

A BIBLIOMETRIC EXPLORATION OF PSYCHOLOGICAL CAPITAL; (1998-2025)

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ABSTRACT: This study employs bibliometric analysis to examine psychological capital research, utilizing data from Scopus spanning from 1998 to 2025. The primary objective is to analyze the proliferation of publications, authorship trends, collaboration patterns, international contributions, institutional activity, preferred journals, and research gaps within the field. Microsoft Excel, VOSviewer, and BiblioMagika, Open-refine were utilized for frequency analysis and data visualization, providing a comprehensive overview of the psychological capital research landscape in education. The analysis reveals a steady increase in publications, with a notable surge beginning in 2015, indicating heightened scholarly interest in this topic. However, most publications are authored by small research teams or individual scholars, suggesting limited collaborative efforts within the field. While countries such as Indonesia, the United States, and Malaysia have made substantial contributions, Pakistan remains significantly underrepresented in international psychological capital research. A small number of prolific authors dominate the field, highlighting the need for broader scholarly participation. Leading journals such as *Sustainability* and the *Journal of Leadership and Organizational Studies* serve as primary publication venues for research in this domain. Furthermore, the most frequently cited papers predominantly originate from Western and Southeast Asian authors, emphasizing visibility of its research to achieve greater international recognition and impact.

Keywords: Psychological capital, VOSviewer, BiblioMagika, Open-refine Scopus database

1. INTRODUCTION

Psychological capital (PsyCap), originally conceptualized by Fred Luthans, represents a multifaceted construct encompassing four fundamental components: hope, optimism, self-efficacy, and resilience. This positive psychological state significantly enhances both individual and organizational effectiveness, establishing itself as a crucial form of capital comparable to financial or human resources. PsyCap amplifies motivational capacity and provides strategic advantages in corporate environments [7]. The four components operate synergistically: self-efficacy reflects confidence in task performance, optimism embodies positive expectations for future success, hope encompasses goal-setting and strategic pathway development despite obstacles, while resilience denotes the capacity to recover from adversity while maintaining performance standards [3, 7]. Empirical research consistently demonstrates positive associations between PsyCap and favorable workplace outcomes, including enhanced job satisfaction, improved performance metrics, and reduced employee turnover [4, 6]. Cross-cultural validation studies further confirm PsyCap's effectiveness across diverse organizational contexts and cultural frameworks [5]. However, scholarly discourse acknowledges methodological limitations within PsyCap research, particularly the tendency to underemphasize external determinants such as socioeconomic conditions and organizational climate factors that may significantly influence observed outcomes [6]. Despite escalating global interest in psychological capital, empirical investigations within educational frameworks remain significantly limited, particularly in developing nations such as Pakistan. This study addresses this critical research gap through comprehensive bibliometric analysis, examining the evolutionary trajectory of PsyCap research within psychological Capital research 1998 to 2025. The bibliometric methodology systematically analyzes publication patterns, authorship networks, citation metrics, and collaborative structures, providing quantitative insights into

research trends and knowledge production [8, 9]. This investigation employs sophisticated analytical tools including Microsoft Excel, VOSviewer, and BiblioMagika to identify key contributors, prominent publication venues, collaboration networks, and existing research gaps.

Bibliometric approaches prove particularly valuable for illuminating underrepresented geographical regions within global psychological capital discourse [11]. This research endeavors to advance scholarly understanding by mapping the intellectual landscape of PsyCap research within international scholarly communities, thereby fostering greater academic dialogue and knowledge exchange.

2. RESEARCH OBJECTIVES

This study pursues five distinct objectives to comprehensively examine the bibliometric landscape of psychological capital research:

2.1 To analyze;

The temporal evolution and developmental trajectory of psychological capital research spanning 1998 to 2025, identifying key growth phases and emerging trends.

2.2 To identify and evaluate;

The most prolific contributors across multiple dimensions, including leading authors, influential journals, productive countries, and prominent institutions within the field.

2.3 To examine;

The global research patterns and international collaborative networks, mapping cross-border partnerships and knowledge exchange mechanisms in psychological capital research.

2.4 To conduct;

Thematic analysis through keyword co-occurrence mapping, identifying dominant research themes, conceptual clusters, and emerging topical areas within the discipline.

2.5 To construct and visualize;

Comprehensive collaboration networks, illustrating authorship patterns, institutional partnerships, and knowledge diffusion pathways within psychological capital research communities.

3. RESEARCH QUESTIONS

The investigation addresses fundamental questions concerning productivity patterns, collaborative structures, and thematic evolution within psychological capital research, particularly focusing on educational contexts. These inquiries encompass the identification of research hotspots, collaboration dynamics, and knowledge development trajectories that characterize this evolving field.

4. MATERIALS AND METHODS

This analysis employs a systematic bibliometric approach to achieve the stated objectives. Comprehensive data were extracted from the Scopus database, encompassing all indexed publications related to psychological capital from 1998 to 2025. The methodological framework integrates multiple analytical instruments: Microsoft Excel for descriptive statistical analysis and frequency calculations, VOSviewer for sophisticated network visualization and clustering analysis, and BiblioMagika for advanced bibliometric computations and data visualization.

4.1. Significance and Limitations of the Study

This investigation contributes valuable insights to psychological capital research by providing comprehensive bibliometric analysis spanning 28 years (1998-2025), informing future research directions and establishing critical knowledge foundations within the field. The study examines multiple bibliometric indicators including publication volumes, author productivity patterns, geographical distribution, institutional contributions, collaboration structures, influential researchers, temporal trends, thematic clusters, citation impacts, and analysis of seminal works across yearly, national, institutional, and journal dimensions. Advanced visualization techniques, including co-authorship networks and conceptual structure mapping, reveal collaborative patterns and identify pivotal intellectual contributions within psychological capital research communities. However, this study acknowledges several limitations: exclusive reliance on Scopus database may introduce coverage bias by potentially excluding publications from other databases or regional journals; the analytical timeframe may not capture complete historical development or emerging contributions beyond the study period; inherent database bias toward English-language publications and Western institutions may underrepresent research from non-English speaking regions; bibliometric analysis cannot assess qualitative dimensions of research impact or theoretical contributions; and the rapidly evolving research landscape means findings reflect patterns only up to the data collection point.

4.2. Data Source and Search Strategy

This bibliometric investigation examined psychological capital research utilizing comprehensive data retrieved from the Scopus database on April 4, 2025. Employing the title-based search methodology advocated by Zakaria et al. [12], the specific term "psychological capital" served as the primary search criterion, ensuring precision in identifying

literature where this construct represents the central research focus. The temporal scope encompassed 28 years (1998–2025), yielding a comprehensive corpus of 814 publications across multiple document types, including peer-reviewed journal articles, systematic reviews, and book chapters, and conference proceedings will be excluded. To maintain methodological rigor and data integrity, unpublished manuscripts, grey literature, and retracted publications were systematically excluded from the analysis. This exclusion protocol aligns with established bibliometric standards and ensures the reliability and validity of findings, consistent with methodological frameworks employed in previous high-impact bibliometric investigations [8, 9]. This targeted search strategy facilitated a precise and comprehensive examination of psychological capital research trajectories and scholarly outputs.

