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## ENTREPRENEURIAL INTENTIONS ON HIGHER EDUCATION STUDENTS

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### **ABSTRACT**

*Entrepreneurship is an issue that causes a lot of controversy. Some people assert that becoming an entrepreneur is a solution for young students; some others argue that this statement is not so obvious, since the implementation of a business demands investment and requires capital, capital that is not easy to obtain. This article looks at a sample of 275 college students in Portugal and seeks to investigate if there is any relationship of entrepreneurial intentions of university students and some variables as training areas, higher education institutions, gender, age and family influences. To achieve this goal, a survey was carried out to college students, trying to understand how the training schools encouraged the creation of an entrepreneurial culture, in what extent students were motivated to entrepreneurship and what are their intents for the future. The results demonstrate that entrepreneurial education is the basis of cultivating the entrepreneurial spirit in college students. The training areas, the ambition of having his/her/own business, having a great idea and having family's history of entrepreneurial characteristics are the main causes that influence entrepreneurial intentions in college students.*

### **KEYWORDS**

*Entrepreneurship, Innovation, Higher Education students.*

### **1. INTRODUCTION**

Entrepreneurship is crucial for economic growth and development and more and more researchers, politics and society are aware of its importance (Dieguez, 2018). The field greatly evolved, and at the same time, a constant need to deal with real problems emerged, from firm creation to industrial growth, including firm strategy and economic policy. Economic, sociological, and managerial academics began to devise a detailed and interpretative framework for the study of entrepreneurship. Many researchers came from different fields, new areas of investigation were embraced, thereby recognizing that powerful mechanisms are at work in entrepreneurship and require systematic analysis. (Burger-Helmchen, 2012).

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The impact of entrepreneurial activity and the creation of new businesses on the economic growth of a country and the generation of jobs is recognized worldwide. The level to which a society stimulates entrepreneurial activity, as opposed to stimulating an individual to select a career as an employee, differs among nations, and within the different social groups of a nation. The reasons mentioned for these variations include cultural details (e.g., Altinay & Basu, 2002), business environment reasons (Acs et al., 2005), psychological explanations (e.g., Koh, 1996) or a mix of these.

Demographic, family and professional history, training and academic qualifications, attitudes, values and motivations are the most studied features on the economic literature (Dinis e Ussman, 2006). If some of these characteristics are more objective, such as demographic, family and professional background, training and qualification - since they are more descriptive in nature - others such as motivation, attitudes and values, derive from the profile of the entrepreneur as an individual, and therefore are more subjective, complementing themselves in the characterization of the entrepreneur (Castro & Dieguez, 2014).

The article is organized as follows: section 2 presents a review of the literature on the main factors that explain entrepreneurial behaviour, the main competencies that characterize an entrepreneur and its relationship with entrepreneurship education. In section 3., the methodology developed for data collection is described. The results of the questionnaire surveys and the discussion of these for the performance of the empirical work are dealt with in points 4 and 5. Finally, in point 6, the main points raised by this article are discussed, their main points limitations and some clues are indicated for future research in this area.

## **2. LITERATURE REVIEW**

According to Joseph Schumpeter (1985), entrepreneurship is being innovative to the point of creating the conditions for a radical transformation of a particular sector, branch of activity or territory, where the entrepreneur acts: a new cycle of growth capable of promoting a rupture in the continuous economic flow. An entrepreneur is a person responsible for economic development, for the introduction and implementation of innovative ideas that lead to innovations in product, process, marketing and organizational innovations (Vieira, 2014).

