernerfelt (1984) defined resources as those (tangible and intangible) assets which are permanently tied to the firm. Entrepreneurship could be defined as the recognition and exploitation of opportunities that result in the creation of a firm (entrepreneurial behaviour). Hence, like firms, entrepreneurs who acquire and control resources must do something (identify new opportunities) to create outputs that, in turn, will be valued by external shareholders. Access to resources, defined as those controlled by the family context and not necessarily controlled by the student, is the stage before the behaviour, because it is a necessary condition according to the resource-based theory. Following the theory of planned behaviour (Ajzen, 1991), entrepreneurial behaviour is predicted by entrepreneurial intentions, whose antecedents are attitudes, subjective norms and perceived behavioural control. Hence, the expectation is that access (not only possession or control) to resources influences entrepreneurial intentions towards their antecedents.

The main aim of this study is to address the link between access to financial, human and cultural capital and the determinants of entrepreneurial intentions through influencing attitudes, subjective norms and perceived control. The main contributions and novelty of this paper lie in the fact that previous studies have evaluated the direct impact of the access to resources on entrepreneurial intentions, while this paper considers that there are omitted variables. This is because previous studies ignore behavioural mediators between resources and entrepreneurial intentions. The theory of planned behaviour (Ajzen, 1991) points out that attitudes, subjective norms and perceived control or self-efficacy are the determinants of intentions. The paper also focuses on access to resources, rather than the possession of those resources. Furthermore, the subjects studied are potential entrepreneurs and teenagers who represent future entrepreneurial activity.

The paper is structured as follows. Second section develops the hypotheses based on the theory of planned behaviour and the resource-based perspective. Third section describes the data and methodology used to test the hypotheses. Fourth section details the results of the analysis. Finally, fifth section presents the discussion and conclusions.

The entrepreneurial intentions and access to resources

The theory of planned behaviour identifies three determinants of intentions: attitudes, subjective norms and perceived control or self-efficacy. Attitude towards the behaviour refers to the extent to which an individual has a favourable evaluation of starting a new business. Subjective norm refers to the perceived social pressure to start a new business. Self-efficacy or perceived behavioural control refers to the perceived ease of starting a new business.

Armitage and Conner (2001) demonstrated positive and significant relationships between the three determinants and behaviour intention based on the results from 161 journal articles and book chapters. In the field of entrepreneurial intentions, Shook *et al.* (2003) showed wide use of the theory of planned behaviour in the examination of entrepreneurship intentions in student samples (mainly university students and business students). It was found that attitude and self-efficacy were significantly related to entrepreneurial intentions, and that there were mixed results on the direct or indirect effect of subjective norms.

Focusing on secondary school students, Do Paço *et al.* (2011) found evidence in favour of the model of entrepreneurial intentions through the theory of planned behaviour.

They found a positive and significant influence of attitudes and perceived behavioural control on entrepreneurial intentions. However, subjective norms are less significant and seem to have an indirect impact on entrepreneurial intentions. On the other hand, Athayde (2009) showed that participation in a company programme has a positive impact on secondary school students' attitudes towards starting a business.

Although there are several entrepreneurial models in the literature, such as Shapero and Sokol (1982), there is evidence comparing entrepreneurial intentional models (Krueger *et al.*, 2000) which supports the theory of planned behaviour. Moreover, in the Shapero and Sokol (1982) model, attitudes and subjective norms link desirability and perceived behavioural control or self-efficacy with feasibility (Krueger *et al.*, 2000).

As there is little empirical evidence on secondary school students' entrepreneurial intentions, our first hypothesis is our base hypothesis taken from Ajzen's (1991) model:

H1. The more positive the attitudes (a), subjective norms (b) and self-efficacy (c) are towards starting a new business, the higher the entrepreneurial intentions of secondary school students will be.

Lack of access to resources affects students' risk perceptions by leading them to underestimate their chances of success, and it provokes students to perceive weakness and threats. However, the access to resources affects students' risk perceptions by leading them to overestimate their chances of success, and it provokes students to perceive strengths and opportunities.

Sandhu *et al.* (2011) showed that the second highest barrier to entrepreneurship is the lack of resources, the first being lack of social networking. According to Sandhu *et al.* (2011), the availability of resources is the most important determinant of the entrepreneurial process, and the critical resources are financial capital and human and social capital. Moreover, Pruett *et al.* (2009) found that intentions are negatively affected by barriers that represent a lack of resources, such as lack of knowledge, start-up capital or operational problems in business. However, they evaluated the direct impact of the availability of resources on entrepreneurial intentions. In this paper, capital resources have been divided into three categories: financial, human and cultural capital.

Financial capital is the amount of money controlled by the individual. According to the theory of liquidity constraints (Evans and Jovanovic, 1989), business start-ups usually require significant financial capital, and entrepreneurs have to capitalise their business start-ups in the credit markets. Bank loans or private investors can be difficult to find because of entrepreneurs' risk profiles. Lenders must compensate for the high risk, increase the cost of borrowing and ask for personal capital as collateral. External financial capital (debt or private investors) is constrained, and the entrepreneur's own funds must cover the investment until the initial revenues are generated. It is expected that household wealth and income are positively associated with entrepreneurial activity. The evidence is unclear about the later stages of entrepreneurial activity. It has been demonstrated that wealth has a positive effect on the nascent stages of the creation of a new venture (Arenius and Minniti, 2005). A possible explanation for this lack of relationship can be found in the use of financial bootstrapping methods to decrease external capital needs (Harrison *et al.*, 2004).

