



## Research article

# Psychological capital research in HEIs: Bibliometric analysis of current and future trends

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## ABSTRACT

This study presents a comprehensive bibliometric analysis of the literature on psychological capital (PsyCap) within higher education institutions (HEIs). Its main objective is to offer an encompassing perspective on this field's current state and potential developments. To achieve this, the study examines present research trends and predicts future directions using a bibliometric approach. A total of 412 journal articles were gathered from the Web of Science database. The analysis identifies influential publications, outlines the knowledge structure, and forecasts future trends through bibliographic coupling and co-word analyses. The bibliographic coupling revealed five distinct clusters, while the co-word analysis identified four clusters. Despite the growing significance of PsyCap research in HEIs, there remains a need for greater academic efforts to comprehend the research landscape fully. This paper provides valuable insights into the expanding area of PsyCap research within HEIs. In conclusion, the study sheds light on the extensive research conducted on PsyCap in the context of HEIs and offers insights into its potential for further growth.

## 1. Introduction

The quality of the educational experience is significantly influenced by the academic performance and general well-being of both lecturers and students in higher education [1,2]. Scholars are increasingly recognizing the influence of psychological capital (PsyCap) on the attitudes, actions, and achievements of both instructors and students in higher educational settings (Jiang et al., 2021). PsyCap is a multifaceted construct comprising essential positive psychological resources like optimism, resilience, hope, and self-efficacy. These components empower lecturers and students to overcome challenges and thrive in the face of adversity. Research supports that the psychological capital of lecturers in higher education has a major bearing on their general well-being, work effectiveness, and

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job satisfaction [3,4]. The academic engagement, learning outcomes, and adaptability of college students have all been linked to psychological capital [5,6]. Recognizing the importance of PsyCap in Higher Education Institutions (HEIs) enable the creation of a supportive learning environment, facilitating teachers and students to realize their full potential and enhancing the overall educational experience [7].

The goal of this study is to investigate the growing interest in PsyCap within HEIs by conducting an extensive bibliometric analysis. This analysis aims to identify seminal works and prominent authors in the field, utilizing bibliographic coupling. Additionally, co-word analysis will be employed to uncover thematic clusters and explore the relationships between study topics, shedding light on emerging trends and suggesting future lines of inquiry. This bibliometric analysis is crucial as it provides a comprehensive and structured review of the conceptual framework and current research patterns related to PsyCap in HEIs. It assists researchers in identifying and prioritizing future research areas. The findings of this study offer valuable insights for researchers, educators, administrators, and policymakers. These insights have the potential to enhance student engagement, improve teacher well-being, and ultimately increase the overall efficacy of education.

## 2. Literature review

### 2.1. Conceptualization of psychological capital

The conceptual framework of positive organizational behavior (POB) serves as the foundation for the PsyCap concept. According to Luthans [8], POB involves the study and application of positively oriented human resource strengths and psychological capacities that are measurable, developable, and effectively manageable to enhance workplace performance. For a psychological construct to be considered part of POB, it must meet specific criteria. Firstly, it must be grounded in both theory and evidence. Secondly, it must have positivity, and be consistent with positive psychology and related research. Thirdly, it must have valid measures. Fourthly, it should be adaptable to management and human resource training and development. Lastly, the construct is capable of contributing to performance improvement in the workplace. Following a thorough examination of accepted concepts in positive psychology, hope, efficacy, resilience, and optimism emerged as the most representative of the proposed POB approach [9,10].

PsyCap integrates the four positive psychological resources that best fit the POB inclusion criteria [10,11]. When these four resources are combined, they form and have been empirically supported as a higher-order core construct based on the shared commonalities and their unique characteristics [12,13]. The main commonalities of PsyCap components focus on their positive orientation, adaptability, resourcefulness in adversity, measurability, positive impact on performance, and contribution to overall well-being [14]. This composite concept is described as “an individual’s positive psychological state of development [11],” and it is distinguished by the following characteristics: “(1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success [12].”

### 2.2. Psychological capital within higher education

Higher education is a distinct and critical stage in individuals’ academic and professional development. The dynamics and challenges in higher education settings are unique, including academic pressures, burnout, career decisions, and personal development, involving complex interactions between educators, students, and the academic environment. Understanding how PsyCap operates in this context is essential for optimizing the learning or teaching experience and fostering positive outcomes for both educators and students.

PsyCap is conceptualized within the context of higher education as a collection of positive psychological resources that enable students and faculty to navigate the inherent challenges and opportunities of the academic environment [15,16]. Numerous studies have investigated the connection between teacher psychological capital and a variety of educational outcomes. Psychological capital has a significant impact on instructors’ teaching effectiveness [17], job satisfaction [18], and overall job performance [19]. Teachers with high levels of hope, efficacy, resilience, and optimism are more likely to be engaged in their work, experience less fatigue, and exhibit greater commitment to their profession [20–22]. During and post-COVID-19 pandemic, many studies investigate the impact of positive psychological resources on teachers’ adaptability, coping mechanisms, job performance and overall well-being [16,23–26]. Psychological capital influences the academic experiences and outcomes of students in addition to its impact on educators. Students with greater psychological capital are more committed to their studies, demonstrate greater academic persistence, and are more likely to achieve academic success [27–29]. It is worth noting that studies on PsyCap of university students during the COVID-19 pandemic investigates how these factors contribute to students’ ability to cope with the challenges posed by the pandemic, assessing the impact of heightened psychological capital on students’ motivation, coping strategies and overall satisfaction with their academic experiences ([1,30]; Wang et al., 2021). Findings from these studies offer insights into strategies for supporting students, fostering their psychological resilience, and promoting positive outcomes in the context of the COVID-19 pandemic [31–33].