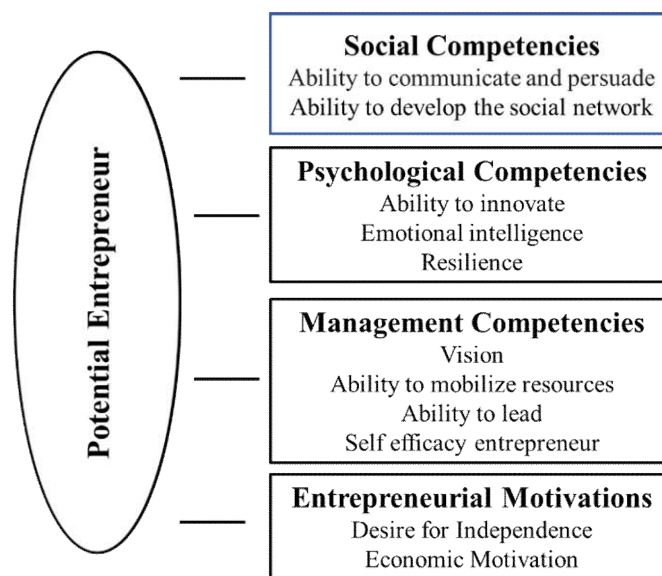
Given the current situation of Portugal, a country that places the graduates in a situation of difficult access to the labor market, the creation of an entrepreneurial culture is assumed as a fundamental point in higher education, as it promotes economic growth and wealth (Shane, 2004; Goldstein & Drucker, 2006; Kirchhoff et al, 2007, Bramwell & Wolfe, 2008; Colombo et al, 2010; Etkowitz, 2010; Uyarra, 2010; Caniels & van den Bosch, 2011; Garcia Estevez, 2013).

There are many researchers who have been interested in the issue of entrepreneurship (Schumpeter, 1934; Schumpeter, 1942, Drucker, 1969; Barreto, 1989; Drucker, 1985; Drucker, 1986; Fillion, 1990; Bygrave and Hofer, 1991; Fillion, 1995; Christensen, 1997; Brazeal & Herbert, 1999; Dornelas, 2001; Christensen, 2003; Christensen, 2004; Hisrich et al, 2007; Carsud & Brännback, 2011; Castro & Dieguez, 2014; Cruz et al, 2013; Pfeilstetter, 2013; Sarkar, 2014) and there are lots of articles related to entrepreneurial intentions in university students (Hernandez-Gantes, 2004; Kwok-Yiu et al, 2012; Rosário, 2012; Sudharson, 2013; Mueller & Anderson, 2014; Stamboulis, 2014; Palmer et al, 2015; Saeed, 2015).

Among the studies carried out, one that has proved pertinent to address in this article focuses on the factors that explain the entrepreneurial behavior in the individual. For Miziara and Carvalho (2008), the factors that influence entrepreneurship in a more relevant way are the motivational factors, such as personal fulfillment, the potential of new technologies, the desire for independence, the business opportunity and the more active search for achieving their goals. Drucker (2006) argues that in addition to these psychological factors there are others that prove to be relevant to have in mind such as creativity, self-efficacy, propensity to innovate, leadership, ability to share and communicate, confidence, assumption of risks. Ability to make decisions, to make sacrifices and humility (G.N. & M.M., 2008).

Individuals who hold examples of entrepreneurs in the family, have a better perception of how to manage a personal business and how this may be a profitable source of acquiring income. Based on Sing and Denoble (2003) and Laspita et. al (2012) entrepreneurial intentions may arise from genetic factors predisposing individuals with a family history in the business areas to develop a business. However, there are many entrepreneurs who have no family history in this area. (S., N., S., & H., 2012)

Santos (2010) presents a conceptual model developed based on the literature (figure 1), which addresses the issue of psychological, social and managerial competencies, as well as the entrepreneurial motivations that, when combined, empower a potential entrepreneur.



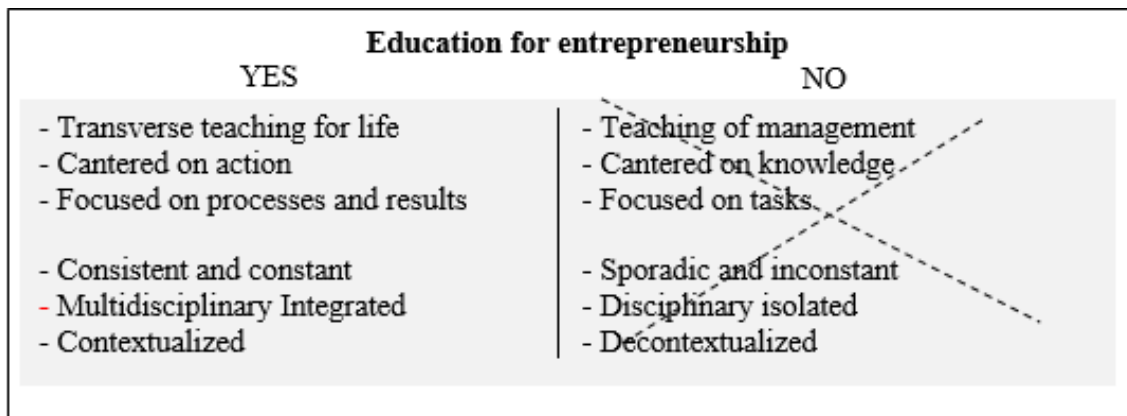
**Figure 1. Conceptual model on competences that influence an entrepreneur**  
**Font: adapted from Santos (2010)**

