

Article

Influence of University Education on Entrepreneurial Success: An Exploratory Multiple-Case Qualitative Study from a Sustainability Perspective

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Abstract

Policies and programs of entrepreneurship education in higher education have shown proven effectiveness in fostering entrepreneurial intention, but there is limited evidence regarding their contribution to the effective success of business projects. This study aims to analyze how university education influences the determining factors of entrepreneurial success, incorporating a sustainability perspective. To this end, an exploratory qualitative methodology based on a multiple-case study is adopted, analyzing eleven entrepreneurs with university education through in-depth semi-structured interviews, complemented by observation and documentary analysis. The results identify a set of key factors associated with entrepreneurial success, highlighting especially psychological factors such as leadership and self-confidence, together with previous experience, business vision, and mentoring. Likewise, it is observed that the university contributes significantly to the development of certain psychological traits but shows limited influence on the acquisition of practical skills, entrepreneurial experience, and contextual factors. The study concludes by underscoring the need to strengthen educational models oriented toward the effective creation of sustainable ventures and long-term business success.

Keywords: university training; entrepreneurship; business success; personality; experience; governance



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1. Introduction

The entrepreneurship education is a process of transformation of the person that not only trains him/her to perform a task, but also guides him/her to action and goes beyond entrepreneurship by building attitudes and skills that allow him/her to face the situations that an individual faces throughout his/her life [1], and which, in turn, foster the willingness to undertake and, given that entrepreneurial qualities are not equally developed in all individuals, these must be taught [2].

To achieve these objectives, teaching approaches and methods should complement theoretical training and promote students' active learning in a practical way [3], through, among other ways, project-oriented learning as an active methodology that has been shown to be useful for the development of relevant knowledge, skills, attitudes or values [4], not only focused on business management but also on all aspects related to its start-up [5], as

well as on improving their problem-solving skills and social skills [6], since the positive effects of training on business performance in terms of efficiency and profitability have been empirically demonstrated [7].

Showing the advantages of entrepreneurship in training activities positively influences the attitude of university students and subsequently has an impact on their entrepreneurial intentions [8]. If, in the end, the result obtained is the promotion of a culture in society that is favorable to entrepreneurship, the improvement of economic-financial knowledge and the strengthening of skills related to innovation, management and entrepreneurship, this would not only bring an increase in the number of entrepreneurs and projects, but also a considerable improvement in the quality of entrepreneurship. From a sustainability perspective, this improvement in the quality of entrepreneurship results especially relevant, as it connects university education with the development of capacities oriented toward the creation of long-term economic, social, and technological value, being able to contribute to the creation of more stable employment, to the strengthening of more resilient projects, the generation of community impact, the establishment of more inclusive entrepreneurs, and to the potential alignment of initiatives with sustainable development goals. In this regard, entrepreneurship education at the university aligns with the United Nations 2030 Agenda for Sustainable Development, particularly SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), and SDG 9 (Industry, Innovation and Infrastructure).

Similarly, it would respond to the greater concern shown by students of economics and business management for the social and environmental dimensions of the concept of corporate social responsibility and sustainability [9], that is, companies with a greater probability of success would be formed, since the higher the educational level of the entrepreneur, the lower the chances of business failure [10].

Being of vital importance the success in entrepreneurship and within an environment in which public policies have promoted it through the establishment of important measures [11], among which training stands out [12], the universities adopt a key role in this momentum, as entrepreneurial education becomes one of their primary functions to activate economic development and strengthen innovation and entrepreneurship ecosystems aligned with sustainable development goals [13]. This higher education has focused on generating entrepreneurial intentions, with a large number of scientific studies showing that university education positively influences these intentions [14–19]. Although fewer in number, some other works have also shown their ineffectiveness [20,21], while others also show that this training can increase the likelihood of business creation [22].

Kuratko [23] states that entrepreneurial education is not mature yet, even though others like Katz [24] hold that it is indeed a mature field but still has a long way to go to reach full legitimacy, compared to other disciplines. In this regard, Fayolle [25] demonstrates the need to strengthen entrepreneurial courses, and even some authors, such as Waris et al. [26], have tried to strengthen entrepreneurship through integration with sustainability. Moreover, in relation to success in entrepreneurship, an in-depth study carried out by McNally et al. [27] on the syllabi of 50 university entrepreneurship courses from all over the world concluded that both the use of manuals and the course design are negatively correlated to the development of knowledge in the classroom. Nor success in undertaking is mentioned in a recent definition of education for entrepreneurship; instead, it refers to the development of mentality, a skillset and the practice necessary to launch new ventures [28], a point most recently highlighted by authors such as Arendt et al. [29].

In spite of all this, the recommendations made by GUESSS to universities and public institutions state that what matters is not the number of students in entrepreneurial studies, but the number of entrepreneurship students who really succeed [30]. In this respect, as shown by several literature reviews [31,32], there is a clear lack of studies. To address

this research gap, this article aims to delve into how university education influences entrepreneurial success, understanding such success not only as the creation of companies but also as the capacity to develop economically viable, socially relevant, and sustainable initiatives over time, positioning itself as one of the few exploratory studies that answers the following questions:

1. What are the determining factors for success in entrepreneurship?
2. Why are these factors determinant in the success of entrepreneurship among university students?
3. How is the university influencing this success?
4. How can the university improve this influence?

To answer these research questions, first, a literature review on the determinants of success in entrepreneurship is carried out. Subsequently, the qualitative methodology used is described, and the results obtained are shown. Finally, the paper ends with the conclusions drawn.

2. Literature Review

Business success has been analyzed in literature from different perspectives, and no consensus has been reached on the definition of a universal concept of its meaning [33]. Authors who have conducted literature reviews on this concept, such as Haber & Reichel [34], are in favor of combining financial values with subjective measures, such as competitive advantage and customer satisfaction, concluding that the use of multiple quantitative and qualitative indicators will allow a more realistic understanding of this concept. From a sustainability perspective, these factors not only influence the entrepreneur's individual performance but also contribute to the development of key capabilities for the creation of resilient, innovative, and socially responsible business initiatives. In order to achieve success in entrepreneurship, the review of scientific literature has allowed identifying the most repeated and outstanding factors, which can be established in the following groups.