4.3 Data Extraction, Analytical Tools, and Processing Framework

The systematic selection and filtering process, illustrated in Fig. 1, incorporated stringent quality control measures, including the exclusion of erratum notices and retracted articles to prevent data distortion that is a critical step aligned with established bibliometric protocols [9]. The analytical framework employed a multi-dimensional approach utilizing complementary software platforms:

Descriptive Analysis and Frequency Computation: Comprehensive metadata extraction encompassed key bibliometric variables including authorship patterns, temporal publication distributions, geographical contributions, disciplinary classifications, and source publication venues. These variables were systematically compiled into a structured master database, with frequency analyses and descriptive statistics computed using Microsoft Excel 2016. This approach follows the methodological framework established by Aria & Cuccurullo [8] for assessing productivity patterns and distributional characteristics across bibliometric datasets.

4.4 Network Analysis and Visualization

To investigate collaborative structures and thematic relationships within the field, advanced network analysis techniques were employed. Co-authorship networks and keyword co-occurrence patterns were systematically analyzed and visualized using VOSviewer v1.6.15, a sophisticated bibliometric visualization platform recognized for its robust network mapping capabilities [10]. These network visualizations provided comprehensive insights into the structural evolution, intellectual development patterns, and collaborative dynamics characterizing psychological capital research.

This integrated multi-methodological approach ensured comprehensive bibliometric coverage, capturing both quantitative research outputs and qualitative intellectual linkages across the psychological capital research domain spanning nearly three decades of scholarly development.

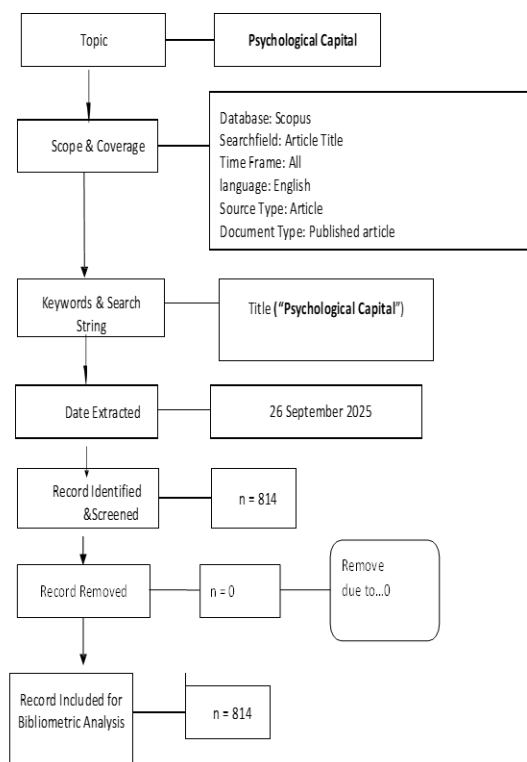


Fig. 1. Flow diagram of the search strategy.
Source: Zakaria et al. [12].

4.5 Data cleaning and harmonizing

To ensure data integrity and analytical precision, this study implemented a comprehensive data cleaning protocol utilizing. The researcher employed open Refine and BiblioMagika [1], for the standardization and harmonization of bibliometric records pertaining to psychological capital research. The cleaning process encompassed systematic refinement of author nomenclature, institutional affiliations, and keyword taxonomies to eliminate duplicates, resolve inconsistencies, and standardize formatting variations. The initial dataset, exported from Scopus in CSV format, underwent rigorous preprocessing through advanced clustering algorithms designed to identify and rectify disparities in author name variants and institutional affiliation nomenclature. BiblioMagika facilitated sophisticated analytical procedures, including computation of citation metrics per publication, author-specific performance indicators, and temporal distribution analyses across publication years.

The harmonization process involved multiple validation stages: first, automated detection and correction of bibliographic inconsistencies; second, manual verification of ambiguous cases; and third, systematic reconstruction of the cleaned dataset into its original structured format. This multi-stage approach ensured preservation of data relationships while eliminating analytical artifacts that could compromise research validity. The implementation of this systematic data preparation protocol significantly enhanced dataset reliability and analytical robustness, establishing a foundation for credible and methodologically sound bibliometric analysis of psychological capital research trends and patterns.

5. RESULTS

This section presents a comprehensive bibliometric analysis of the psychological capital research landscape, systematically addressing the research questions formulated in the preceding methodology. The findings provide quantitative insights into publication trends, collaborative networks, and thematic developments within the field, spanning the period from 1998 to 2025. Through rigorous data analysis and visualization techniques, this investigation illuminates key patterns in research productivity, international collaboration structures, and emerging conceptual frameworks.

The analytical results are organized to directly correspond with the stated research objectives, facilitating clear interpretation of productivity patterns, institutional contributions, and thematic evolution within psychological capital research. These empirical findings offer evidence-based insights that inform future research directions and support strategic decision-making for researchers, educational practitioners, and policy administrators engaged in psychological capital scholarships.

5.1 Publication Trends Over Time

The graphic illustrates two distinct patterns over time, one denoted by an orange line and the other by blue striped bars. Beginning in 2003, the orange line has a steep ascent, culminating in a peak about in 2005. After this juncture, a pattern of fluctuations emerges, characterized by significant peaks in 2008, 2011, 2014, 2019, and 2021. Every high is succeeded by a decline, with the most pronounced decrease occurring after 2021, persisting downward until 2025, where it nearly approaches zero. Conversely, the blue bars commence with low values in the early 2000s and exhibit a slow ascent until 2014. Beginning in 2015, there has been a discernible annual increase, culminating in its peak in 2024. Similarly to the orange line, the bars likewise experience a dramatic decline in 2025. The years 2019 and 2021 are notable, as both the orange line and the blue bars are elevated, indicating robust activity or performance throughout those periods. The decrease in both data sets by 2025 may indicate a shift in the overarching trend or interest in the issue.

