

# THE PSYCHOSOCIAL PROFILE OF THE UNIVERSITY ENTREPRENEUR

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*This paper analyzes the psychosocial variables that make up the profile of the university entrepreneur in Spain from the perspective of entrepreneurial intention. A career development model is used to classify these psychosocial variables in three settings: family, work and social, and personal setting. The sample consisted of 601 university students from the autonomous region of Castilla y León. The results show that the students develop high intention to work as employees for private companies or in the public sector, but that their intention to become entrepreneurs is low. Specifically, we found that gender, family, work experience, entrepreneurial training, social support, perception of barriers, and individualist and collectivist values are likely to predict the entrepreneurial intention of university students.*

**Keywords:** *Entrepreneurship, Self-employment, Education, University and Values*

*Desde la perspectiva de estudio de la intención emprendedora, el presente trabajo analiza las variables psicosociales que permiten elaborar el perfil del emprendedor universitario en España. Para ello, se utiliza un modelo de desarrollo de la carrera profesional que permite clasificar las variables psicosociales en tres espacios: familiar, sociolaboral y personal. La muestra utilizada estaba formada por 601 estudiantes universitarios procedentes de la Comunidad Autónoma de Castilla y León. Los resultados indican que los estudiantes, en general, tienen una alta intención de trabajar por cuenta ajena, en una empresa privada o en la Administración Pública, y una baja intención de desarrollar su carrera profesional a través del autoempleo. Específicamente, se ha encontrado que el género, la familia, la experiencia laboral, la educación hacia el autoempleo, el apoyo social, la percepción de barreras y los valores individualistas y colectivistas permiten predecir la intención de crear una empresa o trabajar por cuenta propia.*

**Palabras clave:** *emprender, autoempleo, educación, universidad y valores*

## INTRODUCTION

Currently, both the European Commission and national governments are demanding an increase in entrepreneurial activity (Acs, Arenius, Hay & Minniti, 2005; European Commission, 2003), having acknowledged the impact of entrepreneurial activity on innovation, competitiveness, creation of employment and economic growth. This demand for entrepreneurial activity includes the study, promotion and development both of new businesses and of entrepreneurs. Hence, the study of entrepreneurial activity has become one of the fastest-growing fields within the social sciences (Katz, 2003).

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The main question concerns how to stimulate the emergence of more entrepreneurs. The European Union has attempted to achieve this objective through short-term policies focused on eliminating barriers to the development and growth of businesses. However, the concession of grants and the removal of red tape have not had the expected impact on the creation of new businesses. This has led to the adoption of a new approach whose principal objective is to ensure that more people decide to become entrepreneurs and work towards that end (European Commission, 2003).

In Spain, and indeed in Europe generally, the entrepreneurial option has long been considered a risky one, not especially attractive, and less gratifying from the social point of view than many traditional professions. Thus, educational systems have not been oriented to developing the spirit of business and self-employment; rather, the ultimate objective of education has been to produce employees for large companies, the civil service or local authorities. Indeed, in universities,

training in entrepreneurship has been restricted to Economics and Business Studies courses (European Commission, 2002a).

Recent years have seen rapid changes, and in Europe today there is a growing awareness that entrepreneurship is a basic capacity that should be instilled throughout the course of education (European Commission, 2002b). Thus, the European Council (Lisbon, 2000) and the Education Council report of 2001 on the future objectives of education systems both stressed the need for closer bonds between businesses and educational systems, and for the development of the entrepreneurial spirit through education and training structures.

In this context, then, there is explicit recognition of the need to avoid purely economic or business-based approaches and to study the psychological and social variables that influence the development of entrepreneurial behaviour. In this line, the present work attempts to describe and analyze the psychosocial variables that shape the profile of the university student with entrepreneurial intention in Spain.

## **THEORETICAL FRAMEWORK**

The research field of entrepreneurial behaviour is characterized by its plurality and multidisciplinary, dealing as it does with both personal characteristics and business activity, and with economic and social effects and even cultural aspects. Within Psychology, research has focused primarily on the analysis of individual differences between entrepreneurs and non-entrepreneurs, with the aim of identifying the profile of the typical entrepreneurial personality. According to this profile it is possible to detect people with an innate potential for entrepreneurial success. However, this research line has not achieved sufficiently sound results, and has indeed been the object of considerable criticism, both methodological and theoretical, which has highlighted the inadequacy of personality traits for predicting entrepreneurial behaviour (Baron, 2002; Gartner, 1988; Robinson, Stimpson, Huefner & Hunt, 1991; Shane & Venkataraman, 2000; Shaver & Scott, 1991).

This has led many researchers in the field to concentrate on the study of more dynamic variables and models that take into account not only personal but also social aspects, as well as their interaction, to explain and predict entrepreneurial behaviour. Hence, the research line currently seen as most relevant in this area involves the study of entrepreneurial intention (Alexei & Kolvereid, 1999; Audet, 2002; Crant, 1996; Douglas & Shepherd, 2002; Krueger, Reilly & Carsrud, 2000). This

approach is based principally on the analysis of choice of career, that is, why some people but not others decide to develop their professional career on the basis of self-employment.