If on the one hand there are psychological, social and managerial skills that are born with citizens and boost their entrepreneurial attitude, on the other hand the European Commission in 2006 dictated that governments should seek to instill in students skills such as creativity, innovation and active search problem solving through the creation of entrepreneurial institutions or schools with the aim of training competent people with entrepreneurial attitudes that would contribute positively to the development of a country (Imaginário, Cristo, Jesus, & Morais, 2014).

Timmons and Stevenson (1984) say that education for entrepreneurship begins with education and “entrepreneurship is a lifelong learning where the best way to learn is to combine life experiences with formal education” (Teixeira, 2012; Rauch & Hulsink, 2015; Bullough, 2015; Başçı & Alkan, 2015; Jansen et al, 2015; Walter et al, 2015).

Based on Cláudia Teixeira (2012), the one who benefits from entrepreneurship education acquires and develops entrepreneurial skills. Under this logic, the National Plan for Education for Entrepreneurship (PNEE) defines three levels of action (elementary education, secondary education and higher education / vocational training), highlighting the two first levels accordingly to its target audience. Elementary education concerns basic education where teaching for entrepreneurship seeks to create personal qualities as a spirit of initiative, creativity and autonomy, thus contributing to an entrepreneurial attitude that will become an asset in personal life and in the development of professional activity. Higher education / Vocational education, related to Secondary education, in addition to promoting the personal characteristics of students seeks to raise awareness for the opening of personal business - that is, self-employment as a possible career to follow.

In this sense, it is possible to defend that the concept of education for entrepreneurship may be perceived as following (figure 2):



**Figure 2. Education for Entrepreneurship**  
Font: adapted from Teixeira (2012)

In terms of conclusion it is crucial to pose the following question: Can entrepreneurship be taught or is it part of an individual's DNA? An article by Joaquim Junior and Marlos da Silva (2015) mentions a study done by professors from the 15 best American universities that shows that 93% of the respondents agree that entrepreneurship can be taught, affirming that the key to development promising process relies on education. By increasing students' awareness of entrepreneurship, it facilitates and encourages the development of entrepreneurial actions. However, at the heart of the question is the extent to which the education system can promote the formation of an entrepreneurial culture (Joaquim Júnior, 2015).

### 3. METHODOLOGY

It was developed a specific questionnaire, published in social networks (facebook, twitter), shared by the email contacts of the author, radio and by the students of the School of Industrial Studies and Engineering (ESEIG-IPP), from the Polytechnic Institute of Porto, Portugal.

Assuming a sample of 275 university students, the questionnaire called "Entrepreneurial Intentions in University Students" addresses issues that characterize the person (gender, age, training area, among others), entrepreneurial intent (will to create a business, entrepreneurial idea, relation of the area of formation with enterprising intention, among others), and finally a set of questions of suggestive character. With this set of data, it is possible to establish relations that allow to study if in its generality the university students have entrepreneurial intentions, or if in turn there is a very specific niche that holds these intentions.

Within this study we intend to verify if: i) gender and age; ii) geographical location; iii) institution of higher education and iv) family interfere with the entrepreneurial intentions of university students.

For the treatment of data, we used the SPSS. The stepwise multiple regression linear regression and ANOVA test was used.

