Open Minds

Internacional Journal

ISSN 2675-5157 vol. 1, n. 4, 2025

ARTICLE 13

Acceptance date: 29/12/2025

MULTIVARIATE STATISTICAL ANALYSIS OF FACTORS THAT PROMOTE AN ENTREPRENEURIAL SPIRIT AMONG UNIVERSITY GRADUATES IN THE CITY OF BOGOTÁ[1]

CASE STUDY: GRADUATES OF PROGRAMS AT THE FREE UNIVERSITY OF COLOMBIA

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1. Original article resulting from research entitled: "Improving supply chain process management in MSMEs in the city of Bogotá," funded by La Salle University, Bogotá, Colombia.

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Abstract: This research analyzes the results obtained from evaluating the work methods and activities related to entrepreneurship among university graduates in the city of Bogotá, with the aim of clarifying the little-researched relationship between the factors that promote an entrepreneurial mindset and university education. Based on research and studies related to entrepreneurship, the theoretical elements taken into account to define the profile of an entrepreneur who has graduated from a university program are established, and then the dependence of the independent variables on the dependent variable of entrepreneurship is examined. In this regard, an instrument was designed and validated, through which the data collected in the field were analyzed, and the correlations of all the variables were identified. Similarly, a factorial analysis was performed to identify the interdependence of the variables and determine the explanation for each one. The results show that the factors that promote an entrepreneurial spirit in university graduates are marked by an attitude of risk-taking when opting for self-employment. Similarly, they enjoy environments of uncertainty and change in order to identify entrepreneurial opportunities, and their family environment is supportive when it comes to entrepreneurship.

Keywords: Entrepreneurship, Teaching, Attitude, Entrepreneur, Risk.

Multivariate statistical analysis of factors that promote an entrepreneurial spirit among university graduates from Bogotá. Case study: Graduates of the business administration program at the Free University of Colombia

Introduction

Beyond their teaching, research, and outreach functions, universities are feeling increasing pressure to make an effective contribution to their countries' economic systems by strengthening the entrepreneurial skills of their graduates (Y. Wang & Ma, 2022). Therefore, an entrepreneurial university must generate an authentic connection between its laboratories and the needs of the markets based on its strengths in creativity and technology, motivating creative development towards an entrepreneurial attitude (Anjum et al., 2021), which requires its actors to constantly research opportunities and new entrepreneurial phenomena (Guerrero et al., 2015), which is crucial in developing the "entrepreneurial spirit" of university professionals.

In this regard, it is essential to analyze the variables that contribute to the formation of an "entrepreneurial spirit" so that they interact between the tendency toward creative intention and disposition when undertaking a venture and teaching methods (this analysis is projected with the intention of being studied by researchers, teachers, and entrepreneurship generators), considering that all regions of the world need to improve their economic conditions and that higher education institutions (HEIs) have a direct responsibility (Bardales-Cárdenas et al., 2024), but not all of them have the resources and plans to provide up-to-date and trained teachers as agents of change (Saliba, 2024), where the qualities of the teacher directly affect the attitude of students (Joensuu-Salo et al., 2024). That is why pedagogy, didactics, and technology transfer are key tools for generating entrepreneurial intent (a striking example is the use of AI, where teachers can create more interactive and personalized contexts) (Anubhav et al., 2024). Consequently, an entrepreneurial university is committed to providing sufficient social capital, with an entrepreneurial mindset, capable of driving the growth and development of nations (Salamzadeh, Sangosanya, Salamzadeh, & Braga, 2022).

On the other hand, this research aims to study and reveal the possible correlation between the disposition (understood from the attitude) to be an entrepreneur and family factors (since this dependence has not been sufficiently addressed in research related to the variables (or factors) that favor the formation of an "entrepreneurial spirit"); therefore, authors such as Wang et al. (2021); Severino-González et al. (2022) argue that the classroom is not sufficient to develop an " " spirit, but that extracurricular activities, seedbeds, and discussion groups are necessary and indispensable, since an efficient educational ecosystem is not credit for outstanding business performance; despite the emotional commitment generated by universities, which has been shown not to affect students' entrepreneurial ideas (Matos-Cámara et al., 2022).