From this latter perspective, the aim of the present work is to broaden the study of the entrepreneurial profile using variables which from Social Psychology can be considered important for explaining and predicting university students' intention to develop their professional career on a self-employment basis. To this end we use Sonnenfelt and Kotter's (1982) Career Development model, which has been employed in the study of entrepreneurs by Sánchez-Almagro (2003). This model allows the psychosocial variables to be classified in three context categories: family, social and work, and personal. Below we briefly describe these three contexts, whose variables will help us to understand, from a psychosocial perspective, the decision to pursue a career based on entrepreneurship.

## **THE FAMILY CONTEXT**

Research in the field of entrepreneurship has repeatedly shown that the social models provided by the family context have a positive influence on the development of a professional career revolving around self-employment (Andreu, 1998; Brockhaus, 1982; Hisrich & Brush, 1986; Katz, 1992; Roberts & Wainer, 1968; Sánchez-Almagro, 2003; Scherer, Adams & Wiebe, 1989; Shapero, 1982). Thus, coming from a family with links to business or with its own firm gradually familiarizes a person with the world of commerce. Indeed, the son of an independent professional, on observing the example of his father or his mother, tends to see as more attractive an occupation with a high degree of independence and flexibility (Brockhaus, 1982; Hisrich & Brush, 1986). This is reflected, for example, in the study carried out in Spain by Sánchez-Almagro (2003), who compared self-employed people ( $n=166$ ) with civil servants ( $n=287$ ). The results showed that 30% of the parents of entrepreneurs are small businessmen/women or self-employed people, compared to 19% in the case of parents of non-entrepreneurs.

Also generally taken into account in the analysis of this context are the demographic characteristics age and gender. However, given that the sample used is composed exclusively of university students, that the participants are young and that the age variation is very small, in the present study we cannot consider the influence of this variable on intention to embark upon an entrepreneurial career.

As regards the gender variable, various international studies have indicated that, in general, the ratio of men to women entrepreneurs is 1.8 to 1, so that practically twice as many men are involved in entrepreneurial activity as women (Castro, Pistrui, Coduras, Cohen, & Justo, 2002; Coduras & Justo, 2003; Reynolds, Hay, Bygrave, Camp, & Autio, 2000). In Spain, according to a recent study (Cámaras de Comercio & Fundación INCYDE, 2003), the majority of businesses founded in 1998 and active in 2002 were set up by men (66%).

A series of factors conspire to discourage women from taking the entrepreneurial option. In general, after forming a family, it becomes more difficult for women to work for themselves than to work for an organization, while among the more specific factors is the conflict between the time demands of a business, the home and the family, which constitutes a substantial barrier for potential women entrepreneurs (Goffee & Scase, 1987). Moreover, women who do set up their business tend to feel guilty about devoting attention to it at the expense of time spent looking after their family (Neider, 1987).

Thus, we propose as the first hypothesis of this work that the variables of the family context (business-oriented family and gender) will be related to entrepreneurial intention in university students.

### *The social and work context*

A range of psychosocial variables make up the social and work context, and all have been discussed in the literature in relation to their influence on the decision to embark on an entrepreneurial career. We shall now consider the most relevant of them.

#### *Work experience*

The importance of work experience in the decision to embark on a career in self-employment has been highlighted in various studies (Kolvereid, 1996; Scott & Twomey, 1988). Furthermore, a significant relationship has been found between work experience in a small business and interest in setting up one's own concern (Matthews & Moser, 1995)

Likewise, past experience as an entrepreneur shows a more positive relationship than other types of work experience not only with interest in a career in entrepreneurship, but also with success in the creation and management of a new business (Sandberg & Hofer, 1987; Vesper, 1990).

#### *Education*

It is commonly assumed that the personal characteristics and skills of the entrepreneur can be developed through

education. Indeed, some studies have suggested that entrepreneurial behaviour can be stimulated through formal education programmes (Bechard & Toulouse, 1998; Gorman, Hanlon & King, 1997).

Research has also shown that education can stimulate the development of entrepreneurial behaviour in different ways. On the one hand, education for self-employment can increase knowledge about the setting-up and management of businesses and promote personal characteristics associated with entrepreneurs, such as motivation to achieve, internal locus of control or self-efficacy (Bonnett & Furnham, 1991; Gorman et al., 1997; Hansemark, 1998; Krueger & Dickson, 1994; Rasheed, 2003)

Moreover, Vesper (1990) claims that formal education about self-employment careers at university facilitates the process of business creation, since it helps to raise students' awareness of the viability of self-employment as a professional option. In fact, different studies have shown how such education increases positive attitudes towards entrepreneurship as an alternative professional career (Ede, Panigrahi & Calcich, 1998; Hatten & Ruhland, 1995; Kourilsky & Walstad, 1998; Walstad & Kourilsky, 1998).

In a similar line, Dyer (1994) argues that education for self-employment puts students in contact with role models (such as successful entrepreneurs) that make entrepreneurship more attractive as a professional career. In this sense, education for self-employment can be considered as a socializing factor within the process of becoming an entrepreneur.