### 2.3. Present study

The main aim of this study is to explore the literature concerning PsyCap in the context of HEIs. This research employs a systematic approach to literature analysis through bibliometric methods. Using two unique bibliometric techniques, the study fills an existing

knowledge gap and sheds light on current and prospective research domains. Consequently, based on the bibliometric findings, the research zeroes in on the subsequent specific goals.

1. To identify current themes in the PsyCap literature related to HEIs through bibliographic coupling.
2. To foresee potential directions and upcoming research themes in the PsyCap literature in HEIs utilizing co-word analysis.

### 3. Methods

#### 3.1. Bibliometric approach

The quantitative analysis of academic literature is referred to as bibliometrics [34]. The bibliometric approach analyzes and measures patterns, connections, frequencies, and trends in scientific publications using statistical and mathematical methods [35,36,37]. The primary goal of bibliometrics is to provide a comprehensive understanding of academic output, impact, and research topic evolution over time (Donthu et al., 2021; [38,39]).

Bibliographic coupling occurs when two works in their bibliographies refer to the same third work [40]. This method provides insight into the topics and areas that are being researched and explored at the same time [41]. Researchers can deduce which aspects or components of PsyCap are currently dominating the discourse, how they interrelate, and which studies are seminal or foundational to the field by applying this to the PsyCap literature within the context of HEIs. Essentially, it aids in identifying research clusters that revolve around shared foundational works, thereby assisting in identifying the core areas of contemporary interest.

The co-occurrence of keywords in a set of documents is investigated using co-word analysis [42]. It's an effective tool for detecting emerging research trends [43]. It is possible to predict the future trajectory of research topics by analyzing which keywords frequently appear together in more recent publications (Wider et al., 2023d; Xu et al., 2023). Using co-word analysis on the PsyCap literature in the context of HEIs would thus reveal not only the current state but also forecast potential future research avenues, ensuring researchers stay ahead of the curve [44].

#### 3.2. Search string

The keywords utilized in this bibliometric analysis can be found in Table 1. The topic search (TS) feature of the Web of Science (WoS). The search included papers published from the database's inception up to September 9, 2023, when the search in WoS was performed. The WOS database is renowned for its broad range and superior quality, making it apt for bibliometric investigations (Yan & Zhiping, 2023). It showcases a thorough depiction of significant global research [45,46,47]. Table 1 details the criteria for inclusion and exclusion applied in this survey, clarifying the specifics. After the evaluation phase, 412 papers met the set criteria and were selected.

### 4. Result and discussion

The WOS database yielded a total of 7424 citations for the selected articles (N = 412), excluding self-citations, which totaled 6965 citations. The average number of citations per article was computed to be 18.02, and the H-index was found to be 34. There is a growing interest in researching PsyCap in the context of HEIs, as evidenced by the existence of 412 articles. Considering that the first publication in this field appeared in 1991, it is noteworthy that substantial contributions to this field were not recognized until 2009. Nonetheless, there has been a notable exponential rise in the quantity of publications between 2009 and 2022. The growth was comparatively stagnant before 2009. These results point to a trend of more PsyCap research in the context of HEIs in the future. The publication trend and corresponding citation count are shown in Fig. 1 for the period from 1991 to September 9, 2023.

#### 4.1. Bibliographic coupling analysis

Out of the 412 primary documents analyzed through bibliographic coupling, a total of 57 documents satisfied the criterion of having at least 21 citations. The publications that exhibit the highest bibliographic strength are Nielsen et al. [48] with a total of 219 times cited, followed by Luthans et al. [49] with 203 citations, and Martínez et al. [50] with 195 citations. Table 2 displays the ten most

**Table 1**  
Search string, inclusion, and exclusion criteria.

WOS Database	ALL
Time Period	Up to 9 September 2023
Search field	Topic
Search keywords	("Psychological capital" or "psycap" or "psychological resource*") AND ("Universit*" OR "higher education institution" OR "institution of higher learning" OR "college*")
Citation Topics	ALL
Meso	
Document Type	ALL
Languages	English

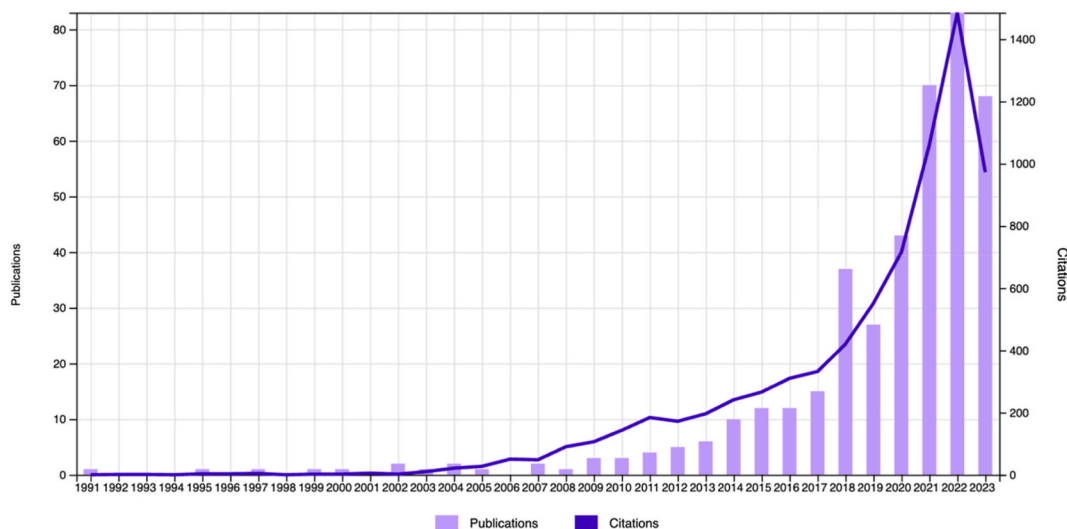


Fig. 1. Quantity of publications and citations between 1991 and September 9, 2023.

