

The role of professional experience in the entrepreneurial intention in higher education

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Citation: Almeida, F. (2023). The role of professional experience in the entrepreneurial intention in higher education. *International Journal of Professional Development, Learners and Learning*, 5(1), ep2303. <https://doi.org/10.30935/ijpdl/12736>

ABSTRACT

This study analysis the entrepreneurial intention (EI) of 236 students attending higher education considering a heterogeneous sample of students with diverse profiles and work experience, which allows exploring its role in EI. The findings confirm that understanding EI requires considering a multidimensional model that includes attitude toward entrepreneurship, perceived entrepreneurial capacity, perceived social norms, and entrepreneurship education (EE). Furthermore, students with professional experience manifest a higher EI and a higher perception of the role that EE can play in the process of establishing a start-up.

Keywords: entrepreneurial intention model, higher education, entrepreneurial education, entrepreneurship

Received: 16 Nov. 2022 ♦ Accepted: 20 Dec. 2022

INTRODUCTION

Entrepreneurship has received in recent years a great deal of attention in academia. It is assumed that the process of entrepreneurship is a function that should not only be performed by people involved in economic activity, but it is also a key element for increasing social cohesion and, consequently, should be addressed in academia. This view is confirmed by Doran et al. (2018) and Ranjan (2019) when they highlight entrepreneurs contribute to eliminating trade and cultural barriers, shortening distances, and promoting the creation of new jobs. Entrepreneurship is thus seen as a driver of innovation, competitiveness, and growth, and conditions should therefore be created to stimulate an entrepreneurial culture (Prasetyo, 2019). It is in this context that governments have progressively highlighted entrepreneurship as a mechanism to support economic development, generating employment and consequently wealth, recognizing the need for societies and economies to become more entrepreneurial.

In the literature, several studies explore the concept of entrepreneurship and highlight the importance of economic, but also psychological and social factors for the promotion of entrepreneurship (Amorós et al., 2019; Hessels & Naudé, 2019). These studies conclude that a diverse set of factors can significantly influence the decision of individuals to become entrepreneurs, which are related to the characteristics of individuals and their environment. At the context level, the role of public policies supporting entrepreneurship that can influence the opportunities to create a company is recognized (Dai & Si, 2018). In Khan et al. (2021), the role of tax incentives is further added

as elements that can determine the rewards and risks of business opportunities. Finally, when exploring the skills of individuals, it is found that they can be influenced by education policies (Cho & Lee, 2018; Feola et al., 2020; Phelan et al., 2013).

The exploration of entrepreneurial intention (EI) has been one of the topics within entrepreneurship that has generated extensive research (Almeida, 2019; Costa et al., 2016; Donaldson et al., 2021). These studies seek to identify and explore the factors that lead an individual to entrepreneurial activity. One of the environments conducive to the study of EI is academia, in particular higher education institutions. According to Compagnucci and Spigarelli (2020) and Etzkowitz (2008), the mission of universities extends beyond the traditional roles of teaching and research, and these institutions hold a set of indispensable and multidisciplinary knowledge to train individuals capable of creating their own companies. For this to be realized, it is desirable that students have developed entrepreneurial-oriented skills, namely that they are individuals with entrepreneurial intent (Barron & Ruiz, 2021).

The abilities potential of the individual can be enhanced by students along their path in higher education (Almeida & Amaral, 2019; Leon, 2017). This insight raises an initial thought about the antecedent factors that may be relevant to understanding EI. This study aims to understand the relevance of the antecedents of EI as proposed by Boubker et al. (2021) in which a multidimensional model is established that summarizes the antecedents of EI in four dimensions: attitude towards entrepreneurship (AE), perceived social norms (PSN), perceived entrepreneurial capacity (PEC), and entrepreneurship education (EE). This framework is supported in the studies developed by Adekiya and

Ibrahim (2016), Bachiri (2016), Boissin et al. (2017; 2019), and Linán et al. (2011) that explore each of these dimensions in isolation. This study explores the relative importance of these antecedents by considering students' work experience as a determining factor in characterizing EI.

This study considers a sample of 236 students attending an entrepreneurship course at a polytechnic institution in Portugal. This study addresses a relevant research gap in the literature since the vast majority of studies published in the field consider a homogeneous sample of students, which does not allow exploring this phenomenon (Hattab, 2014; Looi, 2020; Passaro et al., 2018). It is acknowledged, however, that some studies explore the role of students' prior work experience but not in a fully comprehensive way. Nguyen (2018) considers only the role of self-employment, which does not include students' work experience but only their background as entrepreneurs; in Meoli et al. (2020) the role of work experience is explored only indirectly as one of the factors that allows understanding the entrepreneurial career choices; while in Bignotti and le Roux (2020) is considered a sample of students attending a secondary school, which does not allow us to contemplate significant professional experience and the degree of homogeneity in the profile of these students is very high. A similar issue is identified in the studies performed by Politis (2008), Vuorio et al. (2022), and Zhang et al. (2014) that explore the impact of students' professional experience on EI, but their sample includes only young graduates who, because of their age, do not have a sufficiently rich and diverse work experience. Accordingly, this study addresses this research gap and complements previous studies by exploring the students' professional experience as a mediation factor of EE, student's attitude towards his/her desire to become an entrepreneur, PSN, and student's perceived ability to become an entrepreneur. The sample used in this study includes students attending a polytechnic higher education institution on both daytime and evening basis and, consequently, it receives students of a higher age than is typically found in a university institution, and who exhibit significant professional experience of several years in technical and managerial fields.