In the context of secondary school students, the hypothesis about liquidity constraints is valid, as young people depend on family household wealth and income to use financial bootstrapping methods. Family household wealth and income can be employed as a proxy for their access to financial capital. Teenagers' perceptions of risk depend on family household wealth and income. Wealthy and high-income families are more likely to raise individuals with entrepreneurial intentions. Young people are aware of the importance of financial resources for entrepreneurial success. In the Spanish context, there is a lack of

sources of venture capital, and external finance comes mainly from bank loans (traditional lending models). Therefore, it is expected that secondary school students will realise that a lack of access to financial resources reduces the probability of success and increases the perceived risk, which, in turn, reduces the desirability and feasibility of pursuing the intention. As a consequence, it is hypothesised that:

H2. The more access to financial capital a teenager has in the choice of starting a new business, the more positive the attitudes (a), subjective norms (b) and self-efficacy (c) in relation to entrepreneurial intentions will be.

Human capital is the knowledge and capacity to perform a task. Human capital is commonly operationalised as educational level and experience (Kim *et al.*, 2006; Klyver and Schenkel, 2013).

Education and entrepreneurial training have been associated with higher probabilities of creating a new business (Davidsson and Honig, 2003). In our case, the educational level of the individuals is similar, because they are secondary school students, and the objective differences between them are mainly in terms of entrepreneurial training. The problem that formal education may create valuable opportunities for individuals to work for others rather than start a new business is, thus, avoided.

Work experience is also an important component of human capital. Students over 16 may seek part-time employment or Summer jobs. Students who want to acquire work experience encounter obstacles, such as fighting employers' stereotypes about adolescents' poor attitudes or lack of skills, or the challenge of finding reliable transportation. An individual who has work experience can identify potential opportunities, can gain access to market information, and can develop supplier and customer relationships.

Taking into account teenagers' subjective perceptions of their own human capital, it is expected that personal experience and background based on educational programmes and specific entrepreneurship training will increase desirability and feasibility. As a consequence, it is hypothesised that:

H3. The more access to human capital a teenager has, the more positive the teenager's attitudes (a), subjective norms (b) and self-efficacy (c) towards entrepreneurial intentions will be.

Cultural capital is the potential value from social networks and relationships. The children of entrepreneurial parents are more likely to become entrepreneurs (Laspitaa *et al.*, 2012). They can take over the business when their parents retire. Moreover, an old business can be a source of capital for a new business. The children benefit from exposure to an entrepreneurial environment and receive informal training and pre-market experience.

In general, the empirical evidence shows that people embedded in networks containing individuals with entrepreneurial experience tend to be more entrepreneurial themselves (Davidsson and Honig, 2003). Hout and Rosen (2000) found a positive relationship between sons' and their fathers' self-employment. In the context of teenagers, it is expected that those who have close family members in business, and who consequently directly and personally know someone who has started a business, will have stronger perceived control; the success of relatives in entrepreneurial activity leads to a positive attitude towards entrepreneurial activity and a positive perception of their relatives (subjective norms). As a consequence, it is hypothesised that:

H4. The more access to cultural capital a teenager has in the choice of starting a new business, the more positive the teenager's attitudes (a), subjective norms (b) and self-efficacy (c) towards entrepreneurial intentions will be.

Figure 1 summarises the hypotheses to be tested.