Annual publication growth

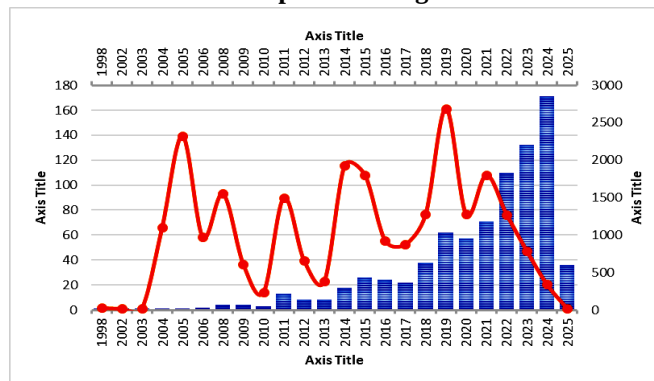


Figure:2 Annual Research Output and Citation Metrics
Source: Generated by the author(s) using biblioMagika® [1].

The bibliometric data reveals the developmental trajectory and scholarly impact of psychological capital research over more than two decades, spanning from 1998 to early 2025. A comprehensive analysis of 814 publications yielded 24,428 cumulative citations, demonstrating substantial academic engagement within this domain. The initial period from 1998 to 2005 was characterized by minimal research output, with typically one publication annually. Despite limited volume, these foundational studies achieved remarkable scholarly impact, particularly evident in 2004 and 2005, where citation counts reached 1,106 and 2,324, respectively. This exceptional citation-to-publication ratio suggests that early research established critical theoretical frameworks that fundamentally shaped subsequent academic discourse in the field.

Research productivity experienced a notable transformation beginning in 2011, marked by sustained increases in both publication frequency and author participation. The field demonstrated consistent growth, with output expanding to 18 publications by 2014 and continuing this upward trajectory to reach a remarkable peak of 171 publications in 2024. This exponential growth pattern reflects heightened scholarly interest and significantly expanded participation across diverse research communities. However, while publication frequency has increased dramatically, citation metrics reveal important contrasting trends. Average citations per publication have declined substantially from over 100 citations per article in the early years to approximately 6 citations by 2023. This decline can be attributed to citation latency effects, where newer publications require time to accumulate scholarly recognition, and the broadening scope of research topics, which may distribute academic attention across increasingly diverse thematic areas.

The analysis of bibliometric indicators provides additional insights into scholarly influence patterns within the field. The h-index and g-index, which measure research influence and productivity, demonstrated consistent growth until 2021, achieving peak values of 25 and 40, respectively. Subsequently, these metrics showed modest reductions, reflecting citation lag affecting more recent publications rather than diminished field significance. The m-index, which accounts for temporal factors in measuring annual research impact, increased steadily from 2011, reaching its maximum value of 5.0 in 2021. Despite slight declines in recent years, these values remain relatively strong, indicating sustained research activity and continued academic interest in psychological capital investigations.

Comprehensive data analysis indicates a fundamental shift from an era dominated by highly influential foundational studies to a contemporary period characterized by rapid expansion in publication volume and research diversification. While the average impact per individual article has decreased, the overall breadth and scope of the field continue to expand significantly, creating numerous opportunities for scholarly exploration and theoretical advancement. This evolutionary pattern reflects the natural maturation process of academic disciplines, transitioning from concentrated foundational research to broad-based investigation across multiple contexts and applications. The sustained growth in

publication volume, combined with expanding international collaboration and diversifying research methodologies, positions psychological capital research as a dynamic and evolving field with considerable potential for future scholarly contributions.

Table :1 Annual Research Output and Citation Metrics

Year	TP	NCA	NCP	TC	C/P	C/CP	h	G	m
1998	1	3	1	31	31.00	31.00	1	1	0.036
2002	1	1	1	21	21.00	21.00	1	1	0.042
2003	1	3	1	23	23.00	23.00	1	1	0.043
2004	1	2	1	1106	1106.00	1106.00	1	1	0.045
2005	1	2	1	2324	2324.00	2324.00	1	1	0.048
2006	2	8	2	975	487.50	487.50	2	2	0.100
2008	4	14	4	1552	388.00	388.00	4	4	0.222
2009	4	13	4	615	153.75	153.75	4	4	0.235
2010	3	13	3	237	79.00	79.00	2	3	0.125
2011	13	35	13	1498	115.23	115.23	11	13	0.733
2012	8	24	8	663	82.88	82.88	8	8	0.571
2013	8	26	8	384	48.00	48.00	7	8	0.538
2014	18	47	18	1928	107.11	107.11	15	18	1.250
2015	26	73	26	1805	69.42	69.42	18	26	1.636
2016	24	65	23	927	38.63	40.30	15	24	1.500
2017	22	59	21	876	39.82	41.71	16	22	1.778
2018	38	112	36	1276	33.58	35.44	19	35	2.375
2019	62	178	59	2689	43.37	45.58	22	51	3.143
2020	57	177	55	1276	22.39	23.20	23	34	3.833
2021	71	244	70	1803	25.39	25.76	25	40	5.000
2022	110	361	100	1274	11.58	12.74	20	28	5.000
2023	132	465	116	787	5.96	6.78	12	21	4.000
2024	171	565	95	340	1.99	3.58	8	12	4.000
2025	36	127	7	18	0.50	2.57	2	3	2.000
Total	814	2617	673	24428	30.01	36.30	68	139	2.429

Source: Generated by the author(s) using biblioMagika® [1].

5.2. Leading Publication Venues in Psychological Capital Research

The bibliometric analysis reveals distinct publication patterns across leading journals in psychological capital research, demonstrating significant variations in both output volume and citation impact. Sustainability (Switzerland) emerges as the most prolific publisher with 50 articles, demonstrating substantial scholarly engagement through 207 citing publications. Among these contributions, 45 papers have received citations, accumulated 821 total citations and yielded an average citation rate of 18.24 per cited article. The journal exhibits robust academic influence with an h-index of 18, g-index of 26, and m-index of 2.250, indicating sustained research impact and contemporary relevance.

The Journal of Leadership and Organizational Studies rank second in productivity with 25 publications, achieving remarkable citation performance with all papers receiving citations from 86 citing sources. This complete citation coverage results in 2,138 total citations, establishing an exceptional average of 85.52 citations per article, with citation metrics reflecting significant scholarly influence (h-index: 21, g-index: 25, m-index: 1.235), positioning it among the most impactful venues in the field. Similarly, Behavioral Sciences contributes 24 articles to the literature, with 17 papers receiving citations from 70 citing publications, resulting in 134 total citations and an average of 7.88 citations per cited work, while maintaining moderate influence indicators (h-index: 7, g-index: 11, m-index: 1.400), suggesting steady but selective scholarly engagement. SAGE Open published 20 articles, achieving citation recognition for 16 papers through 65 citing sources, generating 241 total citations and averaging 15.06 citations per cited article, with influence metrics of h-index 9, g-index 15, and m-index 1.286, indicating consistent scholarly impact. In contrast, the Journal of Organizational Behaviour

demonstrates exceptional citation efficiency despite moderate volume, contributing 14 articles that achieved universal citation recognition and attracting 4,219 citations from 52 citing sources, yielding the highest average citation rate of 301.36 per article. The journal's substantial influence is reflected in its metrics (h-index: 13, g-index: 14, m-index: 0.650), establishing it as a premier venue for high-impact psychological capital research.

