

FORUM

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UNIVERSITY ENTREPRENEURIAL EDUCATION AND ENTREPRENEURIAL INTENTION: RESEARCH THEMES AND GAPS

Educação empreendedora na universidade e intenção de empreender: Temas e lacunas de pesquisa

Educación emprendedora en la universidad e intención emprendedora: Temas y lagunas de investigación

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ABSTRACT

This research consists of a thematic literature review, conducted to answer the following research questions: What is the empirical impact of university entrepreneurial education (EE) on the students' entrepreneurial intention (EI)? What are the research gaps in the existing literature about the impact of EE on EI? What are the theoretical and practical implications of the findings from studies on this matter? The findings indicate four types of impacts of EE on EI in the literature: 1) a direct and positive impact of EE on EI, 2) EE has no impact on EI, 3) Indirect and positive impact of EE on EI through mediating variables, 4) a direct and positive impact of EE on EI moderated by other variables. Additionally, we identified four research avenues with potential to address the gaps in the literature, suggesting a prospective inquiry as an example of future research that includes students with low EI. Finally, we indicate practical and theoretical implications derived from the literature on the impact of EE on EI.

Keywords: entrepreneurial education, entrepreneurial intention, thematic literature review, university, higher education institutions.

RESUMO

Este artigo pretende responder às seguintes questões de investigação: Como é o impacto empírico da educação empreendedora (EE) na intenção empreendedora (IE) no contexto dos estudantes universitários? Quais são as lacunas de investigação na literatura existente sobre o impacto da educação empreendedora e da intenção empreendedora? Quais são as implicações teóricas e práticas das descobertas? Utilizou-se o método de revisão temática da literatura. As principais conclusões indicam que existem na literatura quatro tipos de impactos da EE na IE: 1) Efeito direto e positivo, 2) A EE não tem impacto na IE, 3) Efeito indireto da EE na IE através de variáveis mediadas, 4) O efeito direto e efeito positivo da EE sobre a IE, mas moderado por outras variáveis. Identificamos lacunas em quatro vertentes de pesquisa e fornecemos um exemplo de investigação prospectiva para colmatá-las com base na inclusão de estudantes com baixas intenções empreendedoras. Indicamos implicações práticas e teóricas.

Palavras-chave: Educação para o empreendedorismo, intenção empreendedora, revisão de literatura temática, universidade, instituições de ensino superior.

RESUMEN

Este artículo tiene como objetivo responder a las siguientes preguntas de investigación: ¿Cuál es el impacto empírico de la educación emprendedora (EE) en la intención emprendedora (IE) en el contexto de estudiantes universitarios? ¿Cuáles son las brechas de investigación en la literatura existente sobre el impacto de la EE en la IE? ¿Cuáles son las implicaciones teóricas y prácticas de los hallazgos? Se utilizó el método de revisión temática de la literatura. Los principales hallazgos indican que existen en la literatura cuatro tipos de impactos de la EE sobre la IE: 1) impacto directo y positivo, 2) la EE no tiene impacto sobre la IE, 3) impacto indirecto de la EE sobre la IE a través de variables mediadoras, 4) impacto directo y positivo de la EE sobre la IE, pero moderado por otras variables. Además, identificamos brechas en cuatro líneas de investigación y proporcionamos un ejemplo de investigación prospectiva para cerrarlas con base en la inclusión de estudiantes con baja IE. Finalmente, indicamos implicaciones prácticas y teóricas.

Palabras clave: educación emprendedora, intención emprendedora, revisión de literatura temática, universidad, instituciones de educación superior.

INTRODUCTION

The main objective of a university when it comes to entrepreneurship is to offer entrepreneurial education (EE), stimulating students to engage in entrepreneurial activity (Fichter & Tiemann, 2018), acknowledging entrepreneurial intention (EI) as an antecedent of entrepreneurial action. Authors such as Astiana et al. (2022), Atmono et al. (2023), Duong (2022), Duong et al. (2022), and Micozzi et al. (2022) diverge regarding the EE's ability to foster EI, finding mixed results that suggest the need for further research and deeper understanding.

While existing literature has largely focused on improving the pedagogy of EE and exploring innovative approaches to its delivery (Nabi et al., 2017; Shabbir et al., 2022), as well as examining the relationship between EE and EI (Xu & Mei, 2023), there is still a lack of a clear typology that captures the different ways in which EE impacts EI. In other words, although prior studies analyze whether and how EE impacts EI, we found no evidence of a comprehensive framework that identifies and categorizes the specific types of impacts EE can have on EI. Developing such a typology would help to better define both the limits and the potential of EE in stimulating EI. This is particularly relevant considering that EE has become a tool expected to address a wide range of goals for policymakers, employers, academics, and educational institutions (Henry, 2020).

