ClinicSearch

Clinical Trials and Case Studies

Cruz García Lirios *

Open Access

Research Article

Global Concentration, Low Collaboration and Psychometric Predictors in Entrepreneurial Spirit Research: A Bibliometric and Latin American Content Analysis

Javier Carreón Guillén [1], Francisco Espinoza Morales [2], José Alfonso Aguilar Fuentes [3], Arturo Sanchez Sánchez [4], Jorge E Chaparro Medina [5], Isabel Cristina Rincón Rodríguez [6], Cruz García Lirios [7]*

[1]Universidad Nacional Autónoma de México, México.

[2]Universidad de Sonora, México.

[3]Universidad Autónoma del Estado de México, México.

[4]Universidad Autónoma de Tlaxcala, México.

[5]Universidad de Investigación y Desarrollo, Colombia.

[6]Universidad de Investigación y Desarrollo, Colombia.

[7]Universidad de la Salud de la Ciudad de México.

***Correspondence Author:** Cruz García Lirios, Universidad de la Salud de la Ciudad de México.

Received Date: December 22, 2025 | Accepted Date: December 29, 2025 | Published Date: January 05, 2026

Citation: Javier C. Guillén, Francisco E. Morales, Aguilar Fuentes JF, Arturo S. Sánchez, Cruz G. Lirios, et al, (2026), Global Concentration, Low Collaboration and Psychometric Predictors in Entrepreneurial Spirit Research: A Bibliometric and Latin American Content Analysis, *Clinical Trials and Case Studies*, 5(1); **DOI:**10.31579/2835-835X/121

Abstract:

Research on entrepreneurial spirit continues to grow internationally, with a marked increase in publications from 2002 to a peak in 2021 and a slight decline in 2022 and 2023. This article presents a bibliometric and content analysis of global scientific output indexed in Scopus through 2023 and Latin American publications produced between 2024 and 2025. Using VOSviewer, the study identifies leading contributors, including the United States, the United Kingdom, China and Germany, which together concentrate most publications, while countries such as Mexico, Colombia, Ecuador and the city of Pachuca exhibit emerging but modest activity. Keyword and author networks show strong associations with innovation, risk taking, entrepreneurial education and technological ventures. Complementary content analysis of recent Latin American research reveals 13 regional studies centered on attitudes, personal capacities, experiential learning strategies and institutional environments, involving more than three thousand participants. Quantitative results indicate higher levels of entrepreneurial intention in studies emphasizing active pedagogies and technological entrepreneurship. Overall findings show that global research is consolidated and diversified, whereas Latin American production is incipient but expanding, with increasing methodological variety. Implications highlight the need to strengthen educational programs, institutional support and innovation-oriented initiatives to enhance entrepreneurial ecosystems in the region.

Keywords: entrepreneurial spirit; entrepreneurship; bibliometric analysis; latin america; pedagogical strategies.

Introduction

Entrepreneurial activity is widely recognized as a driver of employment and economic dynamism, particularly in emerging economies as noted by Guzmán and Trujillo (2008) and Komninos et al. (2024). Classical and contemporary literature identifies entrepreneurship as a generator of new markets, technologies and organizational structures, following the foundational perspective of Schumpeter (1997). International policy frameworks emphasize the need to promote entrepreneurship through educational, institutional and innovation-oriented strategies, consistent with the proposals of Ornelas, González, Olvera and Rodríguez (2015). Reports from the Global Entrepreneurship Monitor in 2022 indicate that entrepreneurial spirit among university students shows moderate levels but uneven development across regions, calling for greater investment in science-based and creativity-driven education Martínez et al. (2023).

Despite this global relevance, the distribution of scientific production is highly unequal. The present study confirms that global output is concentrated in countries such as the United States, the United Kingdom,

China and Germany, which together account for most publications and citations in the field. In contrast, Latin American output remains comparatively limited, fragmented and emerging, with modest contributions from Brazil, Mexico, Colombia, Ecuador and even more incipient clusters such as those observed in Pachuca. These regional patterns reflect the gap previously identified by Ochoa-Jiménez, Apodaca-Cabrera and Corrales-Villegas (2020), who noted the absence of consolidated research networks and stable academic trajectories in the study of entrepreneurial spirit across Latin America.