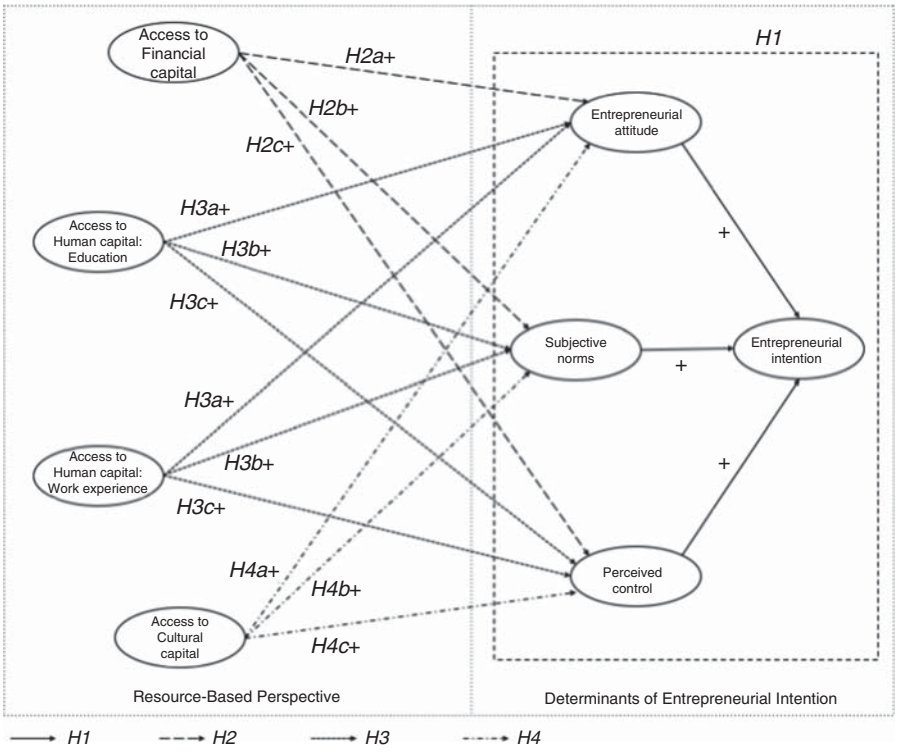


Figure 1.
Theoretical model

Data and methodology

The empirical analysis is based on primary survey data collected from secondary school students from a region of Spain (Murcia) in December 2014. In this paper, a regional analysis based on one region was conducted because it has been shown that there are significant regional variations in entrepreneurial activity (Liñán *et al.*, 2011). By focusing on one region, the need to control environmental factors which can explain the differences in entrepreneurial intentions and bias the results was avoided. Moreover, Murcia was chosen because it has a high percentage of potential entrepreneurs (i.e. people aged 18-64 who have declared their intention to launch a business in the next three years, but who have not yet started). In 2013, 11.1 per cent of Murcia's population expressed an interest in starting their own business, which was higher than in other areas of Spain (9.4 per cent) (Peña *et al.*, 2015). Even so, Murcia lags behind the USA (16.6 per cent) and the average of other developed economies (14.8 per cent) in this regard (Singer *et al.*, 2015). However, the actual level of entrepreneurial activity – nascent entrepreneurs (i.e. the percentage of adults who are starting up a business but have not paid salaries for more than three months) and TEA (total early-stage entrepreneurial activity) – is similar to that for the whole of Spain, but less dynamic than that in the USA and other developed countries.

For the purposes of our study, and according to the Spanish Government Department of Education, the population of students in their last year of secondary education for the year 2013/2014 was 28,443. The information was collected through a questionnaire completed by students in their classrooms, in the presence of a teacher. The study obtained a total of 884 valid questionnaires. These data give us a likely maximum error that does not exceed ±0.032 percentage points, with a confidence level of 95 per cent.

Table I summarises the constructs in the model, which are based on Krueger (1993), Kolvereid (1996), Liñan and Chen (2009) and Souitaris *et al.* (2007). First, there are entrepreneurial intentions (four items) and their determinants: entrepreneurial attitudes (three items), subjective norms (three items) and perceived control (five items). Second, there are resources: financial capital (three items), human capital education (four items), work experience (one continuous variable) and cultural capital (one continuous variable). Finally, the control variables, gender and age, are included (Zeffane, 2014).

As the study used a self-report questionnaire to obtain the individual-level measures at one point in time, common method bias may affect the empirical results and conclusions. Following the recommendations of Podsakoff *et al.* (2003), several procedural and statistical measures were taken to minimise the risk. Procedurally, in order to reduce socially desirable responses and item ambiguity, the respondents could choose to remain completely anonymous (Podsakoff *et al.*, 2003). Statistically, a series of factor analyses were performed to examine the extent of potential common method bias, as in other previous studies (Kibler, 2013). First, Harman's (1976) one-factor test was performed on all included items using principal axis factoring and the unrotated factor solution (Podsakoff *et al.*, 2003). The factor analytic results indicated the existence of multiple factors with eigenvalues greater than 1. Since the analysis identified several factors as opposed to one single factor, a substantial amount of common method variance does not appear to be present. The adjustment measures were estimated using SPSS v.19 in the preliminary analysis.

Next, the evaluation of the measurement model followed a two-step procedure. In the first stage, the measurement model was estimated using confirmatory factor analysis (CFA) to test the goodness of fit of the measurement scales. The goodness of fit is the correspondence between the observed and estimated (measured) variance-covariance matrixes. The CFA can simultaneously evaluate the multidimensionality and the reliability of the measurement of each construct and dimension. A wide range of studies have used CFA to test the psychometric properties of measurement scales (Alegre *et al.*, 2006). Montoya-Weiss and Calantone (1994) recommended testing the individual item reliability, the internal consistency or reliability of a scale, the analysis of the average extracted variance and discriminant validity (Table AI). Q1

The adjustment measures were estimated using EQS v.6.2. The CFA confirmed the existence of the hypothesised factor structure with fit indices supporting an adequate fit between the model and the data, so there is a good fit, and the measurement model is robust (Satorra-Bentler χ^2 (194) = 663.54 ($p = 0.000$), the Bentler-Bonett normed fit index is robust (NFI) = 0.92, the Tucker-Lewis index is robust (NNFI) = 0.93, the comparative fit index is robust (CFI) = 0.94, the Bollen's fit index is robust (IFI) = 0.94 and the root mean square error of approximation is robust (RMSEA) = 0.06. The indicators are within the parameters recommended in the literature (Podsakoff *et al.*, 2003). The NFI, TLI, CFI and IFI statistics are higher than 0.9, and the RMSEA is less than 0.08, as recommended in the literature, whether they have been estimated to be robust or not. An examination of the analysis of the individual indicators for each item shows that all have significantly standardised coefficient values at the 95 per cent level ($p < 0.05$). Based on the results, it can be concluded that the model is suitable for measuring the specified constructs.