The rest of this manuscript is organized into the following sections: First, a review of the literature on the characterization of EI and the process of entrepreneurial education is presented. Then, the conceptual model is built, and its respective research hypotheses are presented. After that, the methodology is presented. This is followed by the presentation of the results and their discussion considering their relevance and evolution of knowledge about the characterization of EI in higher education. Finally, the conclusions are listed, and the main limitations of the study are also identified, and some future lines of research are suggested.

LITERATURE REVIEW

Entrepreneurial Intention

Entrepreneurship cannot be understood by looking only at individual entrepreneur factors or situational variables in isolation. By considering that entrepreneurial activity is a planned behavior as recognized in Justo et al. (2008) and van Gelderen et al. (2018), then arises the need to understand and recognize EI. Understanding the antecedents of intentions enhances the understanding of the phenomenon of entrepreneurial activity.

The literature reveals a very diverse set of empirical analyses on EI. Comparison between these works becomes difficult as significant differences are found between the construct measures used in each study. In this sense, systematic reviews of the literature have emerged to classify EI. In Linán and Alain (2015) a five-stage classification emerges:

- (i) core and methodological elements in EI,
- (ii) individual predictors,
- (iii) interrelationships between educational institutions with EIs,
- (iv) influence of antecedents in the different environments of educational institutions, and
- (v) link of EI with entrepreneurial process behavior.

In Neves and Brito (2020), the factors that lead to the creation of academic spin-offs are explored and the authors conclude that two types of drivers emerge in the economic (e.g., demographic background, educational background, social capital, human capital) and psychological (e.g., personal attitude, subjective norms, and perceived behavioral control) dimensions. Another systematic review conducted by Bazan et al. (2020) explores these factors for social entrepreneurship, highlighting factors specific to social businesses (e.g., social, cultural and environmental responsibility, empathy towards others) but also factors common to entrepreneurial activity regardless of the type of business (e.g., perceived self-efficacy, perceived community support).

EI analysis models are relevant approaches for exploring the behavior of an individual's EI rather than using exclusively isolated individual or situational variables. Several models have emerged to understand this phenomenon and are presented below.

Shapero and Sokol (1982) model remains one of the most widely used models to understand entrepreneurial activity. In Shapero and Sokol's (1982) proposal five factors emerge that influence the formation of a company such as incentives, negative factors, means, perception of willingness, and perception of feasibility. Incentives are seen as elements that can motivate an individual to form an organization as also recognized in other studies (McCaffrey, 2014; Román et al., 2013). In parallel, negative factors are recognized for generating the movement of the individual in taking actions that lead to the creation of a new business. It is also recognized that a system that prioritizes innovation and risk-taking encourages the assumption of entrepreneurial individuals. This view is also confirmed by Kraus et al. (2021b) in which the role of innovation and knowledge in entrepreneurial activity is highlighted.

The rational choice theory model assumes that human behavior can be understood as well-formulated plans in which actions are controlled by intentions. However, not all intentions are executed, since some are abandoned, and others revised along the way (Satz & Ferejohn, 1994). The model recognizes that an entrepreneur's attitudes are only one of the determinants of behavior and places behavioral intention as its predictor. EI is a result of attitude toward behavior and subjective norm that depends on perceived social evaluation and individual motivation to meet social expectations (Satz & Ferejohn, 1994). This model has been applied for predicting an entrepreneur's behaviors as recognized in Küttim et al. (2014) and Ogu (2013). However, several criticisms have arisen in the adoption of this model because the behaviors of individuals are influenced by other factors that are not contemplated in the model. In this sense, in Ajzen (1991) the theory of planned behavior is proposed that intends to include and deal with behaviors for which

individuals do not have total control. In both models, the central point is the intention before the behavior, but in Ajzen (1991) and derived studies such as Vamvaka et al. (2020) and Yang (2013) other factors are included that are linked to the availability of opportunities and resources (e.g., time, funding, collaboration).

Entrepreneurial Learning

EE has attracted great attention in recent years, with a significant increase in publications in the field. Universities, companies, governments, and society in general are increasingly recognizing the role of EE as fundamental to achieving sustainable economic and social development, and indispensable to meeting future challenges. As highlighted by Raposo and Paço (2011), the need to create an atmosphere that encourages entrepreneurship reveals the importance and need to promote education in the field.