Previous literature reviews, such as Nabi et al. (2017), have examined the broad spectrum of outcomes associated with EE —, ranging from business creation and emotional or mindset-based changes to the transition from intention to entrepreneurial behavior (e.g., creating a business years after participating in EE). However, we argue that focusing specifically on the impact of EE on EI represents a more realistic and attainable goal within the scope of universities' impact over their students. Expecting universities to directly generate new businesses through EE may be overly ambitious; in contrast, fostering students' EI is a more feasible and immediate objective aligned with their educational mission.

Although EE and EI have evolved into more specific and related concepts — such as the EE ecosystem (Rajpal & Singh, 2024), digital EI, sustainable EI, and social EI (Mir et al., 2023; Usman et al., 2022) — we argue that understanding the general impact of EE on EI is a necessary first step. Only by clarifying how EE impacts EI in a broad sense can we meaningfully explore how it impacts these more specific forms of EI. In this regard, this study seeks to answer the following research questions:

1. What is the empirical impact of university EE on the students' EI?
2. What are the research gaps in the existing literature about the impact of EE on EI?
3. What are the theoretical and practical implications of the findings from studies on this matter?

The contribution of this thematic literature review lies in finding studies addressing mainstream themes and others working on emerging topics, increasing the knowledge on the universities' ability to foster EI through their EE efforts. This study also offers a research agenda to close the gaps in the literature.

Conceptual framework

This conceptual work builds upon the literature on EE and EI. The section on EE first clarifies the distinction between EE and entrepreneurship education and defines the concept of EE. The review of EI literature focuses on defining the concept.

There is an important conceptual distinction between “entrepreneurship” and “entrepreneurial,” which has significant implications for how we understand entrepreneurship education and EE. As [Lackeus \(2015\)](#) explains, entrepreneurship is often framed through a narrow lens, focusing primarily on becoming an entrepreneur through opportunity identification, venture creation, and business growth. In contrast, a broader understanding is linked to being entrepreneurial, emphasizing personal development, self-reliance, and action-oriented behaviors.

This distinction extends to educational approaches. “Entrepreneurship education” traditionally focuses on developing students' capacity to create and manage new ventures, become self-employed, or contribute to the growth of existing businesses ([Erkkilä, 2000](#); [Quality Assurance Agency for Higher Education, 2018](#)). Meanwhile, “entrepreneurial education” encompasses a wider set of skills, behaviors, and mindsets that enable students not only to identify opportunities but also to take initiative, manage risks, develop resilience, lead, and communicate effectively — all essential competencies for creating value in diverse contexts beyond new venture creation.

EE is also closely related to the concept of enterprise education, which promotes the development of transversal skills applicable in any organizational or societal context. Therefore, the framework for this study adopts a broad view of EE, not limited to training future entrepreneurs, but aiming to develop entrepreneurial individuals capable of creating value for future employers and society ([Lackeus, 2015](#)). This approach assumes that fostering entrepreneurial capabilities in students is relevant regardless of whether they become entrepreneurs or apply their skills within existing organizations or social initiatives.

In this study, EE is understood as a process that seeks to develop in students both the ability to generate and implement ideas and the competencies required to create and develop new ventures or to contribute innovatively within existing organizations. EE goes beyond the traditional focus of entrepreneurship education — centred mainly on venture creation — by promoting an entrepreneurial mindset, behaviors, and transversal skills such as initiative, creativity, resilience, risk management, leadership, and strategic thinking. The ultimate purpose of EE is to enable students to create value not only as future entrepreneurs but also as entrepreneurial

employees or change agents within society and the labor market (Erkkilä, 2000; Lackeus, 2015; Quality Assurance Agency for Higher Education, 2018).

Regarding the definition of EI, there is no distinction between “entrepreneurial intention” and “entrepreneurship intention.” While there is no consensus on a single definition of EI, most interpretations converge on the idea of a conscious cognitive phenomenon related to the creation of a new venture (Donaldson, 2019). Although the majority of definitions emphasize new venture creation, authors such as Erikson (1998), Van Gelderen et al. (2015), and Finisterra et al. (2011) define EI more broadly—as a conscious state of mind that reflects a person’s subjective belief in the possibility of engaging in entrepreneurial activity, or as the direction of attention toward future, specific goals and the means to achieve them.