Several journals demonstrate specialized focus with varying impact levels. Organizational Dynamics published 12 articles, with 9 receiving citations from 35 sources, accumulating 1,220 total citations and averaging 135.56 citations per cited paper, though despite lower recent publication activity (m-index: 0.136), the journal maintains citation influence (h-index: 3, g-index: 12), indicating established scholarly recognition. Career Development International contributed 11 articles, achieving citation recognition for 10 publications through 34 citing sources, generating 562 total citations and averaging 56.20 citations per cited article, with moderate influence indicators (h-index: 8, g-index: 11, m-index: 0.533). The SA Journal of Human Resource Management published 10 articles, with 9 receiving citations from 28 sources, resulting in 72 total citations and an average of 8.00 citations per cited work, exhibiting modest influence metrics (h-index: 5, g-index: 8, m-index: 0.625), reflecting specialized but limited scholarly engagement.

Emerging venues also contribute to the psychological capital discourse. Frontiers in Education contributed 9 articles, with 7 receiving citations from 21 sources, generating 29 total citations and averaging 4.14 citations per cited paper, showing emerging influence (h-index: 3, g-index: 5, m-index: 0.429), suggesting developing recognition in educational psychological capital research. The Journal of Happiness Studies, despite publishing only 8 articles, achieved universal citation recognition through 27 citing sources, accumulating 723 total citations and averaging 90.38 citations per article, with solid influence metrics (h-index: 8, g-index: 8, m-index: 0.667), indicating strong scholarly impact despite lower publication volume.

Publication Venue Analysis Summary

Table:2 Most Productive Source Title

Source Title	TP	NCA	NCP	TC	C/CP	h	G	m
Sustainability (Switzerland)	50	207	45	821	18.24	18	26	2.250
Journal of Leadership and Organizational Studies	25	86	25	2138	85.52	21	25	1.235
Behavioural Sciences	24	70	17	134	7.88	7	11	1.400
SAGE Open	20	65	16	241	15.06	9	15	1.286
Journal of Organizational Behaviour	14	52	14	4219	301.36	13	14	0.650
Organizational Dynamics	12	35	9	1220	135.56	3	12	0.136
Career Development International	11	34	10	562	56.20	8	11	0.533
SA Journal of Human Resource Management	10	28	9	72	8.00	5	8	0.625
Frontiers in Education	9	21	7	29	4.14	3	5	0.429
Journal of Happiness Studies	8	27	8	723	90.38	8	8	0.667

Source: Generated by the author(s) using biblioMagika® [1]

The analysis reveals a bifurcated publication landscape characterized by high-volume generalist journals (Sustainability, Behavioral Sciences) and specialized high-impact venues (Journal of Organizational Behaviour, Journal of Happiness Studies). This pattern suggests that psychological capital research benefits from both broad

interdisciplinary engagement and focused scholarly examination within specific domains, contributing to the field's theoretical development and practical application across diverse contexts.

5.3 Institutional Contributions to Psychological Capital General Research

Table 3 presents a comprehensive analysis of institutional productivity and impact within psychological capital research, revealing significant variations in both publication volume and citation performance across contributing institutions globally. The bibliometric examination demonstrates a diverse landscape of research engagement, with institutions exhibiting markedly different patterns of scholarly output and citation influence.

Jadara University in Jordan emerges as the most prolific contributor, producing 8 publications with exceptional citation performance that establishes it as a leading research center in psychological capital studies. All published works received citations, accumulating 82 total citations across 5 cited papers and yielding impressive metrics of 10.25 citations per paper and 16.40 citations per cited publication. The institution's h-index of 4 demonstrates sustained research impact and scholarly influence within the field, positioning it as a benchmark for institutional excellence in this domain. In contrast, Universitas Padjadjaran in Indonesia contributed 5 publications to the corpus, though citation impact remains limited with only one paper receiving citations, accumulating merely 2 total citations and resulting in modest performance indicators of 0.40 citations per paper and 2.00 citations per cited work, reflected in an h-index of 1.

Several institutions demonstrate moderate publication output with divergent citation patterns that highlight the complexity of research impact assessment. Universiti Malaysia Terengganu achieved remarkable citation efficiency despite publishing only 3 papers, with all publications receiving citations and generating 64 total citations, yielding exceptional performance metrics of 21.33 citations per paper. This outstanding citation rate, coupled with an h-index of 3, positions the institution among the most impactful contributors related to output volume and suggests highly influential research contributions. Similarly, the University of Antwerp in Belgium and Universiti Kebangsaan Malaysia each contributed 3 publications with complete citation coverage, though their impact levels differ considerably. The University of Antwerp accumulated 5 citations, averaging 1.67 citations per paper with an h-index of 1, while Universiti Kebangsaan Malaysia achieved stronger performance with 15 citations, averaging 5.00 citations per paper and maintaining an h-index of 2.

Multiple institutions demonstrate emerging engagement with psychological capital research through smaller publication portfolios that nonetheless contribute to valuable scholarly insights. Among the institutions producing 2 publications, performance metrics reveal diverse patterns of citation success and research impact. Universiti Sains Malaysia accumulated 4 total citations with 2.00 citations per paper and an h-index of 1, while Dar Alhekma University in Saudi Arabia achieved 5 citations, averaging 2.50 citations per paper with an h-index of 1. Irbid National University in

Jordan gathered 4 citations with 2.00 citations per paper and an h-index of 1, demonstrating consistent moderate impact levels. Additional institutions with 2-publication portfolios include Amman Arab University in Jordan, which achieved notable citation success with 9 total citations averaging 4.50 per paper and an h-index of 1, while Macquarie University in Australia, Victoria University of Wellington in New Zealand, and Universitas Sumatera Utara in Indonesia recorded more modest citation rates of 1.50, 1.00, and 1.50 citations per paper respectively, each maintaining an h-index of 1.

The analysis reveals patterns for certain institutions where publications received no citations, suggesting potential challenges in research visibility, methodological rigor, or dissemination strategies. Bina Nusantara University in Indonesia published 4 papers, while the University of Muhammadiyah Tangerang, also in Indonesia, contributed 2 papers, yet neither institution achieved any citation impact, resulting in h-indices of 0. This absence of citation recognition may indicate limitations in research quality, international visibility, or alignment with current scholarly interests in psychological capital research. The institutional landscape demonstrates significant geographical diversity, with substantial contributions from Middle Eastern, Southeast Asian, and Oceanic universities, reflecting the growing global interest in psychological capital research while simultaneously highlighting regional variations in research impact and scholarly influence that merit further investigation and strategic development initiatives.