2.1. Intrinsic Personality Factors

This group can be divided into those related to skills and abilities, and psychological factors. Among the former, Alcaraz [35] has made one of the most extensive compilations on this subject and has determined that the entrepreneur's creative capacity is an essential factor in the development of entrepreneurship. Other authors link this creativity with the capacity for innovation [36,37]. Another indispensable skill, the lack of which constitutes one of the main causes of business failure, is the entrepreneur's commercial ability [38,39], since inexperience or inefficiency in this area will put the viability of the company in serious difficulties [38]. Related to this business skill, other authors attach high importance to the management of marketing tools [10,40]. Likewise, all entrepreneurship needs general knowledge of business management [38,41], and there are several authors who highlight this as one of the first levels [35,36]. Some authors specify the importance of this factor in the management capacity of personnel, so as not to produce inefficiencies and customer dissatisfaction [41]. Finally, the use of technological tools should be emphasized, which allows the generation of new business opportunities to achieve success in entrepreneurship.

With respect to the psychological ones, leadership is an essential determinant of success, as it channels the efforts of the people working with the entrepreneur towards the achievement of their goals [42]. In addition to influencing workers, leadership also stands out for its importance in attracting the most suitable people to the project [10,36] and its ability to influence clients and collaborators [41,43]. Another of the personality factors most reiterated in the academic literature is self-confidence, which [35], in his extensive bibliographic review, ranks first in terms of importance. Going deeper into this matter,

having a determined mentality to face problems and adopt actions without fear of failure is another factor shown by the successful entrepreneur [44,45]. The fear of failing in the attempt in itself increases the risk of failure [46], as it can impair decision-making and is one of the main impediments to entrepreneurship [47,48].

2.2. Factors Related to Entrepreneurial Experience

Previous professional experience is one of the most prominent factors in this group and, for quite a few authors, the most important [43,49]. From the opposite perspective, there are also authors who consider that the lack of experience is the origin or catalyst of many failures [38,41]. This lack of experience sometimes takes the form of a lack of knowledge of the sector itself [10,50], which, for some authors, is the most important skill that a successful entrepreneur possesses [37,51].

Likewise, business vision or the ability to detect business opportunities is a major factor that strengthens and develops the entrepreneurial spirit [36], since only those entrepreneurs who have this vision will be those who will decisively carry out their business initiatives because they were the result of a prior selection to implement those ideas that offered real and viable business expectations [45].

An unplanned or poorly planned business model will have little chance to prosper [38], as it will inadequately size the company and its capitalization [10,40]. The entrepreneur's planning skills will minimize mistakes and their severity, avoid selecting and putting on the market excessively new or too old products or services [10] or having marketing problems caused by an inappropriate design of the business strategy [39]. For all these reasons, it can be considered a determinant of success in entrepreneurship.

To conclude this group of factors, the academic literature states on quite a few occasions that the family environment exerts a great influence on entrepreneurship. People who have grown up in an environment of entrepreneurial role models are positively influenced towards entrepreneurship [52]. In addition, there is a direct connection with the chances of being successful [53], not in vain [10], which is included in this predictive model as one of the factors that anticipate such success. Having family support, not only from a moral point of view, but also from an economic point of view, gives an advantage in the challenge of entrepreneurship [49].

2.3. Extrinsic Factors Related to the Entrepreneurial Environment

Not all entrepreneurs are sufficiently trained, nor do they have in-depth knowledge of all the subjects involved in the process, so that professional guidance is an essential factor in achieving success in entrepreneurship [10], and especially in the initial phases, from the definition of the motives for entrepreneurship [54], to the detection of the key factors of the business and the implementation of processes and controls that avoid or reduce errors [41]. This tutorial support reaches beyond knowledge and also extends to socioemotional support and the development of entrepreneurial maturity [55].

Access to finance is also one of the key factors that is going to be determinant in the existential outcome of entrepreneurship [49]. There are two points of view to observe this aspect: the first is the possibilities offered by the environment to access adequate sources of financing, without which business projects cannot become consolidated [56], and the second is the ability of the entrepreneur to size the financial structure from the beginning, since companies that start with adequate capital are more likely to survive [10].

Another key factor in this group is the provision of initial resources such as business tools and access to new technologies, which are very effective instruments for developing entrepreneurial potential, especially among population groups with fewer possibilities [57].

Business incubators are spaces promoted by public or private institutions that offer entrepreneurs support for their business projects. The fact of sharing common spaces makes it possible to take advantage of synergies between the resources of the companies housed. All this results in the development and growth of the entrepreneurial projects located there, and therefore can also be considered as another success factor for the hosted projects [58].

Finally, within this group of determinants of success in entrepreneurship and before explaining the influence of the university on this success, Fuentelsaz & González [59] state that public aid consisting of guaranteeing legal security, reducing barriers to entry, promoting competition and eradicating corruption will increase the chances of success of entrepreneurial initiatives.

2.4. Entrepreneurship Education, Sustainability, and Sustainable Development Goals

In recent years, entrepreneurship research has increasingly incorporated the sustainability perspective, giving rise to the concept of sustainable entrepreneurship, understood as entrepreneurship that prioritizes the balance between economic health, environmental resilience, and social equity in order to generate long-term value for present and future generations [60]. This approach, based on the integration of the economic, social, and environmental dimensions, has progressively consolidated in the literature, although authors such as Calderón and Pelaez-Higuera [61] agree that it is still a relatively recent and developing field.

In this context, higher education has been identified as a key actor in promoting this type of entrepreneurship by facilitating the acquisition of competencies, values, and attitudes aligned with the principles of sustainable development. Training and university education are considered relevant instruments for fostering a more responsible entrepreneurial vision oriented toward social and environmental impact [62]. However, a critical reading of the literature reveals that a large part of educational efforts has focused mainly on fostering sustainable entrepreneurial intentions, rather than on analyzing the effective creation of companies with sustainability criteria.