#### 4. RESULTS

A campaign was launched on Facebook (aimed at people aged between 17 and 64, residing in mainland Portugal, who completed or attended higher education -postgraduate, bachelor, master's or doctoral). The questionnaire was viewed by 2969 people, of which 26 interacted with the publication. In addition, the survey link was shared in Facebook groups associated with universities and polytechnics from North to South of the country, complemented by social networks such as LinkedIn and Twitter for its dissemination. The questionnaire was disseminated through the ESEIG-IPP e-mail platform and 1414 e-mails were sent to students enrolled in ESEIG in the year 2015 / 2016 (from these 1414, 415 students opened the email). The survey was viewed by about 5000 people. 365 of these people started the questionnaire response, but only 275 people finished it (valid answers).

60% of the respondents are female (figure 3), a reason that can be explained by the turning point given in 1986, where most university students stopped being male and began to be female, and this difference has been growing along of time. Reaching in 2014, date of the last observations, a positive difference of 25696 students female prevailed over men. On the other hand, a greater response of female respondents may still be justified by the predisposition of both genders to participate in such actions (surveys, interviews, symposia, among others) (DGEEC/MEC, 2015).

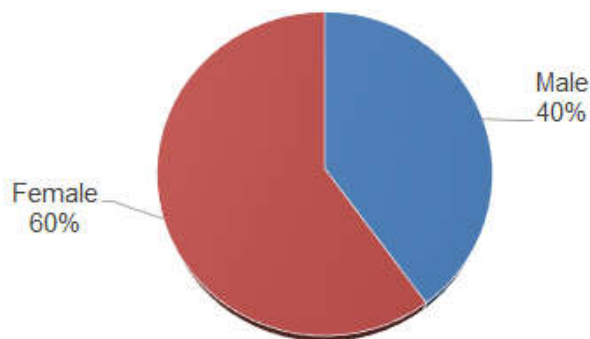
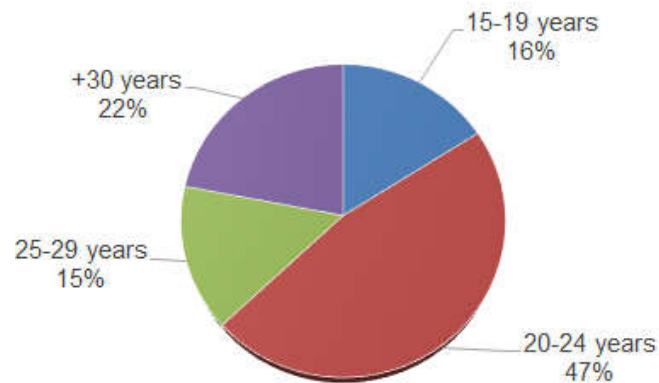


Figure 3. Gender of respondents

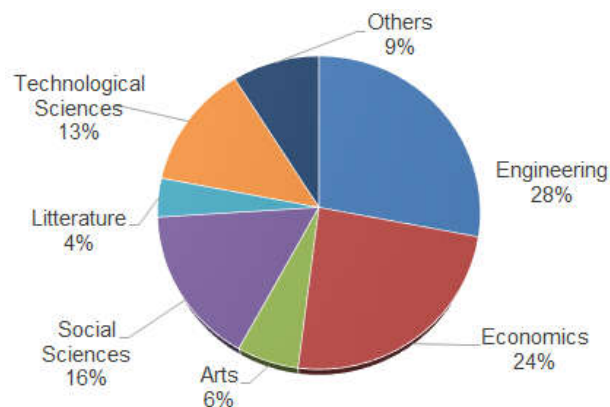
Regarding the age of the respondents (figure 4), 47% of the students who answered this survey are between the ages of 20 and 24 years. 16% between the ages of 15 and 19 years. The third largest group with about 15% of the answers concerns ages has between 25 and 29 years. The remaining 22% correspond to respondents aged over 30 years. The occurrence of approximately 78% of the responses among people under the age of 30 can be explained by the fact that today most students who complete compulsory schooling (12th grade) go directly to college and continue their studies on higher education. This way of being is rooted in the mentality of the current Portuguese society and is justified by the high rate of unemployment and the socio-economic situation. In this sense, it is possible to affirm that the students of the secondary school choose to invest in its formation as an opportunity to develop a race of easier form, justified by the facility to emigrate.