Divergent opinions arise on the use of the terms teaching or education in entrepreneurship. Although they are typically used interchangeably or in combination, teaching and EE have different meanings. Teaching is associated with something more rigid with the transmission of knowledge, which implies at the outset a certain degree of passivity of the student (Roberts, 2019); whereas education is related to the evolution of learning processes and methods oriented towards entrepreneurial didactics (Hahn, 2017). In this sense, the term educate is more appropriate and aligned with the goal of raising students' awareness of an entrepreneurial orientation. This vision is also incorporated in the studies developed by Bauman and Lucy (2021) and Radulescu et al. (2020) in which it is intended that EE can contribute to the development of students, giving them tools to act in an entrepreneurial way.

Another relevant reflection is the distinction between the concepts of EE vs. EI (Laukkanen, 2000). In EE, the subject of entrepreneurship is approached from the perspective of theories about entrepreneurs, business creation, economic effects of entrepreneurship, and success and failure factors. From the other perspective, EI aims to develop entrepreneurial skills in students and encourage the entrepreneurial process. Thus, the 1st perspective addresses entrepreneurship in its dimension of transferring knowledge about the subject, while EI focuses on developing skills, aptitudes, and values for entrepreneurship. Fiore et al. (2019) argue that EI should be action-centered and multidisciplinary integrated. In addition, the assessment of entrepreneurial skills presupposes that formative assessment techniques are created and that all stakeholders play an active role in this process (Babatunde et al., 2021).

EE fosters a positive perception of entrepreneurship and leads to students making a conscious self-assessment of whether they want to pursue an entrepreneurial career or, on the other hand, prefer to employ these newly acquired skills (e.g., creativity, self-confidence, emotional intelligence) in becoming self-employed (Longva et al., 2020). Regardless of this choice, Stenholm et al. (2021) point out that students' entrepreneurial capacity is expected to be enhanced by developing entrepreneurial skills in those who are more gifted towards entrepreneurship and clarifying doubts in individuals with less entrepreneurial propensity. Furthermore, Robinson and Stubberud (2014) note that the tools needed to transform ideas into entrepreneurial actions effectively correspond to learning basic skills from management areas such as leading, negotiating, communicating, and working in teams.

In the context of higher education, EE is mainly targeted at students in the fields of economics and management (Bhatia & Levina, 2020; Jorge-Moreno et al., 2012). However, nowadays EE is being increasingly directed towards other subject areas related to engineering, health, or tourism (Ahrari et al., 2021; Deale, 2016; Huang-Saad et al., 2020). These studies assume that entrepreneurship is a cross-cutting area and, therefore, it becomes important to address this topic in many different courses in higher education. Moreover, Oganisjana et al. (2014) recommend that students should be encouraged to participate in interdisciplinary projects, which allows them to have contact with other experiences and skills.

RESEARCH HYPOTHESES

EE is a differential in the search for professional success. When compared to the traditional educational model, whose main focus is the teaching of curricular content, entrepreneurial education provides the student with complementary skills that can be used in the corporate world. This happens because entrepreneurial education encourages the development of skills to adapt to new situations and create solutions, in addition to autonomy, strategic vision, persistence, and proactivity (Teles et al., 2021). In this educational model, the student is faced with challenges and must use inventiveness to overcome them.

The entrepreneurial education model builds on the paradigm in which students are invited to participate actively, and in which they are able to channel their energy into investigating a problem, proposing solutions, experimenting in practice, and consolidating the knowledge acquired in the classroom. These skills go far beyond the desire to start a company. As Raine and Pundya (2019) argue, EE is also relevant to foster to awaken curiosity and developing logical reasoning and creativity. In this paradigm, it is assumed that higher education institutions should develop these skills in their students even though the outcomes of this education can be very distinct such as creating a new startup, promoting or participating in a social development project, or disseminating a product in a different format (Trabskaia & Mets, 2021; Welsh et al., 2016).

In this sense, the first research hypothesis seeks to explore the contributions of EE to increasing EI in students. Thus, the first hypothesis was defined, as follows:

1. *H1: EE contributes to the increase of EI.*

However, understanding the phenomenon of EI is not limited exclusively to the role of entrepreneurial education. The framework proposed by Boubker et al. (2021) proposes that other dimensions should also be considered in the analysis of EI, respectively:

- AE: Student's attitude towards his desire to become an entrepreneur, i.e., towards self-employment considering the difference between his desire to be self-employed or to become an employee.
- PSN: Social norms perceived by the student regarding the initiative of becoming an entrepreneur.
- PEC: Student's perceived ability to become an entrepreneur considering his/her technical, social, and risk tolerance skills.