#### *Difficulties and obstacles for starting a new business*

Setting up a business is made difficult by the large quantity of obstacles, barriers and problems the entrepreneur has to deal with. The principal difficulty faced by entrepreneurs wishing to start a business is obtaining the funds necessary to launch it (European Commission, 2002a). Setting up a business involves making a series of investments that vary greatly depending on its area of activity and its size, and which entrepreneurs must cover with their own resources (nearly always insufficient), with external financing or, as is usually the case, with a combination of the two. Another significant obstacle concerns the bureaucratic procedures necessary for the creation of a company, though this aspect is closely related to the relevant policies and red tape in each country, so that there are differences in the extent of this problem from one country to another (European Commission, 2002a).

For their part, Pihkala and Vesalainen (2000), in a

study carried out in Finland, found the main obstacles for entrepreneurs to be the following: 1) the *change in way of life* involved in working for oneself; 2) the *financial risk*: fear of losing one's private property and incurring debts; financial uncertainty; etc.; 3) *lack of abilities and skills* for entrepreneurship; 4) *social risk*: fear of becoming a laughing stock if the business idea fails, and being stigmatized as a loser or failure; and 5) *lack of commitment* to pursuing a professional career based on self-employment.

Finally, there are invisible barriers related to events occurring in the entrepreneur's environment. These are called *invisible* because the entrepreneur does not normally perceive them, and is therefore unaware of their existence. According to Michail (2000), invisible barriers can be classified as *intentional* and *unintentional*. Intentional barriers are created specifically to prevent the entry of new businesses into a given market, or emerge from the support enjoyed by already-existing businesses or industries, thus impeding new companies from competing in the same conditions. On the other hand, unintentional barriers emerge from a lack of social support for the entrepreneur or from a culture that does not value the entrepreneurial spirit. For example, the majority of teachers are products of a highly structured system, and therefore tend to consider and treat their students as future employees, rather than as entrepreneurs (Gasse, 1985).

### Social support

This variable refers to the potential entrepreneur's beliefs and expectations about the support he or she will receive from groups to which he/she belongs (parents, siblings and spouse) and from other reference groups (friends, colleagues and teachers) in the case of setting up a business or going self-employed.

Social support has been considered an important variable in the explanation of a person's behaviour. In the case of entrepreneurial behaviour, some authors, following Ajzen's (1991) Theory of Planned Action to explain choice of professional career, have considered social support, assessed through the subjective norm, as a significant variable for predicting entrepreneurial intention (Alexei & Kolvereid, 1999; Autio, Keeley, Klofsten, Parker, & Hay, 2001; Kolvereid, 1996; Krueger et al., 2000).

On the basis of these theories and studies we propose, as a second hypothesis, that social and work context variables (work experience, education, obstacles and social support) will have a significant influence on entrepreneurial intention.

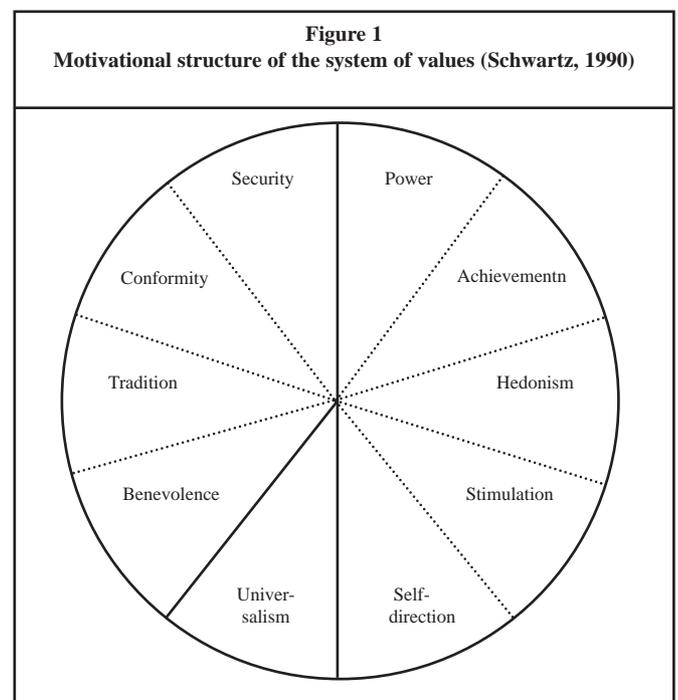
### The personal context

The psychological variables generally included in this context refer to personality traits such as need for achievement, internal locus of control, the capacity for taking risks, perseverance, creativity and initiative (Sánchez-Almagro, 2003). However, taking for granted that all of these personal characteristics are related to entrepreneurial behaviour, in the present work, in line with the objective of broadening the entrepreneurial profile with psychosocial variables, we propose in this context the study of the individualist and collectivist personal values.

Currently, the study of values is taking on a significant role in Work and Organizational Psychology (Alonso, 1999; Martínez-Sánchez & Rocabert, 2000; Ros & Gouveia, 2001). We understand values, like Schwartz (1990), as the individual's conception of the goals that serve as guiding principles of one's life.

By the term *individualism* we refer to those values that express emotional independence with respect to groups and organizations. On the other hand, *collectivism* is associated with emotional dependence on groups with which the person identifies and of which he/she forms part (Morales, López-Sáez & Vega, 1996).