Similarly, moving from a rigid and technical university to an entrepreneurial one requires an effective relationship between universities, industry, and governments

(Alexander & Evgeniy, 2012), where it is essential to understand the long-term link between universities and their alumni (Soetanto & van Geenhuizen, 2019). As an agent of change, the entrepreneurial university must challenge academic traditions. It is not exclusively about creating new companies; the goal is to develop an attitude or behavior for life, in other words, an "entrepreneurial spirit" (Klofsten et al., 2019).

In this context, the objective of this study is to identify, analyze, and evaluate, through multivariate statistical analysis, the variables that influence the development of the "Entrepreneurial Spirit" in professionals who graduated from the Universidad Libre de Colombia in Bogotá, D.C., generating key knowledge for the design of academic strategies and institutional policies that strengthen the entrepreneurial culture in higher education. The findings will contribute to both the academic sphere and the productive sector, promoting creative and sustainable new business initiatives.

First, the selected variables that influence the development of entrepreneurial spirit in graduates of the Universidad Libre de Colombia in Bogotá, D.C. are introduced. Next, the results of the multivariate statistical analysis applied to the data obtained through an instrument designed specifically for this study are presented, with the purpose of identifying the relationships between socioeconomic, academic, and personal factors in the formation of an entrepreneurial mindset. Finally, the main conclusions and recommendations are presented, aimed at strengthening strategies that promote entrepreneurship in the university environment.

Definition of the variables under study

Based on studies focused on the profile and skills that university graduates (including students) should have at the national and international level in order to become entrepreneurs; research conducted to promote entrepreneurship; and relevant documents published by recognized entities addressing this topic, the concepts involved in promoting an entrepreneurial spirit among university graduates were established.

Subsequently, an analysis was carried out to understand the characteristics of this topic, which must be addressed in a systematic manner, in order to gain a deep understanding of the factors that are essential for university graduates to become entrepreneurs and that promote an entrepreneurial spirit.

In this way, concepts were defined to understand the variables that were taken into account, which were Attitude, Teaching, and Personal Aspects, and thus contextualize and define the dimensions and indicators.

Therefore, the definitions of the variables and their relationship with the characteristics that this type of entrepreneur (university graduate) takes into account to foster an entrepreneurial spirit, which were considered for the analysis of this research after conducting a theoretical review, are shown in Table 1.

The definitions given above help to establish how all the variables will be measured. The method for analyzing both the dependent variable and the independent variables will be the application of an instrument to measure the attitude, teaching,

Independent variable	Actual Definition	Operational Definition	Entrepreneurial spirit
Attitude	In very general terms, attitude refers to a psychological tendency that manifests itself in the favorable or unfavorable evaluation of a specific entity. This evaluation involves cognitive components (beliefs and thoughts), affective components (emotions , and feelings), and behavioral components (behavioral intentions).	From an operational point of view, attitude is related to the importance for students of being able to learn from their own experience and self-manage, where it can be assumed that the intervention of the teacher as a mentor is not required (García-Tudela et al., 2022).	The entrepreneurial attitude of university graduates is determined by the factors of dissatisfaction to which they are exposed (ambiguous or uncertain situations), with risk being a constant in entrepreneurial ideation (Arasteh et al., 2012). Similarly, fear of failure and success are obstacles that are often overcome by fear of poverty when faced with such situations (Morris et al., 2023).
Teaching	Teaching can be broadly understood as the intentional and systematic process of transmitting knowledge, skills, values, and attitudes from one person to another, with the aim of facilitating learning and development.	In an operational sense, teaching is the instrument through which an entrepreneurial spirit can be developed, considered as inner motivation and conviction, capable of overcoming all obstacles generated in the development of entrepreneurial intentions (António Porfírio et al., 2023).	Teaching in the development of an entrepreneurial spirit in university graduates occurs in particular through the use of special teaching methods and skills by professors (Blankesteijn et al., 2024), who include some practical elements that generate positive experiences, but do not match the reality of business (Malik et al., 2023). In particular, the widespread teaching of entrepreneurship in all university courses has not had the expected results; in many cases, it does not even promote new knowledge (Fassbender et al., 2022).
Personal aspects	Personal aspects, broadly speaking, are the characteristics that distinguish a person, such as their appearance, personality, gender, skills, and habits, etc.	From an operational point of view, the personal aspects that a university entrepreneur (including graduates) should have are related to age, having entrepreneurial parents, self-efficacy, and risk tolerance (Schimperna et al., 2022).	The personal aspects of university graduates with an entrepreneurial spirit are related to gender and family influence. The former (gender) is an aspect where institutions have been feeding the differences between men and women when it comes to entrepreneurship, with practices of marginalization, segregation, and normalization closing opportunities for equality (Hark, 2016). The latter (family influence) is marked by the entrepreneurial passion that parents transmit to their children, encouraging them to pursue technical or professional careers related to business creation and business development (Maziriri, et al. 2024).