prominent documents identified through bibliographic coupling analysis. Out of the total 62 documents, a mere 53 exhibited interconnectivity, resulting in the formation of five distinct clusters as depicted in Fig. 2 (see Table 3).

The bibliographic coupling analysis has unveiled five unique clusters, each emphasizing a different theme. These groupings consist of publications with thematically related content that are linked to one another. Publications within the same cluster are marked with identical color nodes to signify shared subject matter. The categorization and description for each cluster are as follows.

- Cluster 1 provides a holistic view of PsyCap, going beyond individual studies to reveal a complex network of interconnections. This cluster investigates human resilience in the face of difficult adversities. In the face of traumatic events such as interpersonal violence and mass shootings, Bird et al. [53] and Littleton et al. [60] emphasize the resilience of the human spirit. The author argues that in the face of major external traumas, our psychological resources can offer safety and resilience. Per Carmona-Halty et al. [54], Denovan et al. [55], and Siu et al. [63], there is also a lot of talk about resilience in the education sector. The study explores the connection between academic psychological capital and positive emotions, as well as how these factors affect students' motivation, well-being, and engagement. This implies that educational institutions can make use of these components to create all-encompassing learning environments. According to Di Fabio and Kenny [56], strong interpersonal ties and organizational

Table 2

The top 10 documents in bibliographic coupling and total link strength.

No.	Documents	Citation	Total link strength
1	Nielsen, I., Newman, A., Smyth, R., Hirst, G., & Heilemann, B [48]. The influence of instructor support, family support and psychological capital on the well-being of postgraduate students: A moderated mediation model. <i>Studies in Higher Education</i> , 42 (11), 2099–2115.	42	219
2	Luthans, K. W., Luthans, B. C., & Chaffin, T. D [49]. Refining grit in academic performance: The mediational role of psychological capital. <i>Journal of Management Education</i> , 43 (1), 35–61.	53	203
3	Martínez, I. M., Youssef-Morgan, C. M., Chambel, M. J., & Marques-Pinto, A [50]. Antecedents of academic performance of university students: Academic engagement and psychological capital resources. <i>Educational Psychology</i> , 39 (8), 1047–1067.	71	195
4	Barratt, J. M., & Duran, F. (2021). Does psychological capital and social support impact engagement and burnout in online distance learning students? <i>The Internet and Higher Education</i> , 51, 100821.	23	178
5	You, J. W. (2016). The relationship among college students' psychological capital, learning empowerment, and engagement. <i>Learning and Individual Differences</i> , 49, 17–24.	58	176
6	Hazan Liran, B., & Miller, P. (2019). The role of psychological capital in academic adjustment among university students. <i>Journal of Happiness studies</i> , 20, 51–65.	44	143
7	Ortega-Maldonado, A., & Salanova, M. (2018). Psychological capital and performance among undergraduate students: the role of meaning-focused coping and satisfaction. <i>Teaching in Higher Education</i> , 23 (3), 390–402.	42	140
8	Adil, A., & Kamal, A. (2020). Authentic leadership and psychological capital in job demands-resources model among Pakistani university teachers. <i>International Journal of Leadership in Education</i> , 23 (6), 734–754.	29	134
9	Wang, Y., Liu, L., Wang, J., & Wang, L [51]. Work-family conflict and burnout among Chinese doctors: the mediating role of psychological capital. <i>Journal of occupational health</i> , 54 (3), 232–240.	109	132
10	Sun, T., Zhao, X. W., Yang, L. B., & Fan, L. H [52]. The impact of psychological capital on job embeddedness and job performance among nurses: a structural equation approach. <i>Journal of advanced nursing</i> , 68 (1), 69–79.	101	132