**Figure 4. Age of respondents**

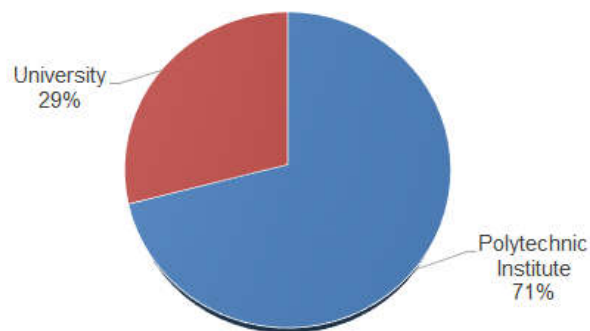
Concerning the number of responses made according to the geographical area, it seems that the difference between the North and the other regions is overwhelming, with 87% of the answers coming from students from the Universities / Polytechnics of the North.

The results obtained at the level of answers about the training area allow us to affirm that about 28% of the respondents are in the engineering area, being this the largest area of answers obtained with the questionnaires. 24% of the respondents questioned are in economical sciences. The remaining answers are centered in the areas of social and technological sciences, education, literature and arts, among others (figure 5).



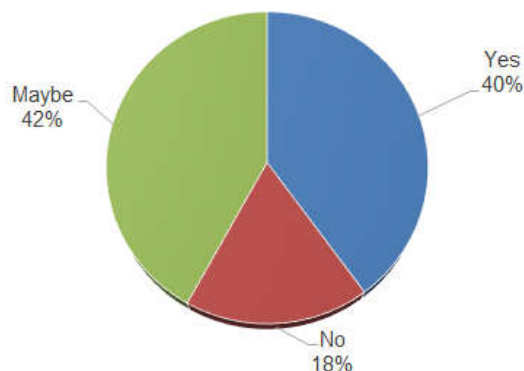
**Figure 5. Geographical area of respondents**

71% of the respondents studied in a Polytechnic Institute and 29% in a University (figure 6). 80.36% have all the students have a bachelor's degree, 16% have master's degrees and the remaining doctoral and postgraduate degrees.



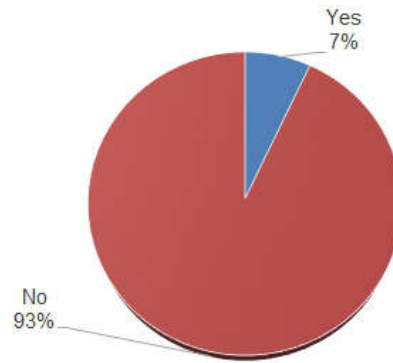
**Figure 6. Higher Institutions attended by the respondents**

Regarding the question where the intention is to understand in which year the training of the interviewee was completed we obtain that approximately 60% of the respondents finished the study of the degree in question in the year 2015 or after. The remaining 40% of the respondents asked about the possibility of creating a business (figure 7), 40% answered affirmatively. 42% are not yet sure whether business creation is the way forward, most likely because of concerns about the risk associated with creating / opening a business of their own.



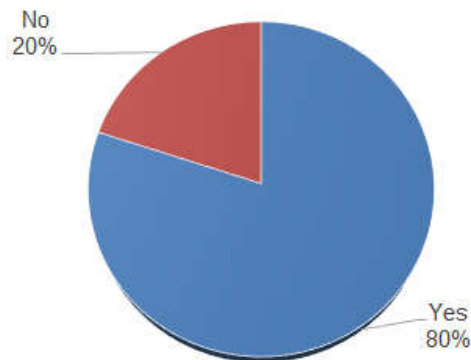
**Figure 7. Ambition to create business**

60% of the respondents answered affirmatively about the possibility of having a viable idea that could result in a business. However, only 7% of them indicated that they came forward with the idea and put it into practice. The others 93% indicated that this had not happened yet (figure 8). This goes against the data above, regarding the fear of people taking risks, which is something impossible to dissociate from entrepreneurship.