For the purpose of this study, we adopt the most widely used definition of EI, which emphasizes the determination to create a new venture. This narrower definition was chosen because, within the university context, it aligns with efforts to strengthen university–industry collaboration by encouraging the emergence of new entrepreneurs who generate value for society (Carayannis et al., 2012). Moreover, this definition is consistent with the seminal work of Bird (1988), who conceptualized EI as the formation of a plan to establish a new business in the future.

The remainder of this paper is organized into four sections: (1) the methodology, which details the thematic literature review process of assembling, arranging, and assessing the information; (2) the results, where we present the four types of EE impact on EI; (3) the discussion and future research agenda, which outlines four avenues for future research and introduces a prospective inquiry to inspire further studies; and (4) the conclusions and limitations, where we summarize the study’s key insights, implications, and limitations.

METHODOLOGY

The thematic literature review allows us to find themes in a specific domain (Lim et al., 2022). Thus, it was adopted in this study in order to help us in our objective of identifying the main subthemes in the literature addressing the impacts of entrepreneurial education (EE) on entrepreneurial intention (EI). The literature presents articles addressing mainstream and emerging subthemes, enriching and establishing new topics for discussion (Lim et al., 2022). This study followed the Scientific Procedures and Rationales for Systematic Literature Reviews protocol SPAR-4-SLR designed by Paul et al. (2021). This protocol includes three stages and substages:

1. Assembling.
 - a. Identification of literature.
 - b. Acquisition of literature.

2. Arranging.
 - a. Organization of literature in the process of being synthesized.
 - b. Purification of literature in the process of being synthesized.
3. Assessing.
 - a. Evaluation of literature that has been synthesized.
 - b. Reporting of literature that has been synthesized.

Table 1. SPAR-4-SLR Protocol Used in this Study

Phase	Subphase	Element	Description
Assembling	Identification	Domain	Impact of EE on EI
		Research questions	What is the empirical impact of university EE on the students' EI?
			What are the research gaps in the literature addressing the impact of EE on EI
			What are the theoretical and practical implications of the findings from studies in this matter?
		Source type	Papers in Journals.
		Source quality	Scopus Database.
	Acquisition	Search mechanism and material acquisition	Scopus search engine.
		Search period	2021 to 2024
		Search keywords	"entrepreneurial intention" AND "entrepreneurial education" (concepts together)
		Total number of articles	272
Arranging	Organization	Organizing codes	Study the impact of university EE on EI. Four codes were considered, based on the four types of relationships between EE and EI in the literature: direct and positive impact of EE on EI, no impact, indirect and positive impact (mediated by variables), and direct and positive impact (moderated by variables)
		Organizing framework(s)	Study the direct impact of EE on EI
	Purification	Total of articles excluded	220
		Total of articles included	52

Continue

Table 1. SPAR-4-SLR Protocol Used in this Study

Concludes

Phase	Subphase	Element	Description
Assessing	Evaluation	Analysis method	Thematic Literature Review.
		Agenda proposal method	Types of impact of EE on EI and gaps in literature.
	Reporting	Reporting conventions	Table 2.
		Limitations	This study only considers the students' EI and not their entrepreneurial experience. Also, it is restricted to only one database, Scopus.

Note: Paul et al., 2021.

During the assembling stage the literature was identified based on the research question. The Scopus database was selected as a source for the quality of the indexed articles. The search considered the keywords “entrepreneurial intention” AND “entrepreneurial education” (concepts together) and the period from 2021 to 2024 to ensure the inclusion of recent literature on entrepreneurship education. A total of 272 articles were identified.

The inclusion criteria were determined during the arranging stage, based on the reading of the titles and, subsequently, the abstracts and, if necessary, the full article. The articles were included if:

- The title indicated that the studies were performed with university students.
- The title indicated that the study addressed EE or EI according to general concepts rather than specific types of EE or EI.
- Both concepts appeared in the title —entrepreneurial education and entrepreneurial intention—, OR if only one concept is presented in the title, the abstract confirmed that both were addressed.
- The abstract clearly indicates that the research examines the direct impact of EE on EI. If the relationship between EE and EI is not clear, the article was fully reviewed to guarantee that the study addressed the direct impact of EE on EI.