Note. Conceptual and operational definitions of the variables and their relationship to entrepreneurial spirit in university graduates: Own elaboration.

Table 1 : *Conceptual and operational definitions of the variables*

and personal aspects that promote an entrepreneurial spirit in professionals graduating from university programs.

The dimensions help to separate the elements that directly influence the independent variables, allowing us to focus on creating indicators. These were specified taking into account the operationalization of the research variables, based on the conceptual and operational definition of each of them. In this sense, the dimensions that were formulated are: Risk Taking, Disposition, Self-Esteem, Teaching Methodology, Teacher Training, and Family Influence.

The indicators identified were: Risky projects initiated, Decisions made with confidence, Level of acceptance of new ideas, Formulation and execution of entrepreneurial projects, Development of innovative ventures, Ability to transform ideas into entrepreneurial projects, Content related to entrepreneurship, Teaching experience in entrepreneurship, Learning methodologies for teaching entrepreneurship, and Perceived level of family support.

Table 2 shows how the operationalization was established by dimensions, indicators, and items or questions.

Methodology

The objective of this research is to perform a multivariate statistical analysis of the factors that promote an entrepreneurial spirit in university graduates in the city of Bogotá. Given the above, a non-experimental, quantitative, cross-sectional, correlational research methodology is applied with the intention of identifying the relationship between the variables described above and the dependent variable, which in this case is entrepreneurship.

Given the above, in order to carry out the measurement, an instrument was designed with a structure consisting of 19 questions distributed as follows: 8 for the attitude variable, 6 for teaching, and 4 for personal aspects. These questions were formulated with the intention of obtaining specific information from the graduate professionals who were the subject of the study. As for the application of the instrument, a form was used, which was sent directly to the graduates.

To determine the population, 334 professionals who had graduated from different university programs were identified, based on a sociodemographic study to understand their behavior and perceptions regarding entrepreneurship. In the case of the sample, not all graduates were selected, since in some cases they did not respond to the form for reasons of time and personal circumstances, and also because of the specificity of the collection instrument, not all of them completed 100% of the information. This led to the application of the simple random sampling method, which resulted in a sample size of 179 graduate professionals who met the conditions set out in the research.

It is worth mentioning that, when performing Cronbach's alpha test, which is measured from 0 to 1, where the minimum acceptable value for an instrument is 0.7 and the maximum value is 0.9 (Campo, Herazo, & Caballero, 2020), if the instrument falls within these ranges, it means that it has good internal consistency. If it is greater than 0.9, it has high or excellent consistency (Hernández, Fernández & Baptista, 2014) cited by (Cervera, 2021). To calculate this coefficient, the procedure used was to apply

Variable	Dimension	Indicators
Attitude	Risk-taking	• Projects initiated with risk • Decisions made with confidence
	Willingness	• Level of acceptance of new ideas • Formulation and execution of entrepreneurial projects • Development of innovative ventures
	Self-esteem	• Ability to transform ideas into entrepreneurial projects
Teaching	Teaching methodology	• Content related to entrepreneurship • Teaching experience in entrepreneurship
	Teacher training	• Learning methodologies for teaching entrepreneurship
Personal aspects	Influence of family	• Level of perceived family support

Note: Operationalization of variables, dimensions, and indicators of entrepreneurial spirit in university graduates. Source: Prepared by the authors.

Table 2 Operationalization of variables.

