



UC/FPCE 2018

Universidade de Coimbra
Faculdade de Psicologia e Ciências de Educação

Social Representations of Entrepreneurship: The Influence of Motivation and Self-Efficacy in Higher Education Students

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Dissertação de Mestrado de Psicologia das Organizações e do Trabalho
sob a orientação dos Professores Doutores Carla Carvalho, Lisete
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Abstract

The purpose of this study is to analyse the **Social Representations of Entrepreneurship** attending to motivation **for entrepreneur** and self-efficacy perceived by higher education students.

966 higher education students were subjected to a free word evocation technique based on the term entrepreneurship and a questionnaire to analyse their entrepreneurial motivation and self-perceived self-efficacy.

Cluster Analysis led to four profiles differentiated according to high and low levels of students' entrepreneurship motivation and self-efficacy. Social representations of entrepreneurship were analysed in each profile. The results showed that the different students' profiles don't show major differences in central elements of **Entrepreneurship**, however, students with lower motivation, independently of self-efficacy, tend to regard entrepreneurship as "risky" in comparison to the highly motivated ones, who tend to associate entrepreneurship with "money" and "commitment".

Keywords: Social Representations; Entrepreneurship, Motivation for entrepreneur, Self-Efficacy

Acknowledgments

First, I'd like to thank Professor Carla Carvalho, Professor Lisete Mónico and Professor Pedro Parreira for their tireless work, help and support. They have been essential for our success as students in this final phase of our academic journey, and taught us very valuable things which will certainly be of use in our future lives.

My family, who have been supporting me since the beginning, allowing me to proceed further and grow as a person, and some of the most important persons in my life.

My closest friends, who always gave me strength to press on through the most difficult times, and were always there to help me get up.

My colleagues, classmates and also friends, who made my experience better and richer, sharing our knowledge and helping each other.

And, of course, to this unforgettable city of Coimbra, where I spent the best years of my life.

To everyone who contributed to my journey's success, you have my most sincere thanks.

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Introduction

Entrepreneurship can be seen as the trend of the century, being a subject of incessant study during the last decades in many social-scientific disciplines. It is related to many representative aspects of human behaviour and personality (Alferaih, 2017; Brandstätter, 2010). This concept is known as a core value for economic prosperity in the modern society (Brandstätter, 2010), and relates positively with organizations' success (Bierwerth, Schwens, Isidor, & Kabst, 2015).

Humanity is what gives society shape and progress, and people spend their days working, facing a high number of social and affective experiences which influence their behaviour (Fodor & Pinteá, 2017). Before entrepreneurs begin their businesses, they are young students, yet to initiate their professional lives, and they go through a lot of pressure in order to become successful innovators. Entrepreneurship education majorly targets these young students, who are the future of society, however, there is no evidence that these practices actually create new and better entrepreneurs by itself, and sometimes even showing controversial effects (Martin, McNally, & Kay, 2013; Oosterbeek, Praag, & Ijsselstein, 2009). This suggests the existence of other predominant factors in students' entrepreneurial skills, such as how they perceive themselves and how they perceive entrepreneurship as a social concept (Oosterbeek et al., 2009).

This study takes these facts into account and investigates the relationship between entrepreneurial social representations formed by higher education students, entrepreneurial motivation and self-perceived self-efficacy, which may allow us to understand higher education students' mindset regarding entrepreneurship.

The present dissertation falls within the scope of Poli Entrepreneurship Innovation Network (PIN) program, which our team collaborates with, considered a program ought to be recognized in higher education (Gonçalves, 2009), actually constituted by 26 Portuguese polytechnic institutes, universities and non-integrated polytechnic higher education schools (Parreira, Pereira, & Brito, 2011, p.27).

This study's objectives are to analyse entrepreneurship as a social representation among higher education students, its central and peripheral elements, how motivation and self-efficacy influence this, and how

entrepreneurship education can be improved based on obtained results, maintaining an open and inclusive perspective regarding gender, social and education status.

For the analysis, a sample of higher education students was collected by questionnaire, respecting individual confidentiality and anonymity. We used a free word evocation technique (Pereira, 2001) to measure social representations. Then, a Motivation Scale and Self-Efficacy Scale, validated by Parreira, Silva, Mónico, & Carvalho (*submitted*) was applied to measure self-perceived entrepreneurial motivation and self-efficacy for this study, all incorporated in a single questionnaire.

Theoretical Conceptualization

Entrepreneurship and Entrepreneur

Entrepreneurship is known as an accelerator in society's economic development. The entrepreneur innovates, creates new ideas and transforms them into profit and success (Turker & Selcuk, 2009). Entrepreneurship is increasingly associated with organizational success, representing new strategies, innovation and good capital investment which positively impacts in organizational performance (Bierwerth et al., 2015).

This concept is dynamic and exists since long ago (Blackburn, 2011). Evidence suggests that Cantillon and Say may have been the first authors to see entrepreneurship in a more structured theoretical conceptualization, as a more complex term, but all definitions use the term "innovation". (Vale, 2014).

Entrepreneurship promotion results from the constant competitiveness that is highly present in modern society, and it's through entrepreneurship education that individuals, with their developed skills, integrate themselves in the market, and are able to be effective in interacting with the surrounding context. This said, any individual can be an entrepreneur, given there is a favourable context to the creation and stimulation of a functional entrepreneurial attitude (Ávila, 2015).

GEM: Global Entrepreneurship Monitor

Global Entrepreneurship Monitor (GEM) is a consortium which evaluates entrepreneurship development in more than 60 countries. GEM refers to entrepreneurship as multi-dimensional in nature, and looks at the entrepreneurial behaviour and attitudes of individuals, the national context and how that impacts entrepreneurship, in order to understand entrepreneurship. GEM surveys and annual reports are to provide up-to-date information about entrepreneurship, enabling academics, researchers, educators and policy makers to put into place precise, practical and clear recommendations (GEM, 2017)

Following the 2016/17 GEM Global Report, there are some interesting key findings regarding the different aspects about entrepreneurship around the world which can be of use for this study.

