E-ISSN: 3108-4176

APSSHS

Academic Publications of Social Sciences and Humanities Studies
2022, Volume 3, Page No: 191-207
Available online at: https://apsshs.com/

Annals of Organizational Culture, Leadership and External Engagement Journal

Conceptualizing the Role of Psychological Capital in Entrepreneurship: A Systematic Review

Sanne J. de Vries[1]*, Mark L. van Dijk[2], Iris P. Jansen[1], Pieter J. Smit[2]

1. Department of Organisation Studies, School of Social Sciences, Utrecht University, Utrecht, Netherlands.
2. Department of Leadership and Change, Rotterdam School of Management, Erasmus University, Rotterdam, Netherlands.

Abstract

Individual psychological resources play a crucial role in entrepreneurial performance. Among these resources, psychological capital has increasingly been recognized as a foundational element of entrepreneurship, which has led to growing scholarly interest in examining the relationship between these two constructs. This study aims to review and synthesize the existing literature on psychological capital and entrepreneurship, while also identifying directions for future research in this emerging field. This study adopts a systematic literature review approach grounded in the PRISMA protocol and employs VOSviewer software to conduct cluster and network analyses. The review encompasses peer-reviewed articles published between 2013 and 2022, enabling the identification, classification, and examination of dominant research themes related to psychological capital within the entrepreneurship literature. The systematic analysis reveals strong integrative linkages between positive psychological capital and entrepreneurial activity, facilitating the development of a comprehensive overview of this research domain. Four major thematic clusters were identified, each highlighting ke trajectories in the literature. The findings emphasize recent theoretical and empirical contributions that position psychological capital as a critical resource supporting entrepreneurial processes and outcomes. By consolidating fragmented research, this systematic review enhances the theoretical robustness and empirical understanding of the relationship between psychological capital and entrepreneurship. Furthermore, it offers a structured perspective on the current entrepreneurship research agenda, serving as a foundation for advancing scholarly inquiry into the interaction between these constructs. The study also outlines several promising avenues for future research.

Keywords: Entrepreneurship, Systematic literature review, Psychological capital, PRISMA protocol

How to cite this article: de Vries SJ, van Dijk ML, Jansen IP, Smit PJ. Conceptualizing the Role of Psychological Capital in Entrepreneurship: A Systematic Review. Ann Organ Cult Leadersh Extern Engagem J. 2022;3:191-207. https://doi.org/10.51847/ED8vkzF4Wc

Received: 02 May 2022; **Revised:** 09 August 2022; **Accepted:** 12 August 2022
Corresponding author: Sanne J. de Vries
E-mail ✉ sanne.devries@outlook.com

Introduction

In recent years, entrepreneurship and its underlying determinants have gained significant prominence across multiple academic disciplines. This growing interest stems from the recognition of entrepreneurship as a catalyst for social change and development, a driver of economic growth, and a mechanism for delivering services grounded in creativity, innovation, and societal advancement [1, 2]. This expanding body of research is not confined to economics and business studies; rather, it has increasingly attracted the attention of fields such as psychology and sociology (e.g., Baier-Fuentes *et al.* [3]). Within this interdisciplinary context, psychology has particularly focused on identifying the personal characteristics and individual attributes that motivate individuals to engage in entrepreneurial activities [3-5].

Entrepreneurial activity has continued to expand globally, alongside the growing scholarly attention it has received. This expansion is not solely explained by entrepreneurship's contribution to job creation and the reduction of unemployment, but also by its role as a key instrument for promoting sustainability and enhancing economic competitiveness [6]. Moreover,

entrepreneurship has evolved in response to individual creativity, which fuels innovation and bottom-up societal change, as well as through advances in technology and the increased interconnectedness enabled by the internet.

Within an increasingly competitive business environment, entrepreneurs are frequently likened to elite athletes, as they consistently test their limits, overcome obstacles, and identify opportunities where others perceive constraints. As noted by Margaça *et al.* [7], a comprehensive understanding of entrepreneurs requires careful consideration of their personal idiosyncrasies, motivational drivers, beliefs, and aspirations. From this perspective, psychological characteristics—particularly psychological capital—offer valuable insights into the creative processes that underpin entrepreneurial behavior [8]. Consequently, entrepreneurship plays a critical role in enhancing the quality of life of disadvantaged populations, fostering resilient infrastructures, and promoting inclusion, sustainability, and innovation across industries.

From a cognitive standpoint, psychological capital is defined as "an individual's positive psychological state of development" [9]. This construct comprises four core dimensions: (1) self-efficacy, or confidence in one's ability to mobilize effort and succeed in challenging tasks; (2) optimism, reflected in positive expectations regarding future outcomes; (3) hope, understood as the capacity to identify alternative pathways toward goal attainment; and (4) resilience, which involves the ability to recover and grow when confronted with adversity [9]. Although empirical research remains limited, psychological capital is widely regarded as a critical individual attribute for entrepreneurs [10]. By fostering more positive evaluations of challenges and opportunities, psychological capital enhances the likelihood of professional success [9] and enables entrepreneurs to manage their ventures more effectively and sustainably [10]. Accordingly, examining psychological capital in relation to entrepreneurship is particularly relevant, as this personal resource has been associated with improved career performance and greater personal fulfillment [11].

High levels of psychological capital support entrepreneurs in sustaining effort over time, as they are linked to reduced stress and anxiety and a greater capacity to cope with the demands of the entrepreneurial process [11]. Baluku *et al.* [12] argue that psychological capital significantly influences entrepreneurial success and serves as a form of positive reinforcement in the decision to initiate entrepreneurial activity [13]. The notion of "entrepreneurial psychological capital," introduced by Ming and Zuguang [14], captures the psychological attributes that distinguish entrepreneurs from non-entrepreneurs. Building on this concept, Pease and Cunningham [15] proposed an integrative model of entrepreneurial psychological capital, contributing to theoretical advancements in entrepreneurship research. Their framework highlights the importance of incorporating additional psychological variables (e.g., creativity, courage, flow) and potential moderating factors (e.g., gender), drawing on the work of Baron *et al.* [16], who emphasized the central role of psychological capital in entrepreneurs' well-being.

Contemporary research suggests that examining entrepreneurship through a psychological lens enables scholars and policymakers to assess whether communities possess a sufficient pool of individuals with entrepreneurial potential. However, this presents a challenge for researchers, as evolving societal and individual needs require continuous theoretical and empirical refinement. A holistic understanding of how psychological characteristics influence entrepreneurial decision-making, persistence, and success is therefore essential. Against this backdrop, the primary objective of the present study is to examine the evolution of both empirical and theoretical research on psychological capital and entrepreneurship, offering a comprehensive overview of past developments, current trends, and future directions in this field. Through this approach, the study aims to clarify dominant research streams, identify gaps and limitations, and highlight promising avenues for further investigation by applying a range of bibliometric techniques.

Accordingly, this study conducts a systematic review of the literature on psychological capital and entrepreneurship to address the following research questions:

RQ1: Which interpretive perspectives on entrepreneurship dominate empirical research on psychological capital, and what implications do these perspectives hold for future studies?

RQ2: How can research on psychological capital inform the design and implementation of educational programs aimed at fostering and strengthening entrepreneurial capabilities?

The subsequent sections detail the methodology and present the main findings of the review. The results of the cluster analysis are then discussed, followed by conclusions that outline the study's limitations and propose directions for future research.

Materials and Methods

This study adopted a structured review design grounded in the PRISMA (Preferred Reporting Items for Meta-Analyses and Systematic Reviews) framework to ensure a systematic and methodologically sound examination of prior research [17, 18]. The PRISMA approach has become a standard reference in scholarly research due to its capacity to support methodological transparency, enhance reproducibility, and promote consistency across review studies [19, 20]. In addition, its application has been shown to reduce the risk of bias during study selection and reporting phases [21].

By organizing the review process into clearly defined stages, the PRISMA framework facilitates a systematic and traceable synthesis of evidence. Its emphasis on explicit documentation and standardized procedures strengthens the credibility of systematic reviews and meta-analyses alike [22]. The sequence of steps followed in this investigation—from the identification

of relevant studies to their final inclusion—is visually summarized in **Figure 1**, which depicts the review flow applied in the present analysis.