These new dimensions lead to the emergence of three more research hypotheses:

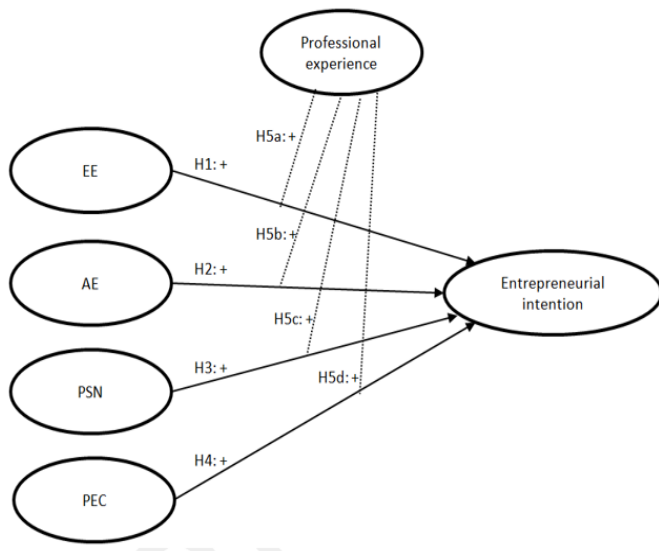


Figure 1. Research model (Source: Author's own elaboration)

2. H2: AE contributes to increased EI.
3. H3: PSN contributes to the increase of EI.
4. H4: PEC contributes to the increase of EI.

Finally, to assess the impact of students' professional experience, another multidimensional line of research was defined that simultaneously assesses the relevance of students' professional experience in the four dimensions previously defined. This approach is relevant to overcome the limitations of studies in the area that typically use a homogeneous sample of students as in Hattab (2014), Looi (2020), and Passaro et al. (2018) and I do not allow exploring this phenomenon. Accordingly, the following research hypotheses were established:

5. H5:
 - a. H5a: The student's professional experience is a mediating factor in the analysis of the relevance of EE in EI.
 - b. H5b: The student's professional experience is a mediating factor in the analysis of the relevance of AE in EI.
 - c. H5c: The student's professional experience is a mediating factor in the analysis of the relevance of PSN in EI.
 - d. H5d: Student's professional experience is a mediating factor in the analysis of the relevance of PEC in EI.

Figure 1 summarizes the proposed model in which the research hypotheses are represented.

METHODOLOGY

This study adopts a quantitative methodology through the application of structural equation modeling (SEM) in which statistical procedures are used to evaluate relationships between observed variables, to allow quantitative analysis to be performed on theoretical models hypothesized by the researcher. SEM has proven to be a flexible method and has been adopted in studies in the field of EE as evidenced by the studies conducted by Kozlinska et al. (2020) and Mukhtar et al. (2021). Kline (2015) points out that the most important aspect of SEM is its extension to allow for the estimation of measurement errors through the use of multiple factors or multiple latent variables. These models can include variables that are not measured directly but through their effects or observable causes.

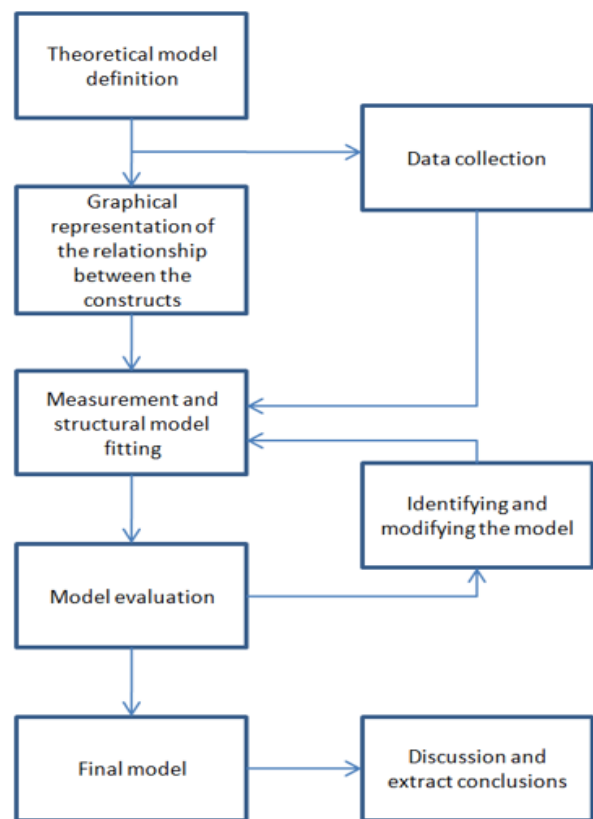


Figure 2. Phases of building the SEM (Source: Author's own elaboration)

Figure 2 illustrates the steps adopted in the construction of the structural equation model. The model adopted follows the sequence of operations proposed by Kline (2015). The process begins by adopting the framework proposed by Boubker et al. (2021), which is the base element for model specification. The model specification consists of defining the causal relationships between the four constructs (i.e., EE, AE, PSN, and PEC) and EI. From the data collected from the sample, we obtain the measures of the observable variables of the model, which allows the construction of the latent variables specified in the model. The robustness of the model is assessed using various quality of fit measures such as chi-square, chi-square/df, GFI, AGFI, CFI, Tucker-Lewis index, RMSR, and RMSEA. With the final model, after the necessary modifications and the final estimation of the parameters, there follows a discussion about the model found and the extraction of conclusions about the hypotheses formulated in the study.