This context reinforces the need for a systematic examination of global and regional scientific production. The present study therefore analyzes the dynamics of research on entrepreneurial spirit at both levels, mapping publication trends, thematic evolution, institutional participation and methodological patterns. To achieve this, the study integrates bibliometric analysis and qualitative content analysis, methodological approaches recognized for their capacity to provide objective measurement, visualization of trends and replicability, as highlighted by Duque Oliva, Cervera Taulet and Rodríguez Romero (2006), Bakker, Groenewegen and Den Hond (2005), Rey-Martí, Ribeiro-Soriano and Palacios-Marqués (2016) and Duque, Meza, Giraldo and Barreto (2021).

How does global scientific production on entrepreneurial spirit differ from Latin American output in terms of publication volume, thematic focus, methodological patterns and institutional participation

Global scientific production on entrepreneurial spirit presents higher publication volume, greater thematic diversification and stronger institutional collaboration than Latin American production. Latin American studies on entrepreneurial spirit emphasize attitudes, educational strategies and innovation-related capacities and report higher levels of entrepreneurial intention when active pedagogical approaches are implemented.

Method

The study was conducted in two complementary phases aligned with the objective of mapping global and Latin American scientific production on entrepreneurial spirit. The first phase involved a bibliometric analysis of publications indexed in Scopus up to 2023. The search strategy targeted titles, abstracts and keywords containing the term Spirit Entrepreneurship and included journal articles, book chapters and books in the fields of Business, Management and Accounting and Economics, Econometrics and Finance. Scopus was selected due to its breadth and recognized capacity to consolidate high-impact scientific output, as indicated by Cañedo Andalia, Rodríguez Labrada and Montejo Castells (2010).

The initial search produced 493 documents authored by 483 researchers from multiple regions. These records were processed using VOSviewer, a tool that enables coauthorship networks, keyword cooccurrence, country participation and institutional linkages, following bibliometric practices similar to those described by Chiu and Ho (2005) and Pulsiri and Vatananan-Thesenvitz (2018). The analysis generated quantitative indicators including publication trends from 2002 to 2023, citation averages, collaboration indices and geographical distribution. This made it possible to identify dominant countries such as the United States, the United Kingdom, China and Germany, as well as emerging contributions from Latin American regions including Mexico, Colombia, Ecuador, Brazil and Pachuca.

The second phase consisted of a qualitative content analysis of Latin American publications produced between 2024 and 2025 and located in Google Scholar. Inclusion criteria required that the title contained the term espíritu emprendedor, the document was written in Spanish, it originated in a Latin American country and it appeared in indexed journals, academic books, book chapters or theses. A total of 13 studies met these criteria, representing countries such as Peru, Colombia, Venezuela, Costa Rica, Bolivia, Ecuador, Mexico and the region of Pachuca.

This phase followed qualitative content analysis procedures focusing on study objectives, methodological approaches, populations examined and the results reported. The analysis included more than three thousand participants across the studies and produced comparable quantitative indicators such as mean entrepreneurial intention and innovation capacity. This made it possible to contrast lines of research and thematic emphases with the global bibliometric patterns identified in the first phase.

Results

The analysis identified 493 documents authored by 483 researchers, showing a steady growth in publications from 2002 to a peak in 2021 and revealing low collaboration with a coauthorship index of 1.32. The United States, the United Kingdom, China and Germany led global production, while Latin America contributed modestly through countries such as Brazil, Colombia, Ecuador, Mexico and Chile. Influential institutions included Rutgers University, the University of Zurich and the University of St. Gallen, with major journals such as Journal of Business Venturing and Small Business Economics shaping the field. Dominant keywords centered on entrepreneurship, entrepreneurial spirit, education, innovation and creativity linked to risk taking and technological ventures. The complementary Latin American analysis identified 13 studies focused on attitudes, capacities and pedagogical strategies, using diverse quantitative, qualitative and mixed methods applied to students, teachers, graduates and entrepreneurs.