Source: Author interpretation based on VOSviewer analysis

**Table 3**  
Bibliographic coupling clusters related to PsyCap in the context of HEIs.

Cluster	Cluster label	Number of publications	Representative publications
1 (Red)	PsyCap in mental health, career adaptability, and social support among HEIs Students	18	Bird et al. [53]; Carmona-Halty et al. [54]; Denovan et al. [55]; Di Fabio & Kenny [56]; Finkelstein et al. [57]; Fredrickson et al. [58]; Jackson & Finney [59]; Littleton et al. [60]; Meyers et al. [61]; Poots & Cassidy [62]; Siu et al. [63]; Zhao et al. [64].
2 (Green)	PsyCap in professional stress, academic achievement and well-being among faculty members	11	Adil & Kamal [65]; Hazan Liran & Miller [29]; Jiang [66]; Selvaraj & Bhat [67]; Sun et al. [52]; Wang et al. [51]; Wang et al. [68]. Madigan & Kim, 2021; Miksza et al., 2022; and [69])
3 (Blue)	PsyCap in academic and employment transitions	10	Ahmed et al. [70]; Ayala Calvo & Manzano Garca [71]; Belle et al. [72]; Donald et al. [73]; Luthans et al. [49]; Martnez et al. (2019); & Zhao et al. (2020)
4 (Yellow)	Psychological resources in academic and early career transitions	9	Adelman et al. [74]; Combs et al. [75]; Direnzo et al. [76]; Hirschi [77]; Huang & Zhang [1]; Magnano et al. [78]; McDowell et al. [79]; Ortega-Maldonado & Salanova [80]; & Santisi et al. (2018).
5 (Purple)	PsyCap and professional challenges	5	Arnold & Rigotti [81]; Cijssouw et al. [82]; Ferradás et al. [83]; Nielsen et al. [48]; & Pérez-López et al. [84].

Source: Author interpretation from VOSviewer

health are greatly aided by individual attributes, especially emotional intelligence. These results imply that positive personal traits can change and foster an environment that is productive at work. Furthermore, research on the fallout from catastrophic events like the 9/11 attacks was done by Fredrickson et al. [58], showing how resilient the human spirit can be. The focus on the uplifting quality of happy feelings, even in trying circumstances, highlights resilience’s enduring power as a source of hope. The studies by Jackson and Finney [59] and Finkelstein et al. [57] highlight the socioeconomic obstacles that young people must overcome. The researchers’ results illuminate the psychological difficulties resulting from differences in socioeconomic status, emphasizing the necessity of focused interventions to support marginalized communities. Meyers et al. [61] and Poots and Cassidy [62] have suggested that the correlation between self-compassion and PsyCap (psychological capital) can foster personal development, well-being, and the achievement of realistic academic objectives. The coping mechanisms employed by medical students during the pandemic are examined by Zhao et al., in 2021. The present study underscores the complex correlation that exists between coping strategies, resilience, and mental well-being, underscoring the need of robust support networks in the face of unprecedented crises.

- Cluster 2 focuses on the relationship between PsyCap and its effects on individuals’ mental health and occupational health. This cluster focuses on the crucial role of PsyCap as a motivating and protective factor in professional settings. Adil and Kamal [65]

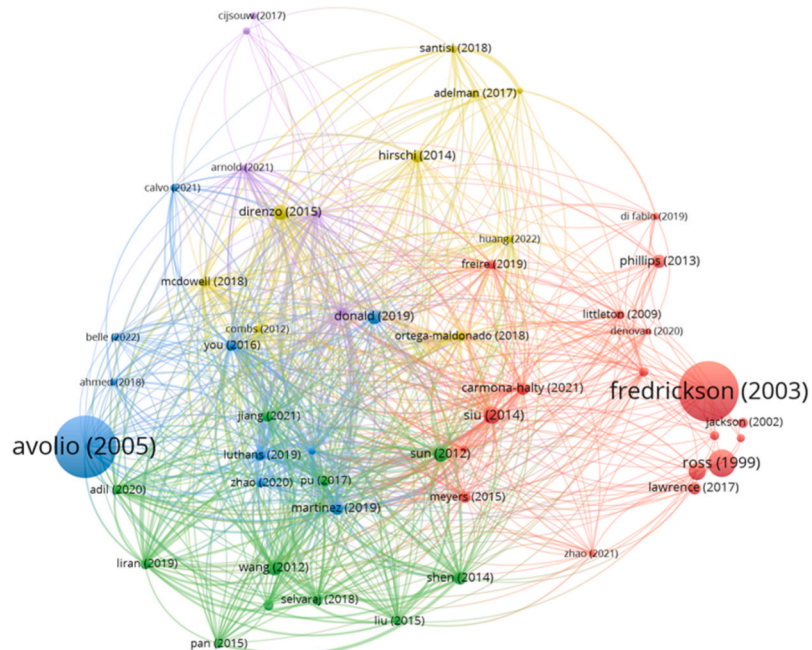


Fig. 2. Bibliographic coupling.

conducted a study that investigates the connection between authentic leadership PsyCap and university educators. This observation compels us to recognize that the well-being of educators is not solely reliant on external factors, but is also closely tied to their psychological strengths. Jiang [66] and Wang et al. (2021) provide a modernization of the narrative. Their research emphasizes the contemporary challenges that the digital platform presents. This study examines the relationship between PsyCap, social media use, and their effects on academic engagement and mental health, particularly during the spread of COVID-19. In a time of increasing convergence between the digital and physical worlds, the significance of our psychological resources in maintaining equilibrium is highlighted. Hazan Liran and Miller (2019) and Selvaraj and Bhat [67] contend that PsyCap not only acts as a buffer but also actively promotes academic adjustment. Clearly, this force has the capacity to alleviate mental distress and facilitate a more seamless transition into academic environments, thereby enhancing mental health. By focusing on nurses, an important professional group, Sun et al. [52] and Wang et al. [51] contribute to the existing literature and enrich this cluster. The study investigates the influence of PsyCap on job embeddedness, performance, and work-family conflict, resulting in a deeper understanding. In high-stress occupations, such as nursing, where personal and professional boundaries are frequently unclear, PsyCap appears to play a crucial role in promoting job satisfaction and well-being.