Variable and Dimension	Items	Cronbach's alpha	Consideration
COMPLETE INSTRUMENT	**19**	**0.894**	**Good**
Attitude	**8**	**0.901**	**High**
Risk-taking	3	0.927	High
Willingness	3	0.875	Good
Self-esteem	2	0.896	Good
Teaching	**6**	0.866	Good
Teaching methodology	4	0.847	Good
Teacher training	2	0.816	Good
Personal aspects	**5**	0.889	Good
Family influence	2	0.873	Good
Gender	3	0.892	Good

Note: The Cronbach's alpha coefficient values calculated for the instrument are grouped here. Source: Own elaboration.

Table 3 *Cronbach's alpha coefficient for the dimensions of entrepreneurship*

a questionnaire constructed with multiple-choice scales, where all the information about the variables in these organizations was collected. The analysis is performed by correlating the items that make up the instrument, which for this research is the correlation of the 19 statements to perform an internal consistency analysis. After the above process, when measuring the instrument, a reliability analysis of 0.894 was found, a value that indicates that the instrument shows good reliability.

The Cronbach's alpha coefficient values calculated for each variable and the entire instrument are grouped as shown in Table 3. It is worth noting that reliability is a fundamental element in identifying the interrelationship between the items on the scale, that is, whether they show excellent internal consistency or interrelationship between the questions or items that form part of the scale (Barrios & Ulises, 2020) cited by (Cervera, 2021).

Results of the factorial analysis

To determine the interdependence between the variables and find a suitable group of items that explain each factor or component, the multivariate technique of factor analysis ( ) was used, which initially establishes a matrix to explain the variability of all the variables. It then extracts an optimal number of factors, analyzing whether there is a need to rotate them to avoid ambiguities and thus make a correct interpretation. Finally, the scores are evaluated to name the factors found.

Thus, the degree of correlation between the groups of variables can be established using Bartlett's sphericity test and the Kaiser Meyer Olkin (KMO) technique, where the former provides an evaluation of the hypothesis to determine whether or not the variables are correlated; and the second (KMO) indicates whether the sampling is adequate or not, where values between 0.7 and 1 indicate an adequate sample, while those below 0.6 indicate the opposite (Romero & Mora, 2020). Subsequently, using the information provided by the statistical software in the total variance explained matrices, where the eigenvalues and percentages of each of these appear, attention is focused by default on eigenvalues greater than 1. Therefore, the components that have a value > 1 in the variance table are chosen to explain the original problem. Similarly, the component matrices for each variable show the items that explain each component.

Finally, a brief analysis of the relative values of each variable in each of the extracted factors is presented, also assigning a name to the factors found. By using and applying statistical software (IBM SPSS®) to all the information, Table 4 shows the KMO results and Bartlett's test using the multivariate principal component technique.

Next, analyses were performed for each independent variable that influences the factors that promote an entrepreneurial spirit in university graduates in the city of Bogotá.

[1]**Variable 1. Attitude:** The first independent variable selected was attitude, and Table 5 shows the results obtained, where we can see a good level in terms of KMO (Kaiser-Meyer-Olkin) and the level of significance.

1 Measures the adequacy of the sample. Indicates how appropriate it is to apply factor analysis. Values between 0.5 and 1 indicate that it is appropriate to apply it.

The following graph (sedimentation graph) shows that only one principal component that meets the condition of being greater than 1 (eigenvalues > 1) should be extracted.

The variance table for this variable (Table 6) explains in more detail the selection of the principal component, which explains 74.187% of the variance. This means that this single factor can represent 74.187% of the problem in this variable.

For this variable, Table 7 shows that there is only one factor composed of three items or variables (I enjoy exploring uncertain and changing environments to identify entrepreneurial opportunities, I am willing to take risks by choosing self-employment focused on innovative entrepreneurial projects, and I am proactive and persistent in seeking to develop innovative ventures).