According to Schwartz (1990), values shape the individual's motivational goals, and he proposes a circular structure of values (see Figure 1) that represents the dynamic relationships between values according to principles of compatibility and logical contradiction.



According to this circular structure, the pursuit of adjacent values (e.g., power and achievement, or stimulation and self-direction) is compatible, whilst the pursuit of opposing values (e.g., power and universalism) would generate conflict.

The ten types of values proposed by Schwartz would be grouped within the dimensions of individualism and collectivism. Thus, individualists would emphasize *power*, *achievement*, *hedonism*, *stimulation* and *self-direction*, whilst collectivists would tend to give most importance to *benevolence*, *tradition* and *conformity*. Finally, *universalism* and *security* would be mixed types of values that could be found in either of the two dimensions.

As regards the study of values in entrepreneurs, little research has been done up to now. Nevertheless, the few studies that have been carried out indicate a significant relationship between certain values of an individualistic nature and entrepreneurial behaviour. Thus, Kecharananta and Baker (1999) found significant differences between the values of Thai entrepreneurs and company employees using the SYMLOG instrument (Polley, Hare & Stone, 1988). Specifically, entrepreneurs scored higher in *individualism*, *independence* and *resistance to authority*. Similarly, in an exploratory study carried out in Spain, Moriano, Palací and Trejo (2001) observed a tendency for entrepreneurs to be inspired by individualistic values, such as *hedonism*.

Thus, in the third hypothesis of this work it is proposed that the personal context variables (individualist and collectivist values) will present a significant relationship with entrepreneurial intention in university students.

## METHODOLOGY

### Participants

Participants in this study were 601 university students from the Autonomous Region of Castilla y León (northern Spain), 34.9% men and 65.1% women, with an age range of 18 to 30 years ( $M=22$ ,  $SD=2.61$ ). Of the total 601, 46.8% were on diploma or technical engineering courses, 52% were on degree or higher engineering courses, and 1.2% were postgraduates. As far as areas of knowledge were concerned, the distribution was as follows: Experimental Sciences (31.3%), Economic and Business Sciences (21.2%), Technical Sciences (14.3%), Humanities (13.4%), Social Sciences (12.3%), Juridical Sciences (5.4%) and Health Sciences (2.1%).

### Instrument

Participants filled out a booklet of questionnaires with the following sections:

- *Personal data*: Age, sex, place and province of residence.
- *Academic education*: Level, field and institution.
- *Career intention* (on a scale of 1 to 10): With regard to the following career choices: a) starting your own business or going self-employed, b) working as an employee in a private company, c) taking public examinations in order to work as a governmental employee.
- *Reduced version of the SVS (Survey Values Scale)* (Schwartz, 1987; adapted by Ros and Grad, 1991). We selected those specific values that allowed better discrimination between entrepreneurs and non-entrepreneurs according to the results obtained by Moriano, Palací and Trejo (2001). This reduced questionnaire was made up of two lists and a total of 34 specific values (see Table 1 and Appendix 1). The response scale was nine-point, ranging from “opposed to my values” (-1) to “of supreme importance” (7). Reliability of this scale is satisfactory, with a Cronbach’s alpha of .78.
- *Family aspects*: We asked whether “any member of your immediate family (parents, siblings or grandparents) has or has had their own business”. Response options were “yes” or “no”.
- *Work experience*: Respondents were asked the following questions: “Do/Did you work at the same time as you are/were studying”, and “Have you ever undertaken any temporary activities or business from which you have earned money”. Response option for each question was “yes” or “no”.
- *Support for entrepreneurship your educational institution*: In this case participants responded, using a 5-point scale (from 1= not at all, to 5 = a great deal), to five items designed to measure the extent to which they had been prepared for entrepreneurship at the higher education institution where they studied (see Appendix 2). Reliability of this scale can be considered satisfactory, as it obtained a Cronbach’s alpha of .72. Since the scale was developed specifically for the present research, we carried out a principal components factor analysis and *Varimax with Kaiser* normalization. By means of this analysis we found two factors that explained 68.64% of the variance. These factors correspond to *stimulation of entrepreneurship and activities related to entrepreneurship*.
- *Social support*: This was a scale developed by Sánchez-Almagro (2003) on which participants must indicate how their spouse, parents, siblings, friends, colleagues and teachers would influence them if they

decided to set up their own business or go self-employed. The response scale was 5-point Likert-type, ranging from 1 (opposition) to 5 (help). The reliability of this scale was also satisfactory, as it obtained a Cronbach's alpha of .70. By means of principal components factor analysis and *Varimax with Kaiser* normalization we found two factors that explained 61% of the variance. The first of these was called *support from the "belonging" group* (spouse, parents and siblings) and the second was called *support from the reference group* (friends, colleagues and teachers).

- *Obstacles to starting a business*: This scale was made up of 9 items to which participants responded using a Likert scale of 1 to 5 (see Appendix 3). The instrument obtained a Cronbach's alpha of .70, so that its reliability can be considered satisfactory. As with the previous scale, we carried out a principal components factor analysis and *Varimax with Kaiser* normalization, which revealed three factors that explained 56.25% of the variance. The factors found were called: 1) *External barriers* – financial and bureaucratic obstacles; 2) *Inhibitory barriers* – lack of work experience, of education/training and of understanding of business; and 3) *Invisible barriers* – lack of agreement with business partners and of support from family, friends, etc.