- Cluster 3 underscores the significance of PsyCap in mitigating students' transition from the university to the workforce. Researchers Ahmed et al. [70] and Martinez et al. (2019) look into the connections between resilience, support, efficacy, and student engagement—all significant academic factors. The results show that PsyCap is essential for balancing and improving these elements in order to support student success. According to Luthans et al. [49], PsyCap can encourage academic resilience as well as the pursuit of excellence, which emphasizes its importance in building academic tenacity. Still, Cluster 3 is not limited to the academic hallways. The topic of employability receives a lot of attention. Belle et al. [72], Ayala Calvo and Manzano Garca [71], and Donald et al. [73] all look at the shift from education to the workforce. This study explores the complex interplay among PsyCap, job market anxiety, perceptions of employment opportunities, and self-awareness of marketable skills. The group's findings indicate that PsyCap is an active force that shapes and improves a person's transition into the labor market rather than just a passive source of strength. Furthermore, Zhao et al. [85] illuminated another intriguing facet. The relationship between PsyCap and entrepreneurial motivation is investigated in this study. This research indicates that PsyCap's influence goes beyond conventional educational and professional pathways. Furthermore, it has the ability to inspire and mold entrepreneurial ambitions, suggesting a wider range of possible uses in influencing different career pathways.
- Cluster 4 focuses on the psychological tools used in early career development and academic transitions. It provides a thorough and dynamic understanding of the ways in which an individual's internal factors interact with obstacles encountered in school and later in one's career. Adelman et al. [74] emphasize that our academic path is influenced by both our desired future self and our current self, highlighting the important relationship between our future goals and selves. Magnano et al. [78] point out that there is a particularly important difference between the emphasis on external factors and introspection on oneself. It takes more than just knowledge to transition from the safe haven of academia to the unpredictable challenges of the working world. Characteristics like bravery, adaptability, and foresight are also important. However, these transitions are not experienced in isolation and are interconnected. Combs et al. [75] and Huang and Zhang [1] have investigated the human need for connection and its influence on psychological well-being, particularly during global crises. Their research indicates that collective values and social support play a crucial role in enhancing our mental health. This implies a mutually beneficial relationship in which the individual resilience is bolstered by the community's strengths. The course of early careers is not solely determined by external obstacles or social ties. Hirschi [77] and Direnzo et al. [76] shed light on the individual's internal compass. Hope and the capacity to adapt career orientations are internal guiding forces that assist people in aligning their values and achieving a balanced life. According to McDowell et al. [79] and Ortega-Maldonado & Salanova [80], leadership is both an external influence and a transformative process that can increase an individual's psychological capital. Santisi et al. [86] concluded that students' transition into professional roles is supported by psychological reservoirs.

**Table 4**  
The 15 most frequent keywords in the keyword co-occurrence analysis.

Rank	Keyword	Occurrences	Total link strength
1	Psychological capital	187	832
2	Performance	104	516
3	Impact	83	460
4	Stress	78	411
5	Self-efficacy	76	376
6	Resources	41	250
7	Burnout	40	236
8	Depression	47	230
9	Optimism	31	209
10	Resilience	36	206
11	Anxiety	33	187
12	College-students	33	182
13	Hope	29	178
14	Engagement	30	170
15	Satisfaction	31	170

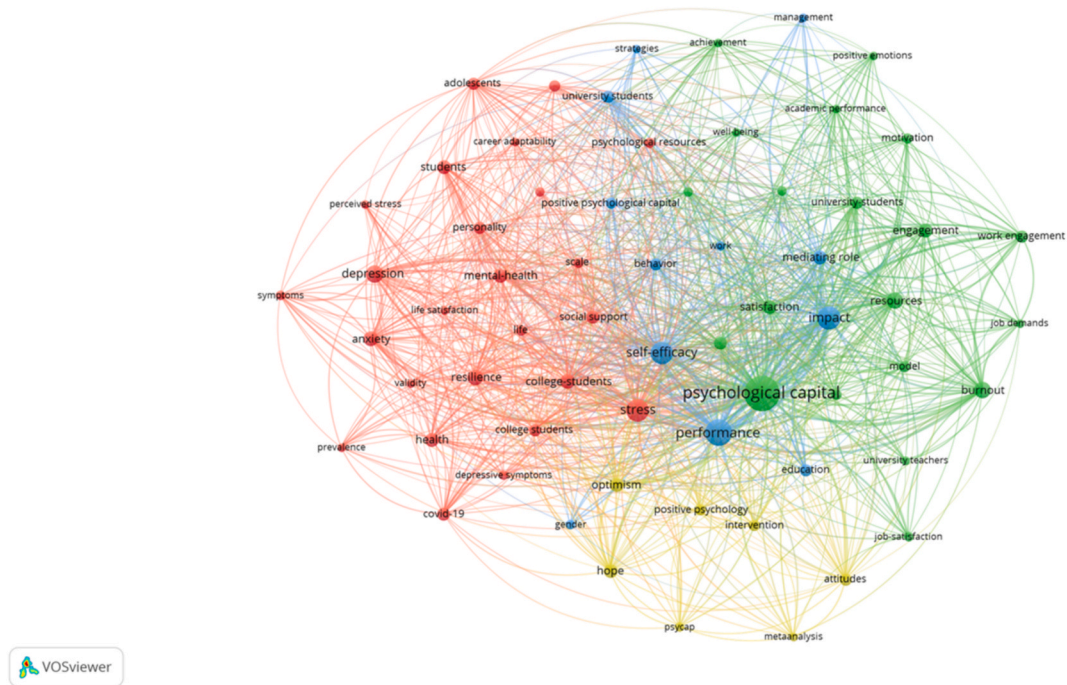


Fig. 3. Co-word analysis of PsyCap research in the context of HEIs.

