



UNIVERSIDADE D
COIMBRA

José Neves da Cruz Pereirinha Ramalho

ENTREPRENEURSHIP IN HIGHER EDUCATION

THE EFFECT OF THE ENTREPRENEURIAL EDUCATION
AGENDA IN ENTREPRENEURIAL INTENTION AND THE KEY
ROLE OF SELF-EFFICACY

Dissertação no âmbito do Mestrado Integrado em Psicologia, Área de Especialização de Psicologia das Organizações e do Trabalho, orientada pelos Professores Doutores Carla Maria Santos Carvalho, Anabela Salgueiro-Oliveira e Pedro Miguel Dinis Santos Parreira, e apresentada à Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra

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Abstract¹

Entrepreneurship has been on the rise for the last few years due to the realisation of its impact in the economy. For this reason, the European Union pushed for the development of strategies that would help Higher Education Institutions (HEIs) adapt to this new reality and prepare students to respond to the needs of the job market. It has been shown that Entrepreneurial Education has a positive effect on the Entrepreneurial Intention. However, there have been studies advocating that the relationship is not direct, with self-efficacy being highlighted as a possible mediator.

The objective of this study is twofold. Firstly, it aims to investigate the effect of the entrepreneurial education agenda of a portuguese University on the entrepreneurial intention of the students of one of its Faculties while exploring whether this effect is direct or indirect with self-efficacy as possible mediator. Secondly, it comprises an effort to analyse the academy's entrepreneurial education effectiveness in promoting entrepreneurial intention amongst students as well as highlighting the importance of the development of self-efficacy during the process.

The data revealed that the students in the Faculty had low levels of entrepreneurial intention ($M=2.606$), medium levels of self-efficacy ($M=3.618$) and, overall, they characterized the entrepreneurial level of the HEI as medium ($M= 3.445$), meaning that it has not yet, in their perception, undoubtedly established itself as an entrepreneurial institution. Furthermore, our results suggest that self- efficacy acts as a total mediator in the relationship between the entrepreneurial education agenda and the entrepreneurial intention. This incentivizes a multidisciplinary approach that recognizes the importance of the development of constructs such as self-efficacy as much as theoretical and practical subjects while designing educational entrepreneurial programs to ensure better prospects on having more optimistic and lasting outcomes.

Key Words: Students' Entrepreneurial Education; Higher Education Institutions; Entrepreneurial Intention; Self Efficacy; HEInnovate;

¹ This Dissertation is written in accordance with the rules of APA 6th edition

Resumo

O Empreendedorismo tem ganho notoriedade ao longo dos anos devido à compreensão dos seus efeitos na economia. Por esta razão, a União Europeia procurou promover o desenvolvimento de estratégias para auxiliar as Instituições de Ensino Superior (HEIs) a adaptarem-se à nova realidade e prepararem os estudantes para uma resposta mais adequada às necessidades do mercado de trabalho. Estudos demonstraram a existência de um efeito positivo da educação empreendedora na intenção empreendedora dos estudantes. Contudo, existem estudos que apoiam a ideia de que essa relação não é direta, propondo um efeito mediador de construtos como a autoeficácia.

O objetivo deste estudo é investigar o efeito da agenda de educação empreendedora de uma Universidade portuguesa na intenção empreendedora dos estudantes de uma unidade orgânica dessa Universidade (Faculdade) da mesma explorando se este se trata de um efeito direto ou indireto, podendo a autoeficácia ter um efeito moderador. Em simultâneo, pretende-se analisar a eficácia dos esforços conduzidos pela Universidade na promoção da Intenção Empreendedora nos estudantes, enquanto se reforça a importância do desenvolvimento da autoeficácia durante o processo.

Os dados revelam que os estudantes da Faculdade possuem valores baixos de intenção empreendedora ($M=2.606$), valores médios de autoeficácia ($M=3.618$) e, de forma geral caracterizaram o nível empreendedor da HEI como sendo médio ($M=3.445$), o que significa que esta ainda não é inequivocamente percebida como uma instituição empreendedora. Os resultados obtidos indicam ainda, que a autoeficácia funciona como um mediador total na relação da agenda de educação empreendedora da universidade e a intenção empreendedora, o que incentiva uma abordagem multidisciplinar que reconhece a importância do desenvolvimento de construtos como a autoeficácia para além do desenvolvimento de conhecimentos teóricos no desenho de programas de empreendedorismo mais eficazes.

Palavras Chave: Educação Empreendedora; Estudantes Empreendedores; Instituições de Ensino Superior; Intenção Empreendedora; Autoeficácia; HEInnovate;

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I

Introduction

Entrepreneurship has been gaining notoriety in recent years due to several changes in society. In 2008, the world faced a considerable crisis that took a toll on the job market, translating into poor economic growth in several countries, as well as a lack of employment opportunities especially for the youth (Rae & Woodier-Harris, 2013). On the fallout of the crisis, the communication from the European Commission (COM, 2012), stated that it was important to solve the new problems in the European Union (EU) in a way that would provide a more sustainable form of development for the upcoming years. Considering that, the commission suggested an investment in entrepreneurship and the improvement of the levels of employment (COM,2012). This could be obtained through an investment in entrepreneurial education and training as it would help to establish a more favourable atmosphere for the development of businesses. A commitment to this field would help students not only be able to create job opportunities for themselves and others but enhance their abilities in the future to resolve problems in more effective ways and transform difficult situations into new prospects (Parreira, Mónico, Carvalho, & Silva, 2018) as the entrepreneurial mindset is not restrained to business creation (Baidi & Suyatno, 2018).

Higher Education Institutions (HEIs) play a key role in this scenario considering the positive effect education has in entrepreneurial intention (Corso, 2020; Jahani, Babazadeh, Haghighi, & Cheraghian, 2018; Kritskaya & Kritskaya, 2016) as they prepare their students to enter the labour force. In other words, they establish a bridge between the academia and the working sphere's reality(Corso, 2020). However, not all are yet adapted to the rapid shifts in the paradigm, meaning that many are not able to respond to the growing trend of a dynamic “work cycle” where the idea of a job lasting a lifetime is gradually fading away (Hartsenko & Venesaar, 2017; Parreira et al., 2018). In addition, it has been shown that a flawed implementation of entrepreneurship into the curriculum can have a restrictive effect in the “entrepreneurial mindset” and limit the student's thinking process instead of providing them with tools to expand it, therefore having the opposite desired outcome (Gurel, Altinay, & Daniele, 2010; Islam, Ali, Aziz, & Niazi, 2018)

After a debate in the European University-Business Forum, it became clear that a solid statement on what defines an entrepreneurial HEI and a guiding framework for action were necessary. As a result, it was created a self-assessment tool available to everyone for free through a web platform. This tool, also known as HEInnovate, was developed by the European Commission's Directorate-General for Education and the OECD's LEED Forum with the help of a group of independent experts. The scale allows an evaluation of the level of entrepreneurship in HEIs based on the ideas present by Gibbs (2005) and according to the perspective of every component of the Institution, from top management to students. In addition, the HEInnovate scale incentivises the creation and improvement of the universities' entrepreneurial agenda by providing educational materials. The scale itself is comprised of seven dimensions as it recognizes the complexity of an entrepreneurial education and what is helpful or not when embracing and applying this concept (European Commission's DG Education And Culture & OECD Local Economic And Employment Development Programme, 2013).

Ultimately, considering the possible benefits to the economy (Obembe, Otesile, & Ukpogon, 2014), it is desired that the education given in the universities can translate into entrepreneurial action. One possibility to evaluate this is through entrepreneurial intention, because a high level of entrepreneurial intention translates into a high probability of incurring in entrepreneurial behaviour (Omidi Najafabadi, Zamani, & Mirdamadi, 2016). Entrepreneurial intention is a sincere motivation that an individual possesses to follow through with an entrepreneurial action or behaviour (i.e result in the creation of a job position) and can be influenced by several variables being them of personality, contextual or demographic nature (Sumarsono, Hanto, & Sudiby, 2020). It can be influenced by someone's openness to experiences and risk taking, need for achievement, education and family's environment (Jang, Hadley, Son, & Song, 2019). One that is recurrent in literature is self-efficacy. It has been described as one of the most influential factors in explaining academic entrepreneurial intentions (Prodan, 2011) as someone is more likely to endure obstacles when having a high score in this construct. Besides, when combined with an entrepreneurial focused education, it has been shown to have a positive effect in entrepreneurial intention (Baidi & Suyatno, 2018b) with some studies establishing it as a clear mediator in this relationship (Zhao, Hills, & Seibert, 2005).