The articles were excluded from the sample when:

- The text was not fully available.
- The study focused on secondary education or examined employees.
- The concepts were not studied together or the relationship between them was not examined.
- The studies investigated types of EI such as sustainable EI, digital EI, and types of EE not included in entrepreneurship teaching courses, such as EE ecosystem.

- The research had implications for EE but did not explicitly study the EE variable.
- The study excluded articles analyzing the moderating impact of EE or EI on other variables (for example, studies exploring the moderating role of EE in relationships where EI was a dependent or mediating variable were excluded).
- Entrepreneurial learning was used as a proxy for EE (because, in this case, the main aspect evaluated is the teaching side of the university efforts).

After the purification during the arranging stage, 52 articles were considered for further analysis. According to [Paul et al. \(2021\)](#), a domain has sufficient review maturity if there are 40 or more articles selected. We coded the articles according to the type of impact of EE on EI as follows: direct and positive impact, no impact, indirect and positive impact mediated by other variables, and direct and positive impact moderated by other variables. Finally, we evaluated and reported the types of impacts of EE on EI.

RESULTS

The thematic literature review allowed us to answer the first research question: What is the empirical impact of university entrepreneurial education (EE) on the students' entrepreneurial intention (EI)? The results indicate that EE can have four different impacts on EI. In some cases, the efforts made by universities to provide entrepreneurship courses do not change students' EI, and in other cases, the impact of EE on EI is mediated by other variables. Overall, the findings suggest four types of relationships between university EE and EI:

- EE has a direct and positive impact on EI.
- EE has no impact on EI.
- EE has an indirect and positive impact on EI through mediating variables.
- EE has a direct and positive impact on EI, moderated by other variables.

These relationships can be assessed in different EE methods, such as experiential learning, which involves developing business plans, providing consulting services, business development and implementation, development of projects and activities, level of opportunity recognition and entrepreneurial knowledge acquisition, theoretical EE, and practical EE. The most common measure of EE is whether students receive entrepreneurship courses ([Manoj et. al., 2022](#); [Motta & Galina, 2023](#); [Ntshangase & Ezeudui, 2022](#); [Pan & Lu, 2022](#); [Soomro & Shah, 2022](#)). Table 2 presents a synthesis of the thematic literature review, the main findings for each category of impact of EE on EI.

Table 2. The Impact of Entrepreneurial education on Entrepreneurial Intention

Type of impact between EE and EI	Main findings	References
Direct and positive impact	- These studies found a direct and positive impact of EE on EI - EE offers students the fundamentals of entrepreneurship	Arya & Sharma (2024); Deng et al. (2024); Murad et al. (2024); Wasilczuk & Licznarska (2024); Nasreen et al. (2024); Ghaleb & Bozorov (2024); Sorakraikitikul et al. (2024); Nguyen & Nguyen (2023); Motta & Galina (2023); Amofah & Saladrighes (2022); Gao & Qin (2022); Zemlyak et al. (2022); Zhang, Li, Zhang et al. (2022); Liu et al. (2022); Widjaja et al. (2022); Wang & Ortiz (2022); Micozzi et al. (2022); Astiana et al. (2022); Soomro & Shah (2022); Wu et al. (2022); Pan & Lu (2022); Padi et al. (2022); Manoj et al. (2022); Ntshangase & Ezeudji (2022); Rahman et al. (2022); Anwar et al. (2022); Martínez-Gregorio et al. (2021); Otache et al. (2021); Lopez et al. (2021); Hassan et al. (2021); Boubker et al. (2021); Almeida et al. (2021); Hoang et al. (2021); Çera et al. (2021)
No impact	- These studies found that EE does not impact EI - The authors point out the need to determine the type of entrepreneurship course that impacts EI	Tran et al. (2024); Wang & Liu (2024); Atmono et al. (2023); Duong et al. (2022); Duong (2022); Truong et al. (2022); Dobson et al. (2022); Cassol et al. (2022); Li et al. (2021); Mónico et al. (2021)
Indirect and positive impact (mediating variables)	The studies observed variables mediating the relationship between EE and EI, such as: - Entrepreneurial capacity - Self-efficacy - Entrepreneurial attitude - Perceived control behavior/self-efficacy - Entrepreneurial recognition - Perceived increase in alertness - Inspiration - Social networks - Knowledge and skills - Exploration innovation - Exploitation innovation - Entrepreneurial motivations - Entrepreneurial orientation - Proactive Personality - Creative process engagement	Alhadihaq et al. (2024); Deng et al. (2024); Chahal et al. (2024); Arya & Sharma (2024); Fan et al., (2024); Nguyen & Nguyen (2023); Gao & Qin (2022); Duong (2024); Truong et al. (2022); Widjaja et al. (2022); Mykolenko et al. (2022); Hou et al. (2022); Wu et al. (2022); Pan & Lu (2022); Manoj et al. (2022); Thomas (2022); Li et al. (2021); Otache et al. (2021); Hassan et al. (2021); Hoang et al. (2021)
Direct and positive impacts (moderating variables)	These studies found variables that moderate the impact of EE on EI, such as: Family income Family economic status Proactive personality Entrepreneurial learning Country Social support system	Gao & Qin (2022); Liu et al. (2022); Hou et al. (2022); Padi et al. (2022); Zhang, Li, Zeng et al. (2022)