Societal values studies show quite positive results, as about two thirds of the adult population across the world see entrepreneurs as individuals with respect and high status within their societies, and the majority believes it represents a good career choice (GEM, 2017).

Concerning self-perceptions about entrepreneurship, 42% of working-age adults, globally, perceive good opportunities to start a business in their area, and the percentage is roughly the same amongst the three economic development levels. An important fact to mention is that a third of the respondents in the factor and efficiency-driven economies indicate that fear of failure, which is perception of risk, would inhibit them from pursuing entrepreneurial opportunities. In Europe, less than 40% perceive opportunities in their area, and less than half understands they have enough skills to pursue an entrepreneurship career (GEM, 2017).

When it comes to motivation in early stages of entrepreneurship, three quarters of the respondents stated they chose to pursue an opportunity due to their entrepreneurial motivations. More than two thirds were motivated by opportunities rather than necessity, this percentage staying at 79% for innovation-driven economies (GEM, 2017).

These results indicate motivation, opportunity and skill self-perception contribute significantly to entrepreneurial behaviour, and a variety of stakeholders contribute to this, namely policy makers, the private sector,

educators and researchers (GEM, 2017). So, it is important to understand how these factors influence how individuals perceive entrepreneurship.

Poli Entrepreneurship Innovation Network (PIN)

Speaking of models and research teams, PIN is a Portuguese project in which our team is based on. It began as a pioneer activity in Instituto Politécnico de Castelo Branco, rapidly extending to polytechnic institutes in Guarda and Viseu. Its activities were developed here between 2003 and 2006. It then finally spread to all polytechnics in 2007, expanding even further. Starting its course by developing its activities exclusively around regional and national ideas' contests, PIN turned into a multi-phase entrepreneurship project, from creativity stimulation to business founding with all the necessary support for their development (Parreira, Pereira, & Brito, 2011, p.27).

In this sequence, PIN seeks to promote and improve entrepreneurial behaviour in academic communities. For this, the project organizes entrepreneurship workshops, business ideas' contests and business plan presentations. The best projects from each polytechnic institute are then selected for a national contest, and the three best are prized with pecuniary investment, allowing their businesses to be created and help their region's social-economic development. More than 1836 people were involved in this project's activities, 32 companies were created and 59 patents registered following Parreira, Pereira and Brito (2011, p.28).

Entrepreneur Profile

In the last two decades, entrepreneurship study has been focused in investigating the relationship between entrepreneurship and personality traits. Individuals in these studies (students, initiating entrepreneurs and experienced managers) have been compared between themselves in order to understand how this relationship works. Many results suggest high correlations between entrepreneurial attitudes and personality traits in recent meta-analysis (Brandstätter, 2010). An entrepreneur profile seems to be relevant to identify what defines the base of entrepreneurship.

Human skills can be expanded through entrepreneurship, both as a resource and a process, and matters in human development (Gries & Naudé, 2010). Economists tend to ignore the entrepreneur's role in this phenomenon

and focus more on their impact in economy, disregarding human development (Naudé, 2010a, 2010b, 2011). To them, the entrepreneur used to be just an innovative individual, who takes risks to contribute to economic growth by introducing new technologies, competition and markets (Kirzner, 1973; Schumpeter, 1934).

But the entrepreneur is much more than that. Many studies identify traits such as high objective or self-realization motivation, boldness, high self-awareness, market awareness, employment awareness, creativity, innovation, openness to new experiences and transformational leadership as core aspects of a successful entrepreneur. Statistically, these tend to be individuals with high education and financial resources (Borcos & Bara, 2013; Rocha & Freitas, 2014; Schrage, 2009; Timmermans, Heiden, & Born, 2014).

Entrepreneurship Education

The first entrepreneurial course was implemented in Harvard Business School, in 1947, boosting this concept's rapid propagation among higher education at a global level. This course was created with the intention of teaching students the art of entrepreneurship, what is needed and what it takes to be a successful entrepreneur (Kuratko, 2005). According to Drucker (1985), entrepreneurship is a discipline, which can be learned as any other. This being the core idea behind this concept.

Kuratko (2005) understands that entrepreneurship education should include subjects such as distinguishing what is managing and what is entrepreneurship (Ireland, Hitt, & Sirmon, 2003); financial techniques (Shepherd & Zacharakis, 2001, 2002); risks and disadvantages of an entrepreneurial career (McGrath, MacMillan, & Scheinbert, 1992), and many other subjects that further conceptualize entrepreneurship and can educate the potential entrepreneur.

Today, entrepreneurship education is globally known and applied, whose objective is to differentiate itself from the typical business and management courses, since creating a business is different than managing it, and takes different factors into account (Gartner & Vesper, 1994). It must include courses and workshops which can further develop negotiation skills, leadership, new product development, creative thought and exposition to innovative technologies (McMullan & Long, 1987; Vesper & McMullen,

1988). This pedagogy changes depending on the market's interest in entrepreneurship education, having adapted itself to the students who are not associated with business, including artists, engineers and science students, now being part of the common higher education (Solomon, Duffy, & Tarabishy, 2002).

Effects caused in students through entrepreneurship education are diverse. Martin et al. (2012), in their meta-analysis, identified a few studies showing this. Many of these studies showed that pre-graduated students in entrepreneurship courses have higher intentions in creating a business (Galloway & Brown, 2002), and students with proper entrepreneurial education and training are more likely to found a business (Kolvereid & Moen, 1997). Sondari (2013) defends the idea that the entrepreneurship education as an important factor to make entrepreneurship intentions emerge, and the same was verified by Rocha and Freitas (2014), where student's entrepreneurial characteristics were analysed, before and after their entrepreneurial course, and were seen as more defined after graduation. Individuals with an entrepreneurship course are also better at identifying opportunities than others without any kind of entrepreneurship education (DeTienne & Chandler, 2004).