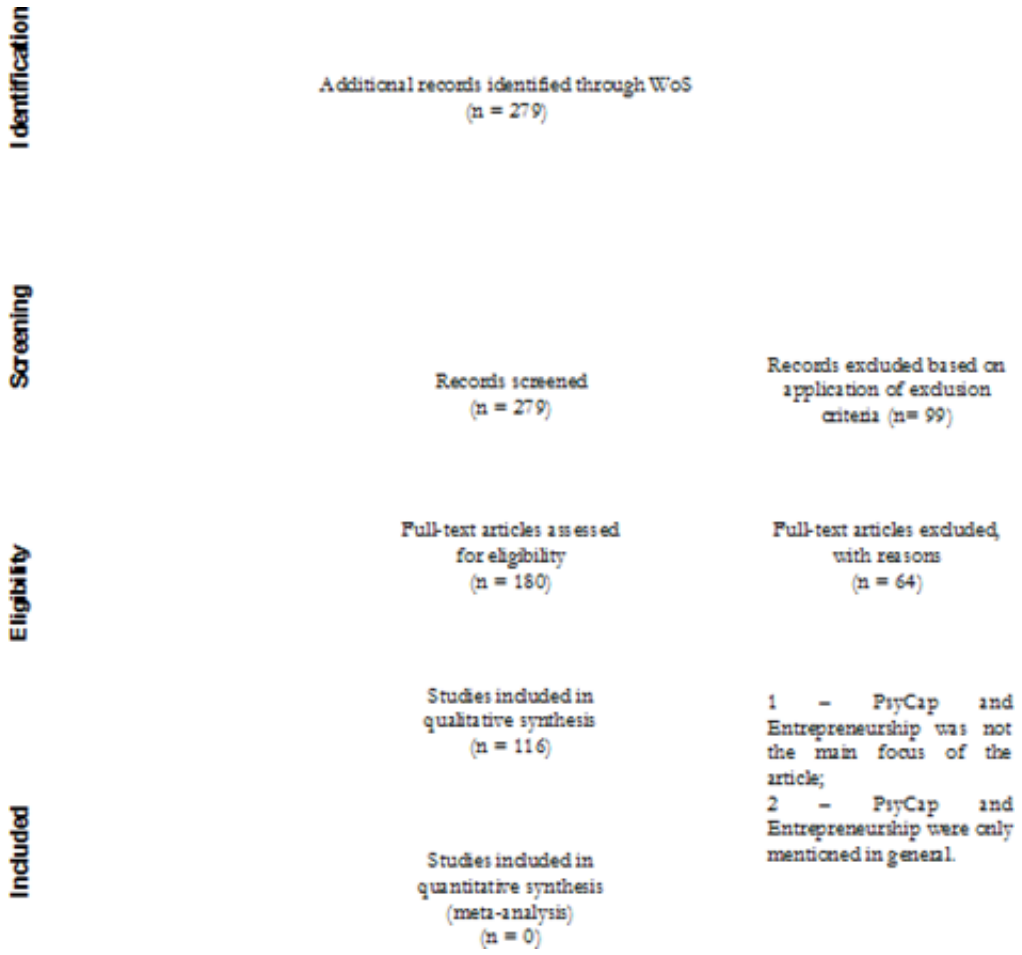

Figure 1. Flow Diagram – Prisma 2009

Search strategy

In line with PRISMA recommendations, the review process was anchored in a comprehensive and systematic search of authoritative academic databases to identify studies examining the intersection between psychological capital and entrepreneurship. To this end, data were retrieved from the Clarivate Analytics Web of Science™ Core Collection, including the Social Science Citation Index, Emerging Sources Citation Index, Science Citation Index Expanded, and the Arts & Humanities Citation Index. These databases are widely acknowledged for their extensive coverage of high-quality scholarly output and reliable bibliographic records [23].

The initial retrieval stage employed a Boolean search strategy, which enables the combination of multiple keywords using logical operators (AND, OR, NOT). The primary search terms consisted of "psychological capital" and "entrepreneurship." In addition, the abbreviated form "PsyCap" was used to capture variations of the first construct, while a wildcard (*) was applied to the second term to encompass multiple word endings. Supplementary keywords—such as "self-employ*," "business* owner," and "independ* worker"—were also incorporated, as they reflect concepts closely associated with entrepreneurial activity. A detailed overview of the search parameters and criteria is provided in **Table 1**.

No geographical restrictions were imposed in order to capture global publication patterns and identify countries with the highest research output. However, filters were applied regarding document type, source category, and publication language, with only journal articles written in English or Spanish considered. This process resulted in an initial dataset of 279 publications, which were exported to an Excel file for subsequent screening and detailed evaluation against the objectives of the review.

Quality assessment

Peer-reviewed journal articles are generally regarded as the most dependable sources of scientific knowledge, as they undergo rigorous editorial and review procedures prior to publication [24]. Accordingly, this review prioritized original journal articles and systematically eliminated duplicate records and studies deemed irrelevant to the research focus.

To ensure the accuracy and relevance of the dataset, all abstracts were carefully examined. In cases where abstracts did not provide sufficient clarity, full-text articles were reviewed. As a result of this screening process, 162 publications were excluded due to their lack of direct relevance to the relationship between psychological capital and entrepreneurship **(Figure 1)**. For example, the study by Da *et al*. [25] was excluded because, although it addressed psychological capital in relation to work-related attitudes, it did not specifically address entrepreneurial attitudes or behavior. Following this quality assessment phase, a final sample of 116 articles was retained for in-depth analysis.

Inclusion criteria and qualitative analysis procedure

The final corpus of 116 articles was selected based on a set of predefined inclusion criteria. Specifically, eligible studies were required to: (i) be original research articles; (ii) fall within the disciplinary areas of business, management, social sciences, interdisciplinary social sciences, or psychology; (iii) be published between 2013 and the final quarter of 2022; and (iv) be written in English or Spanish.

This refined dataset enabled a comprehensive examination of the core literature addressing psychological capital and entrepreneurship, as well as an assessment of publication trends, including annual output, journal distribution, country of origin, citation patterns, research designs, and methodological approaches. Bibliometric mapping and visualization were conducted using VOSviewer version 1.6.16 [26], which facilitated the identification of thematic clusters and key research streams within the literature [27]. Based on these analyses, the main limitations of the existing research were identified, and potential directions for future inquiry were proposed.

Results and Discussion

Descriptive analysis

The examination of the selected articles provides a broad overview of the evolution and current state of research on psychological capital and entrepreneurship. As illustrated in **Figure 2**, the annual number of publications has increased notably over time, with a particularly pronounced rise during the last four years of the review period. The year 2022 stands out as the peak in publication volume, reflecting heightened scholarly interest in integrating psychological capital into entrepreneurship research.

This upward trend suggests growing recognition of the relevance of psychological resources in entrepreneurial contexts. Nevertheless, despite the expanding volume of studies, the field remains relatively underdeveloped and offers substantial opportunities for further theoretical refinement and empirical validation. The observed growth may largely be attributed to the increasing emphasis placed on psychological dimensions as critical drivers of entrepreneurial behavior, performance, and sustainability.

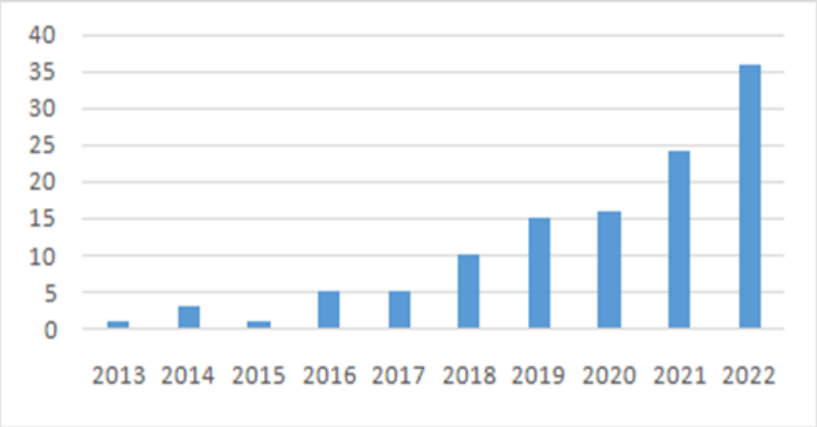

Figure 2. Temporal Evolution of Publications

Table 1 summarizes the principal findings related to the publication output of academic journals within this research domain. Only journals that contributed a minimum of two articles addressing psychological capital and entrepreneurship were included in the analysis. The ten most productive journals together account for approximately 53% of the total body of knowledge in this area, corresponding to 63 published articles.

Among these outlets, *Frontiers in Psychology* and *Sustainability* emerge as the leading sources in terms of publication frequency. However, the majority of the articles are published in journals focused on entrepreneurship, business, and management, which collectively represent around 40% of the total output. Journals categorized under psychology (miscellaneous) constitute the second largest group, accounting for nearly 36% of publications.

These findings underscore the growing relevance of psychological perspectives in entrepreneurship research and highlight the inherently multidisciplinary nature of this field. They also suggest that entrepreneurship should be examined from a holistic standpoint, recognizing that entrepreneurial activity is fundamentally driven by individuals. Consequently, psychological and individual-level factors play a critical role in explaining entrepreneurial behavior, decision-making, and ultimately economic and entrepreneurial success.

Table 2. Scientific journals

Number of Publications	Journal Title	Journal h-Index	Impact Factor Score	Primary Academic Discipline
41	Frontiers in Psychology	133	3.88	General Psychology
5	Sustainability	24	1.06	Environmental Studies; Social Sciences
3	International Journal of Entrepreneurial Behavior and Research	75	6.91	Business and International Management
2	Entrepreneurship: Theory and Practice	169	3.35	Business and International Management
2	Journal of Entrepreneurship in Emerging Economies	21	0.58	Economics, Econometrics, and Finance
2	Journal of Small Business Management	120	1.36	Business, Management, and Accounting
2	Small Business Economics	142	2.63	Business, Management, and Accounting
2	Education and Training	71	0.61	Business, Management, and Accounting
2	Journal of Business Venturing	196	5.83	Business and International Management
2	International Small Business Journal: Researching Entrepreneurship	93	1.82	Business and International Management

Figure 3 illustrates the geographical distribution of scholarly output on psychological capital and entrepreneurship. The results indicate that research activity in this field is primarily concentrated in two countries located in different regions of the world—China in the East and the United States in the West—which together account for approximately 47% of the total number of publications. This concentration suggests that nations with more advanced economic systems tend to show stronger engagement with research on psychological capital in entrepreneurial contexts, potentially reflecting a greater recognition of the role played by psychological resources in entrepreneurial development.