Studies showing a direct and positive impact of EE on EI

Most of the articles indicate a direct and positive impact of EE on EI (example: Arya & Sharma, 2024; Astiana et al., 2022; Deng et al., 2024; Ghaleb & Bozorov, 2024; Micozzi et al., 2022; Motta & Galina, 2023; Murad et al., 2024; Nasreen et al., 2024; Nguyen & Nguyen, 2023; Pan & Lu, 2022; Soomro & Shah, 2022; Sorakraikitikul et al., 2024; Wang & Ortiz, 2022; Wasilczuk & Licznarska, 2024; Wu et al., 2022). This direct and positive impact is due to various factors. EE provides students with knowledge of entrepreneurship fundamentals – for example, how to develop a business plan and implement it and how to develop projects and activities – and entrepreneurship courses give them the experience of using entrepreneurial skills (Amofah & Saladrighes, 2022; Motta & Galina, 2023). In addition, other personal characteristics, such as creativity or risk-taking, are important in the entrepreneurship process (Amofah & Saladrighes, 2022).

Studies showing no impact of EE on EI

Some studies indicate that EE does not impact EI (Atmono et al., 2023; Cassol et al., 2022; Dobson & Muhammad, 2022; Duong, 2022; Duong et al., 2022; Li et al., 2021; Mónico et al., 2021; Tran et al., 2024; Truong et al., 2022; Wang & Liu, 2024). The authors who reached this conclusion state that EE could impact EI if two measures are taken. First, it is necessary to determine what type of entrepreneurship courses impact direct and positively on EI. Second, it is crucial to reconstruct the curriculum of entrepreneurship programs and continuously assess them until observing an impact on EI (Atmono et al., 2023; Dobson & Muhammad, 2022).

Studies showing indirect and positive impact of EE on EI

Other variables facilitate the impact of EE on EI. The studies showed that this impact was mediated by:

1. Self-efficacy/perceived control behavior (Alhadihaq et al., 2024; Duong, 2022; Duong & Vu, 2024; Duong et al., 2024; Fan et al., 2024; Gao & Qin, 2022; Hoang et al., 2021; Manoj et al., 2022; Mykolenko et al., 2022; Pan & Lu, 2022; Wu et al., 2022).
2. Entrepreneurial attitudes (Arya & Sharma, 2024; Duong, 2022; Fan et al., 2024; Mykolenko et al., 2022; Otache et al., 2021; Truong et al., 2022).
3. Entrepreneurial capacity (Nguyen & Nguyen, 2023).
4. Entrepreneurial recognition (Hou et al., 2022).
5. Perceived increases in alertness, inspiration, social networks, and knowledge and skills (Thomas, 2022).
6. Exploration innovation and exploitation innovation (Li et al., 2021).

7. Entrepreneurial motivation (Chahal et al., 2024; Hassan et al., 2021).
8. Entrepreneurial orientation (Hoang et al., 2021).
9. Proactive Personality (Deng et al., 2024)
10. Creative process engagement (CPE) (Alhadihaq et al., 2024), such as attitude, motivation, inspiration, and orientation.

The variables that facilitate the impact of EE on EI can be classified. The first group are the variables on self-perception related to how students can engage in entrepreneurial activities, depending on the type of personality. The most common variables in this group are self-efficacy and perceived control behavior. The second group are variables related to students' perceptions of entrepreneurship, such as entrepreneurial attitude, creative process engagement, inspiration, and entrepreneurial motivation and orientation. Thus, if a student has a positive attitude toward entrepreneurship, motivation, and orientation to create a business, the impact of EE on EI will be facilitated. The third group of variables is related to obtaining entrepreneurial knowledge, such as entrepreneurial capacity, innovation exploration and exploitation, alertness, entrepreneurial skills, and opportunity recognition. Finally, the fourth group gathers the variables related to entrepreneurial resources, such as social networks and the capacity of students to perform networking activities, which facilitate the impact of EE on EI.