On the other hand, there are studies that finding different results. For instance, Oosterbeek et al. (2009) reported lower intentions in creating a business in graduated students from entrepreneurship courses, with less motivation to do so. Similarly, Mentoor and Friedrich (2007) identified a negative correlation between the practices in a typical entrepreneurial course and a high number of human and personality characteristics related to entrepreneurship in students frequenting entrepreneurship courses. Also, there is a negative effect in entrepreneurial performance caused by entrepreneurship workshops in people who are still planning their businesses (Honig & Karlsson, 2004; Honig & Samulsson, 2008).

These results are difficult to incorporate in a narrative review (Hunter & Schmidt, 2004), and future meta-analysis may help to clarify this controversy (Martin et al., 2012), however, it is clear that personal characteristics actively participate in entrepreneurial intentions and attitudes, which are highly influenced by education (Mentoor & Friedrich, 2007; Oosterbeek et al., 2009).

Social Representations

Highly influenced in education, the concept of social representations originated from Serge Moscovici, with the Grand theory of social representations (Sá, 1996), and corresponds to a modality of knowledge which is developed through social interaction (Camargo, Justo, & Jodelet, 2010). Social representations are sustained both by culture and society, guide behaviour, intervene in the individual and social identity (Jodelet, 1989), and are composed of beliefs, opinions, attitudes and information regarding one certain social object (Oliveira et al., 2008).

Social representations are considered multifaceted, diffuse and constantly changing, manifesting in social practices and individual thoughts (Parreira et al., 2015). They constitute forms of practical knowledge related to communication and understanding of conceptions, while emerging as constructions of social subjects derived from socially valued objects (Monteiro, Silveira, & Daniel, 2015).

According to Vala and Monteiro (2000), representations are social because they emerge from social context, which is composed of ideologies, values and shared systems of social categorization, while simultaneously producing and translating social relations (Monteiro et al., 2015). In 1981, Moscovici proposes that they are equivalent to myths and systems of beliefs of traditional societies, which can be seen as what we today call common sense.

This study follows Abric's theory (1994a, 1994b) regarding the articulation between structuring and dynamism in social representations. This author considers a central core, representing the global meaning, based on the major themes of society, while taking into account the peripheral components. While the central core components are stable, consensual and mostly rigid, the peripheral ones are flexible, individualized and more prone to change, contrasting with each other (Parreira et al., 2015).

These components provide for the maintenance of the interface with the situations and practices of a specific group regarding a given object of study. With this theory, it is possible to highlight representations' transformation and compare them, which is important, since these different

changes in central core and peripheral system are the result of different interventions undergone by specific groups (op. cit.).

By visualizing the development and final states observed after reorganizing the different components, either central or peripheral, we may be able to conclude if a particular intervention was successful, mostly educative interventions, since it's possible to identify what changes in the peripheral system and what remains stable. Since this is also influenced by various cultures integrated within a given society nowadays, more time and/or different pedagogical methods may be required to assimilate the changes (op.cit.).

The study conducted by Parreira et al., (2015) offers many useful insights regarding entrepreneurship social representations. By analysing the word evocations of hundreds of undergraduate students, it was observed a central core composed by words around the theme of innovation, creativity, idea and business; a first periphery with themes such as opportunity and investment; a second periphery containing aspects such as work, plan, dynamism, project, ambition, and many others in line with the act of undertaking; and a contrasting core, referred by a minority group, with elements such as creation, initiative and novelty, being a reference point for the present study.

Motivation

Motivation is one of the personality characteristics deeply associated with entrepreneurship, and partially defines the action and creation process of a business. It distinguishes the entrepreneurs who follow their ideas and objectives from those who give up on their visions (Renko & Freeman, 2017). It is also a core element in entrepreneurial attitude promotion (Rodriguez et al., 2016; Soutaris, Zerbinati, & Al-Laham, 2007).

Financial motivation is the most common way of thinking this concept when applied to entrepreneurship (Renko & Freeman, 2017). Common sense believes an entrepreneur starts a business to make money, however, this type of motivation isn't any different when comparing nascent entrepreneurs with the common population (Carter, Gartner, Shaver, & Gatewood, 2003), nor between individuals who start businesses and those who don't (Cassar, 2007). In fact, there isn't any evidence that financial motivation correlates with

entrepreneurial behaviour at all (Renko & Freeman, 2017). Other authors (e.g., Zanakis, Renko, & Bullough, 2012) even identify a negative correlation between financial motivation and the act of founding a business. However, financial motivation is more present in experienced entrepreneurs, with longer businesses, since profit is necessary to ensure their organization's survival (Ferreira, Loiola, & Gondim, 2016).

As for other types of motivation, it is clear that only persistence and individual values truly distinguish the successful entrepreneurs from those who are not (Kristof-Brown, Zimmerman, & Johnson, 2005; Renko & Freeman, 2017). In literature, other types of motivation are identified, such as motivation for self-realization, innovation and independency (Edelman, Brush, Manolova, & Greene, 2010). When analysing different groups, namely initiating and experienced entrepreneurs, Ferreira et al. (2016) concludes that: (a) initiating entrepreneurs are more motivated than experienced entrepreneurs; (b) both groups are motivated by self-realization, placing their will to apply their skills and competencies above anything else; (c) initiating entrepreneurs find social status more important than financial status, while the opposite happens in experienced entrepreneurs; and (d) since initiating entrepreneurs are still in the idealization level, they prioritize planning more than the experienced entrepreneurs, even if both are similarly cautious about their decisions.

These results are similar in a Portuguese study conducted by Braga, Proença and Ferreira (2015), where individuals' motivation is often associated with altruism, passion, representative model influence, past experiences and will to create and innovate, identifying the mobilization of human and financial resources as difficulties. These individuals declare that it was their motivation which allowed them to surpass these difficulties, to initiate and maintain their social project.

As for other factors that may influence the degree and nature of motivation, many authors that we find in our revision of literature showed that gender, culture and education as that possible factors.