Nonetheless, a closer examination of the data reveals a broader international participation in this research area. Contributions originate not only from developed economies such as Australia and the United Kingdom, but also from developing nations, including India and Congo. This diversity highlights the global relevance of psychological capital in entrepreneurship and indicates a growing interest across varying economic and developmental contexts.

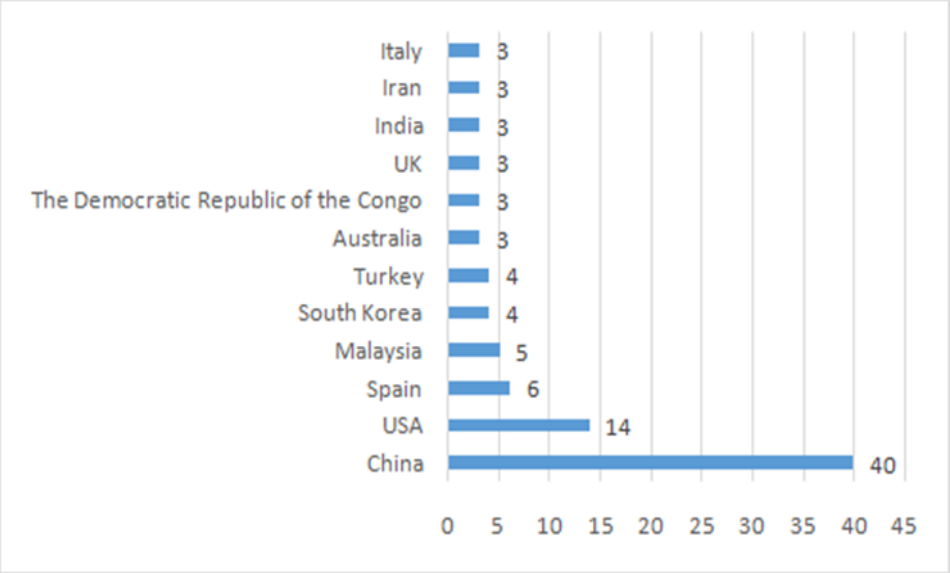

Figure 3. Countries with the Highest Research Contributions

Table 3 summarizes citation frequencies at the author level within the reviewed literature. Across the 116 articles included in the final sample, a total of 360 unique authors were identified, yielding an average authorship of roughly three contributors per publication. Notably, only about 7% of these scholars authored two or more articles related to psychological capital and entrepreneurship. This pattern suggests that, in addition to being an emerging research area, the field remains relatively fragmented, with limited continuity of contributions and a low degree of sustained collaboration among researchers.

Table 3. Authors with the Highest Publication Output and Corresponding Indicators

Number of Publications	Author Name	h-Index Score	Total Citations	Institutional Affiliation
3	Memili, E.	30	3,494	University of North Carolina at Greensboro, United States
3	Villanueva-Flores, M.	6	126	University of Cádiz, Spain
3	Ephrem, A.	3	66	Université Officielle de Bukavu, Democratic Republic of Congo
2	Welsh, D.	41	6,183	University of North Carolina at Greensboro, United States

The subsequent analysis focuses on the methodological approaches employed in the reviewed studies, as well as the characteristics of the samples used. Frequency analysis indicates a strong predominance of quantitative research designs, which account for approximately 84% of the studies examined. Non-empirical approaches constitute around 9% of the literature, while qualitative methods are the least frequently adopted, representing close to 7% of the total.

With respect to sample composition, the studies were classified into several major categories. The most commonly examined group consists of entrepreneurs or business owners, particularly within quantitative investigations. University students also represent a frequently utilized sample, appearing prominently in both quantitative and qualitative studies. Additional samples include organizational projects or employees, which are predominantly analyzed using quantitative methods, as well as female entrepreneurs, a subgroup that has received increasing attention in quantitative research. A detailed overview of these distributions is provided in **Table 4**.

Table 4. Overview of Methodological Approaches and Sample Characteristics

Methodological Approach	Share of Studies	Sample Category	Number of Studies
Qualitative	7%	University students	3
		Entrepreneurs / business owners	1
Quantitative	84%	University students	32
		Female entrepreneurs	5
		Entrepreneurs / business owners	46
		Projects / employees	22
Non-empirical	9%	—	—

The theoretical frameworks identified in the reviewed studies are presented in **Figure 4**. An examination of the selected articles reveals a high degree of diversity in the theoretical perspectives applied to the study of psychological capital and entrepreneurship. To organize and synthesize this heterogeneous body of work, the theories were classified into four broad analytical categories reflecting dominant perspectives in entrepreneurship research: behavioral, psychological, social, and strategic approaches.

Among these frameworks, the Theory of Planned Behavior emerges as the most frequently adopted, reflecting its widespread use in investigations of entrepreneurial intention and related decision-making processes.

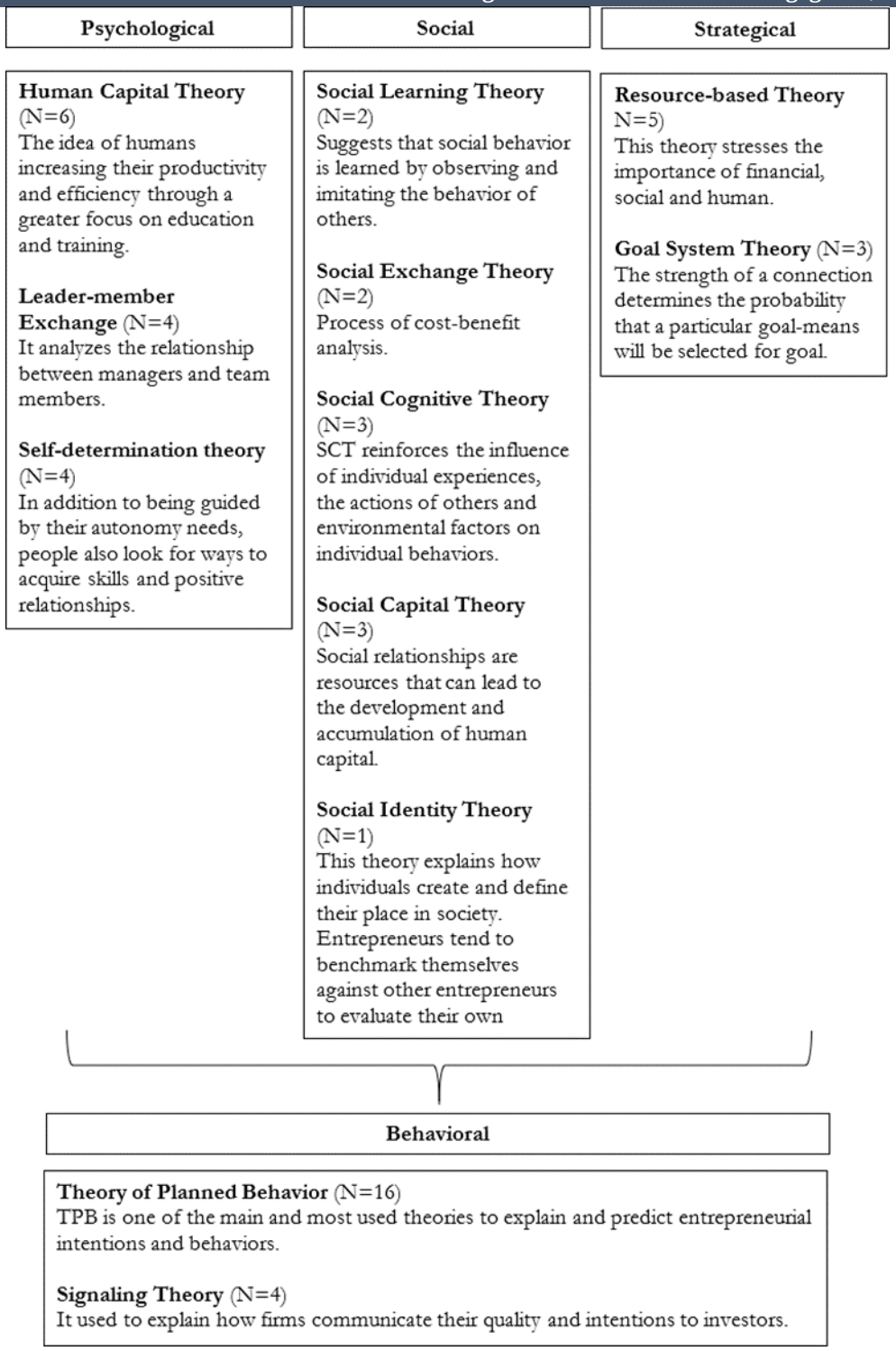

Figure 4. Theoretical Frameworks Applied in the Reviewed Studies

Cluster analysis

To identify the dominant thematic patterns linking psychological capital and entrepreneurship, a cluster analysis was conducted using VOSviewer software. This technique enabled the examination of co-occurrence relationships among keywords, facilitating the identification of central research themes within the literature. To capture the most salient topics in this domain, a minimum threshold of three keyword co-occurrences was applied, resulting in the emergence of four primary thematic clusters. These clusters underscore the interdisciplinary character of research at the intersection of psychological capital and entrepreneurship.

Prior to this step, an exploratory cluster analysis was performed using a more inclusive threshold of one co-occurrence per keyword, allowing for a broader visualization of prevailing research tendencies. This initial mapping yielded 279 keyword instances organized into 31 distinct clusters. As expected, psychological capital and entrepreneurship emerged as the most frequently examined concepts. In addition, several related themes—such as entrepreneurial outcomes, social capital, entrepreneurial performance, self-efficacy, and innovativeness—were identified as prominent areas of scholarly attention.