- Cluster 5 investigates the role of psychological capital in well-being as well as overcoming health and professional challenges. Arnold and Rigotti [81] establish a link between health-oriented leadership and psychological capital, emphasizing the implications for employee well-being. Ferradás et al. [83] investigate teacher psychological capital profiles and their relationship to burnout. Nielsen et al. [48] investigate how instructor and family support affect postgraduate students' well-being, focusing on the moderating effect of external support on psychological capital. Pérez-López et al. [84] identify critical entrepreneurial competencies in difficult job markets, arguing that psychological capital is critical for success. Cijssouw et al. [82] investigate how psychological capital influences life satisfaction in people with spinal cord injuries. Cluster 5 integrates psychological capital themes from health, academia, and entrepreneurship, emphasizing its universal importance in navigating challenges.

#### 4.2. Co-occurrence of keyword

The dataset contained at least 12 occurrences of each of the 64 identified keywords. The keyword “psychological capital” was found to be the most frequently used, occurring 187 times, followed by “performance” with 104 occurrences and “impact” with 83 occurrences. Table 4 shows the top 15 keywords discovered through co-word analysis. Fig. 3 depicts the network structure of keyword co-occurrence, revealing four distinct clusters. Each cluster was carefully examined and expanded upon as follows.

- Cluster 1 (Red). The COVID-19 pandemic has had significant socio-psychological consequences, leading to a shift in the research focus on adolescents and college students [7,87]. In the midst of an era characterized by uncertainty, it is crucial to recognize the significance of comprehending the relationship between mental health, career adaptability, and social support as individuals navigate the transition into adulthood [88,89]. One significant phenomenon under investigation pertains to the exploration of the impact of anxiety, depression, and perceived stress on an individual's capacity to effectively navigate and adjust to swiftly evolving career environments, with particular attention to the exacerbation of these conditions due to the ongoing pandemic [90,91]. Simultaneously, resilience, an essential psychological asset, emerges as a significant predictor of both life satisfaction and career adaptability [92,93]. During the period of adolescence, individuals encounter various difficulties in an uncertain environment. In this context, their intrinsic personality characteristics, which are strongly influenced by their self-esteem, significantly influence their ability to effectively confront and overcome these challenges [30]. Moreover, the importance of social support systems, including peers, family, and institutions, becomes apparent in the promotion of mental well-being and the augmentation of resilience [1]. Support networks play a crucial role in serving as protective mechanisms, alleviating the negative consequences of stress, and cultivating a feeling of inclusion [94].
- Cluster 2 (green). The relationship between academic achievement and well-being will be a major area of study in higher education in the years to come. Faculty members, especially lecturers who bearing teaching and researching tasks, will be the focus of this research. Faculty burnout has increased as a result of higher education's fast pace, which is marked by demanding job requirements and lofty goals (Madigan & Kim, 2021; Miksza et al., 2022). Similar struggles to maintain academic performance arise for those

pursuing higher education in the face of increasing demands while working [90,91]. In this context, the idea of resource conservation becomes extremely important. To foster an atmosphere that is favorable for psychological health, academic institutions should encourage the availability of resources, support networks [1], and efficient ways for students and faculty members to interact [30,95,96]. Furthermore, it is anticipated that a major area of interest will be the relationship between job satisfaction and work engagement [69,97]. Through an understanding of how these factors interact, universities can create environments that support both academic success and overall satisfaction.

- Cluster 3 (Blue). As society moves towards a more inclusive future, there is a growing emphasis on the interconnectedness of gender, self-belief, and academic achievement within the context of higher education [6,98,99]. This phenomenon highlights the significant impact of employing positive psychological strategies in enhancing self-efficacy, which refers to an individual's confidence in their capability to achieve success in particular circumstances [4,100]. As university students embark on their journey into professional domains, they encounter a multitude of complex challenges. The self-efficacy of a student can be significantly influenced by gender dynamics, which have deep historical origins and are characterized by biases [101,102]. Contemporary educational and organizational frameworks are increasingly acknowledging the imperative of addressing gender disparities, not solely through policy modifications, but also through the implementation of psychological interventions [103]. The implementation of gender-sensitive positive psychological strategies has the potential to enhance student empowerment by cultivating feelings of competence and resilience. There exists a positive relationship between heightened self-efficacy and enhanced performance, encompassing both academic and occupational domains [104–108].
- Cluster 4 (Yellow). In the forthcoming years, there will be a growing focus in psychological research on the intersection of attitudes, hope, optimism, and positive psychology with the aim of cultivating and augmenting PsyCap. Researchers will increasingly explore interventions aimed at nurturing the four components of workplace performance [5,109], well-being [110,111], and personal growth [72], acknowledging their significant influence. These interventions will utilize knowledge and principles derived from the field of positive psychology, which is dedicated to studying the strengths and virtues that contribute to the flourishing of individuals and communities (Ciarrochi et al., 2022). By comprehending the fundamental attitudes that underlie hope and optimism, it becomes possible to develop customized interventions aimed at fostering positive changes in mindset [112]. The objective of these positive interventions is to enhance the well-being of individuals, strengthen their ability to cope with challenges, and enhance their levels of satisfaction across different domains of life [91,113,114].