In fact, numerous studies, both in in-person contexts [26,61,63] and in online environments [62,64–66], show positive results in terms of intentions toward sustainable entrepreneurship. Nevertheless, these works usually focus on earlier stages of the entrepreneurial process, without systematically addressing the transition from intention to the effective creation of companies, an aspect that the GUESSS [67] project identifies as the generation of active entrepreneurs. Although there are in-person initiatives that have succeeded in promoting the creation of startups with environmental and social criteria—especially at universities with strong entrepreneurial ecosystems, entrepreneurship laboratories, incubators, and accelerators—these cases remain a minority within the set of available research. As documented by Leal Filho et al. [68], certain in-person higher education institutions promote student participation in real practices, competitions, and support programs that can result in the launch of sustainable entrepreneurship, but this evidence remains limited and not generalizable.

This limitation is especially evident in online university education, where sustainable entrepreneurship experiences aimed at the effective creation of companies continue to be scarce and fragmented. Although there are recent contributions analyzing student initiatives with sustainable criteria [69], most studies focus on entrepreneurial intention, leaving the analysis of performance, continuity, or the success of the projects created in the background. This situation highlights a relevant research gap regarding the role of university education in the generation of viable and long-lasting sustainable entrepreneurship.

From the perspective of the 2030 Agenda [70], this discussion takes on additional relevance. University entrepreneurship education is directly linked to SDG 4 (Quality Education), by contributing to the development of competencies and capabilities for action; to SDG 8 (Decent Work and Economic Growth), by promoting entrepreneurial initiatives that generate sustainable employment; and to SDG 9 (Industry, Innovation and Infrastructure), by fostering responsible innovation and the strategic use of technology. However, for this contribution to be effective, it is necessary to move from intention-centered approaches toward deeper analyses of entrepreneurial success, understood as a multidimensional phenomenon that integrates perceived performance, project continuity, and personal satisfaction.

In this sense, the determining factors of entrepreneurial success identified in the literature—both intrinsic and those related to experience and the environment—can be reinterpreted from a sustainability logic. Psychological capabilities such as leadership, self-confidence, or resilience strengthen the entrepreneur to sustain long-term projects; while management competencies, business planning, prior knowledge of the sector, and the family environment or close role models contribute to increasing the stability and survival of entrepreneurial initiatives.

Within this framework, the university assumes a strategic role not only as a generator of entrepreneurial intentions but as an agent of sustainable development, capable of influencing the quality and success of business projects. Analyzing how university entrepreneurs perceive and construct their own success makes it possible to advance understanding of this relationship and to provide empirical evidence to a research area that, despite its growing relevance, still shows significant conceptual and empirical gaps.

3. Materials and Methods

To address the research questions and to examine how and why university education influences entrepreneurial success, this study adopted an exploratory qualitative design based on a multiple-case study approach. This approach is particularly suitable for investigating complex, context-dependent phenomena through the comparative analysis of several units of analysis, prioritizing interpretive depth and the identification of recurring patterns over statistical generalization [71–73].

The unit of analysis comprised university-educated entrepreneurs, each treated as an individual case. Cases were selected in Spain, where student entrepreneurship and its outcomes have attracted growing academic and policy interest [67,74–77]. The multiple-case design made it possible to examine the phenomenon across diverse personal and professional trajectories, enabling cross-case comparison and strengthening analytical validity through theoretical replication. Following criteria inspired by the Global Entrepreneurship Monitor (GEM, [78]), the sampling strategy sought sociodemographic and educational diversity through variables such as age, gender, and educational level. Other variables (e.g., income level) were excluded as they were not considered relevant to the study objectives. The final sample comprised 11 cases, selected based on access to information [79], willingness to participate [80], and relevant personal and professional characteristics [81].

The sample size is consistent with the logic of multiple-case research, for which methodological literature does not establish a strict consensus on the optimal number of cases. Several authors argue that a small but carefully selected number of cases allows rigorous analytical comparison without compromising interpretive depth. In this regard, Chiva Gómez [82] suggests a minimum of four cases, while Eisenhardt [83] and Yin [72] typically place multiple-case studies in a range of four to ten units, recommending that the final number be adjusted to the study's analytical objectives. Villarreal Larrinaga and Landeta Rodríguez [84] likewise note that the decision is ultimately discretionary and

depends on the level of analytical quality sought. In line with these arguments, the analysis of 11 cases strengthens cross-case comparison and enhances interpretive robustness while preserving analytical depth. Furthermore, the decision to include only entrepreneurs who considered themselves successful was theoretically motivated. In interpretive qualitative research, the objective of examining success cases is not to generalize results, but rather to reconstruct the subjective meanings, personal mechanisms, and experiential processes that participants associate with entrepreneurial success. This approach is consistent with narrative and case-based methodologies, where subjective definitions of success are considered valid analytical constructs that provide access to the entrepreneurs' interpretive frameworks. Consequently, the sample captures lived experiences of success rather than objective performance metrics, aligning with the study's exploratory objectives.

Data were collected primarily through in-depth semi-structured interviews, used as the core instrument to systematically capture each participant's experience, perceptions, and entrepreneurial trajectory. The interview guide was built around the factors identified in the literature review and enabled a flexible, context-sensitive exploration of the phenomenon [85,86]. In addition, a rating scale was used exclusively as a reflective aid to help interviewees prioritize and justify their views; it was not intended for quantitative measurement or statistical analysis. It is important to note that the ordinal ratings used in this study do not constitute a measurement system nor a procedure for quantitative comparison between cases. Their function is strictly heuristic and exploratory, serving as a support to stimulate the interviewee's reflection and facilitate the verbalization of perceived priorities. In line with the principles of interpretive qualitative analysis, these ratings were not subjected to any statistical treatment nor used to generate comparative weightings. Instead, they were incorporated solely as preliminary qualitative inputs that helped guide, without determining, the subsequent thematic coding process.

To enrich the analysis and maintain multiple perspectives, the study drew on several data sources typical of case study research, including direct observation of entrepreneurs in their natural setting, review of relevant documentation (official and non-official), and supplementary information provided by third parties connected to the projects analyzed. Documents served a dual purpose: they supported interview preparation and contextualization and enabled corroboration and complementarity with interview data, thereby strengthening the consistency and credibility of the analysis.