The importance of entrepreneurship in the academia and the variables that have an impact on this construct constitute the motivation behind the focus of this study which

is, firstly, to investigate the effect of the entrepreneurial education agenda of a Portuguese University on the entrepreneurial intention of the students of one of its Faculties while exploring whether this effect is direct or indirect with self-efficacy as possible mediator. Secondly, it comprises an effort to analyse the academy's entrepreneurial education effectiveness in promoting entrepreneurial intention amongst students as well as highlighting the importance of the development of self-efficacy during the process. It is important to mention that this study focuses on the perceptions rather than the reality of the setting because entrepreneurial intention is anticipated to be more influenced by the individual's conception of the environment.(Omidi Najafabadi et al., 2016). The outcomes may provide a starting point for the development of a wider scale study that will be able to provide us with a good diagnosis of the current state of the effectiveness of the entrepreneurial agenda of this University on its students and that fostering constructs such as self-efficacy should have a stronger presence in the efforts conducted.

This dissertation is organised as follows. Firstly, the literature review which will encompass entrepreneurship, entrepreneurial intention, self-efficacy, the role of higher education institutions and the HEInnovate Concept to further develop the reader's knowledge about key constructs of the hypothesis. Followed by the objectives, the method, results and their discussion. Lastly, the conclusion and the limitations of this study, as well the possible future research, will be presented.

II

Literature review

Entrepreneurship

Definition of entrepreneurship has a widespread range in the literature. Coming from the French words "*entre*" and "*prendre*", it can be understood as someone being in the "market between the supplier and the consumer"(Parreira et al., 2018). Davidsson (2003), sees entrepreneurship as "a social phenomenon which leads to improved use of resources in the economic system as a whole", whereas Schumpeter (1947) defines it as a driving force in innovation that is responsible for the creation of wealth or an organization. Current publications build on the latter definition, adding that entrepreneurship, besides translating into the creation of a new project or a job position, can also be the expansion of an existing business (Parreira, Carvalho, Mónico, & Santos, 2017). Whatever the definition, there are several elements that can be found in recent

literature that are referred to in order to elucidate its investigation field such as opportunity, emergence of new ventures, market context and social and global context. (Lohikoski, Muhos, & Härkönen, 2014).

Entrepreneurship has a positive effect in the economy of the country, being pointed to as one of the main forces driving economic growth (Chen, Hsiao, Chang, Chou, Chen, & Shen, 2015) through the development of new ventures and job opportunities (Sultan, 2016). This was highlighted in a study conducted by Thrik & Wenekers (1999), where, even though they were unable to clearly specify the mechanisms through which that occurs, it is discussed that entrepreneurship, alongside the variety of ideas and increasing competition, could make the country more competitive at an international level in an era marked by globalization.

A major challenge to the entrepreneurship process is the fear of failure. Entrepreneurship may not provide a stable income each month and, due to the time investment that is needed in some cases, entrepreneurs may not have the opportunity to be around their loved ones as regularly as they desire. Nevertheless, an entrepreneurial act cannot exist without uncertainty (Cacciotti & Hayton, 2015; van Praag, 1999).

The role of Higher Education Institutions

Higher Education Institutions (HEIs), whose main objective is to equip the younger generations with skills to exercise a certain profession, assert themselves as highly important structures in the dissemination of entrepreneurship, hence the concept of “Entrepreneurial University”. This concept, however, is relatively new in the portuguese sphere (Proença & Sanches, 2016) and refers to the role that these institutions have in the economic and social growth of the community. Gibb e Hannon (2006) defined an Entrepreneurial University as an institution of higher education which comprises principles as financial autonomy, an internal management capable of promoting an entrepreneurial culture, taking responsibility for the personal development of their students and faculty and ensure an institution-wide commitment to include entrepreneurial education in the pre-established curricula.

As previously mentioned, entrepreneurial education is one of the factors considered when studying the impact of HEIs in the promotion of entrepreneurship. As entrepreneurial education we include every form of learning and teaching that contributes to the development of the entrepreneurial mindset, behaviour and skills. This includes

critical and creative thinking, problem solving, risk taking and cooperating (Proença & Sanches, 2016). These institutions, by providing an input of theoretical knowledge, including relevant information about the entrepreneurial process, have the opportunity to prepare the younger individuals for the world of entrepreneurship as they will be gathering competencies that are key in the success of an entrepreneurial action (Sorayah, Amirul, Sondoh Jr., & Tanakinjal, 2015).

Analysing the youth's unemployment rates, it becomes clear that there is a need for an investment in this area as it increases the likelihood of business creation and, therefore, an appearance of new job opportunities. Assuming that entrepreneurship, as any other area, can be taught (Proença & Sanches, 2016; Teixeira & Davey, 2010), there are several strategies that can be adopted for instance, "building a bridge" between the University and the entrepreneurial world, creating entrepreneurial programs or including courses aimed to the study of entrepreneurship in the educational curriculum (Arranz, Ubierna, Arroyabe, Perez, & Fdez. de Arroyabe, 2016).

The positive impact of entrepreneurial education on entrepreneurial intention has been highlighted by several studies (e.g. Islam et al., 2018; Mwasalwiba, 2010; Teixeira & Davey, 2010). The network *Eurydice* conducted a study at a European level – "*Entrepreneurship Education at Faculty in Europe*" – that states the importance of including in the curricula and education plans, themes related to entrepreneurial education focusing on entrepreneurial attitudes, skills and knowledge (Proença & Sanches, 2016).

Even though there are studies that conceive a direct correlation between entrepreneurial education and entrepreneurial intention, there has not been a complete consensus on that matter. Farhangmehr and colleagues (2016), were unable to establish a significant direct relationship between entrepreneurial education and entrepreneurial intention, citing that a knowledge based education, which did not develop important soft skills (i.e. relationships, commitment and organizing ability) and the influence of external variables and cultural context (in this case the Portuguese economic crisis), resulted in a low motivation to enrol in entrepreneurial activities. In another study, Zhao and colleagues, (2005) found that formal learning was only able to result in entrepreneurial intention if Self- Efficacy was present as a mediator in the relationship.

Self- efficacy

Parreira and colleagues (2018) underline that Self-Efficacy can be described as a construct linked with an individual's success in certain tasks. It is related to desirable features that include motivation to learn and resilience and is amongst the factors that compose the psychological mechanisms managing motivation. Bandura was one of the first authors to tackle this construct with the proposal of the "Social Learning Theory," which states that learning happens through behavioural modelling and that self-efficacy is dynamic, meaning that it could change with exposure to new information and experiences. (Bandura, 1977)

The first of four sources that are believed to affect self-efficacy is related to performance outcomes. According to this principle, an individual's perception of their abilities is expected to increase if a previous experience provided them with positive evidence. Vicarious experiences are mentioned as the second source and relate to the likelihood of the person witnessing others in situations of accomplishment or failure. Observing people that resemble our own selves succeed due to personal effort increases the observers' confidence in their own skills to perform and thrive in similar conditions. Verbal persuasion is presented as the third source and stands for the influence a person can exert on another's self-efficacy presenting verbal information regarding the task and the individual's capability to do it. The last source of influence is physiological feedback, through which people experience sensations from their body and the way they perceive this emotional arousal influences their beliefs of efficacy; thus, individuals are more likely to experience success if they do not feel anxious about a social object or situation. (Bandura, 1977; Parreira et al., 2018)

Since self-efficacy is a strong predictor of task performance, it can be considered essential in entrepreneurship because it translates into a greater change of an individual making a bigger effort and time investment in one task. (Beefink, van Eerde, Rutte, & Bertrand, 2012). This constitutes one of reasons why a focus on self-efficacy development helps stimulate entrepreneurial intention and impact the reception of the entrepreneurial education (Jahani et al., 2018) as individuals who have a strong belief in their entrepreneurial capabilities will have a stronger intention to start and run their own businesses (Baidi & Suyatno, 2018; Moos, 2016).

Entrepreneurial Intention

An intention can be described as a sincere individual's drive to carry a behaviour or an action through (Baidi & Suyatno, 2018) and, as a result, is a strong predictor of said action (Ajzen, 1991). Following this logic, an entrepreneurial intention is the motivation that one person holds to carry out an entrepreneurial action translating, for example, into the creation of a business or adding value to one. (Baidi & Suyatno, 2018b; Moriano, Gorgievski, Laguna, Stephan, & Zarafshani, 2011).

According to the literature, entrepreneurial intention can be influenced by a number of factors of intrinsic or extrinsic nature and it can be explain using intention-based models that allow an insight on the entrepreneurial cognitive process before enrolling in an entrepreneurial action (Esfandiar, Sharifi-Tehrani, Pratt, & Altinay, 2019; Low & Macmillan, 1988). The Theory of Planned Behaviour (TPB) was introduced by Ajzen and relies on the principle that the attitude towards the act (the perception on the positive or negative contributions of a certain action to one's life), subjective norms - including social networks- and the perception of behaviour control (Ajzen, 1991) -which intersects with the self-efficacy concept established by Bandura (Esfandiar et al., 2019)- pose as the motivational foundation to conduct a behaviour with a high level of reliability (Ajzen, 1991).