The data presented above forms a principal component, which represents a block for the study of the attitude variable on the factors that promote an entrepreneurial spirit in university graduates. Analyzing the resulting factor, the following can be inferred:

Factor 1: The component matrix shows that the items or variables that exert the greatest load on this factor are: I enjoy exploring environments of uncertainty and change to identify entrepreneurial opportunities, I am willing to take risks by choosing self-employment focused on innovative entrepreneurial projects, and I am proactive and persistent in seeking the development of innovative ventures. This factor is associated with the **personal characteristics of the entrepreneur,** since one of the most important aspects studied in entrepreneurship is the personality of the entrepreneur (which also involves students graduating from university programs), where psychological characteristics related to: the propensity to take risks, the need for independence, effective leadership, and the need for achievement are dynamic elements in this type of population (professional graduates) (Gartner, 2011) cited by (Arasteh et al., 2012). In the same vein, entrepreneurs fear both success and failure (including this type of entrepreneur), as these are emotional reactions based on uncertain and ambiguous contexts that develop in entrepreneurship (Cacciotti, et al 2020).

Similarly, one of the personality traits of entrepreneurs is learning from their own experiences, which generates a predisposition to do so, as they want to learn from other situations that arise in contexts different from their own, and they see this as an opportunity for training (Muñoz et al., 2020). Consequently, this leads to self-directed learning that is relevant to problem solving, since within entrepreneurship, those who plan better have a greater chance of self-efficacy (Spormann et al., 2015).

[2]**Variable 2. Teaching:** The second independent variable selected was teaching, the results of which are presented in Table 6, where we can observe a good level in terms of KMO (Kaiser-Meyer-Olkin) and the level of significance.

The following graph (sedimentation graph) shows that only one principal component that meets the condition of being greater than 1 (eigenvalues > 1) should be extracted.

The variance table for this variable (Table 7) explains in more detail the selection

2 Measures the adequacy of the sample. Indicates how appropriate it is to apply factor analysis. Values between 0.5 and 1 indicate that it is appropriate to apply it.

Kaiser-Meyer-Olkin sample adequacy measure		0.823
Bartlett's sphericity test	chi-square approx.	38.726
	Gl	20
	sig.	0.001

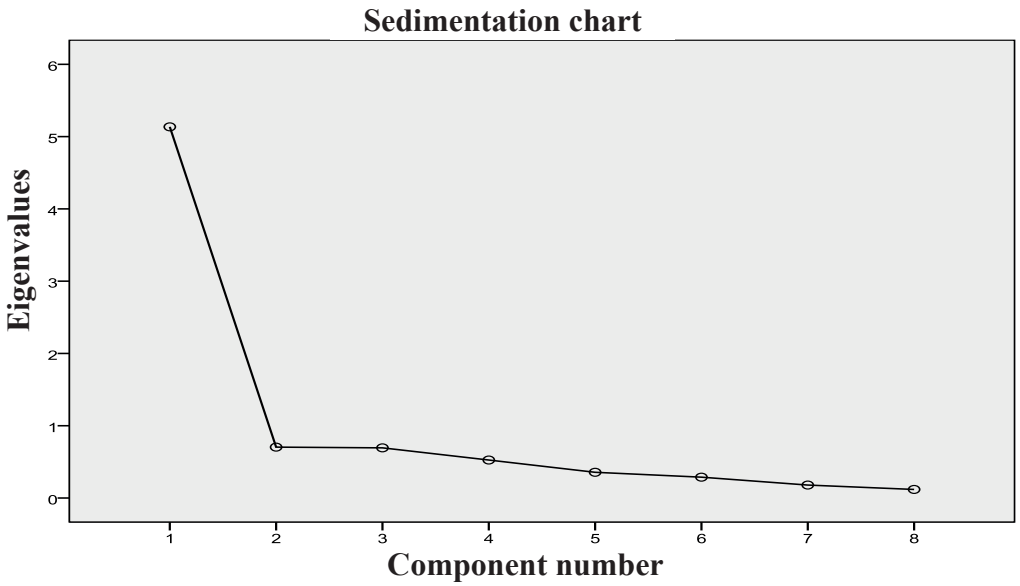
Note. Results obtained using statistical software (IBM SPSS®). Source: Own elaboration.

Table 4 KMO results and initial Bartlett sphericity.

Kaiser-Meyer-Olkin sample adequacy measure		0.798
Bartlett's sphericity test	chi-square approx.	1934.678
	Gl	28
	sig.	0.000

Note. Results obtained using statistical software (IBM SPSS®). Source: Own elaboration.

Table 5 Initial KMO and Bartlett's sphericity results



Note: Sedimentation graph with number of principal components.

Graph 1 Sedimentation for the attitude variable

Source: Own elaboration.