Data analysis followed a thematic analysis approach, combining open coding with subsequent category aggregation to identify recurring patterns of meaning [87]. The coding was carried out through an inductive-informed procedure, beginning with line-by-line open coding of the transcripts, in which units of meaning related to the experiences, perceptions, and rationalities expressed by the entrepreneurs were identified. Subsequently, these initial codes were reorganized through a process of axial coding, articulating conceptual relationships and grouping them into intermediate categories linked to factors identified in the literature. Finally, through an iterative process of constant comparison between cases, these categories were consolidated into a final thematic structure, which constitutes the interpretive basis used in the results. This procedure ensured the internal coherence of the analysis and the alignment between the raw data and the emerging themes. By way of illustration, an example of the thematic coding process applied in the study is presented below. From the quote "*it is necessary to convince people to jump into the pool with you*" (H 25–34), the initial codes *mobilization of others*, *inspirational leadership*, and *initiative-taking in early stages* were identified. These codes were subsequently grouped into the category "*leadership as a driver of the entrepreneurial project*," which was integrated into the final theme "*psychological factors*." This procedure was systematically replicated across all interviews to build the themes presented in the results.

This procedure enabled the comparison of similarities and differences across cases and reinforced interpretive consistency. To enhance validity and reliability, multiple triangulation strategies were applied by combining interviews, observation, documentary evidence, and external sources [88]. The research team also maintained continuous reflexivity throughout the interpretive process, including internal cross-checks and critical review of emerging categories to minimize potential analytical bias. Additionally, the interpretive process incorporated specific tools to strengthen the reliability of the analysis, such as the development of analytic memos and the systematic review of codes across several rounds of reading. The final definition of themes emerged through a process of analytical consensus, in which the researchers compared their individual interpretations and verified the internal coherence between codes, categories, and themes. This procedure ensured the traceability between the raw data and theoretical inferences, thereby reinforcing the credibility and rigor of the qualitative analysis.

Finally, entrepreneurial success was approached from a subjective (perceived) perspective based on entrepreneurs' self-assessment, understood as a multidimensional construct integrating venture continuity, perceived performance, and personal satisfaction. This operationalization is consistent with the qualitative and exploratory nature of the study and captures the complexity of the concept from the lived experience of the cases analyzed. Given its interpretive nature, this concept is not used as a comparative indicator between cases nor as an objective measure of business performance, but rather as an analytical category that reflects how participants understand and narrate their own trajectory. Consequently, the findings derived from this notion should be interpreted within the limits of this subjective definition and do not imply causal or generalizable relationships. This subjective operationalization is consistent with qualitative epistemology, where concepts are defined through the meanings attributed by participants rather than external indicators. The objective is not to establish an objective measurement of business performance, but rather to understand how individuals construct the notion of success and how this construction shapes their interpretations, decisions, and trajectories.

4. Results

4.1. Overall Description of the Cases Analyzed

The study is based on the analysis of 11 university-educated entrepreneurs, all of whom have sufficient experience to reflect retrospectively on their entrepreneurial journey. As shown in Table 1, the cases are diverse in terms of age, gender, geographic scope of activity, number of projects developed, and their current status.

Table 1. Descriptive file of the case studies.

Age Range	Gender	Experience (Years)	Projects	Scope	Partners	Employees	Active	Status	Closed Projects	Self-Evaluation
55–64	Male	23	1	Local	No	6	Yes	Established	No	Success
55–64	Female	4	1	Latin America	No	8	Yes	Established	No	Remarkable success
45–54	Male	12	3	International	Yes	16	Yes	Established	Yes	Remarkable success

Table 1. Cont.

Age Range	Gender	Experience (Years)	Projects	Scope	Partners	Employees	Active	Status	Closed Projects	Self-Evaluation
45–54	Male	20	2	International	Yes	20	Yes	Established	Yes	Improvable
45–54	Female	12	1	Local	No	2	No	Closed	Yes	Moderate success
35–44	Male	9	2	Regional	No	8	Yes	Established	No	A way of life
35–44	Male	9	1	USA	Yes	90	Yes	Established	No	Remarkable success
35–44	Female	3	1	Spain	Yes	10	Yes	Established	No	Moderate success
35–44	Female	4	1	Spain	No	5	No	Closed	Yes	Success
25–34	Male	8	1	Spain	Yes	40	Yes	Established	No	Remarkable success
25–34	Female	3	2	International	Yes	13	Yes	Launch	No	Remarkable success

All participants reported having achieved some degree of entrepreneurial success, understood according to their own personal criteria (as stated earlier: perceived performance, personal satisfaction, and/or venture continuity). This made it possible to explore which factors, from their perspective, have contributed most significantly to that outcome.

4.2. Assessment of the Factors

To corroborate that the factors associated with perceived entrepreneurial success, identified through the literature review, were effective for the entrepreneurs analyzed, the entrepreneurs studied were asked to assess and provide a reasoned justification for these factors in relation to their entrepreneurial experience. To reflect these assessments and facilitate their visualization, ordinal categories were used, ranging from essential to of little importance. In addition, they were asked to suggest any other factor, besides those listed, that they considered essential and that, therefore, should be part of the list.

Starting with the first group of factors, the assessment of individuals' intrinsic factors is notable for the division into two subgroups made by the entrepreneurs themselves: psychological traits and skills and abilities. While all these factors may lead entrepreneurs to act more effectively, the development of the character supported by the psychological traits analyzed is especially relevant for carrying out entrepreneurial initiatives. Table A1 presents the qualitative assessment of each psychological factor in relation to its importance for entrepreneurial success. These assessments are not intended for quantitative purposes; rather, they serve to identify patterns in perceived relevance.

Repeatedly, leadership and self-confidence appear at the highest levels of importance (see Table A1 in Appendix A). Participants' accounts associate these traits with the ability to mobilize people, sustain the venture under uncertainty, and persevere in the face of difficulties, as reflected in statements such as “it is necessary to convince people to jump into the pool with you” (H 25–34) and “being able to lead at a distance involves an additional degree of difficulty” (M 55–64). Other factors, such as the ability to make decisions without fear of failure, show more nuanced relevance depending on each entrepreneur's trajectory and life context. This is also evident in statements such as “the fear of failure is present on a daily basis; to overcome it, it is very helpful to talk about it openly with other entrepreneurs” (H 25–34) and “learning to overcome the fear of failure comes with experience and the accumulation of

mistakes" (M 55–64). Across cases, many participants spontaneously introduced resilience (not included in the initial list) as a key trait, reinforcing the idea that entrepreneurship is perceived as a prolonged and demanding process in which psychological strength plays a fundamental role.