Social norms stand for the effect of a society's inherent cultural standards and expectations when initiating an entrepreneurial action (Veciana, Aponte, & Urbano, 2005). These norms, as perceived by the individual, influence the desirability of a choice when making decisions to launch a self-employment business. As they differ across and even within cultures, it is plausible to expect that the social norms' effect on the propensity to become an entrepreneur vary according to cultural contexts (Shook & Bratianu, 2010). However, when compared to other factors, social norms are a weaker predictor of entrepreneurial intention which we can hypothesize is due to the fact that the young entrepreneurs make their choices based more on intrinsic than extrinsic factors (Gorgievski, Laguna, Stephan, & Zarafshani, 2012). This does not mean, however, that external factors do not play a role in entrepreneurial intention, as it is made clear by the importance of an investment in entrepreneurial education. Students with entrepreneurial education tend to have stronger entrepreneurial intentions and a higher probability to start new businesses when compared to their peers (Kolvereid & Moen, 1997; Noel, 2001;

Paco et al., 2012) especially when intrinsic values, such as self-efficacy, are stimulated (Baidi & Suyatno, 2018).

The HEInnovate Concept

The impact of entrepreneurial education on entrepreneurship action has been recognized by several authors and, by establishing the link between the academic world and the job market, HEIs play a key role on passing down the values and skills necessary to become an entrepreneur. Therefore, the European Commission created, in 2013, a self-assessment tool, available for free ,online, that would be able to evaluate the Institutions in the seven domains considered essential for one to become an entrepreneurial and innovative structure (Parreira et al., 2018). The seven dimensions established by Heinnovate (European Commission’s DG Education and Culture & OECD Local Economic and Employment Development Programme, 2013), are as follows:

1. *Strong Leadership and Good Governance*: A strong leadership and management are vital in the development of an entrepreneurial culture. Some of the factors that fall into this category are the incorporation of entrepreneurship in the HEI’s strategic plan, incentivise its units to promote entrepreneurship and give them autonomy to act and, finally, asserting itself as the driving force in entrepreneurship and innovation in the regional and social context.
2. *Organizational Capacity*: Funding, People and Incentives. The organizational capacity greatly contributes to the HEI’s fulfilment of its strategic plan. This process usually relies on the Institution’s capability to capture different sources of investment as well as creating synergies with entrepreneurial structures both internal and external.
3. *Entrepreneurial Teaching and Learning*: The focus on this dimension is the teaching and learning of entrepreneurship through the development and application of innovative methods to stimulate the entrepreneurial “*spirit*”. In addition, there is an effort to expose the students to entrepreneurial experiences in order to acquire the necessary skills to develop the entrepreneurial mindset.
4. *Preparing and Supporting Entrepreneurs*: It falls under the responsibility of an innovative HEI the duty to support students and faculty on the pursuit of an entrepreneurial career that fits their personal objectives. For this, the institution can take advantage of their connections to the industry and access to financing opportunities.

5. *Knowledge Exchange and Collaboration*: Asserting itself as the third mission of an innovative HEI, this dimension is defined as the stimulation, direct application and the usage of the knowledge to promote the social, cultural and economic development. Hence, holding a place of extreme importance as it results in the creation of value for both the Institution and the community where it belongs.
6. *The Internationalized Institution*: This dimension allows an assessment of international influences in the HEI. Internalization is an integration of international complexes in the institution's education, research and knowledge exchange which are considered to act as vehicles of change and improvement. This dimension is behind the introduction of alternative forms of thinking and education as the external inputs can open a breach to question the tactics used.
7. *Measuring Impact*: Determining and comprehending the impact of the changes withheld by the institution constitutes a vital process. Due the poor development of this dimension in the institution, it also aims to recognize areas where it might measure impact.

Besides this, the platform also provides resources to promote good practices, guidance notes to help HEIs to have a framework to discuss, evaluating and evolving as an entrepreneurial institution (European Commission's DG Education and Culture & OECD Local Economic and Employment Development Programme, 2013).

III

Method

Research objectives and expected results

The objective of this study is twofold. Firstly, it aims to investigate the effect of the entrepreneurial education agenda of a portuguese University on the entrepreneurial intention of the students of one of its Faculties (Organic unit) while exploring whether this effect is direct or indirect with self-efficacy as possible mediator. Secondly, it comprises an effort to analyse the academy's entrepreneurial education effectiveness in promoting entrepreneurial intention amongst students as well as highlighting the importance of the development of self-efficacy during the process.

Recognizing the importance of the perception of reality in the outcome of our actions, the analysis of the of the entrepreneurial agenda of the university will be

obtained through the perception of its students. Even though it is not its focus, this paper will also analyse how the perception differs in terms of the University and the individual institutions (Faculties) and some of the variables from the ones described in the demographic analysis that may play a relevant part when it comes to influence the entrepreneurial intention.

Considering the existing literature on the matter, this dissertation will propose as hypothesis the following:

H1: The entrepreneurial education agenda of the University has a positive influence in the entrepreneurial intention of the students from the Faculties.

H2: Self-efficacy of the students from the Faculty has a positive influence in the entrepreneurial intention of its students.

H3: Self-efficacy of the students from the Faculty acts as a mediator in the relationship between the entrepreneurial education agenda of the University and the entrepreneurial intention of the students from the Faculty.

Design of the study

This study of quantitative characteristics aimed to investigate the relationship of three variables without their manipulation (non-experimental) according with O'Dwyer & Bernauer (2013). Besides that, it has adopted both a descriptive and correlation design. Descriptive in the sense that we aimed to collect data that would be able to describe the current entrepreneurial levels of the University and its students' entrepreneurial profile and self-efficacy (Kramer, 1985) and correlational because it aimed to explore the relationship between three variables (Thompson, 2014). Finally, this is a single cross-sectional study as it analyses data from a specific point in time (Levin, 2006).

Samples

The sample of the study conducted in Portugal, comprises a total of 176 participants from a Faculty from a Portuguese University, 148 (84.09%) being females and 28 (15.91%) being males. The youngest participant is 18 years old and the oldest 43 years old ($M=21.74$). Most of the participants are portuguese (88.30%) and are enrolled in the course of Psychology ($n= 154$; 87.50%) most in the Bachelor' degree, between the 1st and 3rd years. (60.20%). Under the variable "Job", 163 identified with the condition of "Student" (92.61%) and 13 (7.39%) identified themselves as being "Working Students".

When it comes to contact with entrepreneurship, 11 (22.00%) of the students who reported having had classes about entrepreneurship, stated that they were part of the curriculum, whereas the other 39 (78.00%) students participated in sessions that were not part of the degree's curriculum. Less than half of the participants (47.73%) stated the presence of entrepreneurs in their families with the Father figure being the most common person to be related to that variable ($n=41$; 23.30%). Finally, 82 (46.59%) participants stated they are/were involved in a student association and 36 (20.5%) went on mobility programs. The table 1 provides further details.

Table 1

Sample's demographic characteristics

	Sample	<i>M</i>	<i>SD</i>
	Age	21.744	3.592
	Sample	<i>n</i>	%
Sex	Male	28	15.91
	Female	148	84.09
Civil Status	Single	170	96.59
	Married	4	2.27
	Civil Union	2	1.14
	None	92	52.27
	Brother	1	.57
Entrepreneurs in the family	Father	41	23.30
	Mother	18	10.23
	Cousin	6	3.41
	Grandmother	5	2.84
	Grandfather	10	5.68
	Uncle	30	17.05
	Aunt	16	9.09
	Husband	1	.57
Student was or is part of a Student Association	Yes	82	46.59
Classes about entrepreneurship	Part of the curriculum	11	22.00
	Not part of the curriculum	39	78.00
Job	Student	163	92.61
	Working Students	13	7.39

Instruments

The scales here presented, integrate the questionnaire used to assess the variables in this study (entrepreneurial education agenda of the University, entrepreneurial intention and self-efficacy of the students of one of its Faculties) as well as the socio-demographic questions to characterize the sample.

HEInnovate Self-Assessment scale

The HEInnovate Self-Assessment Scale (European Commission & OECD, 2013) was used to measure the entrepreneurial education agenda of the University. The scale evaluates seven dimensions (leadership and governance, organizational capacity, entrepreneurial teaching and learning, preparing and supporting entrepreneurs, knowledge exchange and collaboration, internationalized institution and measuring impact) and was adapted by Mónico and colleagues (2020) to a scale constituted by 37 items. Each item was evaluated using a Likert scale that ranged between 1 “Totally disagree” to 5 “Totally agree”. In this previous study, which comprised 966 students from different Portuguese HEIs, the CFA analysis revealed a good fit of the seven-factorial solution $-NFI=.924$, $CFI=.953$, $TLI=.947$, $SRMR=.033$ and $RMSEA=.057$ - and a high reliability.

Self-Efficacy Scale

The Self-Efficacy scale was adapted by Parreira and colleagues (2017) to the Portuguese population and was used to measure the self-efficacy presented by students from the Faculty. The scale is constituted by nine items. Each item was evaluated using a Likert scale that ranged between 1 “Totally disagree” to 5 “Totally agree”.