**Figure 8. Percentage of the respondents who have realized the fantastic idea**

We also wanted to understand how educational, social and family influences impact the entrepreneurial spirit of respondents. When asked if the training area promotes entrepreneurial ideas, about 80% of the respondents answered affirmatively against 20% of them, who consider that this is not associated (figure 9). Then, asked if the institution where the training is/was obtained promotes entrepreneurial ideas, the answers were similar, and 74% answered affirmatively against 26% who do not share the same opinion. This shows that in fact Higher Education is something that enhances entrepreneurship.

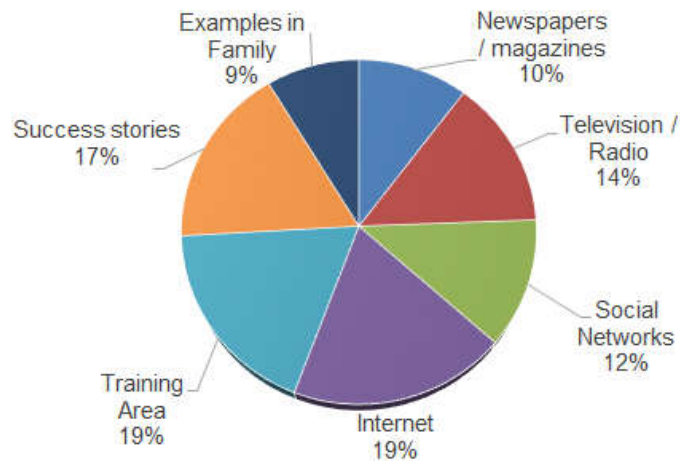


**Figure 9. Training area empowering entrepreneurial ideas**

When approached about the existence of family members with their own businesses, 60% of the respondents gave positive answers, which shows that more than half of people have direct contact with an entrepreneur.

Regarding the influence that the sources of information have on the entrepreneurial spirit we obtained the following results: Newspapers / magazines 10%; Television / Radio 14%; Social Networks 12%; Internet 19%, Training Area 19%; Success stories 17%; Examples in Family 9% (figure 10). This leads us to conclude that, in general, the sources of information have a positive influence on the entrepreneurial spirit, with the Internet showing a greater weight, and the familiar examples a smaller weight.





**Figure 10. Sources of information influence on the entrepreneurial spirit**

53% of respondents see themselves as people with an entrepreneurial spirit. 11% of the respondents gave negative responses and 36% of the respondent’s don’t have opinion about it, which reveals that only a little more than half of the respondents really consider having an entrepreneurial spirit, thus corroborating in a general way the results obtained in the remaining questions (figure 11).

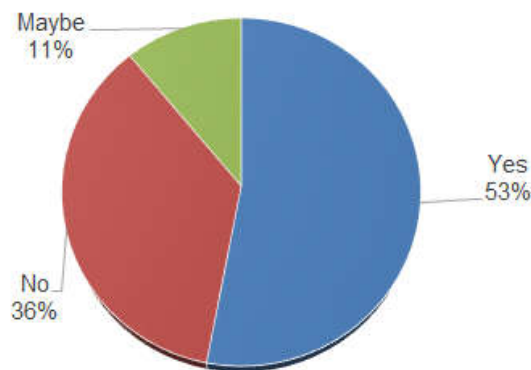


Figure 11. Percentage of respondents who see themselves as people with an entrepreneurial spirit

## 5. DISCUSSION AND RESULTS

Using the SPSS to perform a more detailed statistical treatment, a multiple linear regression model (stepwise) was constructed to determine if the entrepreneurial spirit variable depends linearly on all other variables questioned in our survey. This test was tested for a level of significance of 95%, considered the ideal test level when there is no amplitude of the sample, and the results obtained are translated in tables 1, 2 and 3.