### Procedure

The booklet of questionnaires was applied during lecture time. Participation was voluntary and confidentiality of data guaranteed. According to the instructions given to participants the study was basically aimed at the exploration of different aspects related to their education, and at no time was the true objective of the research revealed. The institutions at which the questionnaires were administered were as follows: University of Salamanca (32.6%), University of Burgos (32.4%), University of Valladolid (21.5%), SEK University (6.4%), University of León (3.8%) and UNED (3.3%).

## RESULTS

### Descriptive results

When participants were asked about their career intention, that of starting a business or going self-employed was the option which scored lowest ( $M=5.03$ ,  $SD=2.59$ ). The students in our sample showed a high level of intention to pursue a career in a private company ( $M=7.87$ ,  $SD=1.95$ ) and a moderate level of intention to work in the public sector ( $M=6.16$ ,  $SD=2.88$ ).

Next, we analyzed whether the different career intentions were compatible or mutually exclusive options. As can be seen in Table 2, the correlation between intention to work for oneself (the entrepreneur option) and to work for an organization (private or public) was significantly negative. Consequently, the higher the intention to become an entrepreneur, the lower the intention to work in the public sector or for a private company, and vice versa.

Thus, we considered it interesting to find out the percentage of students with greater intention to set up their own business, as opposed to working as an employee. Our analysis showed that just 11.5% of the students reported a greater intention to pursue a professional career based on self-employment than to seek a job in a private firm or the public sector.

Having analyzed the criterion variable of this study, we move on to describing the main psychosocial variables involved in the family, social and work and personal contexts, according to Sonnenfelt and Kotter's (1982) model. As can be seen in Table 3, over half of the participants have close relatives with their own business, or who have had a business in the past. Likewise, almost half of the students have work experience. However, only 18% have ever been involved in temporary entrepreneurial activity or small businesses.

**Table 1**  
Classification of the values of the scale according to Schwartz's typology

Dimensions	Types of value	Specific values
Individualism	Power	Wealth, public image, social recognition.
	Achievement	Ambitious, successful, capable.
	Hedonism	Pleasure, enjoyment of life.
	Stimulation	Varied life, exciting life, daring.
Mixed	Self-direction	Creativity, freedom, choosing one's own goals, curiosity, independence.
	Universalism	Social justice, equality, world peace, wisdom.
	Security	Family security, social order, reciprocity of favours.
Collectivism	Benevolence	Helping, loyalty responsibility, honesty, true friendship.
	Tradition	Accepting my role in life, respecting tradition, humility, moderation.
	Conformity	Obedience, good manners, honouring parents and elders.

**Table 2**  
Pearson correlation between different types of intention

Career intention	1	2	3
1. Entrepreneurship	-		
2. Private company	-.135**	-	
3. Public sector	-.228**	.045	-

\*\* Correlation is significant at the .01 level (bilateral)

As regards educational aspects related to entrepreneurship, just 20% of the students have attended any seminars or lectures about entrepreneurship. Indeed, our participants report that within the university context there is little stimulation in relation to entrepreneurship, and few activities concerning the creation of new companies. Moreover, they consider as substantial the barriers (external, inhibitory and invisible) to starting a new business or going self-employed.

As far as social support is concerned, participants believe that their relatives (parents, siblings and spouse) would encourage them to pursue an entrepreneurial career, whilst those in their reference group would be indifferent.

**Table 3**  
Descriptive statistics

	Frequency	Percentage
Entrepreneurial family	323	54.3%
Work experience	270	45.2%
Entrepreneurial experience	108	18.3%
Attendance at entrepreneurship seminars	120	20%
	<b>Mean</b>	<b>SD</b>
Stimulation towards entrepreneurial	1.75	0.72
Entrepreneurial activities	1.67	0.67
Support from belonging group	4.12	0.78
Support from reference group	3.63	0.50
External barriers	3.79	0.60
Inhibitory barriers	3.77	0.68
Invisible barriers	3.68	0.79
Individualist values	4.28	0.74
Mixed values	4.98	0.70
Collectivist values	4.54	0.82

**Table 4**  
Pearson correlation between variables

	Entrepreneurial intention
Gender	.145**
Family	.209**
Work experience	.153**
Entrepreneurial experience	.168**
Attendance at entrepreneurial seminars	.187**
Stimulation towards entrepreneurship	.171**
Entrepreneurial activities	.029
Support from belonging group	.155**
Support from reference group	.058
External barriers	-.061
Inhibitory barriers	-.103**
Invisible barriers	-.006
Individualist values	.207**
Collectivist values	-.122**
Mixed values	-.031

\*\* Correlation is significant at the .01 level (bilateral)

### **Correlations between psychosocial variables and entrepreneurial intention**

We now present the correlations between, on the one hand, the variables making up the family, social/work and personal contexts, and on the other, entrepreneurial intention. Table 4 shows how the variables involved in the family context present a positive and significant correlation with entrepreneurial intention.