Figure 5 illustrates the network of keyword relationships, where node size represents the strength or frequency of co-occurrence. Larger nodes indicate more intensive associations among thematic groups, providing insight into the structure and focus of the research field.

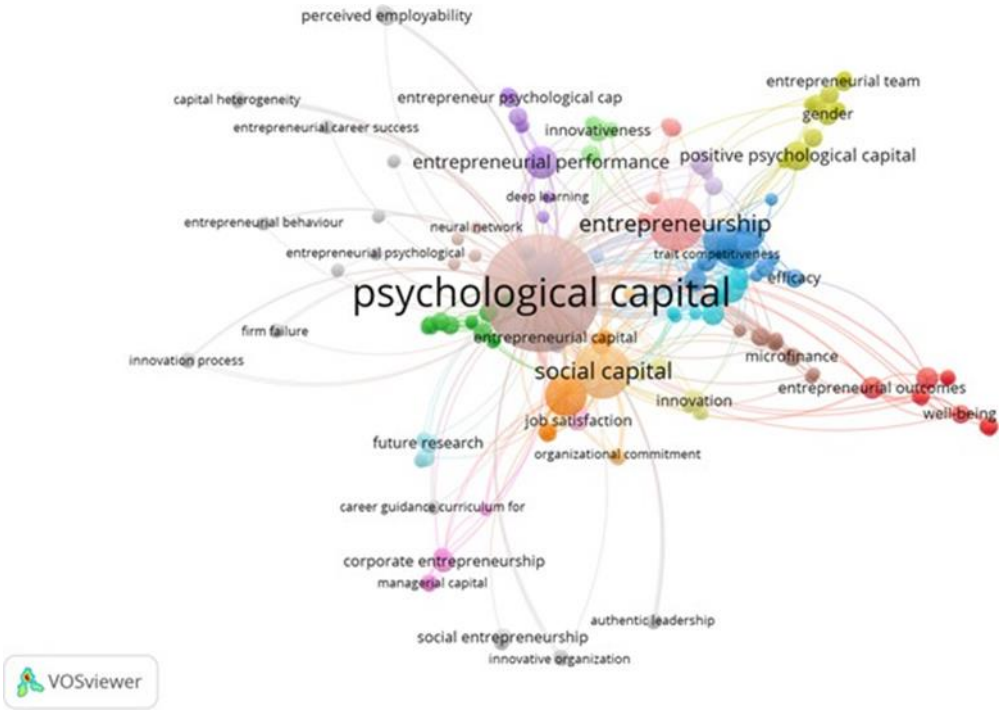

Figure 5. Network Map of Psychological Capital and Entrepreneurship (Minimum Threshold: Three Keyword Co-occurrences)

Given the broad and interdisciplinary nature of psychological capital and entrepreneurship, the scope of analysis was refined by applying a minimum threshold of three keyword co-occurrences. This refinement enabled a more focused examination of the most salient research themes. As a result, eighteen key terms were identified and organized into four distinct thematic clusters, as illustrated in **Figure 6**.

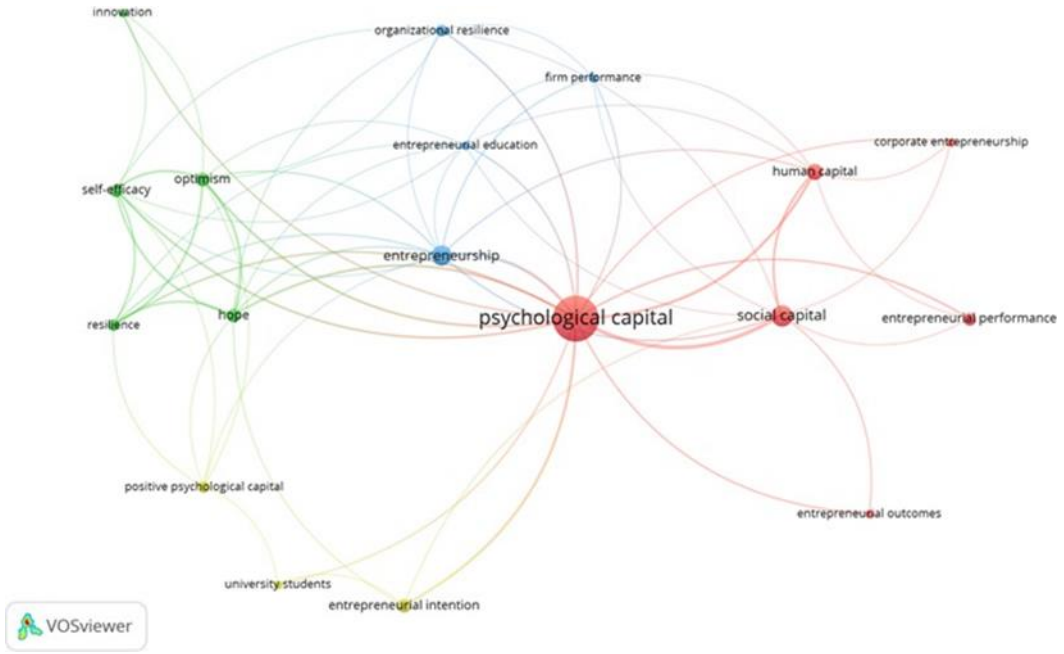

Figure 6. Keyword Network of Psychological Capital and Entrepreneurship (Three Co-occurrence Threshold)

Table 5 summarizes the keywords associated with each cluster and provides an integrated overview of the intellectual structure linking psychological capital and entrepreneurship, as derived from the bibliometric and cluster analyses. The clustering technique facilitates the identification of four dominant thematic areas, which are examined in detail below in accordance with the methodological principles proposed by Van Eck and Waltman [28]. The relevance and interconnections

among themes can be interpreted through visual attributes such as color—indicating cluster membership—and spatial proximity, which reflects the strength of relationships between keywords [18].

Table 5. Overview of Identified Clusters and Associated Keywords

Cluster	Main Themes / Keywords	Share of Articles	Illustrative Study
Cluster 1	Corporate entrepreneurship; entrepreneurial results; venture performance; human capital; psychological capital; social capital	46%	Tian [29] examined how university students' work-related values shape entrepreneurial intentions, highlighting the moderating influence of psychological capital.
Cluster 2	Hope; innovation; optimism; resilience; self-efficacy	25%	Tang *et al.* [30] analyzed entrepreneurial alertness by investigating its psychological foundations and its impact on organizational outcomes.
Cluster 3	Entrepreneurship; entrepreneurship education; organizational performance; organizational resilience	16%	Abubakar *et al.* [31] explored how entrepreneurial education, competitive personality traits, and psychological capital affect entrepreneurial behavior among university students in GCC countries.
Cluster 4	Entrepreneurial intention; positive psychological capital; higher education students	13%	Calvo and García [32] studied the effect of psychological capital on graduates' perceived employability, emphasizing the mediating role of employability-related skills.

Cluster 1

The first thematic cluster, represented in red, encompasses the keywords *corporate entrepreneurship*, *entrepreneurial outcomes*, *entrepreneurial performance*, *human capital*, *psychological capital*, and *social capital*, accounting for approximately 46% of all keyword co-occurrences. This prominence indicates that a substantial portion of the literature emphasizes the role of human-centered resources in sustaining competitive advantage within entrepreneurial contexts.

Research within this cluster underscores the centrality of human values in entrepreneurial success and highlights the interconnectedness of psychological capital and entrepreneurship. The findings suggest that psychological capital is a key determinant of both entrepreneurial attitudes and performance. At a fundamental level, this relationship exists because entrepreneurship is not solely an economic activity; rather, it is driven by individuals whose actions are shaped by personal beliefs, motivations, and aspirations. Consequently, psychological capital plays a critical role throughout all phases of the entrepreneurial process [33], influencing how entrepreneurs interpret motivation, access support mechanisms, evaluate performance, and achieve business outcomes [11, 34].

Psychological capital is widely conceptualized as a positive psychological condition that fosters personal growth and enhances performance. As argued by Luthans *et al.* [35], it is conceptually distinct from human and social capital, yet functions as an extension of traditional economic capital. This construct is defined by four core psychological resources—hope, self-efficacy, resilience, and optimism [35]. These dimensions are commonly summarized through the acronym *HERO*: hope**,** reflecting goal-oriented energy and adaptive pathways; self-efficacy**,** referring to confidence in one's capacity to overcome challenges; resilience**,** denoting the ability to recover and adapt when facing adversity; and optimism**,** which captures a positive orientation toward future outcomes. Importantly, psychological capital is not static; it can be cultivated and strengthened, as it is grounded in cognitive processes that shape attitudes and behaviors [36].

Empirical evidence supports the relevance of psychological capital in developing entrepreneurial competencies. Hasan *et al.* [37] demonstrated that positive psychological capital significantly enhances entrepreneurial skills, particularly when combined with structured entrepreneurial learning. These findings align with earlier research suggesting that psychological resources contribute to entrepreneurial capability development beyond what can be explained by economic, human, or social capital alone [35]. Consequently, scholars increasingly emphasize the need to align entrepreneurship research more closely with psychological capital and its benefits [35, 38, 39].

Several empirical studies further reinforce this relationship. For example, research conducted among small and medium-sized enterprise entrepreneurs in Uganda revealed a strong positive association between psychological capital and business performance [12], while also identifying psychological capital as a shared foundation for entrepreneurial motivation and success [40]. Expanding on this perspective, Keshvarz *et al.* [41] characterize psychological capital as one of the most recent and valuable intangible organizational assets, positioning it as a critical driver of corporate entrepreneurship.