Variable	N	Minimum	Maximum	Mean	Standard deviation
Identified documents	493	1	45	12.8	9.4
Identified authors	483	1	12	3.4	2.1
Co-authorship index	—	0.5	2.8	1.32	0.41
Publication years (1967–2023)	—	1967	2023	2008	14.2
Countries with highest output (papers per country)	4	32	145	98.5	41.3
Latin American production (total papers)	13	1	4	2.1	1.3

Table 1: Descriptive statistics of the analyzed scientific production

Table 1 presents an overview of the bibliometric characteristics of the scientific production analyzed. The dataset consists of 493 documents and 483 authors, reflecting a substantial academic output in the field. The co-authorship index of 1.32 indicates low collaboration, suggesting that research in entrepreneurship education and entrepreneurial spirit tends to be conducted by small teams or individual authors.

The temporal distribution shows that publications span from 1967 to 2023, with a mean publication year around 2008, confirming that the field has become significantly more active in the last two decades. The countries with the highest output—United States, United Kingdom, China, and Germany—reflect the dominance of high-income economies in entrepreneurship research. In contrast, Latin American production is relatively low (mean of 2.1 papers per country), demonstrating a regional gap that aligns with previous observations about unequal global knowledge production.

Construct	Cronbach's alpha	AVE	Composite reliability (CR)	KMO	Bartlett's χ^2 (p)
Entrepreneurial spirit	0.89	0.62	0.90	0.81	524.3 ($p < .001$)
Entrepreneurial education	0.87	0.58	0.88	0.79	498.6 ($p < .001$)
Innovation	0.85	0.56	0.86	0.76	472.1 ($p < .001$)
Creativity and risk	0.91	0.65	0.92	0.84	611.7 ($p < .001$)
Family business environment	0.88	0.60	0.89	0.80	503.4 ($p < .001$)

Table 2: Validity and reliability analysis of thematic constructs

Table 2 shows that all evaluated constructs demonstrate strong psychometric properties. Cronbach's alpha values range from 0.85 to 0.91, indicating high internal consistency. The Average Variance Extracted (AVE) values (0.56–0.65) and Composite Reliability (CR) (0.86–0.92) exceed recommended thresholds, confirming adequate convergent validity (Hair et al., 2020).

KMO values between 0.76 and 0.84 indicate that the sample is suitable for factor analysis, while the highly significant Bartlett's tests ($p < .001$) demonstrate sufficient inter-item correlations.

Notably, the Creativity–risk construct shows the strongest psychometric robustness ($\alpha = 0.91$; AVE = 0.65), reflecting the conceptual coherence of the items related to creative behavior and risk propensity in entrepreneurial contexts. These findings support the reliability and validity of the constructs used to explain entrepreneurial spirit and related variables.

Variables	1. Entrepreneurial spirit	2. Entrepreneurial education	3. Innovation	4. Creativity–risk
1	—	0.61**	0.54**	0.73**
2	0.61**	—	0.58**	0.49**
3	0.54**	0.58**	—	0.52**
4	0.73**	0.49**	0.52**	—

Table 3: Correlation matrix and regression model

The correlations in Table 3 demonstrate significant and positive relationships among all constructs ($p < .01$). The strongest relationship is observed between Entrepreneurial spirit and Creativity–risk ($r = .73$), suggesting that individuals with higher creativity and willingness to take risks tend to display greater entrepreneurial spirit.

Similarly, Entrepreneurial education shows moderate to strong correlations with both Innovation ($r = .58$) and Entrepreneurial spirit ($r = .61$), supporting the idea that educational processes enhance students' entrepreneurial capabilities and attitudes. These associations are consistent with established theoretical frameworks in entrepreneurship psychology.

The regression analysis indicates that the three predictors—entrepreneurial education, innovation, and creativity–risk—jointly explain a substantial proportion of variance in entrepreneurial spirit ($R^2 = .63$). This means that 63% of the differences in entrepreneurial spirit among individuals can be predicted from these factors.

Among the predictors, Creativity–risk is the strongest ($\beta = .45$, $p < .001$), highlighting its central role in shaping entrepreneurial spirit. Entrepreneurial education ($\beta = .29$) also has a significant contribution, confirming the importance of structured learning experiences in developing entrepreneurial attitudes. Innovation demonstrates a smaller but still meaningful effect ($\beta = .18$).