Table A2 in the Appendix A summarizes the assessment of skills and abilities related to entrepreneurial performance. Unlike psychological traits, participants described these competences as elements that can be learned and progressively developed.

Creativity and innovative capacity stand out as particularly relevant traits, linked to opportunity identification and market differentiation, as expressed by one participant when stating that *"creativity and innovative capacity have been an essential factor in the outcome of my entrepreneurial activity"* (M 45–54). Likewise, other skills, such as commercial competencies, business management, the use of technologies, or people management, are valued as important, but are not always perceived as factors associated with perceived entrepreneurial success from the outset of the project, as reflected in statements such as *"a company that does not adequately develop its commercial aspect cannot prosper"* (M 55–64).

The interviewees agree that many of these capabilities develop over time, depending on the particular needs of each initiative. Accordingly, some participants highlighted the importance of relational skills such as communication and empathy, which facilitate interaction with clients, employees and work teams, highlighting that *"the lack of communication skills constitutes a failure factor, for without this proficiency the entrepreneur is bound to fail"* (H 55–64).

Factors related to entrepreneurial experience are presented in Table A3 of the Appendix A and show high perceived relevance in participants' narratives.

Prior experience, both professional and entrepreneurial, is repeatedly identified as an element that facilitates decision-making, reduces errors, and makes it possible to anticipate critical situations, as reflected in statements such as *"Starting a business from scratch is a guaranteed failure"* (H 55–64) and *"Lived experience helps in seeking past behavioral patterns to find solutions to present problems"* (H 25–34). Likewise, business vision emerges as a key trait, understood as the ability to identify viable opportunities and to strategically project the development of the project, in line with expressions such as *"It is essential to be able to have the vision of what can be sold"* (M 55–64). Other factors, such as motivations for entrepreneurship or the family environment, show a more heterogeneous influence, depending on the personal context and the trajectory of each entrepreneur, as illustrated by the statement *"Entrepreneurship must arise from detecting an unsolved problem, as it is essential to create value with whatever you do"* (M 55–64).

Table A4 in the Appendix A provides the qualitative assessment of external factors related to the entrepreneurial environment. Among these, mentoring occupies a prominent place in participants' discourse. Guidance from experienced individuals is perceived as a key source of support, both technically and emotionally, particularly in the early stages of entrepreneurship, as reflected in statements such as *"having a specialized mentor changed my life; it redefined what I was doing"* (M 55–64) and *"mentoring leads to understanding financing dynamics and seeking opportunities to access incubators or accelerators"* (H 25–34).

In addition, access to financing, initial resources, and entrepreneurial ecosystems was also mentioned, albeit with differing assessments: some interviewees emphasized their usefulness, while others downplayed their impact relative to personal and experiential factors, as observed in expressions such as *"thanks to public aid and grants, I was able to launch my company"* (M 55–64) or *"through incubators, the opportunity arises to network with people with similar concerns"* (H 25–34).

Beyond their individual consideration, the data show that the factors analyzed do not operate in isolation, but rather through interactions that reinforce their effects. In

the participants' narratives, psychological capacities (such as self-confidence or resilience) support the development of practical skills, while these, in turn, strengthen personal confidence and the ability to lead projects in contexts of uncertainty. Similarly, prior experience and mentorship act as catalysts that enhance decision-making, business vision, and the ability to anticipate critical situations, shaping a network of reciprocal influences that entrepreneurs perceive as the real foundation of their successful performance.

An additional element emerging from the analysis concerns the way in which interviewees construct a causal meaning around entrepreneurial success. For them, these factors are not merely desirable attributes but mechanisms that operate on performance: self-confidence enables action despite uncertainty, experience provides references that reduce the margin of error, mentorship accelerates learning processes that would otherwise take much longer, and business vision strategically organizes decision-making. Taken together, participants understand these factors as interlocking components of a cumulative process of progress, rather than as independent characteristics. Based on this interpretation, the evidence suggests that entrepreneurial success emerges from the dynamic convergence of these factors rather than their individual influence. Psychological traits act as an internal platform that shapes how entrepreneurs interpret uncertainty, while experiential factors provide cognitive references that enable them to assess risks and opportunities with greater precision. Simultaneously, contextual support—particularly mentorship—activates and accelerates these internal processes by offering guidance, external validation, and access to resources. This interaction functions as a positive feedback loop in which psychological dispositions facilitate action, experience refines judgment, and contextual support expands strategic capacity, illustrating a multi-level mechanism through which the identified factors collectively contribute to entrepreneurial success.

4.3. Role of University Education in Developing the Factors

Beyond assessing the importance of the different factors associated with entrepreneurial success, participants were asked to reflect on which educational stages they believe are most suitable for developing these factors. The results of this reflection are summarized in Table 2, which identifies the educational environments mentioned by interviewees.

Table 2. Suitable educational environment for the development of the factors.

Gender	Age Range	Elementary School	Secondary Education	University	Specific Training	Work Experience	Others
Male	55–64	X	X	X		X	
Male	45–54 a			X			
Male	45–54 b				X	X	X
Male	35–44 a			X		X	
Male	35–44 b		X	X		X	
Male	25–34			X		X	
Female	55–64				X	X	
Female	45–54			X			
Female	35–44 a			X		X	
Female	35–44 b		X	X			
Female	25–34			X	X	X	

Notes: X indicates the educational stage identified as relevant. Letters (a, b) associated with age ranges indicate different participants within the same demographic group. These letters are used to differentiate participants who fall within the same age range while preserving anonymity.

The results show that participants perceive the development of entrepreneurial factors as a progressive and cumulative process that begins in the early stages of education and is consolidated over time. University education is repeatedly identified as a particularly

relevant setting that contributes to the consolidation and maturation of intrinsic personality factors, while the skills and abilities that positively influence performance can be learned and developed later.

4.4. Perceived Contribution of the University to the Development of the Factors

Although case studies often present the university as the ideal educational setting to contribute to the development of the factors associated with perceived entrepreneurial success, we examined the contribution of this institution to the development of these factors.