Gender influences motivation in a social level. Women are more pressured towards family caring, thus, their entrepreneurial behaviours tend to be focused towards amassing wealth in benefit of their family, while men have pecuniary concerns regarding their own entrepreneurial intentions (Allen

& Curington, 2014). It is important to note that women remain underrepresented in entrepreneurship, and that both genders are highly influenced by their same gender peers, which might explain these facts (Markussen & Røed, 2017). Curiously, some women even consider obtaining funding more difficult for them than it is for men, and they consider their geographical location more than men (Navarro & Jiménez, 2016).

Culture, on the other hand, doesn't seem to be able to explain significant differences found in the source of motivation to create a business. However, due to the lack of studies within the same scope, and since this study were only between students from Romania and Iceland, global generalization is not recommended, and more research is necessary (Brancu, Guðmundsdóttir, Gligor, & Munteanu, 2015).

Entrepreneurship education may also affect entrepreneurial motivation, as it might alter students' perception on what is creating a business. These might see their visions more realist and, sometimes, their motivation lower (Oosterberk et al., 2010). But, as seen above, entrepreneurship education has diverse results in entrepreneurial intention, which is related to motivation (Martin et al., 2012).

In fact, motivation has many dimensions, and these results clearly suggest that. Studies investigate what people understand their source of motivation is, and taking the context into account is crucial to identify what kind of motivation moves the entrepreneur individual (Renko & Freeman, 2017).

Self-Efficacy

The conceptualization of self-efficacy is based on Bandura's (1995) Social Learning Theory, where it is defined as a person's strong belief in starting and maintaining an act until the achieved result shows an impact on what is happening around, in other words, a successful act (Konakll, 2015). What distinguishes an individual with high self-efficacy from one with low self-efficacy is that the first doesn't give up, is persistent and deals with their failures adaptively, thus, self-efficacy may be in the individual's personality (Bandura, 1997).

Self-efficacy shows positive correlations with personal creativity, risk-taking characteristics and self-confidence, having a great impact on entrepreneurial behaviour and entrepreneurship education. In fact, self-

efficacy provides a robust construct that can be used to evaluate the impact of entrepreneurial education (Barakat, Boddington, & Vyakarnam, 2014; Konakll, 2015; Smith & Woodworth, 2012). As for its direct benefits on entrepreneurship business, self-efficacy positively affects companies' innovative behaviour, although Chen and Zhou (2017) detected that social capital plays a negative mediating role in this relationship.

Like motivation, self-efficacy doesn't seem to be different when compared to two different cultures (Başol & Karatuna, 2015) further suggesting it is majorly influenced by social environment, such as education. However, gender seems to be a moderator in the relationship between self-efficacy and entrepreneurial intentions. Males' self-efficacy has a significantly higher impact on entrepreneurial intentions than in females, suggesting entrepreneurship education doesn't reach females effectively (Shinnar, Hsu, & Powell, 2014). This could also affect entrepreneurship social representations if self-efficacy is correlated.

Aims

This study seeks to analyse the entrepreneurial social representations in a general way in Portuguese higher-education students, and also according to their levels of motivation for entrepreneur and perceived self-efficacy.. Given the fact no studies that related these variables were found in our search at this moment, this study is important to identify which factors contribute to how students represent entrepreneurship, especially concerning to motivation to entrepreneur and self-efficacy. Finally, with this study we intend to identify clues to improve entrepreneurship in higher education.

Based on clusters analysis we intend to identify profiles of students based on motivation to entrepreneur and perceived self-efficacy levels, which correspond to students with similar characteristics in society, and analyse social representations of entrepreneurship in these profiles.

Method

Sample

The sample is composed by 966 individuals, aged between 18 and 63, who are currently undergoing a higher education course. In table 1 sample is described by age, gender, civil state, family entrepreneurs, nationality, institution, course, year of study, and professional condition.

Table 1. Sample Characterization

Total (N = 966)		
	<i>M</i>	<i>SD</i>
Age	23.82	6.73
	<i>n</i>	%
<i>Gender</i>		
Male	265	27.4
Female	701	72.6
<i>Civil State</i>		
Single/Divorced	877	90.8
Married /Cohabiting	85	8.8
<i>Family Entrepreneurs</i>		
Yes	560	58
No	406	42
<i>Nationality</i>		
European	888	91.9
African	17	1.8
South-American	59	6.1
Asian	2	.2
<i>Institution</i>		
University	918	95
Polytechnic	45	4.7
Others	3	.3
<i>Course</i>		
Degree	294	30.4
Int. Master	515	53.3
Master degree	95	9.8
Doctorate	57	5.9
Post-Graduation	5	.5
<i>Year of study</i>		
1st	112	11.6
2nd	210	21.7
3rd	309	32
4th	149	15.4
5th	186	19.3
<i>Professional Condition</i>		
Student	746	77.2
Working student	220	22.8

Notes: *M* – Mean *SD* – Standard Deviation

Free Word Evocation

The free evocations were acquired from the term “entrepreneurship”, through the subsequent instruction: “Write down the first 5 words or expressions that come to your mind when you read the term Entrepreneurship.”

Scale of Personal Motivations and Factors that Facilitate Entrepreneurship (PMFFE)

This scale was validated by Parreira, Silva, Carvalho, and Mónico (*submitted*), and was developed based on diverse scales (e.g., motives for company founding, social and environment influences and resources for company creation). It is composed by 17 items and four factors: (1) Family Realization and Societal Motivation (e.g., 8 – Provide security for my family); (2) Resource and Income Motivation (e.g., 12 – Desire for high profit); (3) Prestige Motivation (e.g., 3 – Acquire more influence in my community); and (4) Learning and Development Motivation (e.g., 14 – To keep learning).

The following instructions were given to the respondents: “Classify the following sentences regarding the level of importance to create a company or business (from 1 = *little importance* to 5 = *very important*).