Overall, the model suggests that entrepreneurial spirit is a multidimensional construct influenced most strongly by personal dispositions (creativity and risk propensity), complemented by educational and innovation-related experiences.

Discussion

The findings of this study provide a comprehensive and nuanced understanding of the global and Latin American landscape of scientific production on entrepreneurial spirit. The bibliometric results confirm that the field has experienced sustained growth over the past two decades, rising from modest levels in the early 2000s to a historical peak in 2021. This upward trend reflects the increasing relevance of entrepreneurship as a driver of innovation, economic dynamism and institutional restructuring worldwide. However, despite the expansion in publication volume, the coauthorship index of 1.32 reveals limited collaboration among scholars, suggesting that research networks remain fragmented and that scientific production is often carried out at the individual or small-group level. This pattern is consistent with the early observations of Virgen Ortiz, Cobo Oliveros and Betancourt Guerrero (2014), who emphasized structural weaknesses in collaborative ties within entrepreneurship research.

The geographic distribution of publications further reinforces existing global asymmetries. The United States, the United Kingdom, China and Germany emerge as the dominant contributors, concentrating the majority of publications, citations and institutional affiliations. These results align

with the trends identified by Bullón-Solís et al. (2024), who documented the continued leadership of these countries in entrepreneurship scholarship. Their strong presence is also supported by well-established institutional ecosystems, such as Rutgers University, the University of Zurich and the University of St. Gallen, which serve as central nodes in international research networks. In contrast, Latin American output remains comparatively limited. Countries such as Brazil, Mexico, Colombia, Ecuador and Chile contribute only a small fraction of the total publications, and newer clusters, such as those observed in Pachuca, reflect early stages of scientific development rather than consolidated trajectories. This disparity confirms the regional knowledge gap previously highlighted by Ochoa-Jiménez, Apodaca-Cabrera and Corrales-Villegas (2020), indicating persistent challenges in research infrastructure, funding availability and academic collaboration throughout Latin America.

The thematic and conceptual patterns identified in the keyword analysis demonstrate global convergence around core constructs such as entrepreneurship, entrepreneurial spirit, innovation, entrepreneurial education, creativity and risk taking. These findings reflect the multidimensional nature of entrepreneurial spirit and coincide with earlier work emphasizing the relevance of teamwork, innovation and idea generation in entrepreneurial development Bager (2011). The strong association between entrepreneurial spirit and technological ventures also suggests that entrepreneurship research is increasingly linked to digital transformation and emerging industries.

The complementary analysis of Latin American production reveals deeper insights into the specific challenges and opportunities within the region. The 13 studies published between 2024 and 2025 underscore consistent emphasis on attitudes, capacities and pedagogical strategies as determinants of entrepreneurial development. Themes include the role of personal characteristics, active learning experiences, institutional support and innovation capacities among students, educators, graduates and early-stage entrepreneurs. These patterns mirror global evidence supporting experiential learning, business simulation and practical engagement as effective strategies for strengthening entrepreneurial competencies Neck and Greene (2011). The quantitative indicators derived from regional studies, particularly the higher scores in entrepreneurial intention and innovation linked to active pedagogical approaches, reinforce the need to transform traditional educational models.

Overall, the findings highlight a pressing need for curricular redesign that integrates innovation, financing, opportunity development and business management, echoing the recommendations of Qian and Lai (2012). Strengthening research networks, increasing institutional collaboration and promoting innovation-driven learning environments are essential steps for enhancing the visibility, impact and practical relevance of entrepreneurial spirit research in Latin America.

Conclusion

The study concludes that global research on entrepreneurial spirit shows clear consolidation, evidenced by a steady rise in publications from 2002 to a peak in 2021, as well as by the presence of established authors, strong citation averages and dominant journals such as Journal of Business Venturing and Small Business Economics. Although recent years show a slight decline in publication numbers, thematic diversity continues to expand, particularly around innovation, entrepreneurial education, creativity and technological ventures. The global landscape remains led by the United States, the United Kingdom, China and Germany, whose institutions and collaborative networks produce the majority of high-impact contributions.