This study employed the indexes proposed by Bagozzi and Yi (1988) of average variance extracted (AVE) and composite reliability (ρ_c), respectively. In this case, the method offers similar adjustment indicators, which are more restricted than other methods (Bentler, 1995),

Variable	Item	Mean	SE	Scale
Entrepreneurial intention	EI1: it is very likely I will come to start a business some day	3.52	1.57	Likert 1-7[a]
	EI2: I am willing to push myself whatever it takes to be an entrepreneur	3.96	1.62	
	EI3: I am determined to create a company in the future	3.31	1.61	
	EI4: my career goal is to be an entrepreneur	3.11	1.70	
Entrepreneurial attitude	EA1: if given the opportunity and resources, I would a business	4.68	1.88	Likert 1-7[a]
	EA2: entrepreneurship would be a great satisfaction to me	4.19	1.76	
	EA3: between different options, I would prefer to be an entrepreneur	3.81	1.76	
Subjective norms	SN1: I consider the opinion of my immediate family (father/mother/siblings) on my decision to create a company very important	5.35	1.74	Likert 1-7[a]
	SN2: the opinion of my closest friends on my decision to start a business is very important	4.53	1.69	
	SN3: I consider the opinion of my classmates/colleagues about my decision to create a company very important	3.67	1.72	
Perceived control	PC1: I would be able to define a business idea for starting a business	4.51	1.57	Likert 1-7[a]
	PC2: to create a business and implement it would be easy for me	3.41	1.56	
	PC3: I know the practical details needed to create a business	3.33	1.69	
	PC4: if I worked in my business, the chances of success would be higher	4.23	1.51	
	PC5: I would be able to recognise market opportunities for new products and/or services	4.33	1.59	
Access to financial capital	FC1: my immediate family would give me money should I start a business	4.25	1.92	Likert 1-7[a]
	FC2: if my family had a business, they would facilitate me in creating a company	5.39	1.59	
	FC3: my immediate family would support me, with a financial institution (bank), to create a company	4.31	1.85	
Access to human capital: education	EDU1: the training I received in high school/college has given me the knowledge and skills to create a company	3.95	1.86	Likert 1-7[a]
	EDU2: the education I received in high school/college has helped me to better understand the role of entrepreneurs in society	4.11	1.82	
	EDU3: with the education I received in high school/college, I could start a business in the future	3.75	1.76	
	EDU4: I received training in entrepreneurship outside school/college	2.79	1.97	
Access to human capital: work experience	Number of months that the student has worked as an employee	0.28	0.45	Continuous
Access to cultural capital	Number of immediate family members (father, mother, siblings and grandparents) who are or have been entrepreneurs or self-employed	1.10	1.03	Continuous
Gender	Gender of the student	0.49	0.50	Dichotomous
Age	Age of the student (years)	19.70	4.33	Continuous

Table I. Measures

Notes: [a]1 = totally disagree to 7 = totally agree.

using the χ^2 statistical distribution of Satorra-Bentler, as suggested in the literature (Bentler, 1995; Byrne, 2006).

The composite reliability and the AVE were checked for entrepreneurial intentions ($\rho_c = 0.80$ and AVE = 0.64), for entrepreneurial attitudes ($\rho_c = 0.89$ and AVE = 0.73), for subjective norms ($\rho_c = 0.82$ and AVE = 0.61), for perceived control ($\rho_c = 0.78$ and AVE = 0.53), for economic/financial support ($\rho_c = 0.81$ and AVE = 0.59) and for human capital ($\rho_c = 0.85$ and AVE = 0.61). All the values of composite reliability and the AVE are in line with the values recommended in the literature (Bagozzi and Yi, 1988). All scales have an appropriate value of composite reliability (ρ_c) above or close to 0.8 and an extracted variance higher than 0.5.

To assess the discriminant validity, use of the AVE is recommended. To this end, the square root of the AVE (diagonal of Table II) is compared with the correlations between the constructs (the off-diagonal elements of Table II). As can be seen, the square root of the AVE for all the constructs is greater than the correlation between them, suggesting that each construct relates more strongly to its own measure than to others.

Table III shows the means, standard deviations and correlations between the variables of the structural model (Figure 1). Significant positive correlations between the main variables are observed.

Results

The proposed structural equation model has been estimated as recommended by Bentler (1995) and Byrne (2006), and the adjustment measures of the structural equation modelling are within the parameters recommended in the literature (Figure 2), so there is a good fit (Satorra-Bentler χ^2 (267) = 954.19 ($p = 0.000$), NFI = 0.90, NNFI = 0.90, IFC = 0.92, IFI = 0.92 and RMSEA = 0.06).

In view of the estimated structural parameters (Figure 2) for secondary school students, it is shown that the use of the theory of planned behaviour of Ajzen (1991) is appropriate. The attitudes towards entrepreneurship have a positive influence on entrepreneurial intentions ($\lambda = 0.73$; $p < 0.01$). Similarly, subjective norms have a positive influence on the entrepreneurial intentions of secondary school students ($\lambda = 0.07$; $p < 0.1$). There is a positive and significant influence of perceived control on entrepreneurial intentions ($\lambda = 0.18$; $p < 0.01$). It is confirmed that for young people (secondary school students), attitudes, subjective norms and perceived control have a positive influence on the students' entrepreneurial intentions (theory of planned action for entrepreneurial intentions), allowing us to accept *H1* as expected, based on the previous work (Kolvereid, 1996; Krueger *et al.*, 2000; Souitaris *et al.*, 2007).