Table 5 summarized the co-word analysis and included cluster labels, the total number of keywords, and representative keywords.

## 5. Implications

### 5.1. Theoretical implications

The combination of bibliographic coupling and co-word analysis allows for the identification of a network of interconnected themes and research directions within the field of PsyCap research. This comprehensive analysis examines the nature of the construct, as well as its current significance in academic discourse. Additionally, it looks ahead to identify promising areas for future scholarly research. The theoretical foundations derived from prevalent themes in bibliographic coupling analysis, combined with the emerging insights revealed by co-word analysis, provide a comprehensive description that greatly enhances the scholarly comprehension of PsyCap.

The bibliographic coupling analysis reveals the significant use of PsyCap in effectively managing the human resilience in the face of adversity. This theme highlights the ability of the construct to effectively utilize psychological resources when dealing with external challenges. It suggests that there should be a theoretical shift towards considering PsyCap as an adaptive process [115]. This perspective signifies a significant change in how we view traits, moving away from fixed conceptualizations to a more flexible understanding that highlights the interplay between an individual's abilities and the circumstances they find themselves in. Moreover, the crucial aspects of PsyCap that involve protection and motivation, especially in the areas of mental and occupational health,

**Table 5**  
Co-word analysis on PsyCap research within HEIs context.

Cluster No and colour	Cluster label	Number of keywords	Representative Keywords
1 (red)	Mental health, career adaptability, and social support in post-COVID-19	25	Adolescents, anxiety, career adaptability, college students, COVID-19, depression, health, life satisfaction, mental-health, perceived stress, personality, psychological resources, resilience, self-esteem, social support, stress, students.
2 (green)	Well-being and performance in higher education	20	Academic performance, achievement, burnout, conservation, engagement, higher education, job demands, job satisfaction, motivation, positive emotions, psychological capital, resources, satisfaction, support, university teachers, university students, well-being, and work engagement.
3 (blue)	Gender, self-belief, and academic success	12	Behavior, education, gender, management, performance, positive psychological, self-efficacy, strategies, university students, and work.
4 (yellow)	Enhancing PsyCap through Positive Interventions	7	Attitudes, hope, intervention, optimism, positive psychology, PsyCap.

Source: Author interpretation from VOSviewer



emphasize its fundamental role in promoting psychological well-being and improving performance in the workplace [116,117]. This revelation leads to a theoretical discussion that conceptualizes PsyCap as a psychological defense mechanism, promoting organizational strategies and interventions that foster this concept to enhance employee resilience and effectiveness.

Equally compelling is the theme that explores the concept of academic resilience and workforce transition, highlighting the crucial role of PsyCap in shaping educational and career paths [118,119]. This perspective promotes a developmental method for enhancing PsyCap, highlighting the importance of life transitions as ideal opportunities for its improvement. This perspective promotes in-depth studies on the development and impact of PsyCap on decision-making processes in education and professional journeys, emphasizing the significance of integrating PsyCap development into educational practices and policies. The investigation of PsyCap's broad applicability in various fields suggests that it is a globally significant psychological asset, although it may manifest differently in different contexts. This theoretical implication presents a challenge for researchers to conduct cross-cultural studies and create interventions that are culturally sensitive. This will expand the applicability of PsyCap and enhance its conceptual depth.

Co-word analysis suggests that in the future, it would be beneficial to explore the research possibilities of PsyCap in the context of global crises [120]. This directive calls upon scholars to analyze the resilience and adaptive capabilities of PsyCap in the face of unprecedented challenges, thus expanding its theoretical and practical significance. Furthermore, the emergence of digital transformation presents new opportunities for PsyCap research [121], specifically in the creation and implementation of technology-enhanced interventions. This recurring idea emphasizes the capacity of digital platforms to equalize the availability of PsyCap development, signaling the arrival of a new period of expandable psychological interventions. Furthermore, the need to broaden the scope of PsyCap research to include various populations highlights the requirement for inclusiveness and fairness in psychological research [122]. Examining PsyCap in different demographic and cultural settings enhances its theoretical framework and guarantees its practicality and usefulness in diverse human experiences.

Combining bibliographic coupling and co-word analysis in PsyCap research provides a comprehensive understanding of the construct's theoretical landscape and potential future paths. This integrated narrative combines the insights from common themes and new research directions to promote a more profound comprehension of PsyCap's contribution to improving human potential. As researchers explore this changing field, the collaborative effort to clarify the mechanisms, effects, and uses of PsyCap is expected to enhance both theoretical understanding and practical results, benefiting both individuals and organizations. This academic exploration, based on a sophisticated understanding of PsyCap, is ready to reveal inventive approaches for fostering mental health in a constantly evolving world.

## 5.2. Practical implications

The practical implications of this bibliometric analysis offer actionable insights for higher education policymakers, development of support systems, training programs implementation, and introduction of positive interventions. By recognizing the importance of Psychological Capital and implementing strategies to enhance it, educational institutions can positively impact student outcomes, faculty well-being, and the overall quality of higher education experiences.

Firstly, educational policymakers can use this bibliometric analysis to inform policy decisions and initiatives within higher education institutions by gleaning valuable insights from this research. The integration of PsyCap concepts and training into the curriculum can be encouraged by policymakers. This would endow students with crucial psychological resources that would improve their well-being and adaptability in academic and professional settings. Secondly, policymakers can allocate funds for the creation of teacher training programs that incorporate PsyCap principles. This can enable teachers to cultivate a more positive and supportive learning environment. Thirdly, academic institutions should integrate PsyCap development into career management programs that facilitate seamless transitions, enhance students' adaptability, and promote a healthy work-life balance.