Entrepreneurial Intention Scale (Questionário de Intenção Empreendedora)

The Entrepreneurial Intention scale was adapted by Oliveira (2016) to the Portuguese population and was used to measure the entrepreneurial intention presented in students from the Faculty. The scale is constituted by five items. Each item was evaluated using a Likert scale that ranged between 0 “Totally disagree” to 6 “Totally agree”.

Procedures

Participants were contacted personally by the researcher through multiple outlets such as social media (Facebook, Instagram, LinkedIn, etc.). In the contact, the purpose of the study was explained, and every relevant information was provided. Although the questionnaire (see Annex 1) was designed for both in paper-and-pencil and on-line

applications, due to the time period of its dissemination, only the online format was used for the distribution. The idiom chosen for the questionnaire was portuguese and data was collected between December 10th and January 27th, 2019 with a predicted response time of 15 minutes.

Ethical Procedures

In order to comply with the ethical guidelines and avoid biased responses, the research procedures were planned in order to ensure the participants' anonymity and confidentiality of their answers. Besides that, it was ensured a positive feedback for this study by the Commission on Ethics and Deontology of the Research carried out by the Faculty of Psychology and Education Sciences from the University of Coimbra (CEDI) in an extraordinary meeting on the 25th of January 2018.

The voluntary nature of participation was mentioned when the study was presented, and participants were not able to respond to the questionnaire unless they agreed with the conditions. At the end of the completion of the questionnaire, information about the research objectives was given to each participant as well as the contact information of one of the authors to allow for questions or doubts to be presented.

Data analysis

On this step, the IBM SPSS and AMOS software were utilized recurring to the 22.0 version. Regarding the normality of the variables, skewness (Sk) and kurtosis (Ku) coefficients were consulted which allowed for the establishment of said normality as adequate as it fit in the intervals of $Sk < 2$ and $Ku < 3$ (Kline, 2011).

The goodness of fit was assessed by interpreting the values of the *RMSEA* (Root Mean Square Error of Approximation; considering an acceptable adjustment with $< .08$ and a good fit $< .05$; Kline 2011; Schumacker & Lomax, 2010), *SRMR* (Standardized Root Mean Square Residual) which presents an appropriate fit when $< .08$ (Brown, 2015), *NFI* (Normed of fit index, with a good fit above $.80$, Schumacker & Lomax, 2010), *TLI* (Tucker-Lewis Index, considering an adequate adjustment to be above $.90$, Brown, 2015), *CFI* (Comparative Fit Index, good fit $> .90$, Bentler 1990) and X^2/df (considering good adjustment < 2 ; acceptable fit < 5 ; Marôco, 2011; Schumaker & Lomax, 2010).

The improvement of the model fit was evaluated by the modification indices (MI; Bollen, 1989) with indices with a higher MI being discarded. In this matter, it was also decided to analyse the MI accordingly to their statistical significance, taking into

consideration the value of $\alpha = .05$ Arbuckle (2013). Following Marôco (2011), parameters were modified if considered safe, meaning, with an MI higher than 11 ($p < .001$).

Reliability was assessed by determine Cronbach's alpha (Nunnally, 1978) for both global scale and the dimensions present in each one. While a good indicator of internal consistency has a value of .80 (Hill & Hill, 2012), coefficients higher than 0.70 were considered adequate and as a good metric for internal consistency.

For the purpose of significance, it was considered for the type I error the level of $\alpha=0.05$. Through the Pearson correlation coefficient, inter-correlations were analysed with their effect sizes (low through high correlations) being described in accordance with Cohen (1998). In order to perform the linear regression analysis, the assumptions of homogeneity of variances and normal distribution were verified recurring to the analysis of graphs.

To test the final hypothesis we design a Simple Mediation Model (Model 4; Hayes, 2013) that aimed to showcase in what manner the antecedent (entrepreneurial education agenda of the University) would influence the outcome (entrepreneurial intention) through a single variable (self-efficacy), meaning that self-efficacy would function as a mediator in this relationship. With 10000 bootstrap samples, we used bias corrected bootstrap confidence intervals for the indirect and direct effects to construct intervals at a 95% level of confidence. We designated confidence intervals that did not include zero as having statistically significant effects (Hayes, 2013).

Before the confirmatory analyses, an assessment focused on the distribution of the items by the response possibilities was conducted. In order to obtain the maximum conceivable number of independent factors, it was utilized the Varimax rotation method. Regarding the CFA (confirmatory factorial analysis), the software used to perform the method of maximum likelihood estimation was AMOS version 22. In terms of composite reliability and mean variance extracted for the factors, they were analysed recurring to the methods stated in Fornell and Larcker (1981).

IV

Results

We begin by presenting the results of the Confirmatory Factorial Analysis of the instruments.

HEInnovate Self-Assessment scale

CFA was performed to test the fit of the seven-factorial solution. This solution revealed an acceptable fit: $NFI=.856$; $CFI=.918$; $SRMR=.0431$; $TLI=.909$ $RMSEA=.080$. The values indicate an acceptable fit and a high reliability with the value of Cronbach's Alpha = 0.984. However, due to a human error, three items were not included in the questionnaires, which, proven by the statistical analysis didn't have enough of an impact to compromise the validity of the scale.

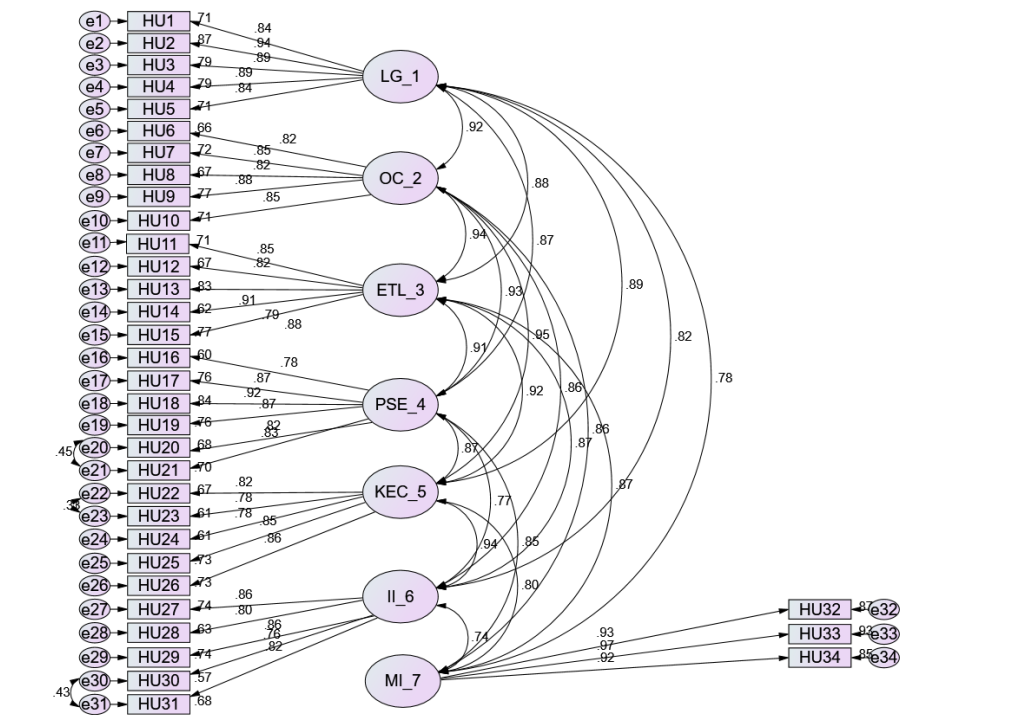


Figure 1 Representation of the modified CFA model for the Heinnovate Self-Assessment

Self-Efficacy

After conducting the EFA analysis, only the items which displayed a relationship with self-efficacy related to entrepreneurship were kept in order to achieve a good reliability.

Afterwards, with the remaining four items, it was conducted the Confirmatory Factorial Analysis and the following results were achieved: $NFI=.998$; $CFI=.995$; $SRMR=.0165$, $TLI=.971$; $RMSEA=.059$. The values indicate an acceptable fit and a high reliability with the value of Cronbach's Alpha= 0.700.

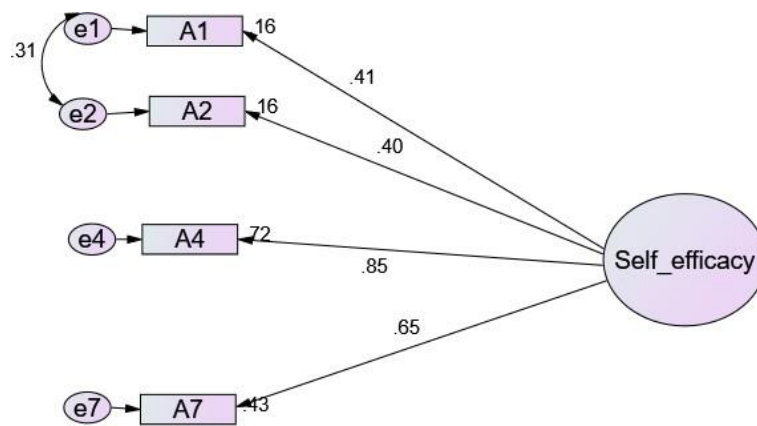


Figure 2 Representation of the modified CFA model for Self-Efficacy

Entrepreneurial Intention scale

Conducting the Confirmatory Factorial Analysis, the following results were achieved: $NFI=0.995$; $CFI=1.000$; $SRMR=0.0141$; $TLI=1.001$; $RMSEA=0.000$. The values indicated a good fit but only after the association of errors identified in the scale by “e3” and “e5” after the consultation of the modification indices. As the Cronbach’s Alpha being 0.865, the scale presented a good reliability.