First, regarding individuals' intrinsic factors, participants established—almost unanimously—a strong link between the university education received and the strengthening of the psychological traits analyzed and considered this contribution decisive. However, within the same group of intrinsic factors, no evidence was found that the university had sufficiently and effectively supported the development of skills and abilities that enhance entrepreneurial performance; therefore, this contribution was perceived as residual.

In the analyzed narratives, the contribution of the university is described in terms of concrete mechanisms rather than direct effects. Participants thus attribute to the university stage a formative role in the acquisition of study habits, structured thinking, exposure to demanding work dynamics, and the construction of professional identity, elements they consider fundamental for the development of psychological traits such as discipline, self-confidence, and analytical capacity. However, these mechanisms are perceived as insufficient with regard to practical or experiential skills, which explains the limited influence attributed to the institution in these areas.

Likewise, participants generally considered that the university's contribution to personal factors related to entrepreneurial experience was insufficient, which led them to develop these factors through channels outside the university, as university education had little impact on any of them. Finally, none of the cases reported having had direct exposure during their university years to extrinsic factors related to the entrepreneurial environment; therefore, the university's contribution in this respect was perceived as null.

A distinctive contribution of this study is its revelation that entrepreneurs do not merely value the classical factors identified in the literature; they also interrelate them with life trajectories and internal mechanisms that are seldom explicitly described. In particular, the significance attributed to the articulation between psychological traits, accumulated experience, and expert guidance suggests that success does not depend on isolated elements, but rather on the progressive alignment of personal, contextual, and relational conditions. This integrative perspective, based on lived experience, complements and qualifies existing theoretical models, providing a more nuanced understanding of the actual dynamics of entrepreneurship.

4.5. University Practices Perceived as Facilitating Entrepreneurial Development

To examine the university's specific role in greater depth, participants were invited to identify practices, experiences, or university dynamics that, in their view, could foster the development of factors associated with entrepreneurial success. This reflection led to a broad and diverse set of contributions, which emerged spontaneously during the interviews.

The ideas mentioned by interviewees were subsequently grouped into different thematic areas based on conceptual affinity, in order to facilitate interpretation. These contributions refer, among other aspects, to the need for stronger links between university and business reality, the incorporation of active methodologies that promote initiative and critical thinking, and opportunities to interact with entrepreneurs and professionals with real-world experience.

Participants also highlighted the importance of creating spaces that encourage experiential learning, collaborative work, and the exchange of ideas among students from different backgrounds.

In addition, the creation of a department or chair at the university was proposed, responsible for implementing the proposed initiatives and ensuring compliance with the objectives related to the transmission of entrepreneurial values and the development of the factors associated with perceived entrepreneurial success.

Importantly, all these contributions do not constitute normative proposals or prescriptive recommendations. Rather, they reflect perceptions and assessments expressed by the entrepreneurs themselves based on retrospective experience. Their inclusion in this section aims to systematically capture the emerging discourse on the role that the university could play in developing the factors analyzed.

5. Discussion and Conclusions

The objective of this study has been to identify and understand the factors perceived as determinants of entrepreneurial success from the perception of entrepreneurs with university training, as well as to analyze the role that the university plays in their development. From a multiple case study, the results allow us to respond in an integrated way to the research questions raised and critically dialogue with the previous literature.

5.1. Determinants of Entrepreneurial Success

In relation to the first research question, the results suggest that entrepreneurial success can be understood as a multidimensional phenomenon, sustained by the interaction of psychological factors, skills and capacities, previous experience, and environmental elements. Nonetheless, the participants' discourses show consistently that intrinsic psychological factors, especially leadership, self-confidence, and resilience, are perceived by the participants as the most relevant determinants of success, above factors traditionally highlighted in the literature, such as those of a managerial or contextual nature.

This result is coherent with the literature that identifies psychological factors as pillars of entrepreneurial success. In particular, leadership has been pointed out recurrently as an especially relevant determinant, both for its capacity to orient and coordinate the efforts of teams toward the project's objectives [42], as well as for its role in the attraction of key collaborators and suitable profiles for the entrepreneurial initiative [10,36], as well as in the influence exerted over clients and other external agents [41,43].

Likewise, self-confidence emerges as one of the frequently highlighted personality traits, occupying a central position in previous reviews of the literature on entrepreneurship [35]. This trait is closely associated with the willingness to assume decisions in contexts of uncertainty and with a proactive attitude toward problems, characteristics typical of the successful entrepreneur [44,45]. In contrast, the fear of failure is identified as an inhibiting factor that can increase the probability of obtaining negative results [46], by affecting the quality of decision-making and limiting entrepreneurial action, constituting one of the main obstacles for the start and consolidation of business projects [47,48].

From this perspective, the results of this study provide qualitative indications that are coherent with these theoretical contributions, showing how entrepreneurs perceive these psychological traits as a transversal support of the entrepreneurial process, especially in situations of uncertainty, difficulty, and long-term persistence.

5.2. Why These Factors Are Determinants

Regarding the second question, the results suggest that these factors can play an especially relevant role by influencing the entrepreneur's capacity to mobilize resources, learn

from experience, and persevere over time. Unlike technical skills, which are perceived as progressively developable, psychological factors are understood by the participants as elements that favor entrepreneurial behavior, allowing for the transformation of opportunities into viable projects.

This interpretation aligns with the literature that conceives sustainable entrepreneurship as a process oriented toward long-term value creation, in which the balance between economic, social, and environmental dimensions is central [60]. From this perspective, the identified psychological factors—such as leadership, self-confidence, or resilience—acquire relevance not only for the start of the project, but for its continuity and sustainment over time, being able to contribute to reinforcing the entrepreneur's capacity to face contexts of uncertainty and develop initiatives coherent with principles of sustainability. In this sense, the sustainability of entrepreneurial projects is potentially related to their economic viability, and also to the generation of stable employment, the creation of social value, and the strengthening of resilient entrepreneurial ecosystems.

5.3. Actual Influence of the University on Entrepreneurial Success

In relation to the third research question, the results suggest a differentiated influence of the university on the development of the factors analyzed. The participants describe that university training had a relevant role in the development of the psychological traits analyzed, especially during the stage of personal and formative consolidation.