The students attended a 45-hour undergraduate entrepreneurship course at a polytechnic higher education institution in Portugal. The students are enrolled in an entrepreneurship course that offers two editions: one during the day and another in the evenings. In both situations, we have students but with different profiles. The daytime students have a similar profile considering their age and professional experience from other higher education institutions. However, the evening students are fundamentally individuals over 35 years old and with relevant professional experience. The main goal of this course is the development of a new innovative start-up project in the information technology field. The course provides theoretical and practical contents in entrepreneurship such as identifying a business opportunity (e.g., pre-feasibility study, idea generation process, opportunity assessment process, decision-making process), building the

Table 1. Students' profile

Dimension	Absolute frequency	Relative frequency
<i>Scientific background</i>		
Computer science	146	0.6186
Management	90	0.3814
<i>Gender</i>		
Male	159	0.6737
Female	77	0.3263
<i>Age</i>		
[18, 25)	94	0.3983
[25, 35)	71	0.3008
[35, 45)	44	0.1864
[45, 55)	27	0.1144
<i>Has previous EE?</i>		
Yes	19	0.0805
No	217	0.9195
<i>Has opened a business?</i>		
Yes	12	0.0508
No	224	0.9492
<i>Has professional experience?</i>		
Yes	104	0.4407
No	132	0.5593
<i>How many years of professional experience?</i>		
Less than one year	13	0.1250
Between one and five years	28	0.2692
More than five years	63	0.6058
<i>What is the position held?</i>		
Leadership position	15	0.1442
Specialized technician	56	0.5385
Undifferentiated	33	0.3173

business plan (e.g., executive summary, business definition, marketing plan, operational plan, financial plan), and legal framework of the new business (e.g., intellectual property protection, patents, software protection and licensing, and the investor agenda). The students were integrated into multidisciplinary workgroups consisting of six to eight students with backgrounds in computer science and management. The course had five editions between the 2016/17 and 2020/21 academic years. A total of 268 students enrolled in this course.

At the beginning of the course, students were asked to fill out a questionnaire to get to know their profile. The sample consisted of 236 students since 32 students did not answer the questionnaire. **Table 1** presents a brief statistical description of the sample composition. Most of the students have a background in computer science (more than 60%), are male (more than 65%), and are between 18 and 25 years old (around 40%). The percentage of students who have previous academic experience in entrepreneurship is negligible (less than 10%), and this figure is even lower for students with previous experience as entrepreneurs (around 5%). The percentage of students with professional experience is relatively symmetrical (around 45%). According to art. 111 of the labor code in Portugal, it is assumed that a professional experience must be longer than the three-month trial period, during which the employee and employer have the opportunity to evaluate its maintenance. Most students (over 60%) have more than five years of professional experience and hold positions of technical specialization (around 54%). This occurs in this higher education institution due to the students' demand to complement their practical technical knowledge with an academic qualification in the field. Moreover, the number of students in leadership positions in their organizations is small (less than 15%) mainly because many companies

Table 2. Structure of constructs

C	Items	OL
AE	AE1. If I have opportunity & resources, I will start a business.	0.786
	AE2. Among different options, I prefer to be an entrepreneur.	0.792
	AE3. Being an entrepreneur would bring me great satisfaction.	0.860
	AE4. A career as an entrepreneur is attractive to me.	0.837
	AE5. Being an entrepreneur implies more advantages for me.	0.757
PSN	PSN1. Family opinion regarding business creation.	0.711
	PSN2. Friends' opinion regarding business creation.	0.768
	PSN3. Teachers' opinion regarding business creation.	0.745
	PSN4. People who are important for your opinion regarding business creation.	0.805
PEC	PEC1. Identify relevant market & customer information.	0.723
	PEC2. Identify relevant competitor information.	0.786
	PEC3. Estimate impact of macro-environmental variables.	0.802
	PEC4. Estimate project's risks.	0.799
	PEC5. Estimate financial needs of project.	0.813
	PEC6. Obtaining proximity funds.	0.745
	PEC7. Attracting shareholders.	0.778
	PEC8. Obtaining external financing.	0.791
	PEC9. Carry out administrative duties related to creation of new startup.	0.720
	PEC10. Find competent people & organizations.	0.788
	PEC11. Establish an operational plan.	0.720
	PEC12. Dedication to project.	0.782
	PEC13. Establish a marketing & advertising plan.	0.771
	PEC14. Identify a product or service idea.	0.811
EE	EE1. I feel great to be part of entrepreneurship training & development courses offered by this higher education institution.	0.834
	EE2. This course is one of the best around here.	0.807
	EE3. I have learnt so much from this course on entrepreneurship development.	0.733
	EE4. With this course, my life will never be the same again.	0.756
	EE5. The course instructors do everything to ensure that knowledge is adequately disseminated to students.	0.709
	EE6. This course has equipped me with necessary skills & expertise to start my own business.	0.788
	EE7. The introduction of entrepreneurship development courses in this university is highly commendable.	0.728
	EE8. Overall, I am satisfied with entrepreneurship development courses at this university.	0.790
EI	EI1. I'm ready to make anything to be an entrepreneur.	0.722
	EI2. My professional goal is to become an entrepreneur.	0.733
	EI3. I will make every effort to start & run my own firm.	0.755
	EI4. I'm determined to create a firm in future.	0.762
	EI5. I have very seriously thought about starting a firm.	0.821
	EI6. I've got firm intention to start a firm some day.	0.803