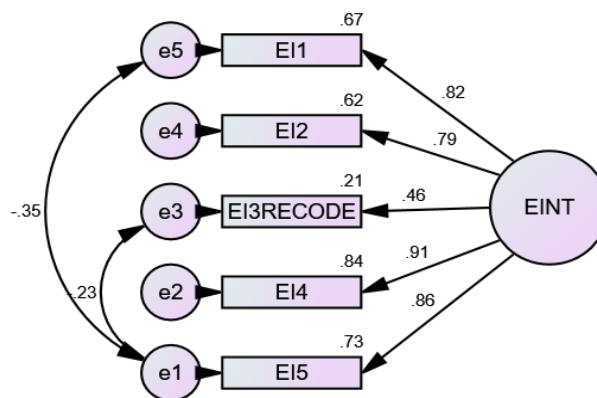


Figure 3 Representation of the modified CFA model for Entrepreneurial Intention

After analysing the data, the means (M), average variance extracted (AVE), standard-deviations (SD), Cronbach's Alpha (α), the maximum values, the minimum values of the scales were as presented on table 2. Globally, students perceive both the University and the Faculty's entrepreneurial levels as medium although having a better perception of the University ($M=3.445$) than their Faculty ($M=2.964$). Regarding all the seven dimensions of the HEInnovate scale, in both cases, the dimension "Internationalized Institution" had the best average score ($M= 3.626$, University; $M=3.327$, Faculty) followed by "Knowledge Exchange and Collaboration" ($M= 3.572$, University; $M=3.043$, Faculty). On average, as it happened with the global scores, the values for each dimension that was present in the HEInnovate scale were higher when applied to the University - with mean values between 3.229 ("Measuring Impact") and 3.626- compared to the Faculty - which presented mean values between 2.683 ("Preparing and Supporting Entrepreneurs") and 3.327.

Self-efficacy had an average score of 3.618, meaning that the participants, tended to determine the statements presented to be closer to value that represented total adequacy to their experiences, although the results may be considered medium. Entrepreneurial intention, however, had a mean of 2.606 which represents a tendency for students to place their answers on the lower side of the scale, below the answer that accounts for a moderate adequacy of the answer in the subjects' experience.

Table 2

Descriptive statistics, composite reliability (CR), average variance extracted (AVE) and Cronbach's Alpha (α) of the different scales and factors.

	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>	<i>CR</i>	<i>AVE</i>	α
1. Entrepreneurial Intention Scale	1.852	3.256	2.606	1.301	.884	.613	.865
2. Self-Efficacy Scale	1.890	4.890	3.618	.541	.700	.501	.854
3. Heinnovate Global Scale- University	3.131	3.818	3.445	.734	.905	.571	.984
3.1 Leadership & Governance	1.000	5.000	3.561	.804	.945	.778	.943
3.2 Organizational Capacity	1.000	5.000	3.442	.757	.923	.707	.923
3.3 Entrepreneurial Teaching & Learning	1.000	5.000	3.377	.794	.928	.721	.925
3.4 Preparing & Supporting Entrepreneurs	1.000	5.000	3.317	.844	.940	.723	.939
3.5 Knowledge Exchange & Collaboration	1.000	5.000	3.572	.766	.910	.670	.915
3.6 Internationalized Institution	1.000	5.000	3.626	.785	.911	.672	.914
3.7 Measuring Impact	1.000	5.000	3.229	.856	.958	.885	.958
4. Heinnovate Global Scale- Faculty	1.000	5.000	2.964	.846	.887	.570	.983
4.1 Leadership & Governance	1.000	5.000	3.017	.915	.945	.778	.923
4.2 Organizational Capacity	1.000	5.000	2.932	.890	.923	.707	.917
4.3 Entrepreneurial Teaching & Learning	1.000	5.000	2.946	.953	.928	.721	.942
4.4 Preparing & Supporting Entrepreneurs	1.000	5.000	2.683	.955	.940	.723	.944
4.5 Knowledge Exchange & Collaboration	1.000	5.000	3.043	.944	.910	.670	.922
4.6 Internationalized Institution	1.000	5.000	3.327	.914	.911	.672	.906
4.7 Measuring Impact	1.000	5.000	2.788	.967	.958	.885	.966

To get some insight regarding the hypothesis present earlier, we begin by presenting the correlation between the global HEInnovate Self-Assessment Scale regarding the University, its dimensions, self-efficacy and entrepreneurial intention (table 3). As the outcomes state, there were found some correlations with statistical significance, while the values account for only weak or low correlations (Cohen, 1988). Although this is not the focus of this study, we also present the correlation matrix related to the socio-demographic factors and the global scales (table 4) it is important to notice that there were a correlation found between entrepreneurial intention and programs that did not integrate the Faculty's curriculum which did not occur in the classes that integrated the curriculum.

Table 3*Intercorrelations between the dimensions of the HEInnovate Self-Assessment Scale Uni and the global scales*

	LG	OC	ETL	PSE	KEC	INT	MI	HEI	SE	EI
Leadership & Governance (LG)	1	.864**	.827**	.835**	.833**	.762**	.752**	.914**	.163*	-.029
Organizational Capacity (OC)		1	.874**	.872**	.863**	.796**	.810**	.945**	.198**	-.056
Entrepreneurship Teaching & Learning (ETL)			1	.870**	.844**	.805**	.824**	.941**	.255**	-.045
Preparing & Supporting Entrepreneurs (PSE)				1	.815**	.737**	.826**	.929**	.183*	-.029
Knowledge Exchange & Collaboration (KEC)					1	.838**	.757**	.925**	.135	-.043
The Internationalized Institution (INT)						1	.715**	.879**	.224**	-.015
Measuring Impact (MI)							1	.888**	.147	-.007
HEInnovate Self-Assessment Scale Uni (HEI)								1	.203**	-.034
Self-Efficacy (SE)									1	.171*
Entrepreneurial Intention (EI)										1

* $p \leq 0.05$; ** $p \leq 0.01$

Table 4*Intercorrelations between the socio-demographic factors and the global scales*

	Sex	Age	EF	MP	DG	H	Year	OUT	SA	EI	SE	HEI
Sex	1	.027	.082	.011	.209**	.175	.001	.174	.030	.221**	.154*	-.188*
Age		1	.144	.095	.038	.430*	.267**	.117	-.026	-.093	.151*	-.148
Entrepreneurs in the family (EF)			1	.023	.035	.230	.143	.035	-.003	.210**	.086	-.153*
Mobility programs (MP)				1	-.073	.314	.140	.072	.148	.067	.156*	-.057
Entrepreneurship Classes that integrated the degree (DG)					1	-.158	-.084	.107	-.006	.097	.028	-.018
Duration of the Entrepreneurship Sessions (H)						1	.200	.302	.233	-.272	.488*	-.444*
Year enrolled in Classes outside of the curriculum (OUT)							1	.043	.121	-.043	.186*	.072
Is or was part of a Student association (SA)								1	.259**	.240**	.119	-.129
Entrepreneurial Intention (EI)									1	-.033	.232**	.000
Self-Efficacy (SE)										1	.171*	-.034
HEInnovate Self-Assessment Scale Uni (HEI)											1	.203**

* $p \leq 0.05$; ** $p \leq 0.01$

Verifying the first hypothesis (The entrepreneurial education agenda of the University has a positive influence in the entrepreneurial intention of the students from the Faculties) by reading the correlation matrix, we could not establish a statically significant relationship between the entrepreneurial education agenda, measured by the dimensions in the HEinnovate scale, and the entrepreneurial intention of the students as the p values were all above 0.05

Verifying the second hypothesis (Self-efficacy of the students from the Faculty has a positive influence in the entrepreneurial intention of its students) by reading the correlation matrix, we could establish a low but positive statistically significant correlation between the entrepreneurial intention and self-efficacy ($r=.171$, $p=.023$). Considering the p value, it was conducted a linear regression which indicated a significant effect of self-efficacy on entrepreneurial intention ($r= .281$; $R^2=.079$). Analysing the data present on table 5, we can verify that Self-Efficacy predicts 7.9% of the entrepreneurial intention.