Component	Initial eigenvalues			Sums of squared extractions		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative
1	5,135	64.187	74.187	5,135	74,187	74,187
2	,704	8,799	78,986			
3	,694	8,674	81,660			
4	,525	6,569	88,229			
5	,356	4,447	92,229			
6	,288	3,603	96,279			
7	,179	2,240	98, 520			
8	,118	1,480	100,000			

Note: Extraction method using principal component analysis. Source: Prepared by the authors.

Table 6 Total variance explained for the attitude variable

Items or Variables	Components or Factors
	1
Works passionately on creating innovative ventures	.699
I trusted my ideas and abilities to transform them into innovative entrepreneurial projects	.811
I enjoy exploring uncertain and changing environments to identify entrepreneurial opportunities	.883
I am willing to take risks by choosing self-employment focused on innovative entrepreneurial projects.	.912
In entrepreneurial projects, I generally take risks with confidence.	.662
I am proactive and persistent in seeking to develop innovative ventures.	.880
I am assertive in formulating and executing entrepreneurial projects	.639
I frequently generate original and spontaneous creative ideas for the development of potential new ventures	.871

Note. Factor loadings matrix where the variables of the components are highlighted in gray according to their importance for the study. Source: Own elaboration.

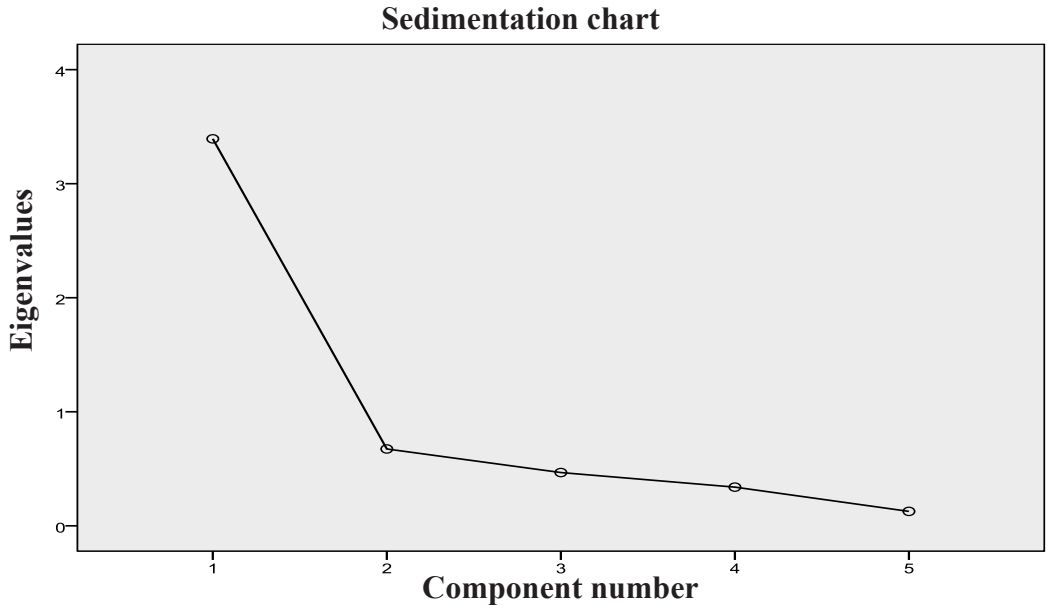
Table 7 Component matrix. Factor loading matrix

Kaiser-Meyer-Olkin sample adequacy measure		0.834
Bartlett's sphericity test	chi-square approx.	1021.807
	Gl	10
	sig.	0.000

Note. Results obtained using statistical software (IBM SPSS®).

Table 5 Initial KMO and Bartlett's sphericity results

Source: Own elaboration.



Note: Sedimentation graph with number of principal components.

Graph 1 Sedimentation for the attitude variable

Source: Own elaboration.

Component	Initial eigenvalues			Sums of squared extractions		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative
1	3,393	67,866	63,866	3,393	63,866	63,866
2	,674	13,476	79,342			
3	,467	9,342	90,684			
4	,339	6,785	97,469			
5	,127	2,531	100,000			

Note: Extraction method using principal component analysis. Source: Prepared by the authors.