Note. C: Construct & OL: Outer loading

require professionals to have minimum undergraduate qualifications to hold these positions.

Finally, **Table 2** presents the structure of the questionnaire supported on the framework proposed by Boubker et al. (2021). Altogether, five dimensions with a total of 37 items are considered. All items have an outer loading greater than 0.7. A Likert-type seven-point scale is adopted for all items. It was necessary to adapt two items to the framework initially proposed by Boubker et al. (2021). In the initial model, in the PEC construct, it is presented obtaining financing from banks, which contradicts the view of Stevenson et al. (2021) and Vazirani and Bhattacharjee (2021) in which bank financing is not the most appropriate for a new technological startup, emerging alternative

Table 3. Descriptive statistical analysis

Item	Mean	Median	Mode	SD
AE1	6.126	6	6	0.648
AE2	6.021	6	6	0.790
AE3	6.393	6	7	1.119
AE4	6.145	6	6	0.982
AE5	5.722	6	5	1.794
PSN1	6.244	6	6	0.746
PSN2	6.121	6	6	0.945
PSN3	6.259	6	6	0.672
PSN4	6.450	7	7	1.278
PEC1	6.782	7	7	0.553
PEC2	6.589	7	7	0.890
PEC3	6.106	6	6	0.925
PEC4	6.501	6	7	1.117
PEC5	6.690	7	7	1.048
PEC6	6.205	6	6	0.929
PEC7	6.324	6	6	0.781
PEC8	6.559	7	7	1.355
PEC9	6.108	6	6	1.083
PEC10	6.566	7	7	0.780
PEC11	5.980	6	6	0.892
PEC12	6.442	6	6	1.023
PEC13	6.379	6	6	0.702
PEC14	6.504	7	7	0.811
EE1	6.226	6	6	0.628
EE2	5.894	6	6	1.678
EE3	6.346	6	7	1.046
EE4	5.105	6	5	1.893
EE5	6.148	6	6	0.896
EE6	5.905	6	6	1.136
EE7	6.022	6	6	0.911
EE8	6.128	6	6	0.724
EI1	5.347	6	5	1.585
EI2	5.673	6	6	1.228
EI3	5.447	6	5	1.382
EI4	5.567	6	6	1.096
EI5	5.891	6	6	0.927
EI6	6.183	6	6	0.720

Note. SD: Standard deviation

mechanisms for obtaining capital such as venture capital, seed capital, business angels, and crowdfunding.

In this sense, this item was replaced by “obtaining external financing”. Also, in the EE construct, it was necessary to include an item reflecting the role of higher education institutions in the provision of entrepreneurship training. In the initial model, this factor is highlighted, but it is only mentioned that this supply can only be provided by universities, which does not fit the current panorama of higher education in Portugal in which this supply should be available in universities and polytechnics. In this sense, this item was renamed “I feel great to be part of the entrepreneurship training and development courses offered by this higher education institution”.

RESULTS

Table 3 presents a brief statistical analysis of the various items of the constructs. For this purpose, the mean, median, and standard deviation are calculated. Most items obtained a mean response around 6 values, which means a high relevance for each item. However,

Table 4. Measurement model assessment

	Mean	SD	Cross-construct correlations				
			EE	AE	PSN	PEC	EI
EE	6.062	1.054	1				
AE	6.256	0.908	0.621	1			
PSN	6.396	0.907	0.428	0.509	1		
PEC	5.967	1.104	0.752	0.720	0.717	1	
EI	5.681	1.157	0.466	0.609	0.598	0.693	1
CR			0.852	0.823	0.773	0.874	0.844
AVE			0.726	0.698	0.641	0.745	0.719