The fit indices obtained for this model with this sample were acceptable, NFI= .87; SRMR= .08; TLI= .85; CFI= .89; RMSEA= .08. Cronbach’s alphas of the factors show good internal consistency, as well as the overall scale ($\alpha > .80$). Standardized regression coefficients (λ) ranged between .41 and .94. Cronbach’s alpha obtained for the global scale is $\alpha = .800$, indicating a good internal consistency (Nunally, 1978).

Self-Perceived Self-Efficacy Scale (SPSE)

This scale reproduces nine out of ten items from the Portuguese version of General Self-Efficacy (GSE) by Schwarzer e Jerusalem (1995), adapted by Araújo and Moura (2011).

The respondents were given the following instructions: Everyone has an idea of how they are. Several attributes are introduced below, which possibly describe how people are. Read each question and answer truthfully, spontaneously and quickly to each one of them. While answering, consider your usual way of being and not your current state of spirit. Pick the option

that is more adequate to your characteristics (from 1 = I do not agree, to 5 = I agree completely).

Fit indices obtained for this model with this sample are good, considering NFI= .97, SRMR= .03, TLI= .97, CFI= .98; RMSEA = .06. Standardized regression coefficients ranged from .52 and .78. Alpha was $\alpha = .88$, showing a good internal consistency (Nunally, 1978).

Procedures

The process was conducted taking into account individual confidentiality and anonymity, in diverse higher education institutes. The questionnaire was administered individually by a team of Master Students as part of a research project focusing on Entrepreneurship in Higher Education.

Before the questionnaire, respondents were given an informed consent to sign. All participants were told this was a voluntary process and that withdrawal from the research was possible at any moment. Confidentiality and anonymity was ensured by storing the informed consent and questionnaires separately.

Data analysis

The words obtained with the free evocations based on the term “Entrepreneurship” were analysed with software EVOC (Ensemble de Programmes Permettant L’Analyse des Evocations, 2005; Vèrges, 2002). The order of evocation and its frequency were then crossed, generating a four-quadrant matrix discriminated by mean order of evocation and evocation frequency. This provides to determine central and peripheral elements of the representation structure (Abrieu, 1993, 1994a, 1994b, 2001).

After evocation’s transcription execution, a corpus preparation process took place, so that data could be analysed. The following steps were taken: Evoked words digitalization in EVOC program and subsequent alphabetic ordering; Corpus review where all accentuation was removed: “,” “ç” “’”, “`”, “^”, “~”, etc.; Corpus homogenization and lexical standardization (singular/plural; lowercase/upercase; etc.); Semantic standardization based on word graph, so that every word shows up the same way throughout the entire corpus; Semantic standardization and hyphen harmonization; Corpus review with harmonization and term reduction based on verb or substantive context; and Words should then be separated by commas.

The analysis to the scales **PMFFE and SPSE** were performed by using the statistical program SPSS and AMOS, version 22.0 for Windows. The normality was assessed by the coefficients of skewness (Sk) and kurtosis (Ku); no variable presented values violating normal distribution, $|Sk| < 2$ and $|Ku| < 3$. The confirmatory factorial analysis were performed with AMOS (Arbuckle, 2013), maximum likelihood estimation method (Jöreskog & Sörbom, 2004). Goodness of fit was analysed by the indices of NFI (Normed of fit index; good fit $> .80$; Schumacker and Lomax 1996), SRMR (Standardized Root Mean Square Residual; appropriate fit $< .08$; Brown 2006), TLI (Tucker-Lewis Index - TLI; appropriate fit $> .90$; Brown 2006), CFI (Comparative fit index; good fit $> .90$; Bentler 1990), and RMSEA (Root Mean Square Error of Approximation; good fit $< .05$; Kline 2011; Schumacker and Lomax 1996). Reliability was calculated by Cronbach's alpha (Nunnally, 1978) and the value of .80 was taken as a good reliability indicator (Hair, Black, Babin, & Anderson, 2009).

After the descriptive statistics and intercorrelation matrix, cluster analyses were performed with the scores of the Self-efficacy scale and the dimensions of the Scale of personal motivations and factors that facilitate entrepreneurship, leading to a classification of the participants into clusters through the Two-Step procedure for continuous variables, since our sample's size can be considered high (Bacher, Wenzing, & Vogler, 2004; SPSS Inc., 2001). This procedure automatically determines the ideal number of clusters within a data set that would otherwise not be apparent. The distance measure was calculated by the Log-Likelihood method and the classification of clusters was done by using the Schwarz's Bayesian Criterion. Different student profiles were created according to the emerging clusters from the **PMFFE and SPSE** scores (e.g., motivation for entrepreneur high but low perceives self-efficacy). The social representations of entrepreneurship were then analysed in each profile.

Results

Table 2 shows descriptive statistics and correlation matrix for the PMFFE and SPSE scales. In this study, only the global values were used, as they suffice for the intended analysis.

Students' answers showed an average value of $M = 3.56$ for the PMFEE scale and $M = 3.9$ for the SPSE scale, both near from the answer option 4 (agree). Students scored higher in Factor 1 – Family Realization and Societal Motivation, and Factor 4 – Learning and Development Motivation, with an average value of 4.12 and 4.13, respectively. The lowest score is verified in Factor 2 – Resource and Income Motivation, with an average value of 2.87.