Table 6 Total variance explained for the attitude variable

Items or Variables	**Components or Factors**
	1
I compare existing academic theory with practice to provide new entrepreneurial ideas	.716
I am guided by the theoretical and practical knowledge I learned at university in the development of entrepreneurial ideas	.836
The teaching methods implemented by your university in entrepreneurship classes were effective	.907
The curriculum at your university included content related to entrepreneurship and/or intrapreneurship.	.920
You believe that the methodologies and ways of teaching entrepreneurship in universities should change.	.715

Note: Factor loadings matrix highlighting in gray the variables of the components according to their importance for the study.

Table 8 Component matrix. Factor loading matrix

Source: Own elaboration.

of the principal component, which explains 63.866% of the variance. This means that this single factor can represent 63.866% of the problem in this variable.

For this variable, Table 8 shows that there is only one factor composed of three items or variables (I enjoy exploring uncertain and changing environments to identify entrepreneurial opportunities, I am willing to take risks by choosing self-employment focused on innovative entrepreneurial projects, and I am proactive and persistent in seeking to develop innovative ventures).

The data presented above forms a principal component, which represents a block for the study of the variable of teaching on the factors that promote an entrepreneurial spirit in university graduates. Analyzing the resulting factor, the following can be inferred:

Factor 1: The component matrix shows that the items or variables that exert the greatest load on this factor are: The teaching methods implemented by your university in entrepreneurship classes were effective and Your university's curriculum included content related to entrepreneurship and/or intrapreneurship. This factor is associated with **teaching methodologies for entrepreneurship,** bearing in mind that learning (including that provided by experience) is fundamental to a deep understanding of the real challenges of entrepreneurship and management (Van Ewijk et al., 2020). Therefore, different forms of entrepreneurship learning (such as e-learning, simulators, gamification, among others) contribute to improving the entrepreneur's mindset and business skills (Huang-Saad, et al 2016).

Now, although the techniques developed in entrepreneurship training vary widely, what should be emphasized is that learning must be supported in real contexts for the implementation of what has been learned to be effective (Loi, et al 2016). In addition, this training must guarantee the ability to develop the psychological characteristics of entrepreneurs, with the aim of fostering entrepreneurial intent (Fayolle, et al 2014).

[3]**Variable 3. Personal aspects:** The second independent variable selected was teaching, the results of which are presented in Table 6, where we can observe a good level in terms of KMO (Kaiser-Meyer-Olkin) and the level of significance.

The following graph (sedimentation graph) shows that only one principal component that meets the condition of being greater than 1 (eigenvalues > 1) should be extracted.

The variance table for this variable (Table 10) explains in more detail the selection of the principal component, which explains 64.559% of the variance. This means that this single factor can represent 64.559% of the problem in this variable.

For this variable, Table 8 shows that there is only one factor composed of two items or variables (considering the importance of family support when starting a business and their age in years).

The data presented above forms a principal component, which represents a block for the study of personal aspects of the factors that promote an entrepreneurial spirit in university graduates. Analyzing the resulting factor, the following can be inferred:

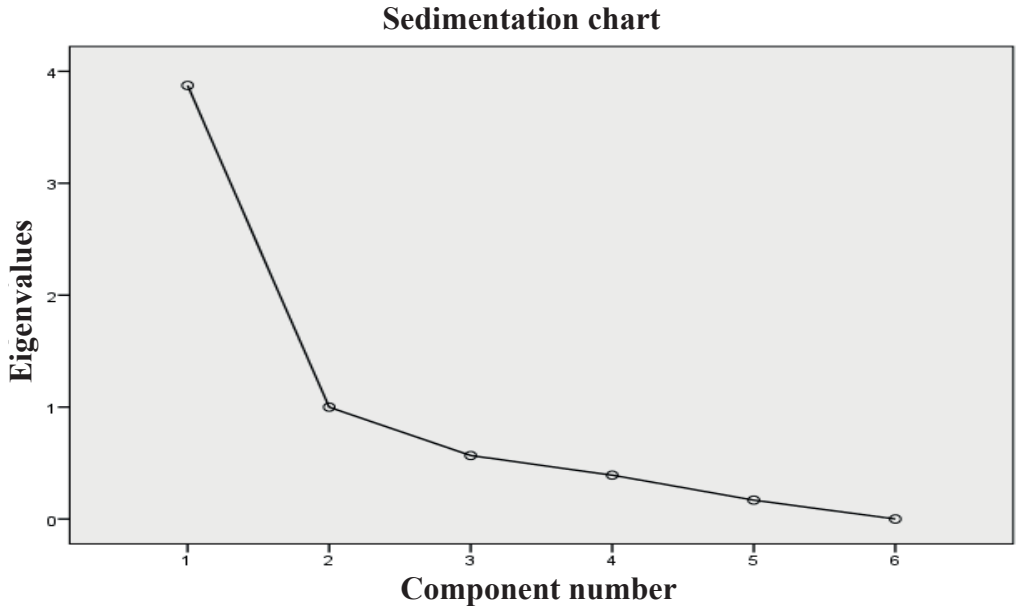
3 Measures the adequacy of the sample. Indicates how appropriate it is to apply factor analysis. Values between 0.5 and 1 indicate that it is appropriate to apply it.