Table 5

Regression coefficients, standard errors, and model summary information for the tested model (Prediction of Entrepreneurial Potential through Self-Efficacy)

	Entrepreneurial Intention				
	<i>B</i>	<i>SE</i>	<i>Beta</i>	<i>T</i>	<i>p</i>
Self- Efficacy Scale	.621	.161	.281	3.856	.000
$R=.281; R_{aj}^2=.079$, $SE=1.252$ $F(1,174)=14.866$, $p<0.001$					

For hypothesis 3 (self-efficacy of the students from the Faculty acts as a mediator in the relationship between the entrepreneurial education agenda of the University and the entrepreneurial intention of the students from the Faculty) we designed a simple mediation model that can be found in fig. 4.

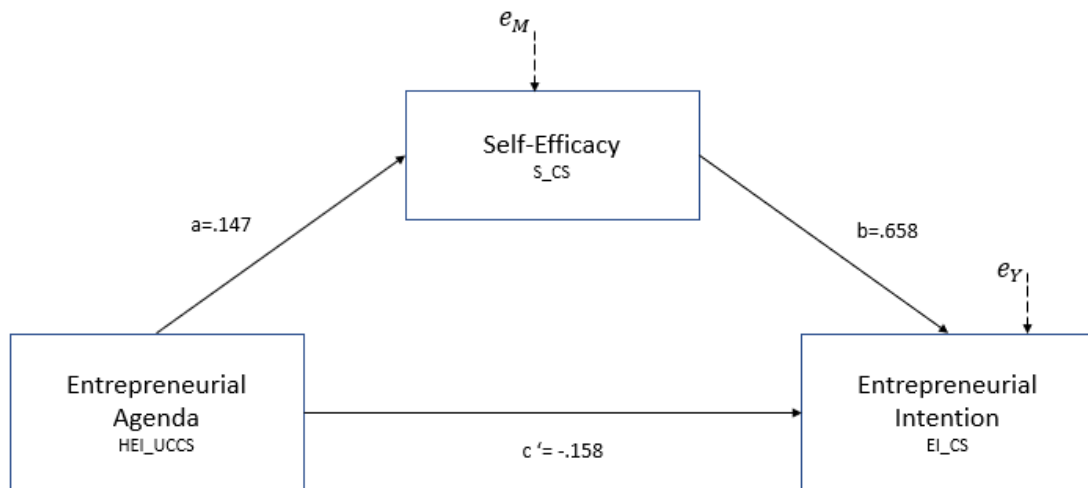


Figure 4 PROCESS v.3.5 Statistical diagram demonstrating the mediating effects of self-efficacy on the relationship between the Entrepreneurial Education Agenda of the University (Entrepreneurial Agenda) and the Entrepreneurial Intention of Students in the Faculty, with standardized path coefficients reported

As stated in the “Data Analysis” section, the simple mediation model intends to translate the influence of a causal antecedent on an outcome through the influence of a mediating variable (Hayes, 2013). Therefore, in this study, we looked at the direct and indirect effect the entrepreneurial education agenda of the University has on the entrepreneurial intention of the students with self-efficacy as a mediator. The data from the model summary, as well as the regression coefficients and a standard error can be found in table 6.

Table 6

Regression coefficients, standard errors, and model summary information for the tested model

Predictor Variable	Predicted Variable							
	Self-efficacy (M)			Entrepreneurial Intention (Y)				
	Coeff.	SE	p	Coeff.	SE	p		
Entrepreneurial Agenda (Y)	a	.147	.060	.015*	c'	-.158	.131	.231
Self- Efficacy (M)	-	-	-	b	.658	.164	.000**	
Constant	3.030	.210	.000	.825	.672	.221		
	$R^2 = 0.034$			$R^2 = .086$				
	F (2, 173) = 6.083, p < 0.05			F (2, 173) = 8.174, p < 0.05				

In a Simple Mediator Model there are two different paths by which the causal antecedent (entrepreneurial education agenda of the University) is proposed to influence the outcome (entrepreneurial intention). The first pathway, designated as the direct effect, is the degree to which the outcome variable varies when the causal variable increases by one unit and the mediator stays unchanged. Finally, the second pathway, designated as the indirect effect, represents how much “cases that differ by one unit on X [the causal variable] are estimated to differ on Y [outcome variable] as a result of the effect of X on M which, in turn, affects Y”. The total effect represents the sum of the direct and indirect effect that, in turn, measure how “much two cases that differ by [one] unit on X are estimated to differ on Y”, although this is not compulsory to the interpretation of the data (Hayes, 2013).

The conducted analysis supported the hypothesis that Self-efficacy mediates the relationship between the entrepreneurial education agenda of the University and the entrepreneurial intention of Students of the Faculty (total model summary: $F(2,173)= 3.077$, $R^2= .034$, $p < 0.05$). A statistically significant indirect effect of self-efficacy was found in the relationship between the entrepreneurial education agenda and the entrepreneurial intention (95% $CI= 0.007, 0.170$, $ab=0.097$). However, regarding the total

effect, a statistically significant relationship was not achieved (95% $CI = -0.326, 0.204$) and the same was verified in the direct effect (95% $CI = -0.3944, 0.1392$).

The same analysis was conducted with AMOS v.22 (figure 6). The results also supported the existence of a full mediating effect of Self-Efficacy on relationship between the entrepreneurial education agenda of University and the entrepreneurial intention found in students from one of its Faculties. Once again, there was a statistically significant effect on self-efficacy by the Heinnovate variable ($p = .033$; $p < .05$). The same was verified when analysing the relationship between self-efficacy and entrepreneurial intention ($p = .009$). Regarding the direct effect of the Heinnovate variable on the entrepreneurial intention, the results were not statistically significant ($p = .209$).

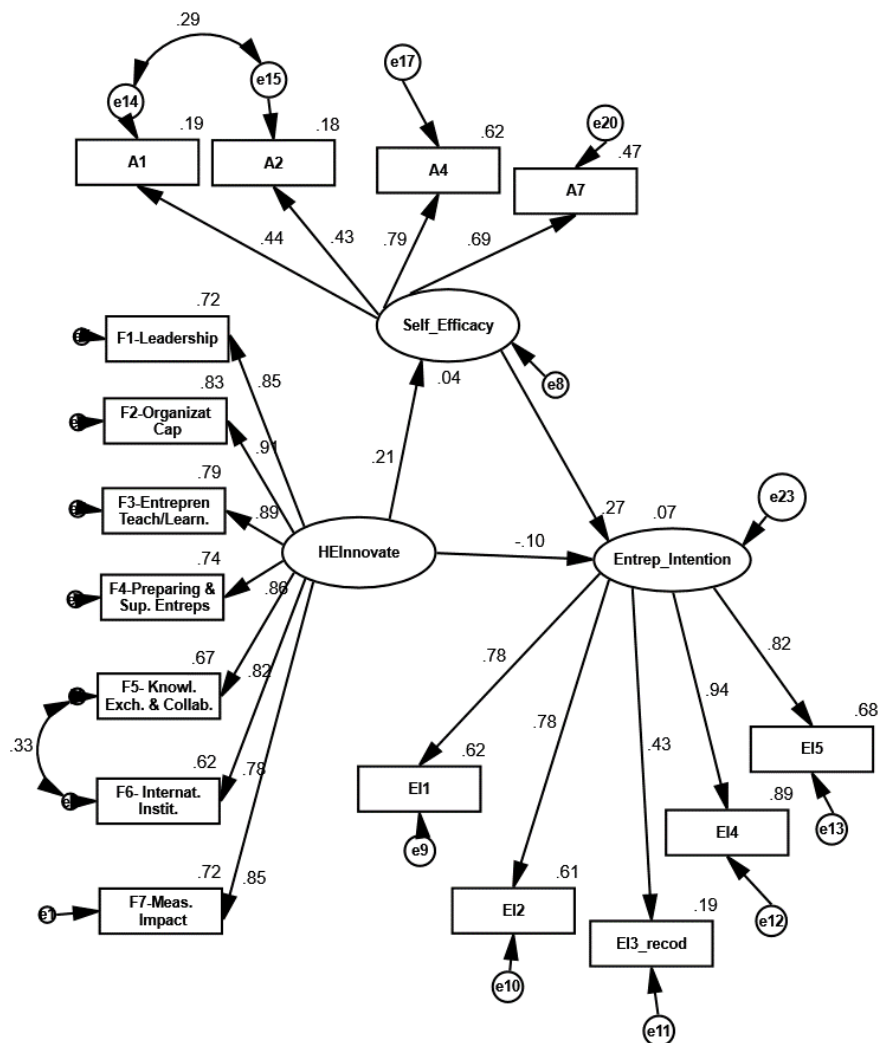


Figure 6 AMOSv.22 Statistical diagram demonstrating the mediating effects of self-efficacy on the relationship between the Entrepreneurial Education Agenda of the University and the Entrepreneurial Intention of Students in the Faculty, with standardized path coefficients reported

In an effort to reinforce this, an independent samples Student-t test was performed aimed to understand the differences in scores of the HEInnovate applied to the University between students with high and very high self-efficacy ($M \geq 4$) and the rest of the sample ($M < 4$). In this test, the cutting point was established as four, to consider only students whose responses, on average, portrayed a solid or strong agreeability with the statements present in the self-efficacy scale. There was a significant difference in the scores for 50 students with high Self-Efficacy ($M_{HEInnovate} = 3.709$, $SD = .713$) and the 126 students with lower self-efficacy ($M_{HEInnovate} = 3.342$, $SD = .719$), $t(174) = 3.057$, $p = .003$.