As regards the social/work context variables, both work experience and entrepreneurial experience correlate positively and significantly with entrepreneurial intention. As far as the variables related to education are concerned, attendance at seminars and stimulation for entrepreneurship at university also correlate positively and significantly with entrepreneurial intention. However, having performed activities related to entrepreneurship shows no significant correlation with entrepreneurial intention.

For its part, social support correlates positively and significantly with entrepreneurial intention when it comes from the “belonging” group, but this is not the case for the reference group. Likewise, with regard to the obstacles to setting up a business, only the so-called “inhibitory barriers” present a significant correlation with entrepreneurial intention, though in this case it is a negative one.

As regards the individualist and collectivist values that make up, in this study, the personal context, they show different types of correlation depending on their type. Thus, individualist values correlate positively and significantly with entrepreneurial intention, whilst collectivist values show a significant but negative correlation with it. Mixed values do not correlate significantly with the students’ intention to set up a business or go self-employed.

### **Regression analysis**

With the aim of ascertaining whether the psychosocial variables involved in the contexts described by Sonnenfelt and Kotter’s (1982) model permit us to predict entrepreneurial intention, we carried out a regression analysis. In this analysis we included as predictor variables in the regression equation the variables that showed a significant correlation with entrepreneurial intention.

As it can be seen in Table 5, the model made up of these variables permits the explanation of 25.3% of participants’ entrepreneurial intention. Specifically, the variables in the family context obtain highly significant beta weights and explain 6.9% of entrepreneurial intention. Thus, being male and having an immediate

relative who is an entrepreneur are significantly related to intention to pursue an entrepreneurial career.

The variables making up the social/work context explain the highest percentage of entrepreneurial intention, 19.8%. Worthy of note are the beta scores for social support, attendance at seminars on self-employment, stimulation for self-employment at university and work experience as an entrepreneur. In contrast, inhibitory barriers obtain the lowest beta weight, and their impact on entrepreneurial intention, moreover, is negative. Hence, it is obvious that the more importance people give to the inhibitory barriers to setting up a business, the lower will be their intention to embark on a career revolving around entrepreneurship.

Finally, individualist and collective values, which represent in our study the only variable in the personal context, permit the explanation of 5.5% of entrepreneurial intention and increase highly significantly the regression coefficient of the general model. As regards the impact of these variables, individualist values obtain the highest beta score and show a highly positive relationship with entrepreneurial intention. On the other hand, collectivist values show a significant but negative relationship with entrepreneurial intention.

#### Answer tree

The answer tree (*answer tree*) is a statistical tool that allows us to characterize subjects using a systematic strategy for observing the study variables in a stepwise manner. This segmentation technique indicates the extent to which the characterization obtained (profiles) permits correct classification of the participants (goodness of fit of the categorization model).

The method employed for developing the answer tree is the Exhaustive CHAID. This method uses the “chi-squared” or “F” statistics for selecting the predictors. Each division can have several nodes. The criterion variable is entrepreneurial intention, which divides into two categories: high and low entrepreneurial intention. Mean score (5.03) was used as the criterion for this division. As predictor variables we included all the variables making up the family, social/work and personal contexts. The variable with the greatest weight forms the trunk, and this branches out with other variables of less weight, which proceed to improve the probability of the criterion variable.

As Figure 2 shows, the answer tree is made up of a first trunk composed of groups with “low entrepreneurial intention” (59.40%) and “high entrepreneurial intention” (40.60%). From this branch it can be seen that

“individualist values” is the variable that best discriminates. If the score in this type of values is high, between 5 and 6.07, the probability of becoming an entrepreneur is 62.81% for 20.13% of the total sample.

On the other hand, if the score in individualist values is between 3.85 and 4.57, then the probability of becoming an entrepreneur is only 35.94%. However, within this group there appears another branch towards “entrepreneurial family”, so that if a member of one’s immediate family is an entrepreneur, the probability of becoming an entrepreneur rises to 46.61% for 19.63% of the total sample.

Likewise, when the score in individualist values is low, between 1.71 and 3.85, the probability of becoming an entrepreneur falls to 21.05%, but if we take into account work experience in this group, then the probability of becoming an entrepreneur improves, rising to 33.93% for 9.32% of the total sample.

In order to assess the predictive capacity of the model it is necessary to examine the classification matrix of the total sample. This matrix compares the type assigned by

**Table 5**  
Regression analysis

		Entrepreneurial intention
		-
<b>Model 1</b>	<b>Gender</b>	.149***
	<b>Entrepreneurial family</b>	.214***
	<b>F</b>	<b>19.968***</b>
	<b>R2</b>	<b>.069</b>
<b>Model 2</b>	<b>Gender</b>	.156***
	<b>Entrepreneurial family</b>	.172***
	Work experience	.088*
	Entrepreneurial experience	.114**
	Attendance at self-employment seminars	.164**
	<b>Stimulation towards self-employment</b>	.123**
	<b>Inhibitory barriers</b>	-.083*
	<b>Support from belonging group</b>	.188***
	<b>F</b>	<b>16.358***</b>
		<b>R2</b>
	<b>R2</b>	<b>.129***</b>
<b>Model 3</b>	<b>Gender</b>	.111**
	<b>Entrepreneurial family</b>	.158***
	Work experience	.074*
	Entrepreneurial experience	.085*
	Attendance at self-employment seminars	.162***
	<b>Stimulation towards self-employment</b>	.108**
	<b>Inhibitory barriers</b>	-.082*
	<b>Support from belonging group</b>	.185***
	<b>Individualist values</b>	.205***
	<b>Collectivist values</b>	-.144***
	<b>F</b>	<b>17.898</b>
	<b>R2</b>	<b>.253</b>
	<b>R2</b>	<b>.055***</b>