Regarding the effects of access to resources, this paper confirms that there is no direct effect of financial, human and cultural capital on entrepreneurial intentions at the 5 per cent level. These results are not similar to those found in previous papers (Pruett *et al.*, 2009; Sandhu *et al.*, 2011), in which a direct effect on entrepreneurial intentions was found.

	Means	SD	1	2	3	4	5	6
1. Entrepreneurial intention	3.48	1.38	0.80					
2. Entrepreneurial attitude	4.23	1.63	0.72***	0.85				
3. Subjective norms	4.52	1.45	0.32***	0.29***	0.78			
4. Perceived control	3.96	1.25	0.49***	0.47***	0.18***	0.73		
5. Access to financial capital	4.65	1.52	0.25***	0.19***	0.32***	0.27***	0.77	
6. Access to human capital: education	3.65	1.50	0.34***	0.29***	0.19***	0.44***	0.20***	0.78

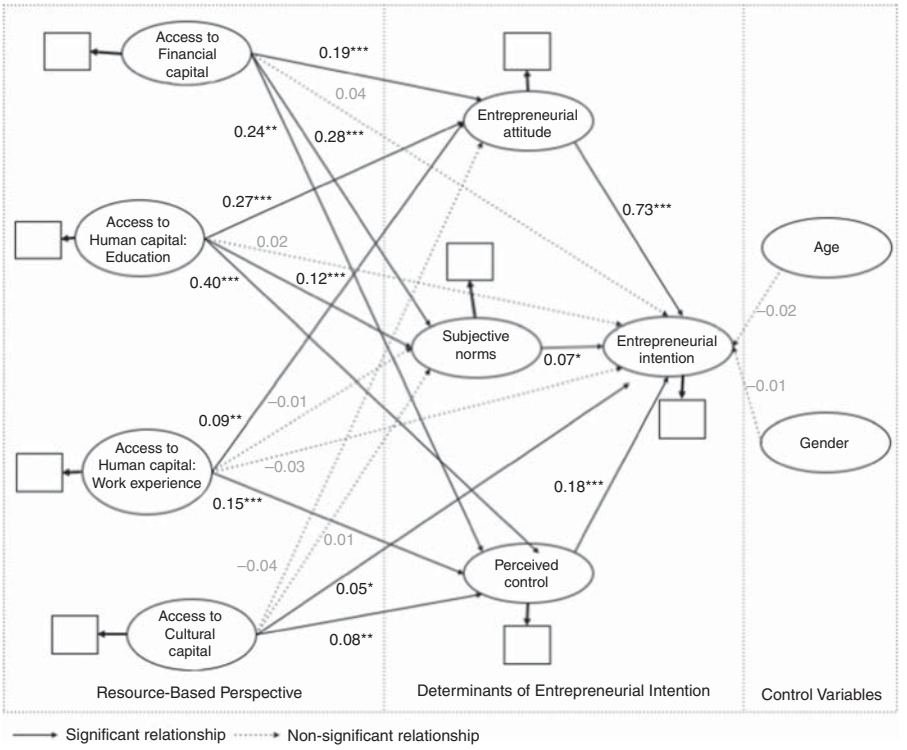
Notes: ***$p < 0.01$

Table II. Descriptive analysis and discriminant validity of the scales

Table III.
Means, standard deviations and correlations

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Entrepreneurial intention	3.48	1.38	1									
2. Entrepreneurial attitude	4.23	1.63	0.72***	1								
3. Subjective norms	4.52	1.45	0.32***	0.29***	1							
4. Perceived control	3.96	1.25	0.49***	0.47***	0.18***	1						
5. Access to financial capital	4.65	1.52	0.25***	0.19***	0.32***	0.27***	1					
6. Access to human capital: education	3.65	1.50	0.34***	0.29***	0.19***	0.44***	0.20***	1				
7. Access to human capital: work experience	0.28	0.45	0.04	0.08**	−0.03	0.15***	−0.08**	0.10***	1			
8. Access to cultural capital	1.10	1.03	0.07	−0.01	0.04	0.11***	0.14***	0.01	0.02	1		
9. Gender	0.49	0.50	−0.09**	−0.14***	0.12***	−0.10***	0.01	−0.07**	−0.08**	0.04	1	
10. Age	19.70	4.33	−0.02	0.04	−0.01	0.02	−0.17***	0.10***	0.47***	−0.06	−0.04*	1

Notes: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$



Notes: Goodness of fit of robust structural model: Satorra-Bentler $\chi^2(267) = 954.19$ ($p = 0.000$); NFI = 0.90; NNFI = 0.90; CFI = 0.92; IFI = 0.92; RMSEA = 0.06. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Figure 2.
Estimated structural parameters: effect of resource-based perspective on determinants of entrepreneurial intention

The researchers believe that the previous results ignored the determinants of entrepreneurial intentions, which created a bias in the estimated significance.