Within this cluster, social capital also emerges as a complementary resource, frequently conceptualized as a form of psychological and informational support. Social capital provides entrepreneurs with access to unique information, enhances their capacity to influence others through available resources, and confers social legitimacy [42, 43]. Empirical research consistently links social capital to improved entrepreneurial performance and long-term competitive advantage [44], particularly through its contribution to economic outcomes. Semrau and Hopp [45] found that financial dimensions of social capital interact positively with entrepreneurs' human capital, while Neira *et al.* [46] showed that social capital serves as a vital coping mechanism during periods of economic crisis. More broadly, social capital has been identified as a key predictor of entrepreneurial entry, persistence, and success [47].

In summary, this cluster highlights the strong association between positive entrepreneurial psychology and the effective execution of the entrepreneurial process. Cognitive frameworks and psychological resources shape how individuals interpret their environments and respond to opportunities and challenges [48]. Despite the growing body of evidence, the literature continues to call for more rigorous and integrative empirical research to further substantiate and clarify the influence of psychological capital within entrepreneurship studies [49].

Cluster 2

The second cluster, represented in green, accounts for 25% of keyword co-occurrences and includes the concepts of hope, innovation, optimism, resilience, and self-efficacy. When entrepreneurship is examined at the organizational level, it can be understood as part of a broader system of elements that shape entrepreneurial actions and orientations [50]. In highly competitive environments, firms increasingly seek entrepreneurial profiles that foster creativity and innovation. Worthington and Kasouf [51] propose psychological capital as a moderating mechanism influencing both entrepreneurial perceptions and innovation processes.

Recent longitudinal research by Arshi *et al.* [52], based on data collected from entrepreneurs at two different points in time, shows that the various risks inherent in organizational activity—such as physical, social, and health-related stressors—can be mitigated through psychological resources, particularly psychological capital. Similarly, Gao *et al*. [53] frame psychological capital as a strategic tool for organizational improvement when combined with creative and innovative practices. Evidence provided by Li *et al.* [54] further indicates that the four core components of psychological capital—hope, optimism, self-efficacy, and resilience—significantly enhance innovative behaviors.

Entrepreneurial engagement reflects a form of self-directed action that allows individuals to pursue personal goals and fulfill intrinsic needs. Such self-determined behavior is grounded in a specific set of values that guide decision-making and action. As noted by Kirkley [55], entrepreneurial behavior is associated with a distinctive value system, making it essential to adopt a holistic view of the individual that encompasses biological, psychological, and contextual dimensions. Lux *et al.* [56] found that psychological resources exert a stronger influence on performance when individuals operate in innovative and opportunity-rich environments. Moreover, these conditions, when coupled with high psychological capital, encourage entrepreneurs to form strategic partnerships that support innovation. In this context, positive psychological capital can be understood as a constructive mental state that shapes personal identity and contributes positively to new venture performance [57].

Cluster 3

Cluster 3, illustrated in blue, represents 16% of keyword co-occurrences and centers on entrepreneurship, entrepreneurial education, firm performance, and organizational resilience. In this thematic group, the focus shifts toward the role of education in shaping entrepreneurial outcomes. Responding to the growing demand for innovative approaches to entrepreneurship education, several scholars (e.g., Daim *et al.* [58]), drawing on Shapero's Model (1982), have examined the factors that directly stimulate entrepreneurial behavior.

Cui [59] demonstrated that entrepreneurial education has a positive impact not only on entrepreneurial behavior but also on all four dimensions of psychological capital. In a related study, Lux *et al.* [56] identified entrepreneurial education as a significant predictor of entrepreneurial success. From a theoretical perspective, Bae *et al.* [60] argue that entrepreneurial education is rooted in human capital theory, as it encompasses the knowledge, skills, and experiences individuals acquire through both formal instruction and informal learning processes. As such, entrepreneurial education functions as a personal resource that is closely linked to firm performance and business outcomes.

Entrepreneurial education equips individuals with the competencies needed to navigate regulatory environments, secure financial resources, and build strategic alliances, thereby fostering cognitive and motivational capacities that support successful entrepreneurial initiatives. Additionally, resilience is increasingly recognized as a skill that can be developed through learning and experience. Consequently, the literature highlights the importance of integrated training programs designed not only to support venture creation but also to strengthen the long-term resilience and sustainability of entrepreneurial activities.

Cluster 4

The fourth and final cluster, depicted in yellow, comprises entrepreneurial intention, positive psychological capital, and university students, accounting for approximately 13% of keyword co-occurrences. The connection between psychological capital and entrepreneurial intention has attracted growing scholarly attention in recent years [29]. Entrepreneurial behavior is a fundamental construct in entrepreneurship research and is underpinned by a set of competencies that originate from intention [61]. Entrepreneurial intention, in turn, serves as a reliable indicator of the transition from decision-making to the actual enactment of entrepreneurial behavior [62].

Research by Na *et al.* [63] highlights university students as a demographic group with particularly high levels of entrepreneurial intention, emphasizing their innovative potential within the entrepreneurial ecosystem. Furthermore, empirical evidence suggests that psychological capital plays a significant role in shaping future entrepreneurial decisions [29, 63]. Tian's [29] findings reveal a strong and positive association between the dimensions of psychological capital and the entrepreneurial intentions of university students.

Given that higher levels of psychological capital are associated with a stronger inclination toward entrepreneurial activity, it can be argued that individuals with these attributes are better equipped to face entrepreneurial challenges with confidence and resilience—key predictors of success. Students who display elevated psychological capital tend to exhibit greater assurance in decision-making and more effective problem-solving abilities. A growing body of research has examined entrepreneurial behavior from this broader perspective (e.g., Vasconcelos *et al.* [64]; Gonçalves de Lima *et al.* [65]; Bird & Schjoedt [66]; Jong *et al.* [67]; Daim *et al.* [58]; Miralles *et al.* [68]). Collectively, these studies suggest that entrepreneurial behavior extends beyond purely economic, managerial, or organizational activities, encompassing the individual's unique characteristics and psychological processes. Psychological theories therefore offer a valuable framework for understanding how entrepreneurial intentions evolve into concrete behaviors, enabling a more dynamic and realistic interpretation of the entrepreneurial process.

Over the past decade, scholarly interest in the interplay between psychological capital and entrepreneurship has expanded markedly. This growth is particularly visible in China, which accounts for the highest volume of publications in this domain. Among Western nations, the United States and Spain stand out as the most active contributors, while India ranks third overall in terms of research output. Despite this expansion, research examining psychological capital and entrepreneurship across different national contexts remains relatively underdeveloped [69]. This limitation underscores the importance of conducting localized studies, as current evidence does not yet allow for definitive conclusions. Nevertheless, it can be reasonably assumed that observed differences across countries may stem from culturally driven variations in personality traits and behavioral patterns. Comparative analyses between Eastern and Western contexts—taking into account economic structures and cultural values—could offer deeper insights into how entrepreneurs integrate psychologically, how training initiatives are designed, and how individuals are oriented toward entrepreneurial careers.

The findings of this review highlight several noteworthy patterns. First, only a small proportion of authors (7%) contributed more than two publications, suggesting that the field is still emerging and lacks a stable core of recurring contributors. Additionally, the average of three authors per article indicates a moderate level of collaboration, further reinforcing the notion that this research area is in an early stage of development. These characteristics reveal the necessity for more comprehensive and systematic investigations, particularly given the limited number of robust empirical studies identified. The cluster analysis also demonstrates that research in this field is conceptually diverse, with scholars exploring a wide range of themes. Through co-occurrence analysis, four distinct thematic clusters were identified, each representing a different focus within the literature.

The first cluster, which accounts for 46% of keyword occurrences, centers on entrepreneurial outcomes and human-related forms of capital, including psychological, human, and social capital. This cluster—encompassing keywords such as corporate entrepreneurship, entrepreneurial performance, and entrepreneurial outcomes—occupies a central position in the bibliometric map and exhibits the strongest connections with other themes. The prominence of this cluster indicates a strong academic interest in understanding the drivers of entrepreneurial and organizational behavior, particularly the role played by human values and psychological resources. The findings suggest that psychological capital has become a defining characteristic of successful entrepreneurship, contributing to both performance and sustainability. Moreover, this growing attention has facilitated a clearer understanding of how psychological capital can be developed, strengthened, and applied in entrepreneurial contexts.

Insights from Cluster 1 also emphasize the pivotal role of human values in entrepreneurial activity. The increasing focus on psychological resources reflects a shift away from deficit-oriented problem-solving approaches toward a strengths-based leadership perspective that highlights individual capabilities and positive psychological attributes. This transition is especially relevant in the context of contemporary economic and organizational uncertainty. Personal traits, psychological states, and value systems equip entrepreneurs with the resilience and confidence needed to formulate strategies, manage challenges, and enhance performance. Importantly, key elements of psychological capital—such as resilience and hope—are learnable, enabling entrepreneurs to recover from setbacks and maintain stability in adverse conditions.

Cluster 2 primarily addresses innovation as an outcome driven by the core dimensions of psychological capital. By focusing on the individual behind the entrepreneurial role, this body of research explores both the identity of the entrepreneur and the processes through which innovative ventures emerge. The findings indicate that hope, optimism, self-efficacy, and resilience are critical enablers of innovative behavior. This cluster reinforces the idea that entrepreneurship is deeply rooted in individual value systems and psychological dispositions, which collectively shape the creation of novel and innovative business initiatives.