**Table 1. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,266 <sup>a</sup>	,071	,068	,90140	,071	20,946	1	274	,000	
2	,327 <sup>b</sup>	,107	,100	,88553	,036	10,909	1	273	,001	
3	,358 <sup>c</sup>	,127	,117	,87717	,029	8,231	1	272	,013	
4	,376 <sup>d</sup>	,141	,128	,87146	,014	4,561	1	271	,034	2,152

- a. Predictors: (Constant), criar\_neg  
 b. Predictors: (Constant), criar\_neg, confant  
 c. Predictors: (Constant), criar\_neg, confant, polide  
 d. Predictors: (Constant), criar\_neg, confant, polide, antecfami  
 e. Dependent Variable: espempree

**Table 2. ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17,019	1	17,019	20,946	,000 <sup>a</sup>
	Residual	222,633	274	,813		
	Total	239,652	275			
2	Regression	25,574	2	12,787	16,306	,000 <sup>b</sup>
	Residual	214,078	273	,784		
	Total	239,652	275			
3	Regression	30,369	3	10,123	13,156	,000 <sup>c</sup>
	Residual	209,284	272	,769		
	Total	239,652	275			
4	Regression	33,833	4	8,458	11,137	,000 <sup>d</sup>
	Residual	205,820	271	,759		
	Total	239,652	275			

- a. Predictors: (Constant), criar\_neg  
 b. Predictors: (Constant), criar\_neg, confant  
 c. Predictors: (Constant), criar\_neg, confant, polide  
 d. Predictors: (Constant), criar\_neg, confant, polide, antecfami  
 e. Dependent Variable: espempree

**Table 3. Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1,271	,133		9,564	,000		
	criar_neg	,275	,060	,266	4,577	,000	1,000	1,000
2	(Constant)	,595	,243		2,452	,015		
	criar_neg	,238	,060	,230	3,958	,000	,965	1,036
	confant	,319	,097	,192	3,303	,001	,965	1,036
3	(Constant)	,279	,272		1,025	,306		
	criar_neg	,231	,060	,224	3,875	,000	,963	1,039
	confant	,290	,096	,175	3,012	,003	,951	1,051
	potide	,331	,133	,143	2,496	,013	,981	1,019
4	(Constant)	-0,054	,312		-,175	,862		
	criar_neg	,223	,059	,216	3,759	,000	,959	1,043
	confant	,291	,096	,176	3,045	,003	,951	1,051
	potide	,355	,132	,153	2,685	,008	,974	1,027
	antecfami	,226	,106	,121	2,136	,034	,989	1,011

a. Dependent Variable: esprempree

It can then be concluded that for our study, which aimed to evaluate entrepreneurial intentions in students of higher education (entrepreneurship), the variables that depend linearly for the development of the entrepreneurial spirit are the ambition to create a business of its own, previous fantastic ideas, to consider that the training area promotes entrepreneurial ideas and the fact that they have a family history that has or had a business of their own. These variables are those that most influence the entrepreneurial spirit of university students, with a level of significance of 95%.

Thus, with this linear regression model, we obtain the linear regression equation that demonstrates the previously mentioned premises:

$$Y = -0.054 + (0.223 * \text{run a business} + 0.291 * \text{realizing a fantastic idea} + 0.355 * \text{Training area empowering entrepreneurial ideas} + 0.226 * \text{family background with business})$$

Where, Y represents the Entrepreneurial Intention

Based on the bibliographical research carried out for this study, it can be verified that the obtained results demonstrate that an entrepreneurial education empowers an entrepreneurial culture of the students. This education is not only derived from higher education institutions, but also from the student's family. There are authors who say that the existence of a family member with a great entrepreneurial focus can significantly influence the entrepreneurial spirit of the students.

The authors of this article have also opted to test if the training area influences the entrepreneurial culture of the students. To perform this test, they had to verify the existence of normal data (table 4).

**Table 4. Normality tests****Case Processing Summary**

		Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Forma	espemree						
	sim	148	100,0%	0	,0%	148	100,0%
	nao	28	100,0%	0	,0%	28	100,0%
	talvez	100	100,0%	0	,0%	100	100,0%

**Tests of Normality**

		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Forma	espemree						
	sim	,229	148	,000	,811	148	,000
	nao	,218	28	,001	,884	28	,005
	talvez	,204	100	,000	,833	100	,000

a. Lilliefors Significance Correction

For a 95% level of significance, observing the Kolmogorov-Smirnov test (for samples greater than 50 elements), it was verified that there is no normality of the data, so a non-parametric test (table 5) was chosen.