In general, this paper finds that the effect of access to resources on entrepreneurial intentions is mediated by the determinants of entrepreneurial intentions (attitudes, subjective norms and perceived control). Concretely, the results (Figure 2 and Table IV) confirm the positive influence of greater access to financial capital on attitudes ($\lambda = 0.19$; $p < 0.01$), on subjective norms ($\lambda = 0.28$; $p < 0.01$) and on perceived control ($\lambda = 0.24$; $p < 0.01$), confirming *H2a-H2c*. As shown by the coefficients of the analysis presented in Table IV, greater access to financial capital also has an indirect effect on entrepreneurial intentions ($\lambda = 0.20$; $p < 0.01$). However, there is no direct effect of access to financial capital on entrepreneurial intentions ($\lambda = 0.04$; $p > 0.1$).

Similarly, the results (Figure 2) confirm that education has a positive and significant influence on attitudes ($\lambda = 0.27$; $p < 0.01$), subjective norms ($\lambda = 0.12$; $p < 0.01$) and perceived control ($\lambda = 0.40$; $p < 0.01$). Table IV also shows that there is an indirect effect of education on entrepreneurial intentions ($\lambda = 0.28$; $p < 0.01$), as well as an insignificant direct effect ($\lambda = 0.02$; $p > 0.1$). The results confirm *H3* and its respective sub-hypotheses (*H3a-H3c*) for the effect of human capital on the dimension of education.

In the same vein, the results of the analysis (Figure 2 and Table IV) confirm that work experience has a positive and significant influence on attitudes ($\lambda = 0.09$; $p < 0.05$) and perceived control ($\lambda = 0.15$; $p < 0.01$), but there is no significant influence on subjective norms ($\lambda = -0.01$; $p > 0.1$). It is confirmed that there is an indirect effect of work experience on entrepreneurial intentions ($\lambda = 0.09$; $p < 0.05$), and there is no direct and significant effect of

Independent variable	Dependent variables: Entrepreneurial intention – Direct effects	Entrepreneurial intention – Indirect effects	Entrepreneurial attitude	Subjective norm	Perceived control
Entrepreneurial attitude	0.73***				
Subjective norms	0.07**				
Perceived control	0.18***				
Access to financial capital	0.04	0.20***	0.19***	0.28***	0.24***
Access to human capital: education	0.02	0.28***	0.27***	0.12***	0.40***
Access to human capital: work experience	−0.03	0.09**	0.09**	−0.01	0.15***
Access to cultural capital	0.05*	−0.02	−0.04	0.01	0.08**
Gender	−0.01				
Age	−0.02				

Notes: Goodness of fit of robust structural model: Satorra-Bentler $\chi^2(267) = 954.19$ ($p = 0.000$); NFI = 0.90; NNFI = 0.90; CFI = 0.92; IFI = 0.92; RMSEA = 0.06. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Table IV.
Direct and indirect effects in the structural model

work experience on entrepreneurial intentions ($\lambda = -0.03$; $p > 0.1$), which again confirms that the influence of work experience on entrepreneurial intentions occurs through the influence of this variable on most of the determinants of entrepreneurial intention (attitudes and perceived control). These results allow us to accept parts of *H3* and its respective sub-hypotheses (*H3a* and *H3c*) for the influence of human capital on the dimension of work experience.

With respect to *H4*, the results obtained (Figure 2 and Table IV) are not completely as anticipated. While greater cultural capital increases perceived control ($\lambda = 0.08$; $p < 0.05$), attitudes ($\lambda = -0.04$; $p > 0.1$) and subjective norms ($\lambda = 0.01$; $p > 0.1$) are unaffected. Therefore, *H4* is rejected as regards the non-significant influence of cultural capital on attitudes (*H4a*) and subjective norms (*H4b*).

This paper found that, unlike financial capital and human capital (education and work experience), cultural capital has a direct effect on entrepreneurial intentions ($\lambda = 0.05$; $p < 0.1$), but it is very small, and there is no indirect effect of cultural capital on entrepreneurial intentions ($\lambda = -0.02$; $p > 0.1$). In view of these results, *H4* is partially supported, since cultural capital is not significantly related to entrepreneurial attitudes – *H4a* ($\lambda = -0.04$; $p > 0.1$) and subjective norms – *H4b* ($\lambda = 0.01$; $p > 0.1$). However, the more access there is to cultural capital, the more self-efficacy – *H4c* ($\lambda = 0.08$; $p < 0.05$) – there is towards entrepreneurial intentions.

It is possible to estimate the size effect of each resource on the entrepreneurial intention (Table III shows the means and the standard deviation of each of the entrepreneur resources). Concretely, for each resource analysed, we estimate the expected difference in entrepreneurial intention between students with a high-resource level and a low-resource level. To do this, we consider two students, one with a high resource level (mean plus one standard deviation) and one with a low resource level (mean minus one standard deviation), and the estimated total effects of the entrepreneur resources on the entrepreneurial intention determined in the model with the EQS software (0.30 for financial capital; 0.24 for human capital education; 0.07 for human capital work experience; and 0.04 for cultural capital).

The expected differences in entrepreneurial intention are 0.91 for the effect of financial capital; 0.72 for the effect of education; 0.06 for the effect of the work experience; and 0.08 for the effect of cultural capital. That implies a percentage increase in entrepreneurial intention over the mean of 26.21 per cent for the effect of financial capital, 20.69 per cent for the effect of education, 1.81 per cent for the effect of the work experience and 2.37 per cent for the effect of cultural capital.