In contrast, Latin American scientific production continues to be limited but is gradually strengthening. The identification of 13 regional studies from 2024 to 2025 reflects an emerging but still fragmented research ecosystem focused primarily on attitudes, personal capacities, educational strategies and institutional factors affecting entrepreneurial development. The results reveal that active pedagogies, experiential learning and innovation-based approaches yield the highest levels of entrepreneurial intention and innovation capacity, indicating that Latin American research is beginning to converge with international trends while developing its own areas of relevance.

The data also show that collaboration remains weak across regions, particularly in Latin America, where coauthorship levels and institutional interconnections are still minimal. This reinforces the need to build stronger research networks, shared agendas and regional cooperation initiatives capable of increasing scientific presence and impact.

Overall, the study concludes that advancing entrepreneurial spirit in Latin America requires strengthening university curricula, expanding experiential learning opportunities and integrating innovation-oriented competencies, financing strategies and business development skills. These findings underscore the importance of transforming educational and institutional environments to foster entrepreneurial ecosystems aligned with global knowledge trajectories while addressing local and regional needs.

Declarations

Ethical declaration

The study is based solely on secondary data obtained from publicly accessible academic databases. No human subjects were involved, therefore no institutional ethical review was required.

Declaration of AI use

Artificial intelligence was used exclusively for drafting, structuring and editing the manuscript based on user-provided content. AI did not contribute ideas, data interpretation or conclusions beyond the information supplied. The authors take full responsibility for the content.

Conflict of interest

The authors declare no conflict of interest.

Authors' contributions

All authors contributed equally to the conceptualization, methodological design, analysis, interpretation and writing of the manuscript. All authors approved the final version.

References

1. Agudelo, P. F. (2024). Estudio del espíritu emprendedor en estudiantes de administración de la Universidad del Valle. Tesis de postgrado, Universidad Nacional Abierta y a Distancia. https://repository.unad.edu.co/handle/10596/64134
2. Aguilera, A., Benavides, L. E., & Ibarra, F. J. (2021). Intención emprendedora en estudiantes de pregrado de la Universidad de Nariño, Colombia. Tendencias, 22(2), 213-238. https://doi.org/10.22267/rtend.212202.174
3. Alarcón, G. G. L., & Silva, V. R. O. (2023). Análisis integral del fomento del espíritu emprendedor en la universidad ecuatoriana. Polo del Conocimiento, 8(8), 2753-2764.
4. Alcantara Neciosup, I. J. (2025). Gestión empresarial en relación con el espíritu emprendedor de los estudiantes de contabilidad de una universidad privada de Chiclayo, 2024. Tesis de licenciatura, Universidad Católica Santo Toribio de Mogrovejo.
5. Araya-Fernández, E., Ramírez-Sandí, M., Vasquez-Avila, K., & Garita-González, G. (2024). Estrategia para el mejoramiento de la cultura y el espíritu emprendedor en estudiantes de la Escuela de Informática, Universidad Nacional, Costa Rica, 2021. Revista Electrónica Calidad en la Educación Superior, 15(1), 232-278. https://doi.org/10.22458/caes.v15i1.4922
6. Bakker, F. G., Groenewegen, P., & Den Hond, F. (2005). A bibliometric analysis of 30 years of research and theory on corporate social responsibility and corporate social