Self-efficacy and Motivation showed a small association according to Cohen's (1988) classification ($r = .195$, $R^2 = 3.8\%$ of shared variance). SPSE scale correlated higher with the Factor 4 – Learning and Development Motivation ($r = .248$, $R^2 = 6.2\%$ of shared variance), values being the lowest in Factor 2 – Resource and Income Motivation ($r = .067$, $R^2 = 0.4\%$ of shared variance)

Table 2. Descriptive Statistics and Correlation Matrix for PMFEE and SPSE scales

	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>PMFEE Global</i>	<i>PMFEE F1 – Family Realization and Societal Motivation</i>	<i>PMFEE F2 - Resource and Income Motivation</i>	<i>PMFEE F3 - Prestige Motivation</i>	<i>PMFEE F4 - Learning and Development Motivation</i>	<i>SPSE Global</i>
<i>PMFEE Global</i>	1.53	5.00	3.56	.52	(.800)	.580**	.754**	.752**	.524**	.195**
<i>PMFEE F1 – Family Realization and Societal Motivation</i>	1.00	5.00	4.12	.80		(.850)	.239**	.285**	.134**	.137**
<i>PMFEE F2 - Resource and Income Motivation</i>	1.00	5.00	2.87	.79			(.672)	.395**	.288**	.067*
<i>PMFEE F3 - Prestige Motivation</i>	1.00	5.00	3.25	.91				(.782)	.116**	.103**
<i>PMFEE F4 - Learning and Development Motivation</i>	1.25	5.00	4.13	.61					(.630)	.248**
<i>SPSE Global</i>	1.33	5.00	3.90	.57						(.877)

Notes: ** $p < .01$, * $p < .05$

Creation of entrepreneur Motivations and Self-Efficacy profiles

Two cluster analysis were performed, one with the scores of the Self-Perceived Self-efficacy scale and other with the four dimensions of the Scale of Personal Motivations and Factors that Facilitate Entrepreneurship. For the four dimensions of the motivation scale, two clusters, differentiating high and low motivational levels emerged (see Table 3). In the next step, we analysed each participant individually to see in which cluster they belonged to, creating profiles through the combination of the two clusters (Low and High) based on entrepreneur motivations and self-perceived self-efficacy, that led to the creation of four different profiles, which can be seen in Table 4: profile 1 - students with higher motivation and higher self-efficacy; profile 2 - students with higher motivation and lower self-efficacy; profile 3 - students with lower motivation and higher self-efficacy; and profile 4 - students with lower motivation and lower self-efficacy.

Table 3. Clusters Sizes, means, importance to the cluster definition, and description of low and high Clusters based on entrepreneur motivations and self-perceived self-efficacy

<i>Personal Motivations and Factors that Facilitate Entrepreneurship</i>										<i>Self-Perceived Self-Efficacy</i>			
	<i>n</i>	<i>M</i>	<i>F1</i>		<i>F2</i>		<i>F3</i>		<i>F4</i>		<i>n</i>	<i>M</i>	Importance
			Importance	<i>M</i>	Importance	<i>M</i>	Importance	<i>M</i>	Importance	<i>M</i>			
Clusters	Low	540 (55.9%)	3.86	0.23	2.39	1.00	2.84	0.46	3.91	0.29	587 (60.8%)	3.54	1.00
	High	426 (44.1%)	4.45	0.23	3.49	1.00	3.77	0.46	4.45	0.29	379 (39.2%)	4.47	1.00
Average Silhouette:		0.4 (fair quality)					0.7 (good quality)						

Notes: F1 - Family Realization and Societal Motivation; F2 - Resource and Income Motivation; F3 - Prestige Motivation; F4 - Learning and Development Motivation.

Table 4. Demographic characterization of students in Profiles 1 to 4 according to High vs. Low Motivation and Self-Efficacy

Profiles	<i>1 - High Motivation and high Self-Efficacy (n = 183)</i>		<i>2 - High Motivation and Low Self-Efficacy (n = 243)</i>		<i>3 - Low Motivation and High Self-Efficacy (n = 196)</i>		<i>4 - Low Motivation and Low Self-Efficacy (n = 344)</i>	
Characterization	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	25.51	8.22	22.01	4.25	24.75	6.81	23.66	6.94
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<i>Gender</i>								
Male	65	35.5	45	18.5	69	35.2	86	25
Female	118	64.5	198	81.5	127	64.8	258	75
<i>Civil State</i>								
Single/Divorced	156	85.2	232	95.5	169	86.2	320	93
Married/Cohabiting	26	14.2	10	4.1	26	13.3	23	6.7
<i>Family Entrepreneurs</i>								
Yes	125	68.3	120	49.4	131	66.8	184	53.5
No	58	31.7	123	50.6	65	33.2	160	46.5
<i>Nationality</i>								
European	165	90.9	232	95.4	178	90.8	311	90.5
African	5	2.5	1	.4	4	2	7	2.1
South-American	13	7.1	9	3.7	11	5.6	24	7
Asian					1	.5	1	.2
<i>Course</i>								
Degree	50	27.3	74	30.5	67	34.2	103	29.9
Int. Master	94	51.4	143	58.8	89	45.4	189	54.9
Master degree	19	10.4	18	7.4	21	10.7	37	10.8
Doctorate	20	10.9	7	2.9	16	8.2	14	4.1
Post-Graduation			1	.4	3	1.5	1	.3
<i>Year of study</i>								
1st	22	12	28	11.5	20	10.2	42	12.2
2nd	33	18	63	25.9	38	19.4	76	22.1
3rd	49	26.8	85	35	64	32.7	111	32.3
4th	37	20.2	35	14.4	32	16.3	45	13.1
5th	42	23	32	13.2	42	21.4	70	20.3
<i>Professional Condition</i>								
Student	99	54.1	194	79.8	132	68.9	267	77.6
Working student	84	45.9	49	20.2	61	31.1	77	22.4

When comparing, 68.3% of individuals in profile 1 have entrepreneurs in their families ($n = 125$), and individuals in profile 3 who also answered positively represent 66.8% of their respective profile ($n = 131$), higher percentages than those verified in the remaining profiles.

Individuals in profile 1 who mutually work and study represent 45.9% of that profile ($n = 84$), a higher percentage than those in the remaining profiles.

Social representation of Entrepreneurship

In the total sample

Starting with the inductive word *Entrepreneurship*, 4726 terms were identified in the totality of our sample, for a total of 339 different words, inserted into the database in the order in which they were evoked by the students. The most evoked term was Innovation ($f = 633$), representing 13.39% of the total corpus, followed by the words Creativity ($f = 259$, 5.48%), Business ($f = 180$, 3.81%), Work ($f = 170$, 3.6%), Company ($f = 162$, 3.43%), Money ($f = 133$, 2.81%), Risk ($f = 130$, 2.75%), Commitment ($f = 124$, 2.62%), Motivation ($f = 122$, 2.58%) and Initiative ($f = 120$, 2.54%).