Note. SD: Standard deviation; & Fit statistics: $\chi^2=621.105$ (df=235); $\chi^2/df=2.643$; GFI=0.891; AGFI=0.837; CFI=0.928; TLI=0.915; RMSR=0.046; RMSEA=0.066

Table 5. Hypothesis assessment

Hypothesis	Relationship	Estimate	p-value	Decision
H1	EE→EI	0.233	0.037	Accepted
H2	AE→EI	0.336	<1×10 ⁻³	Accepted
H3	PSN→EI	0.320	<1×10 ⁻³	Accepted
H4	PEC→EI	0.398	<1×10 ⁻³	Accepted

discrepancies appear in some items that have a lower mean and a higher standard deviation, such as the existence of benefits in an individual becoming an entrepreneur (AE5), the training offer of entrepreneurship courses (EE2), or the impact of the entrepreneurship course on their lives (EE4). It should also be noted that students highlighted that despite having the intention to create their own company (SIE6) they do not feel prepared to accept this challenge and take steps to make it happen in the short term (SIE1).

Table 4 provides a correlational analysis of the various constructs. In addition, the mean and standard deviation are presented. EI is the construct with the lowest mean and the highest standard deviation. The fit statistics indicate that all measures are within the expected values, respectively: $\chi^2=621.105$ (df=235); $\chi^2/df=2.643$; GFI=0.891; AGFI=0.837; CFI=0.928; TLI=0.915; RMSR=0.046; and RMSEA=0.066. Furthermore, the average variance extracted (AVE) are between 0.641 and 0.745 and the compositional reliability (CR) is higher than 0.75.

Table 5 evaluates the acceptance/rejection of the hypotheses considered in the model. All four hypotheses formulated in the model were accepted: EE has a positive effect on EI ($\lambda=0.233$, $p=0.037$), AE has a positive effect on EI ($\lambda=0.336$, $p<0.01$), PSN has a positive effect on EI ($\lambda=0.320$, $p<0.01$), and PEC has also a positive effect on EI ($\lambda=0.398$, $p<0.01$).

Finally, **Table 6** presents a hypothesis test to evaluate the impact of professional experience. A hypothesis test of the mean difference between students with professional experience (PE) and without professional experience (NPE) was considered considering a significance level of 0.05. The findings indicate that in the EI construct there are significant differences in the students' behavior, such that students with professional experience highlight the greater relevance of entrepreneurship teaching and that it is also reflected in a greater EI. In this sense, H5a can also be accepted.

DISCUSSION

This study confirms the finding identified by Trabskaia and Mets (2021) and Welsh et al. (2016) in which the role of EE in increasing EI in higher education students is highlighted. EE is based on the rationale

Table 6. Difference in the mean between students with and without professional experience

Construct	Mean (PE)	Standard deviation (PE)	Mean (NPE)	Standard deviation (NPE)	p-value	Decision
EE	6.335	0.989	5.883	1.091	0.026	Accepted
AE	6.267	0.878	6.233	0.935	0.203	Rejected
PSN	6.409	0.882	6.359	0.966	0.189	Rejected
PEC	5.911	1.094	5.992	1.158	0.157	Rejected
EI	5.995	1.078	5.341	1.236	$<1 \times 10^{-3}$	Accepted

that entrepreneurship is a continuous learning process. The attention spent by the entrepreneur produces a discovery that is itself the learning of a new opportunity. The action that is taken on the discovery enables further knowledge and learning itself. The issue of whether entrepreneurship can be taught or not has been widely discussed in the literature. There are research lines that argue that entrepreneurship cannot be taught since it is the innate characteristics of an individual that determine his or her entrepreneurial ability (Garavan & O'Conneide, 1994); while other studies such as Fayolle et al. (2006) argue that it is possible to develop entrepreneurial skills through appropriate programs. The findings of this study highlight the second line of inquiry by exploring the role of entrepreneurial education in EI, which, although it may not lead directly to action, can strengthen entrepreneurial skills.

Besides entrepreneurial education, this study demonstrates the relevance of AE, PSN, and PEC for increasing EI. AE is a visionary behavior typical of risk-takers and is thus associated with typical entrepreneurial behavior. This is a behavior that can be demonstrated in multiple ways. The sample in this study found students who have enjoyed entrepreneurial experiences with their organizations. As argued by Blanka (2019) and Neessen et al. (2019), intrapreneurship is the ability that an individual demonstrates to innovate within their organization, even if they do not create their own business or project. This ability is being increasingly demanded in the labor market and is an essential competence to grow and develop professionally. Despite its relevance, the results obtained in this study allow us to conclude that these activities developed by students with professional experience do not make them feel more driven to leave their current activity to become entrepreneurs. Most of these students hold positions of technical expertise and are looking to the university to complement this empirical knowledge with an academic qualification that will allow them to progress within organizations to leadership positions.