Table :3 Institutional contributions

Institution Name	Country	TP	NCA	NCP	TC	C/P	C/CP	h
Jadara University	Jordan	8	8	5	82	10.25	16.40	4
Universitas Padjadjaran	Indonesia	5	5	1	2	0.40	2.00	1
Bina Nusantara University	Indonesia	4	4	0	0	0.00	0.00	0
University of Antwerp	Belgium	3	3	3	5	1.67	1.67	1
Universiti Malaysia Terengganu	Malaysia	3	3	3	64	21.33	21.33	3
Universiti Kebangsaan Malaysia	Malaysia	3	3	3	15	5.00	5.00	2
Universiti Sains Malaysia	Malaysia	2	2	1	4	2.00	4.00	1
Dar Alhekma University	Saudi Arabia	2	2	1	5	2.50	5.00	1
Irbid National University	Jordan	2	2	1	4	2.00	4.00	1
University of Muhammadiyah Tangerang	Indonesia	2	2	0	0	0.00	0.00	0
Amman Arab University	Jordan	2	2	1	9	4.50	9.00	1
Macquarie University	Australia	2	2	2	3	1.50	1.50	1
Victoria University of Wellington	New Zealand	2	2	1	2	1.00	2.00	1
Universitas Sumatera Utara	Indonesia	2	2	1	3	1.50	3.00	1

Source: Generated by the author(s) using biblioMagika® [1]

5.4 Geographical Distribution of Research

The geographical distribution of psychological capital research reveals significant variations in productivity and citation impact across nations. Indonesia emerged as the most prolific contributor with 51 publications, of which 25 received citations, accumulating 145 total citations and averaging 2.84 citations per publication (5.80 per cited paper), with a G-index of 12 and m-index of 0.412. The United States demonstrated superior citation impact with 24 publications (19 cited), generating 316 total citations and averaging 13.17 citations per paper (16.63 per cited work), alongside a G-index of 17 and m-index of 0.176. Jordan contributed 16 publications with nine cited works, receiving

102 citations and averaging 6.38 citations per publication (11.33 per cited work), displaying a G-index of 10 and m-index of 0.714.

China produced 11 publications with eight receiving citations, accumulating 20 total citations and averaging 1.82 citations per publication (2.50 per cited work), with a G-index of 4 and m-index of 0.125. Malaysia matched China's publication output with 11 works, nine of which were cited, yielding 90 citations and averaging 8.18 citations per publication (10.00 per cited work), accompanied by a G-index of 9 and m-index of 0.357. Australia contributed 10 publications, all receiving citations, generating 99 total citations and maintaining a consistent average of 9.90 citations per publication and cited work, with a G-index of 9 and m-index of 0.132.

The United Kingdom demonstrated exceptional citation efficiency with nine publications, all cited, accumulating 249 citations and averaging 27.67 citations per paper, supported by a G-index of 9 and m-index of 0.222. Turkey produced Seven publications with three receiving citations, totaling 14 citations and averaging 2.00 citations per paper (4.67 per cited work), displaying a G-index of 3 and m-index of 0.133. Italy contributed six publications with five cited works, generating 20 citations and averaging 3.33 citations per paper (4.00 per cited work), accompanied by a G-index of 4 and m-index of 0.188.

Saudi Arabia achieved complete citation coverage with five publications, all cited, accumulating 32 citations and averaging 6.40 citations per publication, with a G-index of 5 and m-index of 0.800. Romania matched this output with five publications, three of which were cited, resulting in 13 citations and averaging 2.60 citations per publication (4.33 per cited work), displaying a G-index of 3 and m-index of 0.133. South Korea demonstrated remarkable citation impact with four publications, all cited, garnering 174 citations and averaging 43.50 citations per paper, supported by a G-index of 4 and m-index of 0.091. Conversely, New Zealand contributed four publications that received no citations, resulting in zero citation metrics.

Among smaller contributors, Bangladesh presented three publications, all cited, accumulating 13 citations and averaging 4.33 citations per paper, with a G-index of 3 and m-index of 0.333. Latvia produced three publications with two receiving citations, earning 26 citations and averaging 8.67 citations per publication (13.00 per cited work), displaying a G-index of 3 and m-index of 0.200. Spain and Portugal each contributed two publications, both achieving complete citation coverage, with Spain receiving 13 citations (6.50 average) and Portugal obtaining 29 citations (14.50 average), both maintaining a G-index of 2 with m-index values of 0.105 and 0.200, respectively. Bahrain, Taiwan, Russian Federation, and Pakistan each contributed two publications with varying citation outcomes, demonstrating the diverse impact patterns across different geographical regions in psychological capital research.

Table:4 Country-wise contribution

Country	TP	NCA	NCP	TC	C/P	C/CP	G	r
Indonesia	51	51	25	145	2.84	5.80	12	0.4
United States	24	24	19	316	13.17	16.63	17	0.1
Jordan	16	16	9	102	6.38	11.33	10	0.7
China	11	11	8	20	1.82	2.50	4	0.1
Malaysia	11	11	9	90	8.18	10.00	9	0.3
Australia	10	10	10	99	9.90	9.90	9	0.1
United Kingdom	9	9	9	249	27.67	27.67	9	0.2
Turkey	7	7	3	14	2.00	4.67	3	0.1
Italy	6	6	5	20	3.33	4.00	4	0.1
Saudi Arabia	5	5	5	32	6.40	6.40	5	0.8
Romania	5	5	3	13	2.60	4.33	3	0.1
South Korea	4	4	4	174	43.50	43.50	4	0.0
New Zealand	4	4	0	0	0.00	0.00	0	0.0
Bangladesh	3	3	3	13	4.33	4.33	3	0.3
Latvia	3	3	2	26	8.67	13.00	3	0.2
Spain	2	2	2	13	6.50	6.50	2	0.1
Portugal	2	2	2	29	14.50	14.50	2	0.2
Bahrain	2	2	1	11	5.50	11.00	2	0.2
Taiwan	2	2	2	4	2.00	2.00	2	0.2
Russian Federation	2	2	2	3	1.50	1.50	1	0.1
Pakistan	2	2	2	13	6.50	6.50	2	0.3

Source: Generated by the author(s) using biblioMagika® [1].

5.5 International Collaboration Networks

The bibliometric analysis reveals three distinct collaborative clusters within psychological capital research, each characterized by unique geographical orientations and academic partnerships. These networks demonstrate the global nature of psychological capital scholarship while highlighting regional specializations and cross-cultural research dynamics.