Table 5 shows the achieved global matrix of evoked terms, according to the Mean evocation order (M.E.O.) and Frequency values.

Table 5: Social representation of Entrepreneurship: Evoked terms in the Four Quadrant Table according to Mean evocation order (M.E.O) and intermediate frequency [N = 966 subjects; 339 different words evoked]

M.E.O. <2.70		>2.70				
Inter. Freq.	Evoked Terms	f	M.E.O.	Evoked Terms	f	M.E.O.
	Central Core			1st Periphery		
≥ 55	Creativity	259	2.68	Support	93	3.38
	Company	162	2.54	Autonomy	79	3.15
	Initiative	120	2.12	Development	62	3.24
	Innovation	633	2.45	Money	133	3.31
	Business	180	2.53	Commitment	124	3.19
	Work	170	2.46	Job	70	2.71
				Investment	93	2.89
				Motivation	122	2.92
				Change	56	3.25
				Opportunity	73	3.58
				Risk	130	3.15
	Contrasting Core			2nd Periphery		
< 55	Power	50	2.7	Determination	52	3.46
	Boldness	22	2.5	Leadership	54	3.17
	Aspiration	16	2.16	Realization	54	3.22
	Activity	17	2.35	Knowledge	40	3.73
	Capacity	25	2.4	Resources	44	3.43
	Confidence	16	2.31	Success	43	3.16
	Dynamism	54	2.32	Vision	41	3.2
	Originality	25	2.68	Willpower	46	2.89
	Objective	17	2.64	Ambition	37	2.95
	Marketing	10	2.7	Courage	39	2.97
				Difference	36	3.5
				Future	34	3.21
				Profit	35	3.4

The first quadrant indicates central core words, where mean evocation order is lower and higher frequency. Central core contains six terms, whose frequencies range between 120 and 633: Creativity, Company, Innovation, Business and Work.

Concerning the contrasting core, words feature lower mean evocation order and lower frequency. Words such as Power, Dynamism and Boldness, between others, are what constitute the contrasting core regarding the term entrepreneurship.

In the first periphery, evoked terms have higher mean order evocation and higher frequency (evoked in third place or beyond, M.E.O > 2.7). The most evoked terms were Money, Commitment, Risk and Motivation.

The second periphery features words with higher mean order evocation and lower frequency, and is the least representative of the term entrepreneurship. The most evoked terms were Leadership, Willpower, Determination and Realization.

What matters for the following analysis is the observed differences in the central core and first periphery, as they feature the most evoked terms.

The four profiles of motivation for entrepreneurship and self-efficacy

We repeated the process described above and obtained more Four Quadrant Tables according to the four different profiles of motivation for entrepreneur and self-efficacy, in order to identify possible differences of evocation, especially in the central core (see Tables 6 to 9). Intermediate Frequency was adjusted to the sample's size.

High Motivation and High Self-Efficacy profile. In the central core, three words remained in comparison with the global analysis. These were Creativity, Innovation and Work. The remaining words, Company, Initiative and Business are now part of the contrasting core. In the first periphery, Money and Commitment are the present words.

Table 6: High Motivation and High Self-Efficacy word evocation matrix following frequency, mean order evocation and intermediate frequency.

M.E.O. <2.70		>2.70				
Freq.	Evoked Term	f	M.E.O.	Evoked Term	f	M.E.O.
Inter.	Central Core			1st Periphery		
≥ 30	Creativity	51	2.65	Money	31	3.23
	Innovation	111	2.28	Commitment	30	3.13
	Work	34	2.15			
	Contrasting Core			2nd Periphery		
< 30	Job	12	2.25	Support	13	3.92
	Company	24	2.42	Autonomy	10	2.9
	Initiative	24	2.21	Development	11	3.73
	Motivation	24	2.63	Determination	16	3.38
	Business	26	2.58	Difference	10	3
	Dynamism	9	2	Intelligence	11	3.73
	Capacity	6	2.33	Investment	19	3.32
	Creation	6	2.5	Leadership	13	3.31
	Status	6	2.5	Change	10	3.5
	Management	6	2.67	Opportunity	11	4.1
	Imagination	6	2.67	Power	16	2.88
	Perseverance	7	2.29	Realization	13	3.39
				Risk	19	3.47
			Success	12	2.75	
			Willpower	10	2.9	

High Motivation and Low Self-Efficacy profile. Central core is composed by five terms, which are Creativity, Company, Innovation, Business and Work. Initiative is now part of the contrasting core. In the first periphery, the obtained words were Money and Commitment.

Table 7: High Motivation and Low Self-Efficacy word evocation matrix following frequency, mean order evocation and intermediate frequency.

M.E.O.	<2.70			>2.70		
Freq.	Evoked Term	f	M.E.O.	Evoked Term	f	M.E.O.
Inter.	Central Core			1st Periphery		
≥ 35	Creativity	79	2.58	Money	36	3.22
	Company	49	2.57	Commitment	35	2.94
	Innovation	174	2.61			
	Business	58	2.53			
	Work	58	2.57			
< 35	Contrasting Core			2nd Periphery		
	Confidence	5	2.4	Investment	30	3.13
	Courage	10	2.7	Motivation	32	2.88
	Dynamism	19	2.32	Risk	18	3.11
	Job	15	2.53	Support	19	3.9
	Initiative	34	2.21	Autonomy	14	3.6
	Intelligence	5	1.8	Development	13	2.92
	Originality	11	2.46	Profit	12	3.17
	Progress	10	2.7	Leadership	11	3.64
	Project	12	2.67	Opportunity	12	3.25
	Willpower	12	2.25	Success	11	3
				Ambition	11	3.82
				Determination	11	3.82
				Power	11	2.91
			Change	11	3	

Low Motivation and High Self-Efficacy profile. In this case, central core only features one word, Innovation, and the words Company, Initiative, Business and Work belong to the contrasting core. First periphery is composed by two words, being Creativity and Risk.