An entrepreneur can be characterized as an individual who cannot stand still waiting for an opportunity, preferring to create his chances and develop better skills to stand out in the market. Personality traits of entrepreneurial individuals (e.g., proactivity, risk-taking, emotional intelligence, hard work) are also determinants of an individual's EI (Rosado-Cubero et al., 2022; Yan, 2010). Furthermore, and as recognized in Meek et al. (2010), the context in which entrepreneurial activity takes place is also a determining element. Institutional factors (e.g., social norms, legislation, values, and culture) arise and may restrict the creation of competitive, entrepreneurial, innovative, and risk-taking firms. This study contributed to demonstrating that the perception of context remains unchanged regardless of the students' professional experience. Furthermore, students' perceived ability to become an entrepreneur considering their technical, social, and risk tolerance skills is also a factor that is not influenced by professional experience.

Students' professional experience is a relevant element in recognizing the importance of entrepreneurial education in EI. It is

recognized that entrepreneurship requires entrepreneurial action through the creation of new products/processes and/or entry into new markets, which can occur through a newly created organization or within an established organization. The entrepreneur follows what he or she believes to be an opportunity. However, opportunities inevitably have a strong state of uncertainty associated with them. In this sense, entrepreneurs need to use their judgment to decide whether to pursue these opportunities. This issue is addressed in the study by McMullen and Shepherd (2006) in their characterization of entrepreneurial activity. It is recognized that signs of changes in the environment that represent possible opportunities will be perceived by some individuals but not by others. It is further argued that individuals who know the markets and/or the technology will be more able to detect changes in the external environment and, if they are also motivated, will be more attentive to processing this information, while other individuals will continue to ignore the opportunity. This study reaches a similar conclusion since individuals with professional experience feel more confident about launching new businesses that are somehow related to their area of activity. Although not all students work in the IT field (e.g., as programmers, analysts, and database administrators, among other functions), it was possible to conclude that IT is an area that arouses strong attention due to the growing need for this component in all businesses and also due to the challenges of digitalization as recognized in Kraus et al. (2021a) and Stamoulis (2022). The knowledge acquired in the entrepreneurship field can be relevant for these students to progress within their organizations to management positions but also opens up the opportunity to start their own business. On the contrary, individuals without work experience tend to have greater difficulties in identifying the role of entrepreneurial education and show a lower EI. They typically assume short-term expectations like performing an internship in a business environment that may open new job opportunities in an already established company.

CONCLUSIONS

EI presents as one of the fundamental factors to better understanding the process of creating new companies. EI originates in the entrepreneurial behavior of the individual and is related to the intention or commitment to establish a new start-up. This EI is not exclusively given by the innate entrepreneurial abilities of individuals. Life experience generates the accumulation of knowledge, such as the environment and culture, which are also responsible for the individual's motivation to pursue a career as an entrepreneur.

This study considered a heterogeneous sample of students with profiles in the areas of management and information technologies, and also with diversified professional experience, who attended an undergraduate course in entrepreneurship. The study concludes that EI has to be framed and understood according to a multidimensional model in which there are components such as AE, perception of the

individual's capacity as an entrepreneur, the context and social norms where it occurs, and entrepreneurial education. All four dimensions contribute significantly to understanding an individual's EI. Work experience is a determining factor in understanding an individual's EI and also affects their perception of the relevance of entrepreneurial education. Individuals with greater professional experience show greater intention to create a new start-up and value the contribution that EE can make in achieving this goal.

This study provides relevant theoretical and practical contributions. In the conceptual dimension, this manuscript studied the mediating role of professional experience to explore its impact not only on EI but also on the importance given to EE, students' PSN, and the ability to follow an entrepreneurial career. The findings indicate that professional experience is determinant to characterize the importance given to EE and EI. In the practical component, the results of this study can be used by higher education institutions to define more appropriate syllabuses and pedagogical methodologies for students without professional experience. Students without work experience need to feel that their lesser knowledge of the business sector can be overcome by working in teams and proposing new businesses in which there is a better balance of skills between technical and management fields. This study has essentially three limitations: first, only students from management and computer science courses are considered; second, the structure of the entrepreneurship course is not explored; third, the type of activities performed (e.g., holding leadership positions) by students in the context of their professional activity is not explored. In this sense, and as future work, it would be relevant to involve students coming from other courses in the social sciences and engineering fields and also to explore the most appropriate pedagogical approach for the integration of students with very diverse background knowledge. Finally, it would be important to explore in greater detail the students' experience in leadership to understand if this is a determining factor in understanding their EI.

Funding: The author received no financial support for the research and/or authorship of this article.

Ethics declaration: Author declared that the study was approved by the institutional review committee of institution ISPGAYA on April 22, 2022 with approval code: TEN-2122. Data collected on students had the explicit permission of each student upon enrollment in the institution.

Declaration of interest: The author declares no competing interest.

Data availability: Data generated or analyzed during this study are available from the author on request.

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