Studies showing direct and positive impacts of EE on EI moderated by other variables

In some situations, the relationship between EE and EI is moderated by other factors. External elements such as social support systems, country, family income, and family economic status modify the relationship between EE and EI. These studies found that EE has a more substantial impact on EI in students with a stronger social support system and better family and economic status (Fan et al., 2024; Gao & Qin, 2022; Liu et al., 2022; Padi et al., 2022). In addition, one study showed that the relationship between EE and EI is stronger in China (Zhang, Li, Zeng et al., 2022). Internal elements, such as a proactive personality and the level of entrepreneurial learning, change the relationship between EE and EI. A proactive personality reduces the impact of EE on EI, and the impact of EE on EI increases when there is a higher entrepreneurial learning.

DISCUSSION AND FUTURE RESEARCH AGENDA

The thematic review of the literature exploring the impact of entrepreneurial education (EE) on entrepreneurial intention (EI) identified four distinct types of impacts, as outlined in the

previous section: (1) a direct and positive impact, (2) no impact, (3) an indirect and positive impact, and (4) a direct and positive impact moderated by other variables.

Although 52 articles were analyzed, several examined more than one type of impact, leading to a total of 69 cases. Among these, 49.3% reported a direct and positive impact of EE on EI, 14.5% found no significant relationship, and 29% identified an indirect and positive impact mediated by other variables. The remaining 7.2% of the cases suggested that the impact of EE on EI is positive and direct but moderated by additional factors.

The impact of EE on EI is far from uniform. While 64% of the cases reviewed suggest that EE can have a direct and positive impact on EI, others report no significant impact. This inconsistency points to the importance of underlying factors that either enable or hinder this impact. A key insight from this study is that the impact of EE on EI is mediated or moderated by students' internal perceptions and characteristics. Specifically, studies identifying indirect impacts of EE on EI reveal several mediating variables that help explain this relationship:

- Students' self-perception, including their confidence in engaging in entrepreneurial activities and their belief in their own entrepreneurial capabilities (self-efficacy);
- Students' perception of entrepreneurship, encompassing attitudes toward entrepreneurship, entrepreneurial motivation, and inspiration;
- Access to entrepreneurial resources, such as social networks and networking ability; and
- Entrepreneurial knowledge, including entrepreneurial skills and the ability to explore and exploit opportunities.

Moreover, moderating variables further clarify the variation in EE's impacts on EI. These include internal factors such as proactive personality traits, and external ones like social support systems, national context, and family income.

In conclusion, the evidence suggests that the impact of EE on EI is not solely determined by the content or delivery of educational programs, that provide the fundamental knowledge about entrepreneurship. Rather, it is significantly shaped by how students perceive themselves and entrepreneurship, as well as by their personal traits. In other words, students' self-efficacy, attitudes, and internal characteristics—for example proactive personality—play a pivotal role in determining whether EE will impact their EI.

The impact of EE on EI does not primarily stem from delivering fundamental knowledge about entrepreneurship. Rather, its effectiveness lies in how it influences students' perceptions of themselves and their view of entrepreneurship. This suggests the need for a new approach to EE—one that considers students' life situations and how they currently perceive their potential as future entrepreneurs. In real life, students—regardless of their major—may eventually become entrepreneurs, but they are also likely to pursue professional careers as employees in fields such

as engineering, law, accounting, and others. Understanding their present inclination toward entrepreneurship is key, as a high or low EI reflects how they see themselves in the future: as potential entrepreneurs or not. Therefore, EE should not only teach entrepreneurial concepts but also foster self-awareness and self-reflection, helping students evaluate who they are and who they want to become. This first-person perspective aligns with the call for EE to support students' inner development, strengthening their self-beliefs and guiding their decision-making processes to become entrepreneurs or not in ways that are personally meaningful and contextually relevant (Nzembayie & Coghlan, 2024; Ewijk & Weber, 2021).

While the impact of EE on EI is a legitimate area of focus, it is equally important to consider students with low EI. The majority of people are not destined to become business owners; in fact, data from the Global Entrepreneurship Monitor (GEM, 2023) shows that although 23% of people aged 18 to 64 express EI, only 7.9% are established business owners. This means that most individuals will likely pursue careers as employees—engineers, accountants, lawyers, and professionals who will contribute to ventures without necessarily founding them. By overlooking students with low EI, current EE approaches risk marginalizing a significant portion of the future workforce. Recognizing and including these students is essential, not only because they represent the majority, but also because they will support, collaborate with, and even manage or innovate within entrepreneurial initiatives, playing a vital role in the broader entrepreneurial ecosystem.