The third cluster highlights a strong consensus in the literature regarding the importance of entrepreneurial education for organizational performance. Studies within this theme suggest that both formal and informal learning experiences contribute to the continuous development of entrepreneurial skills and competencies. Entrepreneurial education not only enhances

knowledge and experience but also influences how individuals perceive and manage the challenges inherent in the entrepreneurial process. The literature consistently recognizes education as a foundational resource that facilitates access to essential tools, networks, and mechanisms required for the successful establishment and growth of new ventures.

The fourth and final cluster focuses on entrepreneurial intention and its relationship with psychological capital, particularly among university students. This theme underscores the reconceptualization of psychological capital as a key determinant of entrepreneurial intention. Positive psychological states—reflected in behaviors, thought patterns, and actions—are not innate but can be cultivated over time. Psychological capital encompasses a range of personal attributes that significantly influence entrepreneurial decision-making. In academic settings, it functions as both a mediator and a predictor of students' intentions and attitudes toward entrepreneurship, while also providing psychological resources to cope with the demands and uncertainties associated with entrepreneurial activity.

Overall, this systematic review maps both established and emerging research streams that link psychological capital and entrepreneurship. By synthesizing the existing literature, the study addresses the proposed research questions and situates these constructs within a comprehensive conceptual framework. The findings clarify how psychological capital has been positioned in entrepreneurship research and highlight its growing relevance within the broader academic discourse.

Limitations

Although this review contributes to a clearer and more structured understanding of the link between psychological capital and entrepreneurship by synthesizing existing research, several limitations must be acknowledged and addressed in future investigations. One key limitation arises from the dynamic nature of scientific research itself. Bibliometric indicators are not static and may evolve over time as publication patterns shift. For instance, a noticeable increase in studies on this topic occurred in recent years, particularly around 2020; however, it remains uncertain whether this heightened scholarly interest will be sustained in the long term. Nonetheless, the present review aims to provide a comprehensive and up-to-date reference point that captures the current state of research on entrepreneurship and psychological capital.

A second limitation relates to the selection criteria adopted in the review process. The analysis was restricted to peer-reviewed journal articles, which, while enhancing scientific rigor, inevitably excluded other potentially relevant sources such as conference proceedings, books, and professional reports. In addition, despite careful construction of the search strategy and keyword selection, it is possible that certain pertinent terms or conceptual variations were not captured, leading to the omission of some relevant studies.

Finally, methodological constraints associated with cluster analysis should be considered. Although this technique is widely applied in bibliometric research (e.g., Gaviria-Marin *et al.* [70]; Vallaster *et al.* [71]), it relies exclusively on keyword similarity and co-occurrence patterns. As a result, it offers a partial representation of the literature and does not fully capture the theoretical depth or contextual nuances of the studies reviewed.

Directions for future research

The synthesis of the reviewed literature indicates that existing research on psychological capital and entrepreneurship has relied predominantly on either quantitative or qualitative methodological approaches. Given this methodological imbalance, future investigations are encouraged to employ mixed-method designs, as these can integrate the strengths of both approaches and provide a more comprehensive understanding of the phenomena under examination.

Prior studies suggest that psychological capital is a malleable resource that can be strengthened through learning processes and structured training interventions, particularly in response to the uncertainty and adversity associated with entrepreneurial activity. Accordingly, future research could explore how entrepreneurship education and professional development programs are designed, implemented, and evaluated with the aim of fostering psychological capital and enhancing entrepreneurial resilience.

The review also highlights optimism as a central component of psychological capital. While optimism is generally associated with positive organizational and entrepreneurial outcomes, excessive optimism or overconfidence may produce counterproductive effects, such as distorted risk perception or inefficient decision-making. Further empirical investigation is therefore needed to clarify the boundary conditions under which optimism contributes to, or detracts from, entrepreneurial effectiveness.

To deepen understanding of the dynamic relationship between psychological capital and entrepreneurship, future studies should examine psychological capital at multiple stages of the entrepreneurial lifecycle. Specifically, researchers may assess whether psychological capital functions as an antecedent shaping entrepreneurial intentions and behaviors, or as a mediating mechanism influencing venture development and performance. In addition, contextual and cultural influences warrant closer examination, as socio-cultural environments may shape the formation and expression of psychological capital. Cross-national and cross-cultural comparative studies would be particularly valuable in advancing knowledge about the role of non-economic factors in entrepreneurial success.

Finally, beyond the need for more methodologically robust research, there is a clear demand for longitudinal studies (e.g., Ephrem *et al.* [40]), especially when examining psychological states that evolve over time. Such designs allow for the observation of changes and fluctuations in psychological resources and behaviors throughout the entrepreneurial process. The four thematic clusters identified in this systematic review provide a coherent structure for future inquiry. In response to the growing scholarly interest in the intersection of psychological capital and entrepreneurship, **Table 6** outlines a targeted research agenda aligned with each cluster.

Table 6. Research Agenda

Cluster	Proposed Directions for Future Research
Cluster 1	Entrepreneurs' human capital and relational competencies enhance their capacity to identify business opportunities, acquire knowledge, and develop core capabilities. As entrepreneurial success increasingly relies on intangible personal resources, future studies should further examine how different forms of capital—psychological, human, and social—interact and influence not only economic performance but also broader societal and non-financial objectives throughout the entrepreneurial process.
Cluster 2	Growing scholarly attention has been directed toward entrepreneurial behavior and individual-level determinants, such as opportunity recognition and the pursuit of competitive advantage. Recent global disruptions, including the COVID-19 pandemic, have redirected research interest toward resilience strategies in small firms and the emergence of innovative entrepreneurial responses. Future research should therefore investigate how external shocks and environmental changes shape entrepreneurial decision-making and individual management approaches.
Cluster 3	Entrepreneurship education plays a transformative role in strengthening entrepreneurs' psychological resources and reshaping organizational contexts. Future research should integrate perspectives from Positive Organizational Psychology, particularly theories related to positive leadership, job crafting (both physical and cognitive dimensions of work redesign), sense of purpose, and contributions to collective well-being, in order to better understand how these factors enhance performance and interpersonal effectiveness within organizations.
Cluster 4	Positive psychological capital may serve as a key resource for addressing the ongoing demands faced by entrepreneur-leaders. Future studies are encouraged to develop and test strategies aimed at improving productivity and operational efficiency, while simultaneously fostering employee motivation, satisfaction, and engagement. Moreover, examining psychological variables as drivers of sustainable and socially responsible entrepreneurial mindsets represents a promising avenue for further investigation.

In addition, **Figure 7** outlines a conceptual framework intended to guide future research efforts. This framework facilitates the identification of specific and actionable research opportunities by integrating multiple theoretical perspectives, potential target groups, suitable methodological approaches, and varying levels of analytical impact. Together, these elements provide a structured basis for advancing empirical and theoretical work in the field.

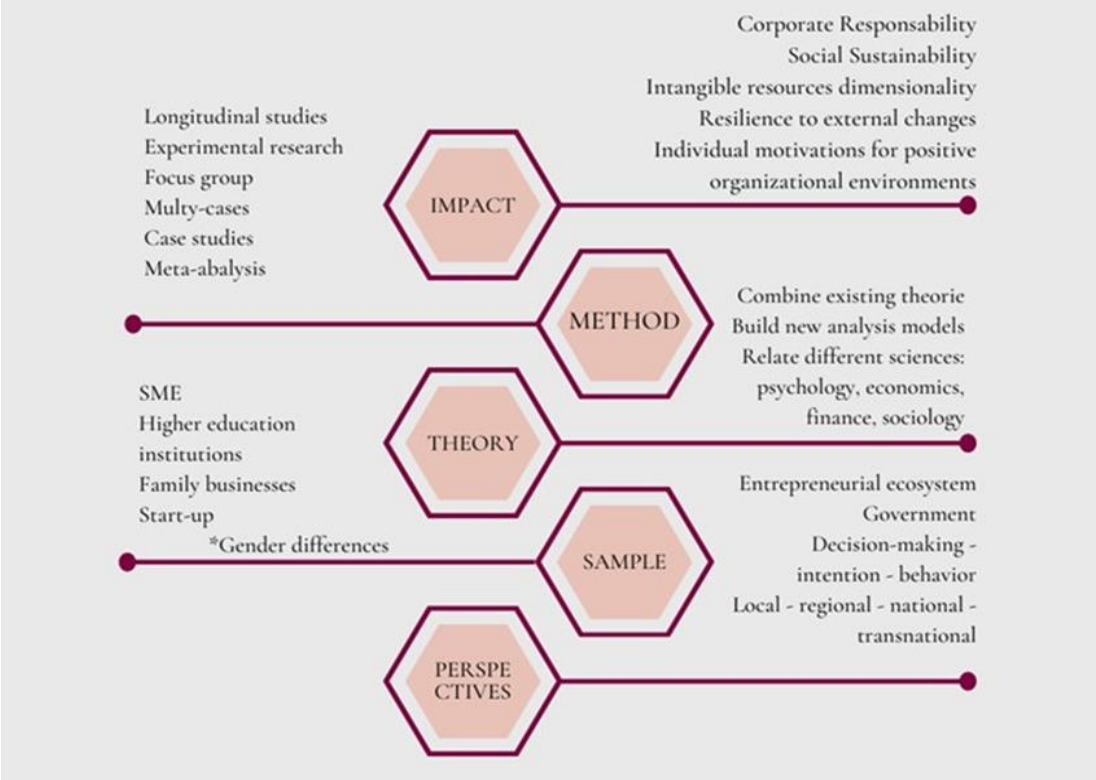

Figure 7. Framework for Future Research

Conclusion

This systematic literature review provides a comprehensive synthesis of existing research examining the relationship between psychological capital and entrepreneurship. By applying a rigorous and transparent review process [72] supported by PRISMA guidelines [17] and bibliometric mapping using VOSviewer [26], the study confirms that entrepreneurs' psychological capital represents a central determinant of entrepreneurial effectiveness and managerial success.