• Blue Cluster: Western-Dominated Academic Network

The blue cluster encompasses the United States, United Kingdom, Canada, Saudi Arabia, India, Nigeria, Turkey, and Portugal, representing the most extensively interconnected collaborative network. The United States functions as the primary hub, facilitating knowledge exchange and research coordination across this diverse consortium. Strong bilateral connections between the United Kingdom and Canada reflect established academic partnerships, enhanced by linguistic commonalities and historical institutional relationships. India and Saudi Arabia emerge as significant contributors, demonstrating their expanding influence in organizational psychology research and international academic engagement. Nigeria, Turkey, and Portugal represent emerging participants, illustrating the cluster's capacity for geographic expansion and diversification of research perspectives.

• Green Cluster: Asia-Pacific Regional Consortium

The green cluster demonstrates robust intra-regional collaboration across East and Southeast Asia, incorporating China, Taiwan, Indonesia, Singapore, Thailand, and Australia. China serves as the central coordinating node, maintaining particularly strong research partnerships with Taiwan, Indonesia, and Singapore, reflecting shared cultural contexts and complementary research strengths in psychological capital applications. Thailand's integration within this network underscores Southeast Asian engagement with positive psychology research, while Australia's participation bridges Asia-Pacific and Western academic traditions. This cluster exhibits sophisticated regional cooperation in examining psychological capital within diverse workplace and educational environments, leveraging cultural proximity to enhance research validity and applicability.

• Yellow Cluster: Emerging Transcontinental Alliance

The yellow cluster represents an innovative collaborative framework spanning Europe, the Middle East, and Africa, including Germany, Iran, Uganda, Spain, and the Netherlands. This transcontinental network demonstrates evolving research partnerships that transcend traditional geographic boundaries. Germany and Iran function as key coordinators, contributing substantial expertise in positive psychology and organizational behavior research. Uganda's participation signals growing African engagement with psychological capital research, potentially focusing on educational applications and workplace development contexts. Spain and the Netherlands serve strategic bridging roles, connecting this cluster to broader international networks and facilitating knowledge transfer across diverse academic systems.

• Strategic Peripheral Connections

Hong Kong and New Zealand maintain unique positions as strategic connectors between multiple clusters. Hong Kong demonstrates dual engagement patterns, interfacing with both Eastern and Western research networks, reflecting its distinctive position as a bridge between academic traditions. New Zealand's collaboration primarily aligns with the Asia-Pacific cluster, particularly through Australian partnerships, while maintaining selective connections to Western networks.

• Implications for Global Research Development

This tripartite clustering structure with Western-led (blue), Asia-Pacific (green), and transcontinental emerging (yellow) reveals both established collaborative strengths and significant opportunities for network expansion. Each cluster contributes distinct methodological approaches, cultural perspectives, and contextual applications to psychological capital research.

The analysis indicates potential for enhanced cross-cluster collaboration, particularly between established Western networks and emerging transcontinental partnerships. These connections could facilitate knowledge transfer, methodological innovation, and culturally responsive research approaches that strengthen the global psychological capital research ecosystem.

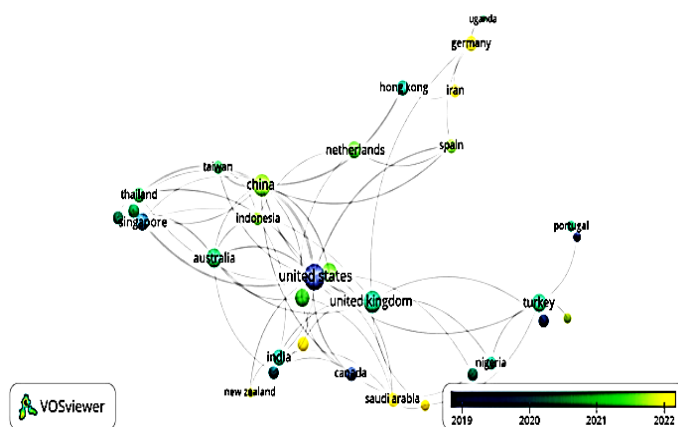


Figure:3 International collaboration Networks

5.6 Co-Authorship and Collaboration Networks

Figure 4 presents a comprehensive co-authorship network visualization generated through VOSviewer, illustrating collaborative patterns among researchers within the psychological capital domain. This network analysis employs standard bibliometric visualization techniques to map scholarly relationships and knowledge exchange patterns. The visualization employs several key elements to represent collaboration dynamics, where each circular node represents an individual author who has contributed to psychological capital research, with node size corresponding to the author's prominence within the network, determined by either publication volume or total link strength, indicating their collaborative influence and research productivity. Lines connecting nodes represent direct co-authorship relationships, demonstrating collaborative partnerships between researchers, while the positioning of nodes reflects collaboration frequency—authors with closer proximity exhibit more frequent co-authorship patterns, whereas greater distances indicate sporadic or absent collaborative relationships.

The network reveals three distinct research communities, identified through algorithmic clustering and color coding. The red cluster encompasses pivotal scholars including Luthans, F., Avolio, B.J., and Newman, A., representing the foundational Western research establishment in psychological capital. Fred Luthans and Bruce J. Avolio occupy central positions as seminal figures who conceptualized and operationalized the core psychological capital framework, encompassing hope, efficacy, resilience, and optimism (HERO model), with their central positioning indicating extensive collaborative networks and substantial influence on subsequent research directions. The green cluster comprises predominantly Chinese and East Asian scholars, representing the regional expansion of psychological capital research and contributing culturally specific investigations and contextual adaptations of Western theoretical frameworks. Their emergence reflects the global diffusion of psychological capital concepts and localized research applications. The blue cluster includes Luthans, B.C., who maintains connections with the foundational red cluster, suggesting either institutional affiliation or research lineage relationships, with positioning that indicates selective collaboration patterns with the core Western research community.

The visualization incorporates a scaling legend (0.5 to 7.9) representing node size parameters, which correspond to either total link strength or publication frequency, providing quantitative assessment of individual researchers' collaborative prominence and research productivity within the psychological capital field. The network structure demonstrates the evolution from concentrated foundational research to geographically distributed scholarly communities, illustrating the international expansion and diversification of psychological capital research. The distinct clustering patterns reveal both regional research concentrations and cross-cultural knowledge transfer mechanisms that characterize contemporary psychological capital scholarship, highlighting how the field has evolved from its Western

theoretical origins to encompass diverse global perspectives and collaborative networks.