Next, the analysis offers helpful advice for setting up supportive systems in higher education institutions. First of all, educational institutions can set up mentoring programs that match students with knowledgeable instructors or peer mentors who are well-versed in PsyCap concepts. These mentors can provide advice on developing psychological resources, handling academic difficulties, and creating and achieving goals. Second, HEIs can add customized PsyCap-focused counseling sessions to their list of counseling services. These workshops can help teachers and students create plans to improve their psychological health and flexibility by addressing problems including career transitions, self-doubt, and academic stress. Thirdly, HEIs have the option to set up wellness centers with a variety of services and programs offered both on-site and off. Topics including stress management, mindfulness, PsyCap-building techniques, and general well-being may be covered in these sessions. Wellness centers function as gathering places where instructors and students can get resources to strengthen their psychological armor.

Specialized training programs can be implemented by HEIs to give teachers and students PsyCap-enhancing competencies. First, higher education institutions can create workshops and courses for faculty professional development. These programs can investigate how PsyCap principles are used in teaching, mentoring, and research by giving faculty members the tools they need to use PsyCap in their work. Secondly, employability, entrepreneurship, and PsyCap development are examples of strategies that can be highlighted in student training programs. Goal-setting, problem-solving, building resilience, and optimistic thinking may all be emphasized in these programs. HEIs can give students the vital life skills they need to succeed in school and the workplace by offering PsyCap development opportunities. Thirdly, HEIs are able to host workshops that promote cross-disciplinary cooperation between instructors and students. Collaborating with different academic fields can enable a comprehensive approach to PsyCap development. Interdisciplinary workshops could also lead to creative ways to improve PsyCap, which would be advantageous for teachers and students alike.

Last but not least, HEIs can put into practice interventions meant to enhance the resilience and general well-being of their student body. First, HEIs can conduct positive psychology interventions that focus on the PsyCap elements. These interventions could consist of

workshops and structured activities meant to boost resilience, hope, optimism, and self-efficacy. Higher education institutions can foster a more resilient and upbeat student and faculty body by introducing these activities into the curriculum or offering them as extracurricular activities. Second, stress-reduction initiatives like mindfulness training, stress management seminars, and relaxation techniques may be incorporated into the HEI's intervention systems. These classes help students overcome obstacles in their academic and professional lives while also improving their PsyCap. Thirdly, HEIs can promote the creation of peer support groups where instructors and students can exchange advice, tactics, and experiences related to PsyCap development. These groups give people a place to talk, exchange ideas, and work together to improve their psychological resources.

## 6. Conclusion, Limitations, and future research

This bibliometric analysis has meticulously mapped the domain of PsyCap within HEIs, revealing the construct's pivotal role in enhancing the academic landscape. By synthesizing publication patterns, keyword co-occurrence, and thematic clusters, the study offers a comprehensive understanding of PsyCap's current scholarly discourse and its potential future trajectories. Through a comprehensive bibliometric analysis, this study has illuminated the extensive adaptability and relevance of PsyCap across various dimensions of academic life, recognizing its capacity to foster resilience and promote personal growth amid challenges. The findings underscore PsyCap's potential to improve well-being and performance within HEIs. However, an uneven focus on different academic populations, particularly a predominant emphasis on students over educators, has been identified. This discrepancy highlights an opportunity for future research to adopt a more balanced approach, examining the effects of PsyCap on all parties involved in HEIs. As the educational sector continues to navigate through a landscape marked by unique challenges and transformations, the full realization of PsyCap's potential becomes increasingly crucial. Embracing the insights provided by this analysis can guide researchers, educators, and practitioners towards developing robust theoretical frameworks and practical applications that enhance the PsyCap construct, contributing to a more resilient, empowered, and psychologically robust academic community.

The reliance on the Web of Science as a solitary database, while reputable, may not capture the entirety of PsyCap research within HEIs, potentially overlooking pertinent articles. Expanding future research to include a broader array of databases and grey literature could yield a more comprehensive dataset. Additionally, the focus on English-language publications excludes significant contributions in other languages, suggesting the need for a more inclusive linguistic approach in subsequent analyses. Moreover, the quantitative bias of bibliometric analysis may not fully convey the qualitative aspects of PsyCap research, such as the motivations behind studies and the implications of their findings. Finally, the predominantly cross-sectional nature of this analysis limits the exploration of causal relationships and the longitudinal development of PsyCap. Future investigations should aim to incorporate diverse databases and sources, including literature in multiple languages, to broaden the scope of analysis. Integrating qualitative research methods alongside bibliometric techniques could offer deeper insights into the pedagogical and psychological underpinnings of PsyCap in HEIs. Longitudinal studies would also be invaluable in tracing the evolution of PsyCap over time and in assessing the long-term impacts of PsyCap-enhancing interventions on both students and educators within HEIs.

## CRedit authorship contribution statement

**Li Zhang:** Conceptualization, Investigation, Methodology, Resources, Writing – original draft. **Walton Wider:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft. **Muhammad Ashraf Fauzi:** Methodology, Validation, Visualization, Writing – review & editing. **Leilei Jiang:** Writing – review & editing. **Jem Cloyd M. Tanucan:** Writing – review & editing. **Lester Naces Udang:** Funding acquisition, Writing – review & editing.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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