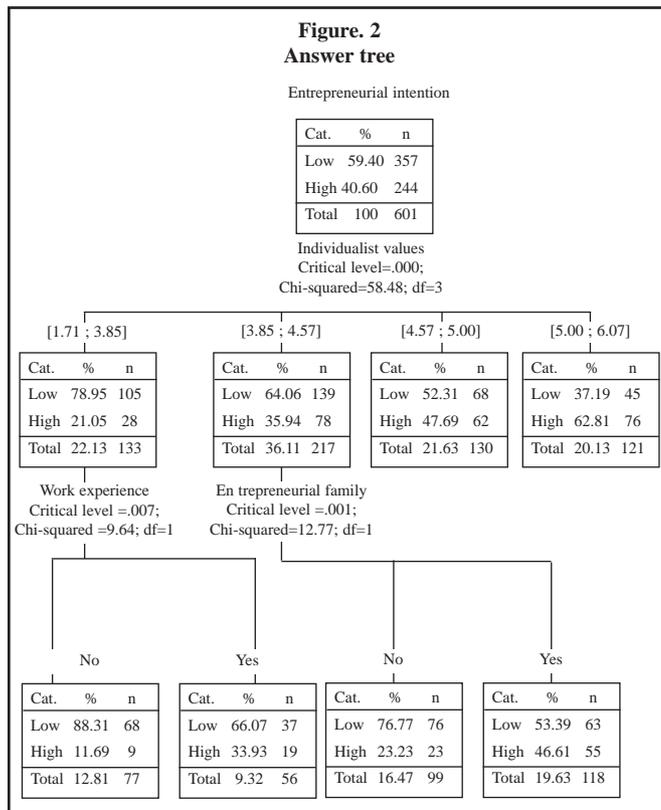
\* p<.05 \*\*p < .01 \*\*\*p < .001

means of the tree with the type actually recorded. Estimation of risk reveals the proportion of cases classified incorrectly. In Table 6 it can be seen that the estimation of risk of this answer tree attains a value of .35, indicating that 65% of cases are correctly classified.

## CONCLUSIONS

In the present study we have reviewed the literature on different psychosocial variables associated with entrepreneurial intention in university students. Following the model of Sonnenfelt and Kotter (1982), these variables have been grouped in three contexts, family, social and work, and personal. The results show that the intention to set up a business or to go self-employed is related to the variables in these three

		True category		
		Low	High	Total
Estimated category	Low	312	168	480
	High	45	76	121
	Total	357	244	601
		Re-estimation		
Estimation of risk		.354		
ET of risk estimation		.019		



contexts. Furthermore, these psychosocial variables allow us to explain 25.3% of the students' entrepreneurial intention.

A contribution that we should like to highlight, given the dearth of empirical studies dealing with this question, is the relationship between personal values and the intention to pursue one's professional career in self-employment. Thus, we found that individualist values (power, achievement, hedonism, stimulation and self-direction) positively predict entrepreneurial intention. Indeed, analysis of the answer tree reveals that individualist values actually constitute the most important characteristic of the psychosocial profile of the university entrepreneur (in the sense of the student with entrepreneurial intention).

We feel that the results reported in the present work are of considerable relevance for the professional education and training and careers guidance contexts. If our society demands greater numbers of entrepreneurs, it will be necessary to take into account these variables that make up the psychosocial profile of the university entrepreneur. Thus, in this study we have shown how work and entrepreneurial experience, attendance at seminars on starting businesses, stimulation toward entrepreneurship in educational institutions, social support from one's family and friends and individualist values are important psychosocial aspects for the development of entrepreneurial intention.

In our view, entrepreneurship should be presented to students as a career option, since one of the fundamental problems in our educational system and our society is the low entrepreneurial intention among young people, as revealed in this and in previous studies (García-Montalvo & Peiró, 2001; Moriano, 2005).

In this regard, intention models demonstrate their utility for understanding entrepreneurship and the factors that can influence it, offering a coherent, parsimonious, highly generalizable and robust theoretical framework that provides an excellent opportunity to increase our capacity to comprehend and predict entrepreneurial activity from an interactionist perspective that takes into account both people and the contexts in which they operate (Krueger et al., 2000).

Likewise, models based on intention permit us to improve the identification of personal viability and the credibility of opportunities. Teachers, advisors, careers guidance personnel and entrepreneurs should take advantage of the improved tools for understanding how intentions are formed, and of the specific knowledge available on how attitudes, beliefs and perceptions are combined in the intention to start a new business.

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**APPENDIX 1**  
**REDUCED VERSION OF THE SURVEY**  
**VALUES SCALE QUESTIONNAIRE**

On this questionnaire you must ask yourself “What values are most important to me as life-guiding principles? and “What values are less important to me?”.