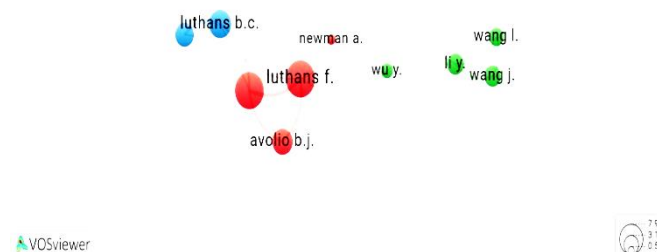


Figure :4 Author collaboration maps

5.7. Emerging Topics and Research Frontiers Burst detection (trending topics)

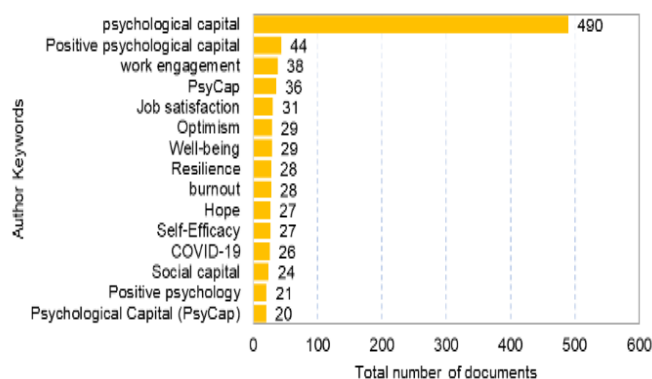


Figure :5 trending topics

Source: Generated by the author(s) using biblioMagika® [1].

Figure 5 presents a keyword frequency analysis that quantifies the occurrence of specific terms within the Psychological capital literature. The bar chart, titled "Author Keywords vs Total Numbers of Documents," ranks keywords by their appearances frequency across the analyzed corpus, revealing prevalent research themes and emerging trends.

The analysis demonstrates clear thematic hierarchies within the dataset. "Psychological capital" dominates within 490 documents, establishing itself as the central conceptual Framework. Secondary themes include positive psychological capital (44 documents), work engagement (38 documents), PsyCap (36 documents), and job satisfaction (31 documents). The distribution encompasses psychological capital's four core components that are optimism, resilience, hope, and self-efficacy alongside related constructs such as well-being and burnout.

The emergence of COVID-19 as a significant keyword reflects the field's responsiveness to contemporary challenges and pandemic-related Workplace psychology research. Related concepts like social capital and positive psychology demonstrate the interconnected nature of positive organizational behavioral scholarship.

This keyword analysis reveals three Key research trajectories: consistent focus on Psychological Capital's impact on job-related outcomes (satisfaction, engagement, burnout mitigation); growing emphasis on health and well-being, particularly post-pandemic; and sustained interest in examining both individual PsyCap components and their

collective effects. The interchangeable use of "psychological capital" and "PsyCap" indicates terminological maturity and standardized Framework within the discipline.

6. FUTURE RESEARCH DIRECTIONS

Future investigations should prioritize psychological capital research within non-Western and historically underrepresented geographical contexts, particularly South Asian nations, Southeast Asian countries, and African regions. Comprehensive examination of PsyCap's manifestation across diverse sectoral applications including educational institutions, healthcare systems, and social service organizations represents a critical avenue for advancing theoretical understanding and practical implementation strategies. The evolving landscape of work modalities necessitates rigorous investigation into the reciprocal relationships between PsyCap and contemporary technological phenomena, examining how remote work arrangements, artificial intelligence adoption, and digital workplace stressors both influence and are mediated by psychological capital components.

Beyond the extensively studied COVID-19 pandemic contexts, future research should explore PsyCap's mediating role in resilience during diverse crisis scenarios, including climate-induced disasters, conflict situations, and economic instability. Such investigations would enhance understanding of psychological capital's adaptive mechanisms across varied stressor contexts and inform crisis intervention strategies. Systematic design and empirical evaluation of PsyCap enhancement interventions represents a crucial research priority, with future studies developing and testing evidence-based training programs tailored for educational institutions, organizational settings, and community-based initiatives. These intervention studies should incorporate rigorous experimental designs to establish causal relationships and practical efficacy.

The intersection between psychological capital and mental health outcomes warrants comprehensive investigation, particularly regarding anxiety, depression, and related psychological disorders, exploring PsyCap's therapeutic potential and clinical applications to inform evidence-based interventions for mental health promotion and treatment protocols. Long-term longitudinal studies examining PsyCap's developmental trajectories and sustained impact on life and occupational outcomes remain critically needed, employing sophisticated experimental methodologies to establish temporal causality and understand the dynamic evolution of psychological capital across individual lifecycles and career progressions.

7. RESEARCH GAP

The comprehensive bibliometric analysis conducted in this study reveals significant lacunae within the existing psychological capital literature, highlighting several critical areas requiring scholarly attention. Despite substantial research contributions from nations such as Indonesia and the United States, evidenced by considerable publication volumes and citation impact metrics, South Asian regions demonstrate marked underrepresentation in global PsyCap discourse, with Pakistan exhibiting particularly limited

academic engagement. Pakistani scholarship in psychological capital research remains notably inadequate, with merely two documented publications and minimal citation activity recorded during the study period, underscoring the urgent necessity for expanded research initiatives within Pakistan's educational sector.

At the institutional level, while universities from Jordan, Indonesia, and Malaysia demonstrate moderate engagement in PsyCap research, Pakistani institutions exhibit insufficient sustained research output and lack meaningful international collaborative partnerships. The constrained h-index values and citation metrics associated with these institutions further emphasize the limited global visibility and academic influence of research emanating from Pakistani contexts. Analysis of publication venues reveals concerning fragmentation across journals with heterogeneous impact profiles, where although select journals such as *Sustainability* (Switzerland) and the *Journal of Leadership and Organizational Studies* demonstrate consistent citation performance, the majority of publications appear in periodicals with moderate to low impact factors, indicating an absence of concentrated scholarly discourse and insufficient engagement with leading publication venues within the psychological capital domain.

A substantial thematic gap emerges regarding the application of psychological constructs including authentic leadership, psychological capital, and work engagement within educational contexts, particularly in developing economies. Existing literature demonstrates a pronounced bias toward organizational settings in Western and Southeast Asian contexts, with minimal attention devoted to educational institutions in Pakistan and similar developing nations, while comparative analyses examining psychological and leadership constructs across public and private educational systems remain conspicuously absent from current scholarship. Collectively, these findings underscore the imperative for context-sensitive, theoretically grounded research addressing educational dynamics within underrepresented geographical regions. Targeted investigations in specific localities such as Hyderabad, Pakistan where distinct structural and cultural variations exist between public and private educational institutions could substantially advance scholarly understanding while contributing to more equitable global academic discourse, providing culturally relevant insights for educational policy and practice within developing nation contexts. Sufficient engagement with leading publication venues within the Psychological Capital Domain.