Table 8: Low Motivation and High Self-Efficacy word evocation matrix following frequency, mean order evocation and intermediate frequency.

M.E.O. <2.70		>2.70				
Freq.	Evoked Term	f	M.E.O.	Evoked Term	f	M.E.O.
Inter.	Central Core		1st Periphery			
≥ 30	Innovation	118	2.46	Creativity	41	2.81
				Risk	36	3.08
	Contrasting Core		2nd Periphery			
< 30	Confidence	6	2.17	Support	26	3.08
	Dynamism	10	2.4	Autonomy	27	2.96
	Company	25	2.64	Money	27	3.41
	Initiative	23	2.09	Motivation	20	3.3
	Intelligence	13	2.54	Commitment	18	3.22
	Investment	15	2.33	Job	16	2.88
	Freedom	5	2.4	Realization	16	3
	Business	28	2.5	Resources	14	3.21
	Power	11	2.36	Development	13	2.77
	Dream	5	1.4	Opportunity	13	2.92
	Work	27	2.67	Change	12	2.83
				Ambition	12	2.83

Low Motivation and Low Self-Efficacy profile. The central core for these students features four words, which are Company, Innovation, Business and Work, and the word Initiative is present in the contrasting core. The first periphery contains the words Creativity and Risk.

Table 9: Low Motivation and Low Self-Efficacy word evocation matrix following frequency, mean order evocation and intermediate frequency.

M.E.O. <2.70		>2.70				
Freq.	Evoked Term	f	M.E.O.	Evoked Term	f	M.E.O.
Inter.	Central Core			1st Periphery		
≥ 50	Company	64	2.53	Creativity	88	2.73
	Innovation	230	2.4	Risk	57	3.09
	Business	68	2.53			
	Work	51	2.41			
< 50	Contrasting Core			2nd Periphery		
	Ambition	10	2.3	Commitment	41	3.42
	Boldness	10	2.7	Motivation	46	2.94
	Aspiration	10	2	Support	35	3.11
	Capacity	11	2.55	Money	39	3.39
	Courage	13	2.69	Opportunity	37	3.76
	Dynamism	16	2.44	Autonomy	28	3.32
	Future	14	2.57	Development	25	3.44
	Initiative	39	2	Job	27	2.93
	Investment	29	2.66	Intelligence	20	2.76
	Power	12	2.54	Change	23	3.48
				Resources	22	3.59
				Determination	19	3.42
				Leadership	18	2.89

Discussion

After analysing our data, we can observe that the central core, in the global profile matches the one observed in the study by Parreira et al. (2015) with the words Innovation, Creativity and Business. While there are some differences, noted by the fact not all people think the same way nor live the same experiences, the central core has shown itself as stable, since Innovation is considered the main definition of entrepreneurship (Bierwerth et al., 2015; Vale, 2014). This suggests that the core definition of entrepreneurship has attained the status of social representation, according to our study.

Regarding the cluster analysis, most words from central core, if not present, are found in the respective contrasting core, but the word Innovation always remained in the central core. This wasn't considered a significant difference regarding social representations of entrepreneurship, as no new words have replaced the missing ones. However, it is important to note that in profile 3, students only referred Innovation as a central element, and profile 1 only recognizes Innovation, Work and Creativity as core aspects, but due to results' inconsistency, we cannot assume this discrepancy is due to any of the analysed variables.

In the clusters' first periphery, the scope must be different, given the fact there are more words present in this section. We have noted some interesting results. Whenever motivation is low, students tend to understand entrepreneurship actions as risky. It is unclear if self-efficacy strengthens this relationship, but given the correlation between both variables, and the fact self-efficacy is related to entrepreneurship behaviour (Barakat, Boddington, & Vyakarnam, 2014; Konakll, 2015; Smith & Woodworth, 2012), it should have, at most, a very weak moderating effect. Further analysis is necessary to fully understand this part.

In this sequence, individuals with high motivation seem to relate entrepreneurship with money and commitment, terms related to persistence (Braga, Proença, & Ferreira, 2015; Kristof-Brown, Zimmerman, & Johnson, 2005; Renko & Freeman, 2017) and financial motivation (Renko & Freeman, 2017).

Motivation seems to drive this periphery, and we can understand that whenever motivation lacks, we tend to associate it to negative characteristics, in order to justify our perspective. Common sense tells us founding a business

is risky and requires careful thought, so it's expected that people who are not motivated relate entrepreneurship to risk and have a more realistic view (Oosterberk et al., 2010).

There is, however, something interesting to note about self-efficacy. In both profiles where self-efficacy is high, there are more students whose family members are entrepreneurs, compared to the remaining. We can also find more students with jobs in the first profile, where both motivation and self-efficacy is high. While this is not our analysis's focus, it may serve as a reference for future studies.

This also gets us to the reason why we decided to cross both variables. Every individual has simultaneously a certain level of motivation and self-efficacy, and analysing both separately could diminish our results. In this sequence, we understood this form of analysis would benefit our conclusions and bring additional information, which proved to be true.

It's also interesting that our sample is mostly constituted by female students. According to the statements in the study conducted by Markussen and Røed (2017), women are underrepresented in entrepreneurship. Results obtained in our study apply to both genders, and reinforce what can be found in the literature. We believe this contributes to gender equity regarding beliefs associated with the entrepreneurship area, and it's important to make sure entrepreneurship education properly reaches women.

Finally, as for one of this study's main objectives, to understand what can be improved in entrepreneurship education, we believe that better ways to stimulate entrepreneurial motivation must be created. In fact, motivation has proved itself to be a factor in how students see entrepreneurship, and based on previous literature, this relationship is clear. However, we should note that motivation and self-efficacy, in this study, are self-perceived, and understand these results with that in mind. We suggest further investigation on what can truly drive students' motivation, its impact on entrepreneurship potential, and on how this can be used to create better entrepreneurs, as well as investigating some of the limitations found in this study, as mentioned above.

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