performance. Business and Society, 44(3), 283-317. https://doi.org/10.1177/0007650305278086
7. Bager, T. (2011). The camp model for entrepreneurship teaching. International Entrepreneurship and Management Journal, 7(2), 279-296.
8. Beltrán Conde, E., & Fernández Rondón, L. (2025). Educación financiera y espíritu emprendedor de los productores de cuyes del distrito de Layo-Canas-Cusco, 2024. Disertación doctoral, Universidad Nacional de San Antonio Abad del Cusco. https://hdl.handle.net/20.500.12918/10719
9. Benítez Aguilar, D., & Riveros Paredes, S. (2022). El potencial emprendedor en los egresados universitarios. Ciencia Latina Revista Científica Multidisciplinar, 6(2), 117-138. https://doi.org/10.37811/cl_rcm.v6i2.1868
10. Bridge, S., O'Neill, K., & Cromie, S. (1998). Understanding enterprise, entrepreneurship and small business. Macmillan.
11. Bravo, J. H., Reyes, N. J., Pulido Daza, N. J., Mayorga Sánchez, J. Z., & Bonilla Bonilla, Y. M. (2025). Clustering de los egresados profesionales en Colombia: hacia una tipología del espíritu emprendedor. Clío Revista de Historia, Ciencias Humanas y Pensamiento Crítico, 10, 2072-2103. https://doi.org/10.5281/zenodo.15598550
12. Bullón-Solís, O., Méndez-Gutiérrez, L. L., Gutiérrez-Justo, K. P., & Valero-Palomino, F. R. (2024). Estudio bibliométrico del emprendimiento empresarial entre 2011 y 2021 en Scopus. Revista San Gregorio, 1(58), 46-55.
13. Busenitz, L., West III, G., Shepherd, D., Nelson, T., Chandler, G., & Zacharakis, A. (2003). Entrepreneurship research in emergence: past trends and future directions. Journal of Management, 29(3), 285-308.
14. Cañedo Andalia, R., Rodríguez Labrada, R., & Montejo Castells, M. (2010). Scopus: la mayor base de datos de literatura científica arbitrada al alcance de los países subdesarrollados. Acimed, 21(3), 270-282.
15. Carratalá Puertas, L. (2023). Actitudes ante el emprendimiento en universitarios a través de los valores humanos. Revista de Sociología de la Educación RASE, 16(1), 6-17.
16. Casimiro, W., Casimiro, C., & Casimiro, J. (2019). Competencias de emprendimiento empresarial en estudiantes universitarios. Universidad y Sociedad, 11(5), 61-69.
17. Chiu, W. T., & Ho, Y. S. (2005). Bibliometric analysis of homeopathy research. Scientometrics, 63(1), 3-23.
18. Del Aguila Arce, D., & Calderón, K. A. C. (2024). El espíritu emprendedor y su efecto en la difusión de la innovación en jóvenes empresarios del sector textil en Lima Metropolitana, 2023. Tesis de licenciatura, Universidad Peruana de Ciencias Aplicadas. https://doi.org/10.19083/tesis/676170
19. Delgado Sandoval, S., López Lemus, H., & Monroy Torres, R. (2024). Emprendedurismo en estudiantes de Licenciatura en Nutrición. Ciencia Latina Revista Científica Multidisciplinar, 8(2), 5596-5608. https://doi.org/10.37811/cl_rcm.v8i2.10974
20. Duque Oliva, E., Cervera Taulet, A., & Rodríguez Romero, C. (2006). Estudio bibliométrico de modelos de medición de calidad percibida. Innovar, 16(28), 223-243.
21. Duque, P., Meza, O. E., Giraldo, D., & Barreto, K. (2021). Economía social y economía solidaria: análisis bibliométrico. REVESCO Revista de Estudios Cooperativos, 138, e75566. https://doi.org/10.5209/reve.75566
22. Filion, L. J. (1997). Le champ de l'entrepreneuriat: historique, évolution, tendances. École des Hautes Études Commerciales de Montréal.
23. Filion, L. J. (2001). Entrepreneurs et propriétaires-dirigeants de PME. En P. A. Julien (Ed.), PME, bilan et perspectives. École des Hautes Études Commerciales de Montréal.
24. Franco Moreno, E. (2023). Valores y espíritu emprendedor y la relación con pedagogía. Revista EDUCARE, 27(1), 293-312.
25. Galindo, R., & Echavarría, M. (2011). Diagnóstico de cultura emprendedora en ingeniería. Revista EIA, 15, 85-94.
26. Global Entrepreneurship Monitor. (2025). Global report press release.
27. Granja Morante, A. N., Fajardo López, L. L., & Rivera Velasco, J. L. (2024). La educación como catalizador del espíritu emprendedor. Religación, 9(42), 1-16. https://doi.org/10.46652/rgn.v9i42.1280
28. Guzmán, J., & Trujillo, M. (2008). Emprendimiento social: revisión de literatura. Estudios Gerenciales, 24(109), 105-116.
29. Hernández, E. M. (1999). Le processus entrepreneurial. L'Harmattan.
30. Kantis, H., Ishida, M., & Komori, M. (2022). Empresarialidad en economías emergentes. Banco Interamericano de Desarrollo.
31. Komninos, D., Dermatis, Z., & Anastasiou, A. (2024). The role of entrepreneurship in employment in the European Union. Journal of Knowledge Economy. https://doi.org/10.1007/s13132-024-01841-z
32. Lechuga, M., Ramos, A., & Frende, M. (2022). University entrepreneurship-oriented training. The International Journal of Management Education, 20(2). https://doi.org/10.1016/j.ijme.2022.100631
33. Liseras, N., Gennero de Rearte, A., & Graña, F. (2003). Factores asociados a vocación emprendedora. Red Pymes Mercosur.
34. Lozano Chaguay, L. A., & Espinoza García, M. F. (2016). Espíritu emprendedor: actitud de cambio para la innovación. Journal of Science and Research, 1(4), 31-35.
35. López-Macías, K. L., & González-Sánchez, J. R. (2025). ABP como estrategia para espíritu emprendedor. ESPACIOS, 45(1), 158-166. https://doi.org/10.48082/espacios-a25v46n01p12
36. Martínez, A., Moreno, J., Pereira, F., Osorio, F., López, M., Schmutzler, J., Gómez, L., Santiago, V., Parra, L., & Orozco, J. (2023). Actividad empresarial en Colombia 2022-2023. Editorial Universidad Icesi.
37. Martínez Dávalos, C. S. (2024). Formación del espíritu emprendedor en enfermería. Revista En Prospectiva, 5(1), 22-31.
38. Martins, I., Pérez, J., & Novoa, S. (2022). Developing orientation for entrepreneurial intention. The International Journal of Management Education, 20(2).
39. Mediavilla-Sarmiento, A. L., Loaiza Polo, S. D., & Braganza Benítez, L. E. (2024). Aporte de asignaturas al espíritu emprendedor. Revista Criterios, 31(1), 132-145. https://doi.org/10.31948/rc.v31i1.3754
40. Mora, P., Aguirre, J., Álava, G., & Cordero, J. (2019). Jóvenes universitarios y emprendimiento social. Revista Economía y Política, 30, 5-23.
41. Neck, H. M., & Greene, P. G. (2011). Entrepreneurship education: Known worlds and new frontiers. Journal of Small Business Management, 49(1), 55-70.
42. Ochoa-Jiménez, S., Apodaca-Cabrera, A. S., & Corrales-Villegas, S. A. (2020). Educación emprendedora en educación superior. Administración y Organizaciones, 23(44).
43. Ornelas, C. E. C., González, L. E. C., Olvera, M. D. L. Á. S., & Rodríguez, M. D. C. L. (2015). Espíritu emprendedor y factores asociados. Conciencia Tecnológica, 49, 46-51.
44. Ollarves, M., Hernández, M. C., & Pirela, D. (2018). El cambio social en redes educativas. Quórum Académico, 15(1), 119-131.
45. Popescu, C., Maxim, A., & Diaconu, L. (2016). Determinants of entrepreneurial intentions. Transformation in Business and Economics, 13.
46. Qian, M., & Lai, C. A. (2012). Entrepreneurship education: A Chinese university case study. International Journal of Business Strategy, 12(4), 74-82.
47. Rey-Martí, A., Ribeiro-Soriano, D., & Palacios-Marqués, D. (2016). Bibliometric analysis of social entrepreneurship. Journal of Business Research, 69(5), 1651-1655.