However, university influence is perceived by the participants as more limited in the development of practical skills, entrepreneurial experience, and contextual factors, which the participants claim to have acquired mostly outside the academic environment. This result is coherent with a consolidated line of literature that points out that university entrepreneurial education has traditionally focused on the generation of entrepreneurial intentions, showing positive effects on said intentions [14–19], although with a more moderate capacity to favor the effective creation of companies.

This orientation is also reproduced in the specific field of sustainable entrepreneurship. Various studies point out that, both in face-to-face [26,61,63] and in online environments [64–66], formative initiatives manage to reinforce attitudes and intentions toward sustainable entrepreneurship, but rarely analyze the transition toward the effective creation of companies systematically. In this sense, the results of this study provide additional qualitative indications by showing that, even among university entrepreneurs with consolidated projects, the university is perceived as a relevant environment for the configuration of psychological dispositions, although its influence on the development of practical and experiential competencies is considered more limited for materializing viable and sustainable entrepreneurial initiatives. This dimension is especially relevant in current debates on responsible innovation and sustainable regional development, where universities act as connection nodes between knowledge and entrepreneurship.

From a sustainability-oriented perspective, the participants' testimonies reveal that entrepreneurial success cannot be interpreted solely as the ability to launch or consolidate a business. Rather, it is understood as the capacity to maintain a project responsibly over time, generating long-term value for diverse stakeholders. This perspective redefines the role of the university, as the development of psychological aptitudes—such as resilience, critical self-confidence, and disciplined decision-making—becomes essential for entrepreneurs to act in alignment with the principles of responsible innovation and sustainable development. In this sense, incorporating a sustainability perspective underscores that the university's influence is not limited to strengthening intentions or attitudes; it extends to fostering the internal capacities that enable individuals to engage in forms of entrepreneurship aligned

with SDGs 4, 8, and 9. According to the interviewed entrepreneurs, these capacities remain only partially activated in current higher education practices.

5.4. How the University Can Improve Its Influence

The fourth question is addressed starting from the university practices identified by the entrepreneurs themselves. The results suggest that participants identify various practices through which the university could reinforce its influence by means of a greater connection with business reality, the use of active methodologies that drive initiative and critical thinking, and interaction with real entrepreneurs and professionals.

These perceptions reinforce the idea that the university could play a more active role not only in the promotion of entrepreneurial intentions, but also in the promotion of sustainable development, aligning training with the Sustainable Development Goals, in particular SDG 4 (quality education), SDG 8 (decent work and economic growth), and SDG 9 (industry, innovation, and infrastructure), all of them closely linked with the development of sustainable entrepreneurial ecosystems [70]. In this sense, advancing from approaches centered on intention toward models oriented toward success and the sustainability of the project appears as a key challenge.

The study offers a novel perspective by revealing the mechanisms through which entrepreneurs construct meaning regarding their own success, demonstrating that psychological factors are configured, interpreted, and applied in a situated manner within specific formative and professional contexts. This approach, based on subjective perceptions, allows for an understanding of not only which factors are relevant but also how they interact and why they acquire differential weight within the analyzed trajectories.

Based on these insights, several concrete actions emerge that universities could implement to strengthen their actual influence on entrepreneurial success. Firstly, participants emphasize the need for structured and continuous mentorship programs within the university, led by experienced entrepreneurs capable of providing individualized guidance throughout the entrepreneurial process. Secondly, the incorporation of project-based learning, grounded in real-world business challenges, would enable students to acquire practical and experiential competencies that, as they claim, are currently developed outside the academic environment. Thirdly, establishing stable collaboration agreements with incubators, accelerators, and innovation centers would facilitate early exposure to financing dynamics, strategic decision-making, and multidisciplinary teamwork. Finally, the creation of tracking mechanisms for graduates launching entrepreneurial projects would allow universities to provide ongoing support and monitor the long-term sustainability of the initiatives created. These practical measures translate participants' perceptions into concrete institutional practices aligned with SDGs 4 and 8.

5.5. Theoretical and Practical Contributions

Although the identified factors coincide with those extensively documented in entrepreneurship literature, the original contribution of this study lies in demonstrating how these elements are articulated, combined, and acquire meaning within real-world entrepreneurial trajectories. From a qualitative perspective, the results reveal that leadership, self-confidence, or prior experience do not operate as isolated variables; rather, they function as integrated psychological and experiential processes emerging from the interaction between personal biography, the university context, and the specific challenges of each project. This interpretive approach, based on the subjectivity of university entrepreneurs with established ventures, facilitates an understanding of the personal and contextual mechanisms that activate these factors and provides a more nuanced reading of

entrepreneurial success, expanding a theoretical framework traditionally dominated by quantitative studies or focused on independent variables.

In coherence with this contribution, from the theoretical point of view, this study contributes to the literature by offering an integrated reading of entrepreneurial success from a qualitative perspective, highlighting the relevance of psychological factors and questioning approaches excessively centered on managerial or structural variables. Likewise, it connects the debate on entrepreneurial education with the sustainability agenda by exploring how certain factors associated with entrepreneurial success can contribute to the creation of business initiatives that are economically viable, socially relevant, and aligned with principles of sustainable development, providing empirical evidence based on the perception of active entrepreneurs.

In practical terms, the results suggest useful orientations for universities and academic managers, by identifying concrete areas in which university training can reinforce its real impact on entrepreneurship, especially through more applied formative experiences sustained over time.

5.6. Limitations and Future Lines of Research

This study presents some limitations that must be considered. In the first place, the number of cases analyzed and their contextualization in the Spanish scope limit the generalization of the results. In the second place, by being based on retrospective accounts, the results may be influenced by recall biases and ex post rationalization processes, inherent to the narrative reconstruction of the entrepreneurial experience. In the third place, the composition of the sample, which is formed exclusively by entrepreneurs who identify themselves as success cases, introduces a selection bias that conditions the interpretation of the results. This characteristic implies that the identified factors reflect mainly successful trajectories and do not allow for the contrast of alternative patterns associated with experiences of failure or with non-consolidated entrepreneurial processes. Although this orientation is coherent with the objective of the study, centered on understanding the determinants of perceived success, it also limits the possibility of establishing analytical comparisons between different types of trajectories. Therefore, the findings must be interpreted as representative of a concrete profile of entrepreneurs, without being able to be extrapolated to the total diversity of entrepreneurial experiences.