Approximately, it is also possible to estimate its impact on expected entrepreneurial activity, considering several studies that have analysed this relationship focusing on

students' entrepreneurship (Rauch and Hulsink, 2015; Usaci, 2015), and on companies' entrepreneurship (Kautonen *et al.*, 2015). These studies estimated the impact coefficient of entrepreneurial intention on entrepreneurial behaviour. This coefficient ranges between 0.43 and 0.51. From the most conservative coefficient (0.43), based on the study by Rauch and Hulsink (2015), we estimated from the entrepreneurial resources of our study that entrepreneurial behaviour can be increased by 39.22 per cent for the effect of financial capital, 30.96 per cent for the effect of education, 2.71 per cent for the effect of work experience and 3.54 per cent for the effect of cultural capital. The largest increases in students' entrepreneurial behaviour come from financial capital and education.

Discussion and conclusions

This research contributes to the literature on entrepreneurship by examining the effect of access to resources – financial, human and cultural capital – on entrepreneurial intentions. Previous studies have examined the direct effect of resources on entrepreneurial intentions (Pruett *et al.*, 2009; Sandhu *et al.*, 2011). This paper suggests that the previous studies suffered from the problem of omitted variables because they consider only resources, ignoring attitudes, subjective norms and perceived control. But nevertheless, the theory of planned behaviour (Ajzen, 1991) points out that attitudes, subjective norms and perceived control or self-efficacy are the determinants of intentions and, therefore, they should be taken into account.

In other words, our model suggests that the effect of access to resources on entrepreneurial intentions is mediated by attitudes, social norms and perceived behavioural control. First, a lack of access to resources affects the subjective perception that entrepreneurial behaviour will lead to potential gains or losses, beliefs about economic opportunities, and preferences for choosing one's own path to achieve personal objectives. As a result, the lack of access to resources is a barrier that modifies risk perceptions and should influence attitudes towards entrepreneurial behaviour. Second, subjective norms, such as social pressure and approval from significant others (family) to become an entrepreneur, are determined by family attitudes, and again, perceptions of them depend on access to resources. Finally, a lack of access to resources leads to anxiety, a lower sense of control over outcomes and a lower sense of self-efficacy. Moreover, it should affect perceived behavioural control. Our theoretical framework does not consider that access to resources itself increases entrepreneurial intentions.

Our empirical analysis was designed in a regional context to avoid the bias of results from regional variations in entrepreneurial activity found in previous research (Liñán *et al.*, 2011). It is focused on secondary students who have a higher probability of not having acquired resources, but mainly have a certain degree of access to resources.

The results allow us to accept *H1* and to confirm that the theory of planned behaviour can be used in the context of secondary students to determine their entrepreneurial intentions (Ajzen, 1991). Previously, this theory has been tested in the context of university students (Kolvereid, 1996; Krueger *et al.*, 2000; Liñán *et al.*, 2011), and the results illustrate that attitudes, subjective norms and perceived behavioural control contribute to an explanation of students' entrepreneurial intentions. There is little evidence in the context of secondary school students, although Do Paço *et al.* (2011) found that attitudes and perceived behavioural control have a significant influence on entrepreneurial intentions, while the influence of subjective norms is weaker. This pattern of results is similar to the pattern obtained in this research.

Our results illustrate that access to resources – defined as those controlled by the family context and not necessarily controlled by the student – affect the determinants of students' entrepreneurial intentions. This paper confirms the positive financial and human capital-attitude link (*H2a*, *H3a*), the positive financial and education-subjective norm link (*H2b*, partially *H3b*) and the positive financial, human and cultural capital-perceived behavioural control link (*H2c*, *H3c* and *H4c*).

Access to financial and human capital is viewed as essential for the success of entrepreneurial activity, affecting all the determinants of entrepreneurial intentions, with the exception that there is no significant effect of work experience on subjective norms. The access to resources affects both the individual value system towards generating a favourable valuation and the perceived ease of starting a new business. Moreover, the latter has a positive and significant indirect effect on entrepreneurial intentions. On the other hand, cultural capital has neither an indirect nor a direct effect on entrepreneurial intentions. These results suggest that the entrepreneurial environment does not always generate benefits from exposure. Work experience and cultural capital show inconclusive results, possibly because exposure to an entrepreneurial environment can be perceived as either positive or negative. A positive perception of exposure affects students' entrepreneurial intentions differently from a negative perception (Krueger, 1993).

In the case of both cultural and human capital, Davidsson and Honig (2003) found a positive relationship between family background and entrepreneurial decisions. Our results do not confirm these relationships. A possible explanation is that a bad experience could convert a family business background into a negative influence on attitudes and subjective norms (Krueger, 1993). This would explain why *H4a* and *H4b* are not supported, since there is not an unconditional relationship between work experience and family business background, and attitudes and subjective norms. It may depend on how the family and the student value their experiences.

Our results fill a gap in the previous research and provide a more complete overview of secondary students' entrepreneurial intentions – a collective to which politicians must pay attention. This paper confirms that attitudes, subjective norms and perceived control are behavioural mediators between access to resources and entrepreneurial intentions.