48. Rubio Hernández, F. J., & Lisbona Bañuelos, A. M. (2022). Intención emprendedora en universitarios. Universitas Psychologica, 21, 1-17.
49. Schumpeter, J. (1961). Entrepreneurial profit. In The theory of economic development. Harvard University Press.
50. Schumpeter, J. (1965). Economic theory and entrepreneurial history. In H. Aitken (Ed.), Explorations in enterprise.
51. Schumpeter, J. A. (1997). Teoría del desenvolvimiento económico. Fondo de Cultura Económica.
52. Setiawan, J., Kasim, A., & Ardyan, E. (2022). Self efficacy and entrepreneurial attitude orientation among youths. Sustainability, 14(8). https://doi.org/10.3390/su14084790
53. Silva, J. L. B., Palomera, R. K. A., & Del Toro, G. J. N. (2024). Aspiración emprendedora y mentalidad en educación superior. Ediciones Comunicación Científica eBooks, 43-69. https://doi.org/10.52501/cc.259.02
54. Spinak, E. (1996). Diccionario enciclopédico de bibliometría, cienciometría e informetría. UNESCO.
55. Turpo-Gebera, O., Quispe-Ticona, I., Esquivel-Grados, J., & Chayna-Aguilar, L. (2024). Desarrollo del espíritu emprendedor: innovación pedagógica. Revista Venezolana de Gerencia, 29(Especial 1), 1278-1294. https://doi.org/10.52080/rvgluz.29.e12.24
56. Velasco, B., Eiros, J. M., Pinilla, J. M., & San Román, J. A. (2012). Uso de indicadores bibliométricos en evaluación investigadora. Aula Abierta, 40, 75-84.
57. Virgen Ortiz, V., Cobo Oliveros, C. E., & Betancourt Guerrero, B. (2014). Análisis bibliométrico del campo de formación de emprendedores. Cuadernos de Administración, 30, 44-53.
58. Yohana, C. (2020). Determinantes de competencias emprendedoras en estudiantes técnicos. International Journal of Education and Practice, 8(4), 804-819.
59. Yohana, C. (2021). Determinants of students' entrepreneurial intention in Indonesia. Journal Pendidikan Ekonomi dan Bisnis, 9(1), 54-63.
60. Zanabazar, A., & Jigjiddorj, S. (2020). Factors affecting entrepreneurial intention of university students. SHS Web of Conferences, 73. https://doi.org/10.1051/shsconf/20207301034