8. DISCUSSION, CONCLUSION, AND IMPLICATIONS

The comprehensive bibliometric analysis conducted in this study illuminates significant patterns in publication trends, institutional contributions, and geographical distribution within the psychological capital research domain. The analysis reveals that prominent journals including *Sustainability* (Switzerland), *Journal of Leadership and Organizational Studies*, and *Behavioral Sciences* emerge as the most prolific publication venues in this field. However, a nuanced examination of citation patterns demonstrates a

compelling paradox wherein journals with modest publication frequencies often exhibit substantially higher citation impacts, suggesting that influential research concentrates within select high-quality venues rather than being distributed across all active journals. This phenomenon underscores the critical importance of publication venue selection for maximizing scholarly impact and indicates that research quality, rather than quantity alone, determines academic influence within the psychological capital domain. Institutional analysis reveals that Jadara University in Jordan, Universitas Padjadjaran in Indonesia, and Universiti Malaysia Terengganu in Malaysia represent notable contributors to the field, yet the broader institutional landscape demonstrates concerning limitations in global reach and collaborative engagement. The majority of contributing institutions exhibit relatively low citation impacts and minimal cross-institutional authorship patterns, indicating restricted international academic networks and limited scholarly influence beyond their immediate geographical contexts. Pakistani universities demonstrate particularly pronounced underrepresentation, highlighting a substantial research void within this significant South Asian region that demands urgent scholarly attention and institutional capacity development.

The geographical distribution of research contributions reveals pronounced regional imbalances, with Indonesia leading in total publication volume, followed by the United States, Jordan, and Malaysia. Notably, countries such as the United Kingdom and South Korea demonstrate exceptional citation performance despite lower publication volumes, exemplifying a quality-over-quantity approach to scholarly contribution that maximizes academic impact. Conversely, nations including Pakistan, Bahrain, and Taiwan contribute marginally to both publication volume and citation impact, reflecting a concerning pattern of academic marginalization that perpetuates global research inequities and limits the field's cultural and contextual diversity.

9. CONCLUSIONS

The bibliometric findings presented in this study reveal profound regional disparities and insufficient institutional engagement within the psychological capital research landscape. The analysis demonstrates that a limited number of journals, institutions, and countries dominate scholarly discourse, while developing nations, particularly those within South Asia remain relegated to the academic periphery. This concentration of research activity within select geographical regions and institutional contexts represents a significant limitation to the field's global comprehensiveness and theoretical development. The conspicuous absence of high-impact research contributions from numerous countries, especially within the South Asian context, underscores the urgent necessity for diversifying scholarly participation and fostering more inclusive research ecosystems.

Furthermore, the analysis confirms that while certain countries and institutions demonstrate emerging scholarly engagement, the overall field suffers from inadequate representational balance and fragmented collaboration networks. The persistence of citation disparities between

journals indicates that while some publications successfully attract high-quality research with substantial academic impact, others primarily serve as repositories for work with limited scholarly influence. This bifurcation suggests the need for more strategic approaches to publication venue selection and enhanced quality standards across the broader spectrum of psychological capital research outlets.

Implications

The findings of this bibliometric analysis carry significant implications across multiple levels of academic engagement and policy development. From a scholarly perspective, researchers operating within underrepresented geographical regions must be actively encouraged and supported to contribute meaningfully to psychological capital research through strategic focus on research quality, international collaboration, and publication in high-impact venues. The establishment and strengthening of international research networks represent a critical mechanism for elevating regional research standards, enhancing global visibility of diverse scholarly contributions, and fostering cross-cultural validation of psychological capital theories and applications. Institutional implications center on the imperative for universities in countries with limited research output, particularly Pakistan and Bangladesh, to invest substantially in comprehensive capacity-building initiatives, advanced academic training programs, and robust research infrastructure development. The cultivation of strategic institutional partnerships with established research centers represents a vital pathway for generating impactful research contributions and increasing meaningful engagement with the global academic community. Such partnerships should emphasize knowledge transfer, collaborative research projects, and shared resource utilization to maximize institutional research capabilities and international recognition.

Policy-level implications necessitate that educational and research ministries within underrepresented regions recognize the strategic value of knowledge production for national development and international academic standing. The implementation of supportive policies, comprehensive funding schemes, and formal collaboration agreements with established research hubs represents essential steps toward bridging existing disparities and strengthening the global research community. Government investment in research infrastructure, international exchange programs, and incentive structures for high-quality research output will prove instrumental in addressing the current imbalances and fostering more equitable participation in global Psychological Capital Discourse.

Conflit of Intérêts

The principal author declares no conflict of interest among authors regarding the publication of this article.

REFERENCES

- [1] Ahmi, A., 2024. BibilioMagika. available from: <https://aidi-ahmi.com/index.php/BibilioMagika>.
- [2] Ahmi, A. (2023b). Open Refine: An approachable tool for cleaning and harmonizing bibliographical data. 11th

International Conference on Applied Science and Technology 2022 (11th ICAST 2022) AIP Conference Proceedings, 2827, 030006-1-030006-030011.doi.org/10.1063/5.0164724

- [3] Alessandri, G., & Filosa, L. (2024). Equivalence between direct and indirect measures of psychological capital. *International Journal of Selection and Assessment*. <https://doi.org/10.1111/ijsa.12488>
- [4] Alola, U. V., & Atsa'am, D. D. (2020). Measuring employees' psychological capital using data mining approach. *Journal of Public Affairs*, 20(2). <https://doi.org/10.1002/PA.2050>
- [5] Andri, N., Ronauli, P. T., & Riyanti, B. P. D. (2019). Psychological Capital and Business Success of Chinese, Minangnese, and Javanese Entrepreneurs. *International Research Journal of Business Studies*, 12(2), 157–166. <https://doi.org/10.21632/IRJBS.12.2.157-166>
- [6] De Moortel, D., Vos, M., Spruyt, B., Vanroelen, C., Hofmans, J., & Dóci, E. (2024). Psychological capital and social class: A capital approach to understanding positive psychological states and their role in explaining social inequalities. *PLOS ONE*, 19(9), e0310031. <https://doi.org/10.1371/journal.pone.0310031>
- [7] Mohanty., & Kolhe, S. M. (2016). Understanding Psychological Capital: Research Perspectives. *Indian Journal of Positive Psychology*, 7(4), 485–494. <https://doi.org/10.15614/IJPP/2016/V7I4/133903>
- [8] Aria, M., & Cuccurullo, C. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis*. *Journal of Informetrics*, 11(4), 959–975. <https://doi.org/10.1016/j.joi.2017.08.007>
- [9] Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines*. *Journal of Business Research*, 133, 285–296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
- [10] van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84(2), 523–538. <https://doi.org/10.1007/s11192-009-0146-3>
- [11] Zupic, I., & Cater, T. (2015). Bibliometric methods in management and organization*. *Organizational Research Methods*, 18(3), 429–472. <https://doi.org/10.1177/1094428114562629>
- [12] Zakaria, M., Hamzah, M. I., & Hashim, N. (2020). Title-based search strategy in bibliometric analysis: A practical guideline. *Malaysian Journal of Library & Information Science*, 25(1), 13–2