Key policy actions should increase young people's access to resources, boosting sources of venture capital with fiscal benefits for private investors to avoid liquidity constraints. Also, educational programmes at secondary schools should contribute to the development of competences and skills related to entrepreneurship, developing managerial experience through programmes that place young students in companies, or including transversal competences at secondary school to learn what business angels and venture capitalists are looking for, in addition to entrepreneurship competitions that allow students to know what drives investors, including simulated financing rounds as an experience to learn the implications of venture capitalists' financial instruments and how to counter them. Moreover, family support influences significantly the decision to start a new business. Therefore, policy actions should be designed not only for young people but also for family members.

The research has several limitations related to the contextual factors of the region where it was implemented and the lack of a measure for the subjective valuation of experience. On the one hand, the survey was carried out in one region, since there is evidence of differences in entrepreneurial intentions across regions. This study avoids the mixture of effects by focusing the analysis on one region. However, variables not included in the present research may be introduced to control the contextual effects, and the sample size may be increased to check the robustness of the results. On the other hand, the effects of work experience and family background, which compose human and cultural capital, were not evaluated when considering satisfaction. A positive or negative experience could explain the lack of influence of these variables on the determinants of entrepreneurial intentions, attitudes and subjective norms. This opens the possibility for future research.

As future research lines, an extension of this study to other countries would be interesting, as would the study of multicultural groups. Moreover, exposure to an entrepreneurial environment should be studied to determine how cultural capital and work experience can be structured to produce a positive perception, and hence have a positive effect on desirability and feasibility. In the future, a post study on intentions and final outcomes of becoming entrepreneurs could be interesting to know the real impact of entrepreneurial intention on entrepreneurial behaviour.

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Further reading

Eurostat (2016), "Eurostat on-line database", available at: http://ec.europa.eu/eurostat/data/database (accessed 1 September 2016).

Appendix

Variable/Item	$\lambda_{c\text{-}e}$	R^2	Reliability and validity
Entrepreneurial intention			AVE = 0.64
EI1: it is very likely that I will come to start a business some day	0.73	0.53	$\rho_c = 0.80$
EI2: I am willing to push myself whatever it takes to be an entrepreneur	0.78	0.61	
EI3: I am determined to create a company in the future	0.86	0.74	
EI4: my career goal is to be an entrepreneur	0.82	0.67	
Entrepreneurial attitude			AVE = 0.73
EA1: if given the opportunity and resources, I would start a business	0.83	0.69	$\rho_c = 0.89$
EA2: entrepreneurship would be a great satisfaction to me	0.88	0.77	
EA3: between different options, I would prefer to be an entrepreneur	0.85	0.73	
Subjective norms			AVE = 0.61
SN1: I consider the opinion of my immediate family (father/mother/siblings) on my decision to create a company very important	0.66	0.43	$\rho_c = 0.82$
SN2: the opinion of my closest friends on my decision to start a business is very important	0.94	0.88	
SN3: I consider the opinion of my classmates/colleagues about my decision to create a company very important	0.72	0.52	
Perceived control			AVE = 0.53
PC1: I would be able to define a business idea for starting a business	0.71	0.51	$\rho_c = 0.78$
PC2: creating a business and implementing it would be easy for me	0.70	0.48	
PC3: I know the practical details needed to create a business	0.72	0.51	
PC4: if I worked in my business, the chances of success would be higher	0.75	0.57	
PC5: I would be able to recognise market opportunities for new products and/or services	0.77	0.60	
Access to financial capital			AVE = 0.59
FC1: my immediate family would give me money should I start a business	0.85	0.73	$\rho_c = 0.81$
FC2: if my family had a business, they would facilitate me to create a company	0.61	0.37	
FC3: my immediate family would support me, with a financial institution (bank), to create a company	0.83	0.69	
Access to human capital: education			AVE = 0.61
EDU1: the training I received in high school/college has given me the knowledge and skills to create a company	0.86	0.74	$\rho_c = 0.85$
EDU2: the education I received in high school/college has helped me to better understand the role of entrepreneurs in society	0.91	0.82	
EDU3: with the education I received in high school/college, I could start a business in the future	0.85	0.72	
EDU4: I received training on entrepreneurship outside school/college	0.39	0.15	

Notes: Goodness of fit robust confirmatory factor analysis (CFA): Satorra-Bentler $\chi^2(194) = 663.54$ ($p = 0.000$); NFI = 0.92; NNFI = 0.93; CFI = 0.94; IFI = 0.94; RMSEA = 0.06. Recommended values for a good fit of the data (Anderson and Gerbing, 1988; Fornell and Lacker, 1981; Hoyle and Panter, 1995; Podsakoff *et al.*, 2003): Satorra-Bentler $\chi^2(p < 0.05)$; NFI > 0.9; NNFI > 0.9; CFI > 0.9; IFI > 0.9; RMSEA < 0.08. Average variance extracted ($AVE = \sum \lambda_i{}^2 \text{var}(\varepsilon) / [\sum \lambda_i{}^2 \text{var}(\varepsilon) + \sum \theta_{ii}]$) (Bagozzi and Yi, 1988); scale composite reliability ($\rho_c = \sum (\lambda_i)^2 \text{var}(\varepsilon) / [(\sum \lambda_i)^2 \text{var}(\varepsilon) + \sum \theta_{ii}]$) (Fornell and Lacker, 1981)

Table AI.
Confirmatory factor analysis

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