Given that psychological capital is shaped by context and experience, entrepreneurs may either possess or develop this resource over time. The interaction between psychological capital and entrepreneurship therefore constitutes a critical area of interest for both scholars and practitioners. This review serves as a foundational reference for future investigations seeking to deepen understanding of this relationship and to generate innovative theoretical and empirical insights.

The findings underscore the importance of reorienting entrepreneurship research away from a purely economic perspective toward a more psychologically informed approach. Although this shift is only recently gaining momentum within economic and organizational studies, it introduces important implications for the literature. In particular, the review identifies existing research gaps and opens new avenues for inquiry that reinforce the relevance of psychological capital throughout the entrepreneurial process.

Psychological capital has emerged as a significant driver of organizational performance, while simultaneously enhancing individual creativity and innovative behavior. Entrepreneurial education initiatives play a dual role: they allow individuals to assess their suitability for entrepreneurial careers and support continuous skill development. By addressing the research questions posed, this study demonstrates that the design and delivery of training programs grounded in psychological capital can enhance both individual and organizational productivity through the reinforcement of its four core dimensions. Moreover, such programs may act as mediating and moderating mechanisms shaping perceptions and behaviors.

From a practical and policy-oriented perspective, two primary implications can be identified. First, regarding academic research, the results facilitate access to relevant scholarly contributions and promote the formation of research networks among scholars working on psychological capital and entrepreneurship [73]. Second, in relation to public and private institutions, the evidence presented can assist policymakers and administrators in prioritizing initiatives that foster psychologically supportive organizational environments, thereby promoting innovation and long-term sustainability.

Finally, by employing scientific mapping techniques, this review positions psychological capital and entrepreneurship as interconnected domains within an evolving theoretical landscape. The results are intended to guide and encourage future research by offering a robust conceptual foundation. Overall, this study contributes to entrepreneurship scholarship by highlighting a relatively underexplored linkage between psychological capital and entrepreneurship—two constructs that have largely developed in parallel research traditions. The findings reveal the growing prominence of positive psychological capital in entrepreneurship research across diverse contexts, particularly in recent years, and offer fresh insights into the role of individual characteristics within the broader entrepreneurship research spectrum.

Acknowledgments: None

Conflict of interest: None

Financial support: None

Ethics statement: None

References

1. Duarte T, Tibana MR. Emprendimiento, una opción para el desarrollo. Scientia Et Technica. 2009;3(43):326-31.
2. Kefela GT. Entrepreneurship has emerged as the economics engine and social development throughout the world. Glob J Manag Bus Res. 2012;12(1):98-107.
3. Baier-Fuentes H, González-Serrano M, Alonso-dos-Santos M, Inzunza-Mendonza W, Pozo-Estrada V. Emotions and sport management: A bibliometric overview. Front Psychol. 2020;11:1-23. doi:10.3389/fpsyg.2020.01512
4. Maca-Urbano D, Rentería E. Una mirada al emprendimiento a partir de una revisión de la literatura. Psicol Caribe. 2020;37(1):107-36. doi:10.14482/psdc.37.1.001.42
5. Sánchez-García JC, Vargas-Morúa G, Hernández-Sánchez B. Entrepreneurs' well-being: A bibliometric review. Front Psychol. 2018;12:1-19. doi:10.3389/fpsyg.2018.01696
6. OECD. OECD employment outlook 2019: The future of work: OECD; 2019.
7. Margaça C, Hernández-Sánchez B, Cardella G, Sánchez-García JC. Impact of the optimistic perspective on the intention to create social enterprises: A comparative study between Portugal and Spain. Front Psychol. 2021;12:1-15. doi:10.3389/fpsyg.2021.680751

8. Hu R, Wang L, Zhang W, Bin P. Creativity, proactive personality, and entrepreneurial intention: The role of entrepreneurial alertness. Front Psychol. 2018;14:1-10. doi:10.3389/fpsyg.2018.00951
9. Luthans F, Youssef CM, Avolio BJ. Psychological capital: Developing the human competitive edge: Oxford Univ Press; 2007.
10. Hizam-Hanafiah M, Yousaf S, Usman B. The influence of psychological capital on the growth intentions of entrepreneurs: A study on Malaysian SME entrepreneurs. Bus Econ Horiz. 2017;13(5):556-69. doi:10.15208/beh.2017.38
11. Bockorny K, Youssef-Morgan CM. Entrepreneurs' courage, psychological capital, and life satisfaction. Front Psychol. 2019;10:1-6. doi:10.3389/fpsyg.2019.00789
12. Baluku MM, Kikooma JF, Bantu E, Otto K. Psychological capital and entrepreneurial outcomes: The moderating role of social competences of owners of micro-enterprises in East Africa. J Glob Entrep Res. 2018;8:26. doi:10.1186/s40497-018-0113-7
13. Villanueva-Flores M, Diaz-Fernandez M, Hernandez-Roque D, Van Engen M. Psychological capital and entrepreneurship: Gender differences. Gend Manag. 2021;36(3):410-29. doi:10.1108/GM-07-2020-0231
14. Ming Z, Zuguang H, editors. The entrepreneurial psychological capital and the study of entrepreneurship2013.
15. Pease P, Cunningham J, editors. Entrepreneurial psychological capital: A different way to understanding entrepreneurial capacity2016; Newcastle upon Tyne.
16. Baron RA, Franklin RJ, Hmieleski KM. Why entrepreneurs often experience low, not high, levels of stress: The joint effects of selection and psychological capital. J Manag. 2013;42(3):742-68. doi:10.1177/0149206313495411
17. Liberati A, Altman DG, Tetzlaff J, Mulrow C, Gøtzsche PC, Ioannidis JP, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: Explanation and elaboration. BMJ. 2009;339:1-27. doi:10.1136/bmj.b2700
18. Urrútia G, Bonfill X. PRISMA declaration: A proposal to improve the publication of systematic reviews and meta-analyses. Med Clin. 2010;135(11):507-11. doi:10.1016/j.medcli.2010.01.015
19. Lourenço F, Jones O. Developing entrepreneurship education: Comparing traditional and alternative teaching approaches. Int J Entrep Educ. 2006;4:111-40.
20. Pittaway L, Cope J. Entrepreneurship education: A systematic review of the evidence. Int Small Bus J. 2007;25(5):479-510. doi:10.1177/0266242607080656
21. Haque A, Fernando M, Caputo P. Responsible leadership and employee outcomes: A systematic literature review, integration and propositions. Asia-Pac J Bus Adm. 2021;13(3):383-408. doi:10.1108/APJBA-11-2019-0243
22. Moher D, Liberati A, Tetzlaff J, Altman D. Reprint – Preferred reporting items for systematic reviews and meta-analysis: The PRISMA statement. Phys Ther Rehabil J. 2009;89(9):873-80. doi:10.1093/ptj/89.9.873
23. Li J, Burnham JF, Lemley T, Britton RM. Citation analysis: Comparison of web of science®, scopus™, scifinder®, and google scholar. J Electron Resour Med Libr. 2010;7(3):196-217. doi:10.1080/15424065.2010.505518
24. Kraus S, Breier M, Dasí-Rodríguez S. The art of crafting a systematic literature review in entrepreneurship research. Int Entrep Manag J. 2020;16(3):1023-42. doi:10.1007/s11365-020-00635-4
25. Da S, He Y, Zhang X. Effectiveness of psychological capital intervention and its influence on work-related attitudes: Daily online self-learning method and randomized controlled trial design. Int J Environ Res Public Health. 2020;17(23):8754. doi:10.3390/ijerph17238754
26. Van Eck NJ, Waltman L. Software survey: VOSviewer, a computer program for bibliometric mapping. Scientometrics. 2010;84:523-38. doi:10.1007/s11192-009-0146-3
27. Suchek N, Fernandes C, Kraus S, Filser M, Sjogrén H. Innovation and the circular economy: A systematic literature review. Bus Strateg Environ. 2021;30(8):3686-702. doi:10.1002/bse.2834
28. Van Eck NJ, Waltman L. Visualizing bibliometric networks. Measuring scholarly impact: Methods and practice. New York: Springer; 2014. p. 285-320.
29. Tian L. The influence of work values of college students on entrepreneurial intention: The moderating role of psychological capital. Front Psychol. 2022;7:1-9. doi:10.3389/feduc.2022.1023537
30. Tang J, Baron R, Yu A. Entrepreneurial alertness: Exploring its psychological antecedents and effects on firm outcomes. J Small Bus Manag. 2021:1-30. doi:10.1080/00472778.2021.1945071
31. Abubakar A, Mourgan FHA, Al Kharusi B, Elfitori CM. Impact of entrepreneurial education, trait competitiveness and psychological capital on entrepreneurial behavior of university students in GCC. J Enterprising Communities: People Places Glob Econ. 2022. doi:10.1108/JEC-03-2022-0047
32. Calvo JC, García G. The influence of psychological capital on graduates' perception of employability: The mediating role of employability skills. High Educ Res Dev. 2020;40(2):293-308. doi:10.1080/07294360.2020.1738350
33. Baluku MM, Kikooma JF, Otto K, Konig C, Bajwa N. Positive psychological attributes and entrepreneurial intention and action: The moderating role of perceived family support. Front Psychol. 2020;11:1-17. doi:10.3389/fpsyg.2020.546745