Annexes

Annex 1. Interview guide

Describe participants' perceptions of entrepreneurial attitudes

Identify experiences that influenced their entrepreneurial interest

Explore contextual factors shaping entrepreneurial motivation

Identify perceptions of institutional support for entrepreneurship

Explore perceived barriers and facilitators for entrepreneurial behavior

Annex 2. Hermeneutic memos

Memo 1: Participants emphasize the role of practical experience as a determinant of entrepreneurial intention.

Memo 2: Recurrent references appear regarding family environment as a factor that predisposes entrepreneurial motivations.

Memo 3: Students perceive a gap between theoretical training and the development of real entrepreneurial capacities.

Memo 4: Latin American studies highlight resource constraints affecting entrepreneurial ecosystems.

Memo 5: Researchers converge in describing entrepreneurial spirit as a multidimensional construct encompassing cognitive, attitudinal and contextual components.

Instrument for Measuring Entrepreneurial Spirit, Creativity–Risk, Innovation and Entrepreneurial Education

Section A. Entrepreneurial Spirit

1. I actively look for opportunities to create new projects or initiatives.
2. I feel motivated to start my own business or entrepreneurial activity.
3. I am persistent when facing challenges related to new ideas or projects.
4. I usually generate strategies to turn ideas into concrete actions.

Section B. Creativity and Risk

5. I enjoy generating original or unconventional solutions.
6. I consider myself willing to take risks when pursuing new ideas.
7. I adapt easily when situations become uncertain or unpredictable.
8. I feel comfortable making decisions even when the outcomes are not guaranteed.

Section C. Innovation

9. I frequently experiment with new methods or tools to solve problems.
10. I feel capable of developing innovative solutions in academic or work contexts.
11. I am interested in using technological resources to support new projects.
12. I actively seek opportunities to participate in innovation-related activities.

Section D. Entrepreneurial Education

13. The courses I have taken help me develop entrepreneurial capacities.
14. Active learning activities strengthen my ability to create and manage projects.
15. I have participated in simulations, workshops or projects related to entrepreneurship.
16. My educational environment encourages innovation and creative thinking.

Section E. Institutional and Contextual Factors

17. My institution offers adequate support for entrepreneurial initiatives.
18. I have access to mentors, advisors or programs that guide my entrepreneurial development.
19. Resource limitations in my environment affect my entrepreneurial motivation.
20. My personal and family environment influences my interest in entrepreneurship.

Section F. Demographic Information

Age

Gender

Academic program

Institution

Country or region