**Table 5. Kruskal-Wallis test**

RANKS		
Educational Background - (EB)	N	Mean Rank
espemree	74	138,63
Engineering	4	150,25
Law	8	199,13
Languages	25	150,16
Health	12	132,33
Education	2	74,50
Science/Technology	35	132,17
cs	45	138,69
ce	64	132,08
Sports	6	114,42
	275	

Test Statistics <sup>a,b</sup>	
	espemree
Chi-Square	9,818
df	9
Asymp. Sig.	,365

a. Kruskal Wallis Test

b. Grouping Variable: EB

To better understand the influence among the data, we used the Kruskal Wallis test, which can be applied when there is no normal distribution of the data and, simultaneously, there are 3 or more independent samples and the different populations assume an equal form. Analyzing the test results it was possible to conclude that there are no significant differences between the entrepreneurial spirit and the training area.

This result is interesting for the authors, since there is no assumed tendency for any of the training areas that reveals that there is one that assumes more predisposed to the entrepreneurial spirit. That is, for the respondents to be majors in engineering or languages, among others, there is no difference between revealing themselves with entrepreneurial spirit. However, the question, "Do you think your training area promotes entrepreneurial ideas?", most students said yes. It can now be stated that regardless of the training area that each student attends, the important thing is that in all

areas the entrepreneurial spirit can be awakened, and the entrepreneurial culture depends very much on the way in which it is educated.

It is also important that for the open answer question, "what do you suggest so that your institution can better cultivate the innovative spirit in students?", the study shows that most students wish to have more subjects related to entrepreneurship (23%), as well as seminars and lectures (11%) and contact with successful cases (11%). This means students would like to invest on a culture of education for the development of the entrepreneurial character.

## **6. CONCLUSION**

The realization of this study allowed the authors to understand how university students in Portugal perceive entrepreneurship and what their entrepreneurial intentions are. The formulation of the survey allowed us to redirect the study to what is its objective.

It can be concluded from this investigation that what most influences students to have an entrepreneurial spirit is the ambition to create their own business, the fact that they already had some fantastic idea (s) that they wish to developed, to consider that their area of formation has influence in the development of an entrepreneurial culture, and finally the fact of having a family history with a strong incidence in the entrepreneurial character. It is still relevant to affirm that the entrepreneurial culture depends very much on a good entrepreneurial education.

Through the analysis of respondents' responses, it is possible to affirm that although the majority of the students is willing to create their own business and work on their own, together with the large number of respondents who believe they have had a good idea that could result in a successful business, very few succeed to go through with the idea or to create their own business. This reality can arise from the lack of knowledge from the respondents in how to realize what they idealized, due to the fact that the platforms of support to the creation of businesses and of development of ideas do not provide sufficient information for each business. The bureaucratic effects associated with the creation of businesses together with the lack of financial support for their implementation are also some of the obstacles encountered by the population that intends to start an activity on their own.

In fact, it is important to point out that, in addition to the afore mentioned causes that may inhibit respondents to carry out their own business (or expansion) and realize their idea, it is not possible to circumvent one of the causes that will have the greatest and more direct impact in inhibiting the idea presented. The political and financial instability that the country has undergone in recent years, and which is still felt today, discourages others interested in expanding their business. The media reports on existing companies and their high rates of group dismissal, as well as the number of companies closed in recent years due to the lack of state support and the increase in the amount of legislation and bureaucracy that must be met, make entrepreneurs ponder several times before putting their ideas into practice or move forward with their business.

As a conclusion, it is possible to affirm that despite trying to institutionalize an entrepreneurial culture in university students through the insertion of curricular units related to entrepreneurship in the most diverse courses and their own motivation to carry out the work, conditions in our country that allow us to foment this kind of culture must be created so that we move from intentions to actions.

This review is still ongoing. As such, there are some issues that need to be answered in this final section. Firstly, it should be noted that the insertion of curricular units related to entrepreneurship per se is not enough to create an entrepreneurial culture in Higher Education Institutions (HEIs). Likewise, it will also be interesting to formulate how the success of the enterprise will be dependent on the core competencies of the entrepreneurs and the support that they have of the HEIs. Finally, it would be interesting to work on these issues at national level, with all HEIs and to understand what is actually being done in this area of research and action.

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