It is important to implement a differentiated approach to EE that addresses the distinct needs of students with low and high EI, acknowledging the diversity of future career paths. While some students already envision themselves as future entrepreneurs and others clearly prefer to become employees, both roles are essential in building successful and sustainable businesses. Therefore, EE should reflect this reality by offering tailored content and experiences that help each group develop the specific skills and mindsets they need to create and capture value in their future roles. Although some students may find themselves in an intermediate state of uncertainty about their future path (intermediate EI), this should not be seen as a stable category. Instead, it represents a transitional phase where students can benefit from exploring both educational approaches—entrepreneurial and intrapreneurial—to clarify their aspirations. Ultimately, whether students choose to become entrepreneurs or employees, the goal of EE should be to equip them with the ability to contribute meaningfully to value creation—economic, social, emotional, or ecological—within any organizational context (Lackéus et al., 2016; Mishra & Zachary, 2015).

These findings address the second research question: What are the research gaps in the existing literature regarding the impact of EE on EI? In particular, we identify a significant and underexplored gap: the lack of studies specifically focused on students with low levels of EI. To bridge this gap, we propose the use of a prospective inquiry approach (Muñoz & Dimov, 2023), which enables the development of generative models of EE that differentiate pedagogical strategies for students with low and high EI. Such a model reflects the reality of contemporary organizations, where entrepreneurs and employees must work collaboratively toward value creation and value capture.

We argue that fostering a vibrant entrepreneurial ecosystem requires not only the development of entrepreneurs but also the cultivation of a labor force with intrapreneurial mindsets—individuals who, as employees, contribute meaningfully to innovation and organizational value creation. In this regard, we identify four critical futures lines of research: (1) examining the forms of EE that encourage productive interactions between students with low and high EI to enhance collaborative value creation; (2) investigating the antecedents of intrapreneurial behavior by exploring intrapreneurial intention among university students; (3) analyzing the differentiated educational needs of students with low and high EI, particularly in relation to their potential roles in organizational value creation; and (4) conceptualizing EI as a dynamic life situation, thereby enabling more adaptive and context-sensitive approaches to EE that enhance both entrepreneurial and managerial outcomes.

To close the gap: Entrepreneurial education according to the level of entrepreneurial intention

In the following section, we present a prospective inquiry aimed at addressing a gap in the current literature: the relationship between levels of entrepreneurial intention (EI)—whether low or high—and the type of entrepreneurial education (EE) required to support each. This inquiry represents an initial exploration rather than a comprehensive framework, intended to offer a point of reflection and inspiration for future research. By considering how EE approaches might differ according to students' varying levels of students EI, we propose a new perspective for addressing the research gap in EE by recognizing that entrepreneurship is inherently future-oriented (Muñoz & Dimov, 2023). Unlike the past, which can be analyzed through documented facts, the future remains uncertain, composed not of concrete data but of possibilities, scenarios, and potentialities. Entrepreneurial activities are always directed toward imagining and creating what does not yet exist—whether that involves new solutions, business models, products, or markets. Therefore, EE should not be limited to positivist or purely empirical approaches that rely on observable outcomes; instead, it must incorporate prospective and reflective dimensions that prepare students to navigate uncertainty. We argue that EE should be tailored according to students' levels of EI and aligned with their current and envisioned life situations. Universities, as a first step, can support students in identifying the presence or absence of EI, which will guide not only their learning paths but also help shape the theories that inform future action.

There are two types of students: 1) low EI and 2) high EI. Each group requires differentiated forms of EE that align with their distinct aspirations for value creation. For students with low EI—those less inclined to start their own ventures—**intrapreneurial education** offers a more suitable path. As Frank et al. (2016) explain, intrapreneurial education fosters the development and implementation of innovative ideas within existing organizations. It supports students in cultivating entrepreneurial thinking to create value from within companies, encouraging

them to generate and execute ideas that contribute to organizational innovation and growth. In contrast, students with high EI benefit from **demand-oriented EE**, which is defined by [Béchar and Grégoire \(2007\)](#) as an approach that responds directly to students' entrepreneurial objectives, motivations, and needs. This form of EE creates an environment that maximizes student engagement and supports activities such as opportunity recognition, business model development, and venture creation. Despite their differences, both educational approaches share the ultimate goal of empowering students to create value— whether by innovating within existing firms or by establishing new enterprises. Table 3 clarifies the type of EI and the type of EE needed in each case, and also provides examples of activities