Kaiser-Meyer-Olkin sample adequacy measure		0.811
Bartlett's sphericity test	chi-square approx.	1015.765
	Gl	14
	sig.	0.000

Note. Results obtained using statistical software (IBM SPSS®).

Table 9 Initial KMO and Bartlett's sphericity results

Source: Own elaboration.



Note: Sedimentation graph with number of principal components.

Graph 1 Sedimentation for the attitude variable

Source: Own elaboration.

Component	Initial eigenvalues			Sums of squared extractions		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative
1	3,874	65,559	64,559	3,874	65,559	64,559
2	,999	16,656	81,215			
3	,567	9,450	90,665			
4	,392	6,528	97,193			
5	,168	2,807	100,000			

Note: Extraction method using the principal component technique.

Table 10 Total variance explained for the attitude variable

Source: Own elaboration.

Items or Variables	Components or Factors 1
What is your highest level of education?	.721
What is your gender?	.036
What is your age in years?	.964
Do you consider family support important when starting a business?	.920
What is your profession?	.715

Note: Factor loadings matrix where the variables of the components are highlighted in gray according to their importance for the study.

Table 7 Component matrix. Factor loadings matrix

Source: Own elaboration.

Factor 1: The component matrix shows that the items or variables that exert the greatest influence on this factor are: the importance of family support when starting a business and the age of the entrepreneur. This factor is associated with the **entrepreneur's family environment**, taking into account that family background, especially the occupation of their parents, has a strong impact on the entrepreneurial mindset of university graduates (as well as university students), as well as on their social life (Xanthopoulou and Sahinidis2022) . This leads to the intention to be an entrepreneur being marked by the fact that one or both parents are self-employed, and the entrepreneur wants to follow this behavior (self-employment) with the aim of becoming a successor (Cano and Tabares 2017).

Similarly, some social and personal characteristics of the entrepreneur, such as gender, self-efficacy, risk tolerance, and age (as in the present study) drive the purpose of entrepreneurship (Schimperna et al., 2022).

Discussion and Conclusions

The entrepreneurial spirit of university graduates is marked by personality (as one of the key elements), where psychological characteristics related to risk-taking, the need for independence, effective leadership, and the need for achievement are driving forces in the intention to work for oneself. In the same vein, this type of entrepreneur experiences both fear of success and fear of failure, as these are emotional reactions based on the uncertain and ambiguous contexts that arise in entrepreneurship.

In addition, another aspect to consider in the entrepreneurial spirit of the graduate professional is related to learning (including experience), which is essential for a deep understanding of the real challenges of entrepreneurship and management. Consequently, different forms of learning about entrepreneurship (such as electronic learning, simulators, gamification, among others) contribute to improving the entrepreneur's mindset and business skills.

Finally, one factor that promotes entrepreneurial spirit is related to family background, primarily the occupation of the parents, as it has a strong impact on the entrepreneurial mindset of the college gradua-

te. Therefore, he or she may want to follow this behavior (self-employment) with the goal of becoming a successor.

Similarly, some social and personal characteristics of the entrepreneur, such as gender, self-efficacy, risk tolerance, and age (as in the present study) drive the purpose of entrepreneurship.

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