V

Discussion

The objective of this study is twofold. Firstly, it aims to investigate the effect of the entrepreneurial education agenda of a portuguese University on the entrepreneurial intention of the students of one of its Faculties while exploring whether this effect is direct or indirect with self-efficacy as possible mediator. Secondly, it comprises an effort to analyse the academy's entrepreneurial education effectiveness in promoting entrepreneurial intention amongst students as well as highlighting the importance of the development of self-efficacy during the process.

In the theoretical framework and the introduction, we shined a light on the importance of entrepreneurship in the job market which is in constant change and the importance of Higher Education Institutions in the dissemination of the entrepreneurial knowledge as they act as a critical access point to the world of work (Islam et al., 2018; Moriano, Palací, & Morales, 2006; Omidi Najafabadi et al., 2016; Parreira et al., 2018.). While researching about the topic, several studies referred that self-efficacy is a crucial factor in the relationship between Entrepreneurial Education and Entrepreneurial Intention (Wang et al., 2016; Zhao et al., 2005), therefore, it was established as a premise that Self-Efficacy could function as a mediator in this relationship.

The data revealed that the students in the Faculty had low levels of entrepreneurial intention ($M = 2.606$), medium levels of self-efficacy ($M = 3.618$) and, overall they characterized the entrepreneurial level of the HEI as medium ($M = 3.445$), meaning that it has not yet, in their perception, established itself as an entrepreneurial institution. Reviewing the results, we can portrait some conclusions, namely that they echo the literature review. In the first hypothesis (The entrepreneurial education agenda of the

University has a positive influence in the entrepreneurial intention of the students from the Faculties), we were unable to establish a correlation between the entrepreneurial education agenda, here measured by the dimensions in the HEInnovate scale, and the entrepreneurial intention. This is in line with the idea that, even though, entrepreneurial education has proven benefits in stimulating entrepreneurial intention (Jahani et al., 2018), merely traditional methods of teaching mostly fail to have an impact on the entrepreneurial intention of students (Gurel et al., 2010; Islam et al., 2018). It has also been highlighted that, purely knowledge-based education is not a synonym with entrepreneurial intention and without self-efficacy in the equation, it will not translate into an entrepreneurial intention nor action (Farhangmehr et al., 2016). However, as Bollen (1989) points out, this does not invalidate causation as a simple correlation between the predictor variable (entrepreneurial education agenda) and the outcome variable (entrepreneurial intention) is not considered a precondition. As presented in the theoretical framework, some studies were unable to establish a direct correlation between entrepreneurial education and entrepreneurial intention, stating that the result of the first in the latter, is dependent on the promotion of motivation to perform an entrepreneurial action (Farhangmehr et al., 2016; Zhao et al., 2005). This was visible when analysing the mediating model designed for the third hypothesis (self-efficacy of the students from the Faculty acts as a mediator in the relationship between the entrepreneurial education agenda of the University and the entrepreneurial intention of the students from the Faculty). Even though a direct relationship between the entrepreneurial education agenda of the University and the entrepreneurial intention of students of the Faculty could not be established, nor a direct effect could be proven, an indirect effect of the entrepreneurial education agenda through the presence of self efficacy as total mediator was evident.

The Entrepreneurial world is uncertain and someone who partakes on this course will, inevitably, have to endure a number of obstacles without the guaranteed that the ideas will come to fruition (Cacciotti & Hayton, 2015; Martinho, 2010; Van Praag, 1999). If one does not possess a strong self-efficacy, meaning, a good perception of strength of their skills to successfully tackle an imminent situation, they will not be confident in their ability to produce a positive outcome and, therefore, are less likely to perceive themselves as capable of engaging in an entrepreneurial action (Bux & van Vuuren, 2019). Since entrepreneurial intention represents the motivation that one person holds to carry out an entrepreneurial action (Baidi & Suyatno, 2018b; Moriano et al., 2011), under those

conditions, it is logical to assume that the individual would be likely to have a low entrepreneurial intention as it was confirmed with the validation of hypothesis two (“Self-efficacy of the students from the Faculty has a positive influence in the Entrepreneurial Intention of its students”).

The incorporation of guest speakers, case studies and “hands on” experience have a positive effect in entrepreneurial learning as well as in the development of self-efficacy - as mastering is very strong contributor (Bux & van Vuuren, 2019; Teixeira & Davey, 2010; Thompson, Kuah, Foong, & Ng, 2020). However, this cannot overshadow the importance of quality content, which also plays an important role (Mwasalwiba, 2010). In this study, only 11 individuals reported having entrepreneurial classes as part of their curriculum, compared to 39 that reported having had classes of entrepreneurship that did not integrate their Faculty’s curriculum. While there was established a correlation between the classes outside of the Faculty and entrepreneurial intention, there was no correlation found between the classes taken as part of the curriculum and the Entrepreneurial Intention, which may suggest both the lack of investment in providing entrepreneurial education in the courses’ curriculum and poor effectiveness of the existing options. The perception of the dimension “Entrepreneurial Teaching and Learning” had medium scores when regarding the University ($M=3.377$) and the Faculty ($M=2.946$). Considering that this dimension portrays the teaching and learning of entrepreneurship through innovative methods and entrepreneurial experiences that stimulate the entrepreneurial spirit and develop an entrepreneurial mindset (European Commission’s DG Education And Culture & OECD Local Economic And Employment Development Programme, 2013), one possible explanation would be that the educational efforts from the institution are still largely considered to be traditional and mostly knowledge based, while failing to provide entrepreneurial experiences that would develop the necessary competencies to endure an entrepreneurial action or incite entrepreneurial intention (Farhangmehr et al., 2016; Mahendra, Djatmika, & Hermawan, 2017).

The dimension “Preparing and Supporting Entrepreneurs” had medium scores relating to the University ($M=3.317$) and low scores in the Faculty ($M=2.683$). This dimension depicts the institutions’ ability to supports students on the pursuit of an entrepreneurial career by, for example, taking advantage of their connections with the industry and provide financing opportunities (European Commission’s DG Education And Culture & OECD Local Economic And Employment Development Programme,

2013). Considering that, we can assess that the students do not perceive their University nor their Faculty as supportive of entrepreneurial endeavours in a way that would provide them with some security and backup. As we have stated before, one the most common reasons for individuals not to partake in entrepreneurial activities is the fear of failure and the uncertainty in the field (Cacciotti & Hayton, 2015; Martinho, 2010; Van Praag, 1999), therefore if there is not a widely-spread perception of support from the institution, students will be more reticent to initiate an entrepreneurial activity. This is supported by the fact that no correlation was found between the entrepreneurial intention and this dimension.

Finally, as mentioned before, the results for the dimensions HEInnovate scale were considered medium, however, there were found some significant differences in the perception coming from students with high and very high self-efficacy ($M \geq 4.00$), and the rest of the sample ($M < 4.00$) regarding the University's overall score in the perception of the entrepreneurial education agenda. Self- Efficacy has been referred to influence the perception of effort, pain and discomfort especially after the experience (Hutchinson, Sherman, Martinovic, & Tenenbaum, 2008) and also the perception of individual learning in teams (Yoon & Kayes, 2016). Therefore, we may assume that this construct has a role in shaping the perception of one's of reality. In this case, we can hypothesize that students who report a higher degree of Self-Efficacy will have a better perception of the tools they were given because they are more likely to have more confidence in their mastery (Yoon & Kayes, 2016), their value and perceive more opportunities to apply them (Krueger & Dickson, 1994; Schmitt, Rosing, Zhang, & Leatherbee, 2017). Hence, these students will be more optimistic when evaluating the University's Entrepreneurial Agenda when compared to students with low self-efficacy who will be less confident in their acquired skills and less likely to perceive opportunities. Likely, this may make them render the efforts of the University as not very effective and score them lower in the dimensions of the scale. However, to reach solid conclusions on this matter, further analysis would have needed to be conducted.

VI

Conclusion

Although the generalization of these results can be disputed, this dissertation permitted us to determine, firstly, that there is no direct effect of the entrepreneurial

education agenda of this portuguese University on the entrepreneurial intention of the students from one of its faculties being established later, that the effect only happened through the mediating effect of self-efficacy. Secondly, we were able to conclude that the programmes in place may have not been producing the desired outcome, meaning, promoting entrepreneurial intention. Both the University and the Faculty are not perceived by the analysed sample as being entrepreneurial institutions and only when self-efficacy was present in the equation, did the perceptions improve. Therefore, initiatives to foster this construct should be integrated into the entrepreneurial education programmes and any future endeavours that aim to incentivise Entrepreneurship in the University. Those practices include vicariant experience learning, visits to start-ups and practical experiences that aim to develop the students' sense of mastery over entrepreneurial actions (being that starting a business or creating something new in a different context). This will equip the students with some of the necessary tools to both deal and minimize the impact of the risk and uncertainty expected when embarking in the entrepreneurial world.