Table 3 – Entrepreneurial Education according to Students' Entrepreneurial Intentions

Student situation	EE type	Description	Activities
Low entrepreneurial intention	Intrapreneurship education.	It encourages the development and implementation of innovative concepts within a specific organization to create value from within.	Stories of intrapreneurs. Visits to companies. Intrapreneurs visiting HEI. Teach customer development methodologies. Intrapreneurship projects. Assignments focused on developing business ideas for existing companies.
High entrepreneurial intention	Demand entrepreneurship education	It addresses the educational objectives, motivations, and needs of students in entrepreneurship, viewing teaching as the creation of an environment that fosters and structures meaningful student engagement, with the ultimate aim of creating new ventures that generate value for society.	Lectures about opportunities in the region's entrepreneurial ecosystem. Organization-operated sales outlets. Students' individual projects. Real-world work scenarios. Assignments focused on developing business ideas. Creation and management of personal enterprises. Entrepreneurial day.

Note: Bechar & Gregoire, 2007; Frank et al., 2016.

The previous proposal is a prospective inquiry to address the identified gap in the literature regarding the relationship between levels of EI—whether low or high—and the corresponding type of EE required to support each. This approach is rooted in the recognition that entrepreneurship is a multifaceted social phenomenon, not merely an individual endeavor. As such, it requires a multi-perspective vision capable of capturing the diverse ways in which individuals engage with value creation. In line with this view, [Kakouris and Liargovas \(2021\)](#) argue for the development of differentiated approaches to EE, each with its own level of complexity, pedagogical requirements, and intended outcomes.

CONCLUSION AND LIMITATIONS

This study calls for a reorganization of current approaches to entrepreneurial education (EE), with the dual objective of offering more personalized training in venture creation to students with diverse profiles, and of expanding the spectrum of possibilities they can explore within EE—such as intrapreneurship. This rethinking encourages students to integrate entrepreneurial thinking into their own contexts, framing entrepreneurship not merely as business creation, but as a mindset and lifestyle that can permeate personal and professional spheres alike. In doing so, we respond to the third research question: What are the theoretical and practical implications of the findings from studies on this matter?

From a theoretical perspective, this calls for a shift away from the dominant paradigm in EE, which often centers on venture creation and financial performance. Instead, we advocate for a more inclusive and student-centered approach that recognizes the diverse aspirations of all learners—including those with low entrepreneurial intention (EI), whom we refer to as the anti-archetypal student. These individuals may not aim to launch their own ventures, but they can still develop an entrepreneurial mindset that enables them to create value from within organizations. By embracing both future entrepreneurs and intrapreneurs, EE can nurture future enterprises where value is co-created by founders and employees alike—fostering collaboration, shared vision, and stronger alignment between those who lead businesses and those who contribute to their success from within.

Therefore, value creation should be positioned at the heart of EE across all levels and topics. Doing so promotes a more grounded and pragmatic understanding of business, employment, and the diverse realities students face.

Practically, these insights hold implications for key stakeholders within the entrepreneurial ecosystem. For universities, this approach invites a critical review of EE offerings across academic programs, with the goal of enhancing student experience and inclusivity. It also encourages institutions to design learning environments where students with both low and high EI can interact, share their life goals, and benefit from mutual learning. The proposed framework could serve as a basis for curricular innovation and pedagogical experimentation within EE courses.

For policymakers, this study highlights the need to adjust public policies related to entrepreneurial ecosystems and support programs, not only to promote venture creation across diverse regions and communities, but also to reflect a more inclusive understanding of EE. This includes recognizing and addressing the different needs of individuals with low and high EI, thereby fostering environments where a wider range of entrepreneurial pathways can emerge and thrive.

A limitation of this study is that we did not consider students with prior entrepreneurial experience. Within universities, some students have already engaged in the entrepreneurial process or are working on entrepreneurial projects. These students have distinct needs that universities must take into account. To gain a more comprehensive understanding of university students' life situations, it is essential to consider not only EI but also the level of entrepreneurial action. Another limitation is that this study was based solely on papers indexed in the Scopus database, and our access to other high-impact databases, such as Web of Science, was limited.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

AUTHORS' CONTRIBUTION

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