For assessing the importance of each value for you as a life-guiding principle, please use the following scale:

AS A LIFE-GUIDING PRINCIPLE FOR ME, this value is:

- 1	0	1	2	3	4	5	6	7
Opposed to my values	Not at all important		Important				Very important	Of supreme importance

- 1 : Use this to indicate any value that is opposed to the principles that guide your life.

7 : Use this to indicate any value that is of supreme importance to you as a life-guiding principle (generally, there are no more than two values of this type).

**LIST ONE**

Give a score indicating the importance of the values on the following list as life-guiding principles for you.

Read carefully the values from 1 to 17. You should choose what is most important for you and assess its importance. Choose the value most strongly opposed to your principles and assign it a score of - 1. If there is no such value on the list, you should select the least important one for you and give it a score of 0 or 1, according to its importance. Then assess the rest of the values up to and including number 17.

1 EQUALITY	<i>Equality of opportunity for all.</i>
2 PLEASURE	<i>Satisfaction of desires.</i>
3 FREEDOM	<i>Freedom of action and thought.</i>
4 SOCIAL ORDER	<i>Stability in society.</i>
5 EXCITING LIFE	<i>Stimulating experiences.</i>
6 SOCIAL RECOGNITION	<i>Respect, approval of others.</i>
7 WEALTH	<i>Material possessions, money.</i>
8 CREATIVITY	<i>Originality, imagination.</i>
9 WORLD PEACE	<i>Free of wars and conflicts.</i>
10 FAMILY SECURITY	<i>Tranquillity with one's loved ones.</i>
11 GOOD MANNERS	<i>Courtesy, politeness and good manners.</i>
12 VARIED LIFE	<i>Full of challenges, novelty and changes.</i>
13 RECIPROCITY OF FAVOURS	<i>Avoidance of being in the debt of others.</i>
14 WISDOM	<i>Mature understanding of life.</i>
15 SOCIAL JUSTICE	<i>Correcting injustices, concern for the weak.</i>
16 TRUE FRIENDSHIP	<i>Close friends who support me.</i>
17 WORK	<i>Earning a living in a dignified way.</i>

**LIST TWO**

Now give a score indicating the importance of the values on the following list as life-guiding principles for you. These values are expressed as forms of behaviour that may be more or less important to you.

Remember: Read values 18 to 34. You should choose the most important one for you and assess its importance. Choose the value most strongly opposed to your principles. If there is no such value on the list, you should select the least important one for you and give it a score of - 1, 0 or 1. Then assess the rest of the values.

18 INDEPENDENT	<i>Self-confident, self-sufficient.</i>
19 MODERATE	<i>Avoiding extremes in feelings and actions.</i>
20 LOYAL	<i>Faithful to my friends, to my group.</i>
21 AMBITIOUS	<i>Hardworking, with high aspirations.</i>
22 OPEN	<i>Tolerant to different ideas and beliefs.</i>
23 HUMBLE	<i>Modest, going unnoticed.</i>
24 DARING	<i>Seeking adventure and risk.</i>
25 HONOUR PARENTS AND ELDERS	<i>Showing them respect.</i>
26 CHOOSE OWN GOALS	<i>Selecting my own objectives.</i>
27 CAPABLE	<i>Competent, effective.</i>
28 ACCEPT ROLE IN LIFE	<i>Bending to the circumstances of life.</i>
29 HONEST	<i>Genuine, sincere.</i>
30 OBEDIENT	<i>Fulfilling duties and obligations.</i>
31 HELPING	<i>Working for the well-being of others.</i>
32 ENJOY LIFE	<i>Enjoying food, sex and leisure.</i>
33 RESPONSIBLE	<i>Trustworthy, reliable.</i>
34 SUCCESSFUL	<i>Achieving goals.</i>

**APPENDIX 2**  
**SCALE OF SUPPORT FOR ENTREPRENEURSHIP**  
**FROM EDUCATIONAL INSTITUTION**

Indicate the extent to which the following are true of your academic education/training:

1: None at all    2: Slight    3: Reasonable    4: Considerable    5: Very

1. Visits to companies were organized.
2. There were talks or lectures related to your future career, given by entrepreneurs.
3. You received information related to self-employment (working for yourself or starting a business).
4. The institution where you studied or are studying now stimulates entrepreneurship, i.e., encourages its students to set up their own businesses.
5. When lecturers refer to or give examples of students' professional future, they do so assuming that students will in the future:

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

- a. Work in the public sector.
- b. Work in a private company.
- c. Run their own business.

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

**APPENDIX 3**  
**SCALE OF OBSTACLES TO STARTING A BUSINESS**

How much importance would you give to the following difficulties and obstacles for setting up your own business or working self-employed?

1: No importance    2: Little importance    3: Some importance    4: Considerable importance    5: Supreme importance

Lack of idea about business.	1	2	3	4	5
Lack of work experience.	1	2	3	4	5
Lack of education/training.	1	2	3	4	5
Lack of financing.	1	2	3	4	5
Lack of help/subsidies.	1	2	3	4	5
Bureaucracy (red tape).	1	2	3	4	5
Lack of advice/information.	1	2	3	4	5
Lack of agreement with business partners.	1	2	3	4	5
Lack of support from family, friends, etc.	1	2	3	4	5