Nonetheless, it is important to understand that Entrepreneurship is a multidimensional and complex area and while this study provides some insight into the importance of self-efficacy, further research on the matter is advised to implement the necessaries changes to improve the effectiveness of the entrepreneurial programs.

Limitations and Future Research

Throughout the study, a few limitations were noticed. The first would be the size of the sample. Even though the data shows decent reliability, some caution when generalizing is advised. With 176 students, the sample could have had a more balanced distribution and representation of the year from the which the students were, the three areas that constitute the Faculty and a stronger representation of the male-female ration. Besides that, the University and the Faculty offer a vast and diverse set of classes that every student may have access to that may be misrepresented.

Other limitation would be the fact that this dissertation did not detailed nor analysed the specific programs present the University or the Faculty. Future studies should consider this step to be able to produce more specific and adequate insights to development and improvement of the mentioned programs. Besides that, further data would have been necessary to explore the reason behind the lower values on the

perception of the Faculty as an entrepreneurial institution when compared to the University.

Finally, as result of a human error, the last three items of the dimension “Measuring Impact” were deleted from the questionnaire. It is important to address this matter as the scale was not fully applied as it was intended to. However, both the dimension and the general scale still presented good reliability values.

This paper provides a base from which more detailed and wider-spread studies in this University can occur. As a result, improvements can be made to provide the students not only with quality education but also with the necessary skills to strive in a job market that is in constant change, often outpacing the ability of Higher Education Institutes to adapt. Although some efforts have been made by the University, the need to invest on entrepreneurship still prevails, making it essential for future studies to reassess the steps given so far and the highlight the areas for improvement.

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Annex I- Questionnaire

O presente questionário integra o projeto de dissertação de Mestrado na área de Psicologia das Organizações e do Trabalho da Faculdade de Psicologia e Ciências de Educação da Universidade de Coimbra e pretende estudar a motivação para o empreendedorismo de estudantes universitários.

Este surge na sequência de uma investigação realizada acerca do impacto das atividades empreendedoras desenvolvidas através do concurso Poliemprende- Project Innovation Networking na atitude e comportamento empreendedor dos estudantes.

As respostas dadas serão anónimas e apenas serão utilizadas no âmbito deste projeto de dissertação. Tome nota que não há respostas certas ou erradas, o importante é a sua opinião sincera. Responda de acordo com as suas próprias experiências e opiniões. Assinale as suas respostas de forma inequívoca, por favor, não deixe nenhuma questão por responder.

No caso de algum esclarecimento, pede-se que contactem através do email: josecnramalho@gmail.com.

Agradecemos, antecipadamente, a sua colaboração

GRUPO I

Self-Efficacy Scale (Parreira et al, 2017)

Todas as pessoas têm uma ideia de como são. A seguir estão apresentados diversos atributos, possíveis de o/a descreverem como a pessoa que é. Leia cada questão e responda verdadeira, espontânea e rapidamente a cada uma delas. Ao responder considere, sobretudo, a sua maneira de ser habitual, e não o seu estado de espírito de momento. Preencha a opção que melhor se adequa às suas características, sendo que 1 corresponde a “Não se adequa nada” e 5 corresponde a “Adequa-se totalmente”.

	1	2	3	4	5
1. Consigo resolver os problemas difíceis se for persistente					
2. Se alguém se opuser, consigo encontrar os meios e as formas de alcançar o que quero					
3. Para mim é fácil agarrar-me às minhas intenções e atingir os meus objetivos					
4. Estou confiante que poderia lidar eficientemente com acontecimentos inesperados					
5. Graças aos meus recursos, sei como lidar com situações imprevistas					
6. Consigo resolver a maioria dos problemas se investir o esforço necessário					
7. Perante dificuldades consigo manter a calma porque confio nas minhas capacidades					
8. Quando confrontado com um problema, consigo geralmente pensar numa solução					
9. Consigo geralmente lidar com tudo aquilo que me surge pelo caminho					

30. As perspectivas internacionais estão refletidas na abordagem do ensino.										
	Na minha Universidade					Na minha Faculdade				
	1	2	3	4	5	1	2	3	4	5
31. A dimensão internacional reflete-se na abordagem em matéria de investigação.										
32. Avalia regularmente o impacto da sua agenda empreendedora.										
33. Avalia regularmente a forma como os seus colaboradores e os recursos vão ao encontro da sua agenda empreendedora.										
34. Avalia regularmente o ensino e a aprendizagem no que respeita ao empreendedorismo em toda a instituição.										

Grupo III

Questionário de Intenção Empreendedora (Oliveira, B. et al.,2016)

Na vida algumas pessoas sentem-se mais ou menos capazes de concretizar objetivos. Em termos de empreendedorismo podemos designar esse comportamento como Intenção empreendedora. Leia as afirmações abaixo apresentadas e pense em si no momento presente e futuro. Recorrendo à escala de resposta em que “0” corresponde a “Nada”, “3” corresponde a “Moderadamente” e 6 a “Totalmente”, responda de forma sincera o que pensa acerca de si mesmo(a), assinalando à frente de cada afirmação, com uma cruz por baixo do número que melhor traduzir a sua opinião acerca de si mesmo(a).

	0	1	2	3	4	5	6
É muito provável que consiga criar uma empresa um dia							
Estou disposto/a a esforçar-me no que seja necessário para ser empresário							
Tenho sérias dúvidas se algum dia chegarei a criar uma empresa							
Estou decidido/a a criar uma empresa no futuro							
O meu objetivo profissional é ser empresário(a).							

Pedimos-lhe agora, para terminar que preencha um breve questionário sociodemográfico que servirá exclusivamente para caracterização a participação dos participantes no estudo.

Informações Gerais

1. Sexo: Feminino Masculino Outro

2. Idade: _____ anos

3. Estado Civil: Solteiro(a) Divorciado(a) Viúvo(a) Casado(a) União de Facto Outra

4. Tem empresários na família? Não Sim

5. Se sim, quem? (exemplo: irmão/ã; tio(a), primo(a),...)

6. Nacionalidade: _____

7. Já realizou algum programa de mobilidade (Ex: Erasmus)? Não Sim

8. Faculdade em que estuda atualmente:

Faculdade de Ciências e Tecnologia__

Faculdade de Letras _

Faculdade de Psicologia e de Ciências da Educação_

Faculdade de Direito _

Faculdade de Ciências do Desporto e Educação Física_

Faculdade de Medicina _

Faculdade de Farmácia _

Faculdade de Economia _

9. Tipologia do Curso: Licenciatura Mestrado Integrado Mestrado Doutoramento

10. Nome do Curso:

Psicologia

Serviço Social

Ciências da Educação

Outro

Nota: No caso de ser estudante da FPCEUC e estar em Mestrado indique o nome do mesmo--> ex. Psicologia (licenciatura) + Psicologia das Organizações e do Trabalho (mestrado). _____

11. No caso de ter selcionado "Outro" indique qual é o curso no qual está matriculado de momento.

12. Ano do Curso 1º Ano 2º Ano 3º Ano 4º Ano 5º Ano 6º Ano

13. Condição perante o Ensino: Estudante Trabalhador-Estudante

14. Integra ou já integrou alguma associação juvenil estudantil? (por exemplo, núcleo ou associação de estudantes da faculdade). Sim Não

15. Integra ou já integrou algum programa ligado ao empreendedorismo? (ex. Heithealth, Santander Explorer, Hack Your Mind, etc.). Sim
 Não

16. Frequenta ou frequentou alguma Unidade Curricular com foco no Empreendedorismo? Sim Não

Annex II- Ethical Committee approval



FPCEUC FACULDADE DE PSICOLOGIA
E DE CIÊNCIAS DA EDUCAÇÃO
UNIVERSIDADE DE COIMBRA

Extrato das Deliberações da Comissão de Ética e Deontologia da Investigação

Reunião extraordinária de 25 de janeiro de 2018

Aos vinte e cinco dias do mês de Janeiro de 2018, pelas 9 horas e 30 minutos, reuniu a Comissão de Ética e Deontologia da Investigação da Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra. Entre outros assuntos, aprovou, por unanimidade, o projeto de investigação “Motivações Empreendedoras dos Estudantes”, apresentado pelos Doutores Pedro Miguel Dinis Santos Parreira, Carla Maria Santos de Carvalho, Lisete dos Santos Mendes Mónico, Fabrícia Teixeira Ribeiro, César Fonseca e Luciene Muniz Braga.

Coimbra, 25 de Janeiro de 2018

P¹ª CEDIC FPCEUC



Maria Jorge Santos Almeida Rama Ferro
(Professora Auxiliar)