34. Digan SP, Sahi GK, Mantok S, Patel P. Women's perceived empowerment in entrepreneurial efforts: The role of bricolage and psychological capital. J Small Bus Manag. 2019;57(1):206-29. doi:10.1111/jsbm.12402
35. Luthans F, Luthans KW, Luthans BC. Positive psychological capital: Beyond human and social capital. Bus Horiz. 2004;47(1):45-50. doi:10.1016/j.bushor.2003.11.007
36. Tang JJ. Psychological capital and entrepreneurship sustainability. Front Psychol. 2020;11:1-7. doi:10.3389/fpsyg.2020.00866
37. Hasan M, Hatidja SN, Guampe FA, Maruf MI. Entrepreneurship learning, positive psychological capital and entrepreneur competence of students: A research study. Entrep Sustain Issues. 2019;7(1):425-37. doi:10.9770/jesi.2019.7.1(30)
38. Khurram W, Jafri S, Ikram A, Fiaz M, editors. Positive psychological capital and sustained competitive advantage of born global SMEs: Mediating role of transformational leadership2019.
39. Luthans F, Youssef-Morgan C, Sweetman D, Harms P. Meeting the leadership challenge of employee well-being through relationship psycap and health psycap. J Leadersh Organ Stud. 2013;20(1):118-33. doi:10.1177/1548051812465893
40. Ephrem A, Nguezet P, Charmant I, Murimbika M, Awotide B, Tahirou A. Entrepreneurial motivation, psychological capital, and business success of young entrepreneurs in DRC. Sustainability. 2021;13:1-22. doi:10.3390/su13084087
41. Keshvarz L, Farahani A, Saldehi M. Organizational intangible assets (human, social and psychological capitals) and corporate entrepreneurship – Case study: Ministry of sport and youth of Islamic Republic of Iran. Int J Pharm Res Allied Sci. 2017;6(3):79-92.
42. Lin N. Social capital: A theory of social structure and action: Cambridge Univ Press; 2001.
43. Lux S, editor Entrepreneur social competence and capital: The social networks of politically skilled entrepreneurs2017.
44. Hernández-Carrión C, Camarero-Izquierdo C, Gutiérrez-Cillán J. Entrepreneurs' social capital and the economic performance of small business: The moderating role of competitive intensity and entrepreneurs' experience. Strateg Entrep J. 2017;11(1):61-89. doi:10.1002/sej.1228
45. Semrau T, Hopp C. Complementary or compensatory? A contingency perspective on how entrepreneurs' human and social capital interact in shaping start-up progress. Small Bus Econ. 2016;46:407-23. doi:10.1007/s11187-015-9691-8
46. Neira I, Calvo N, Fernández L, Portela M. Entrepreneur: Do social capital and culture matter? Int Entrep Manag J. 2017;13:665-83. doi:10.1007/s11365-016-0418-3
47. Stam W, Arzlanian S, Elfring T. Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators. J Bus Ventur. 2014;29(1):152-73. doi:10.1016/j.jbusvent.2013.01.002
48. Andersson S. International entrepreneurship born global and the theory of effectuation. J Small Bus Entrep Dev. 2011;18(3):627-43. doi:10.1108/14626001111155745
49. Newman A, Obschonka M, Schwarz S, Cohen M, Nielson I. Entrepreneurial self-efficacy: A systematic review of the literature on its theoretical foundations, measurement, antecedents, ad outcomes, and an agenda four future research. J Vocat Behav. 2019;110:403-19. doi:10.1016/j.jvb.2018.05.012
50. Covin J, Slevin DA. Conceptual model of entrepreneurship as firm behavior. Entrep Theory Pract. 1991;16(1):7-26. doi:10.1177/104225879101600102
51. Worthington S, Kasouf C. The paradox of resource availability and the perception of resource adequacy: The roles of psychological capital, perceived stress and age in the innovation process. Small Enterp Res. 2018;25(3):276-89. doi:10.1080/13215906.2018.1522272
52. Arshi T, Islam S, Gunupudi N. Predicting the effect of entrepreneurial stressors and resultant strain on entrepreneurial behavior: An SEM-based machine-learning approach. Int J Entrep Behav Res. 2021;27(7):1819-48. doi:10.1108/IJEBR-08-2020-0529
53. Gao Q, Wu C, Wang L, Zhao X. The entrepreneur's psychological capital, creative innovation behavior, and enterprise performance. Front Psychol. 2020;11:1-12. doi:10.3389/fpsyg.2020.01651
54. Li T, Liang W, Yu Z, Dang X. Analysis of the influence of entrepreneur's psychological capital on employee's innovation behavior under leader-member exchange relationship. Front Psychol. 2020;11:1-12. doi:10.3389/fpsyg.2020.01853
55. Kirkley WW. Entrepreneurial behaviour: The role of values. Int J Entrep Behav Res. 2016;22(3):290-328. doi:10.1108/IJEBR-02-2015-0042
56. Lux AA, Macau FR, Brown KA. Putting the entrepreneur back into entrepreneurial ecosystems. Int J Entrep Behav Res. 2020;26(5):1011-41. doi:10.1108/IJEBR-01-2020-0031
57. Hmieleski KM, Carr J, Baron R. Integrating discovery and creation perspectives of entrepreneurial action: The relative roles of founding CEO human capital, social capital, and psychological capital in contexts of risk versus uncertainty. Strateg Entrep J. 2015;9(4):289-312. doi:10.1002/sej.1208
58. Daim T, Dabic M, Bayraktaroglu E. Students' entrepreneurial behavior: International and gender differences. J Innov Entrep. 2016;5:19. doi:10.1186/s13731-016-0046-8
59. Cui J. The influence of entrepreneurial education and psychological capital on entrepreneurial behavior among college students. Front Psychol. 2021;12:1-12. doi:10.3389/fpsyg.2021.755479

60. Bae T, Qian S, Miao C, Fiet J. The relationship between entrepreneurship education and entrepreneurial intentions: A meta-analytic review. Entrep Theory Pract. 2014;38(2):217-54. doi:10.1111/etap.12095
61. Krueger NF, Reilly MD, Carsrud AL. Competing models of entrepreneurial intentions. J Bus Ventur. 2000;15(5):411-32. doi:10.1016/S0883-9026(98)00033-0
62. Kautonen T, Van Gelderen M, Tornikoski E. Predicting entrepreneurial behavior: A test of the theory of planned behavior. Appl Econ. 2013;45(6):697-707. doi:10.1080/00036846.2011.610750
63. Na B, Ahmad N, Zhang C, Han Y. Entrepreneurial intention and delayed job satisfaction from the perspective of emotional interaction: The mediating of psychological capital. Front Psychol. 2022;13:1-14. doi:10.3389/fpsyg.2022.925460
64. Vasconcelos V, Silveira A, Pedron C, Andrade D. Intenção empreendedora, comportamento empreendedor inicial e teoria sociocognitiva do desenvolvimento de carreira. Rev Empreend Gest Pequenas Emp. 2020;9(1):159-88. doi:10.14211/regepe.v9i1.1491
65. Gonçalves de Lima L, Nassif V, Garçon M. O poder do capital psicológico: A força das crenças no comportamento empreendedor. Rev Adm Contemp. 2020;24(4):317-34. doi:10.1590/1982-7849rac2020180226
66. Bird B, Schjoedt L. Entrepreneurial behavior: Its nature, scope, recent research, and agenda for future research. In: Brännback M, Carsrud A, editors. Revisiting the Entrepreneurial Mind. New York: Springer; 2017. p. 379-409.
67. Jong J, Parker S, Wennekers S, Wu C. Entrepreneurial behavior in organizations: Does job design matter? Entrep Theory Pract. 2015;39(4):981-95. doi:10.1111/etap.12084
68. Miralles F, Giones F, Gozun B. Does direct experience matter? Examining the consequences of current entrepreneurial behavior on entrepreneurial intention. Int Entrep Manag J. 2017;13(3):881-903. doi:10.1007/s11365-016-0430-7
69. Brandt T, Gomes J, Boyanova D. Personality and psychological capital as indicators of future job success? Nordic J Bus. 2011;3:263-89.
70. Gaviria-Marin M, Merigó JM, Popa S. Twenty years of the Journal of Knowledge Management: A bibliometric analysis. J Knowl Manag. 2018;22(6):1655-87. doi:10.1108/JKM-10-2017-0497
71. Vallaster C, Kraus S, Lindahl JM, Nielsen A. Ethics and entrepreneurship: A bibliometric study and literature review. J Bus Res. 2019;99:226-37. doi:10.1016/j.jbusres.2019.02.050
72. Pahlevan-Sharif S, Mura P, Wijesinghe SN. A systematic review of systematic reviews in tourism. J Hosp Tour Manag. 2019;39:158-65. doi:10.1016/j.jhtm.2019.04.001
73. Mulet-Forteza C, Genovart-Balaguer J, Mauleon-Mendez E, Merigó JM. A bibliometric research in the tourism, leisure and hospitality fields. J Bus Res. 2019;101:819-27. doi:10.1016/j.jbusres.2018.12.002