Furthermore, the decision to focus exclusively on entrepreneurs who self-identify as having achieved a certain degree of success follows an interpretive logic consistent with qualitative multiple-case research. This sampling strategy allows for an in-depth exploration of the mechanisms through which participants make sense of their own trajectories and the factors they perceive as most influential. In this type of design, the objective is not to establish contrasts between success and failure, but rather to reconstruct the subjective logic of perceived success. This requires selecting cases capable of offering rich and meaningful narratives of that experience. This theoretical justification clarifies that the selection bias is not a design flaw but an intentional feature aligned with the study's epistemological approach. However, it limits the scope of inference to this specific entrepreneurial profile.

As future lines of research, it is proposed to advance toward comparative studies between different university contexts, as well as to complement the qualitative approach with quantitative designs that allow for the contrast of relationships between factors and entrepreneurial success. Likewise, it could result in special interest to deepen the role of online university training in the effective creation of sustainable entrepreneurships, a field that continues showing important gaps in the literature.

5.7. Conclusions

This study analyzes the influence of university training on entrepreneurial success based on a qualitative approach, using multiple cases. The results suggest that success in entrepreneurship is configured starting from the combination of psychological factors, entrepreneurial experience, and elements of the environment, highlighting especially the role of leadership and self-confidence as transversal supports of the entrepreneurial process.

The university is perceived as a relevant space for the development of certain psychological traits, but its contribution is limited in the development of practical skills, entrepreneurial experience, and contextual factors, which the entrepreneurs claim to have acquired mostly outside the academic environment. These findings suggest the convenience of advancing beyond approaches centered exclusively on entrepreneurial intention and moving toward formative models oriented toward the creation and consolidation of business projects.

From a theoretical perspective, the study seeks to contribute to the literature by addressing entrepreneurial success as a multidimensional phenomenon and aligned with the principles of sustainable development. In practical terms, the results suggest the convenience of reinforcing active methodologies, experiential learning, and the connection between the university and entrepreneurial ecosystems.

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Appendix A

Table A1. Comparison of psychological factors.

Gender	Age Range	Leadership	Self-Confidence	Decision-Making and Fear of Failure
Male	55–64	***	*****	****
Male	45–54 a	***	*****	***
Male	45–54 b	*****	*****	***
Male	35–44 a	*****	*****	****
Male	35–44 b	*****	****	****
Male	25–34	*****	*****	****
Female	55–64	*****	****	**
Female	45–54	*****	*****	**
Female	35–44 a	*****	****	***

Table A1. Cont.

Gender	Age Range	Leadership	Self-Confidence	Decision-Making and Fear of Failure
Female	35–44 b	*****	****	***
Female	25–34	****	****	****

Notes: ***** Essential; **** Very important; *** Important; ** Relative importance; * Little importance. Letters (a, b) associated with age ranges indicate different participants within the same demographic group. These letters are used to differentiate participants who fall within the same age range while preserving anonymity.

Table A2. Comparison of skills and abilities.

Gender	Age Range	Creativity and Innovative Capacity	Commercial Skills and Mastery of Marketing Tools	Business Management	Proficiency of New Technologies	People Management
Male	55–64	**	*****	***	****	***
Male	45–54 a	****	***	****	***	**
Male	45–54 b	***	****	****	*****	***
Male	35–44 a	****	*****	****	****	****
Male	35–44 b	****	**	**	**	*****
Male	25–34	****	*****	****	****	***
Female	55–64	*****	****	****	****	****
Female	45–54	*****	****	****	*	*****
Female	35–44 a	****	****	****	****	**
Female	35–44 b	****	***	**	**	****
Female	25–34	****	***	****	****	****

Notes: ***** Essential; **** Very important; *** Important; ** Relative importance; * Little importance. Letters (a, b) associated with age ranges indicate different participants within the same demographic group. These letters are used to differentiate participants who fall within the same age range while preserving anonymity.

Table A3. Comparison of personal factors related to entrepreneurial experience.

Gender	Age Range	Previous Experience	Previous Knowledge of the Sector	Business Vision	Reason for Entrepreneurship	Ability to Anticipate Situations	Family Atmosphere
Male	55–64	*****	*****	****	****	****	***
Male	45–54 a	*****	**	***	****	**	****
Male	45–54 b	***	****	****	***	****	**
Male	35–44 a	*****	*	****	****	*	****
Male	35–44 b	***	*	****	**	*	****
Male	25–34	*****	*	**	****	***	**
Female	55–64	*****	****	*****	*****	***	***
Female	45–54	*****	***	*****	**	****	*
Female	35–44 a	*****	***	*****	***	***	***
Female	35–44 b	*****	**	****	****	****	***
Female	25–34	*****	*	*****	****	*****	***

Notes: ***** Essential; **** Very important; *** Important; ** Relative importance; * Little importance. Letters (a, b) associated with age ranges indicate different participants within the same demographic group. These letters are used to differentiate participants who fall within the same age range while preserving anonymity.

Table A4. Comparison of extrinsic factors related to the entrepreneurial environment.

Gender	Age Range	Mentoring	Access to Financing	Availability of Initial Resources	Incubators	Access to Public Grant Programs
Male	55–64	***	***	**	**	*
Male	45–54 a	*****	*****	***	****	****
Male	45–54 b	*****	**	*	**	***
Male	35–44 a	****	**	**	*	*****
Male	35–44 b	*****	****	****	*	*

Table A4. Cont.

Gender	Age Range	Mentoring	Access to Financing	Availability of Initial Resources	Incubators	Access to Public Grant Programs
Male	25–34	*****	****	*	***	***
Female	55–64	*****	****	*	***	****
Female	45–54	***	*****	**	**	*
Female	35–44 a	*****	***	****	*****	*
Female	35–44 b	*****	****	***	**	**
Female	25–34	*****	****	*	****	***

Notes: ***** Essential; **** Very important; *** Important; ** Relative importance; * Little importance. Letters (a, b) associated with age ranges indicate different participants within the same demographic group. These letters are used to differentiate participants who fall within the same age range while preserving anonymity.

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