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Trends in sport and exercise psychology research: An integrated bibliometric and systematic literature review based on Scopus (2005–2025)

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Abstract

Background: Sport and Exercise Psychology (SEP) has evolved significantly as a scientific discipline, yet comprehensive mapping of its intellectual structure, thematic evolution, and research trends remains limited, particularly for the period encompassing recent methodological and conceptual advances.
Aims: This study mapped the bibliometric landscape of SEP research indexed in Scopus (2005–May 2025) and synthesised high-quality empirical evidence to address six research questions, identifying knowledge gaps and future directions.
Methods: A dual-method approach combined bibliometric analysis of 2,637 Scopus-indexed articles using VOSviewer software with a PRISMA-guided systematic literature review. The search strategy employed the query TITLE ("Sport and Exercise Psychology") in the Scopus database, limited to English-language original research articles published between 2005 and May 2025. Bibliometric indicators included publication trends, citation patterns, author productivity (Lotka's Law), journal distribution (Bradford's Law), geographical contributions, and keyword co-occurrence networks. Thirty high-quality empirical studies were reviewed to address six research questions spanning motivation, identity, professional practice, mental health interventions, methodology, and psychological risks.
Results: Annual publication growth averaged 13.43%, peaking at 293 articles in 2024. The United States, United Kingdom, and Australia dominated output (32% combined). "Physical activity," "exercise," and "mental health" emerged as dominant themes, reflecting expansion beyond performance psychology toward holistic wellbeing. Conceptual structure analysis revealed four primary dimensions: sport motivation and performance, exercise and mental health, youth sport and education, and cognitive aspects. The systematic review identified three cross-cutting themes: progressive methodological pluralism, tension between globalising professional standards and culturally responsive practice, and convergence of researcher epistemology with practitioner identity formation.
Conclusion: SEP demonstrates robust growth and increasing methodological sophistication, yet geographical disparities, underrepresented populations, and research-practice gaps require strategic attention to enhance global applicability and the implementation of evidence-based practice. This study contributes to the field by presenting the first integrated bibliometric-systematic review of SEP over two decades, offering a two-method framework that combines structural mapping of knowledge production with a substantial synthesis of empirical evidence, and an approach that has been underutilized in previous SEP reviews.

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INTRODUCTION

Sport and Exercise Psychology (SEP) is a multidisciplinary field that integrates psychological principles with the contexts of physical activity and athletic performance. The field has evolved from early performance-focused applications to encompass mental health, wellbeing, and human development perspectives (Weinberg & Gould, 2024). Contemporary understanding acknowledges that effective mental training in sport requires the systematic integration of various psychological domains, including mental health foundations, skill development processes, and contextual factors that influence performance and experience (Durand-Bush et al., 2023; Vealey, 2024; Weinberg & Gould, 2024). This integrative perspective has prompted the development of theoretical frameworks that seek to articulate how these psychological domains interact to support both performance outcomes and athlete wellbeing

Theoretical frameworks for mental training in sport emphasise the interconnected nature of psychological wellbeing, skill acquisition, and performance outcomes (Vealey, 2024). Modern models propose that mental health components encompassing emotional, psychological, and social wellbeing function as foundational elements enabling effective skill development and sustained performance (Reardon et al., 2019). Mental skill development encompasses fundamental skills (motivation, confidence, resilience), self-regulation skills (stress management, attentional control, emotion regulation), and interpersonal skills (communication, leadership, teamwork) (Durand-Bush et al., 2023). These skills develop through systematic psychological training strategies, including imagery, goal setting, mindfulness practice, and evidence-based interventions (Goodheart et al., 2006; Hidayat et al., 2023, 2026; Jeong et al., 2023; Levit-Binnun et al., 2021; Ramalingam et al., 2021).

Epistemologically, SEP research has been shaped by diverse paradigmatic orientations ranging from positivist quantitative traditions to interpretive and critical qualitative approaches (Mcgannon & Smith, 2015; Sparkes & Smith, 2014). Understanding this epistemological landscape is essential for mapping the field's intellectual structure, as methodological choices reflect underlying assumptions about knowledge production in sport and exercise contexts. Bibliometric analysis, when situated within this epistemological awareness, can reveal not only what topics are studied but also how dominant paradigms shape the direction of inquiry, thereby providing a meta-level understanding of the field's development that purely content-based reviews cannot achieve (Župič & Čater, 2015). This study adopts an integrative epistemological stance, combining quantitative bibliometric mapping with qualitative systematic synthesis to capture both the structural characteristics and substantive content of SEP scholarship.

Application of psychological training strategies varies considerably across sport contexts, competition levels, and sport categorisations. Research demonstrates that mental training effectiveness depends on appropriate adaptation to specific sport demands, whether in precision sports, team sports, extreme sports, or other categories presenting unique psychological challenges (Febrianty et al., 2024). Additionally, sociocultural environments and consultant/coach philosophies significantly influence how psychological principles are applied and experienced by athletes (Nesti, 2024; Rothwell et al., 2022; Vaughan et al., 2022).

Despite growing recognition of psychology's importance in sport contexts, several challenges limit its development and application. Geographical disparities in research production may limit the cultural validity and global application of existing frameworks (Let, 2024). The rapid expansion of research outputs has created challenges in synthesising knowledge and identifying coherent patterns across studies and populations (Grady, 2023; Latinjak & Hatzigeorgiadis, 2021). Furthermore, integrating mental health perspectives with traditional performance approaches requires a deeper understanding of how these domains interact in practice (Bohlmeijer & Westerhof, 2021).

Bibliometric analysis provides valuable tools for examining scientific field structure and evolution, enabling researchers to identify publication trends, collaboration patterns, and thematic development over time (Boiarskii et al., 2024; Budiman et al., 2025; Donthu et al., 2021; Gerdsri & Kongthon, 2018; Neves Gonçalves & Basso, 2024). When combined with systematic literature review approaches, bibliometric methods provide a comprehensive understanding of knowledge production patterns and substantive research content (Marzi et al., 2025). This integrated approach is particularly valuable for understanding how theoretical frameworks align with empirical research and for identifying gaps between conceptual models and research practice.

Several bibliometric studies have previously examined aspects of sport and exercise psychology. Latinjak & Hatzigeorgiadis (2021) produced a knowledge map of SEP using bibliometric coupling and co-citation analysis, yet their study focused exclusively on bibliometric indicators without integrating systematic evidence synthesis of empirical findings. Similarly, Coimbra et al. (2022) Conducted a bibliometric analysis of SEP journal publications using Web of Science, but their scope was limited to journal-level productivity metrics over 20 years without incorporating a PRISMA-guided systematic review. Other relevant bibliometric efforts, such as Bruner et al. (2010) on athlete development and Dišlere et al. (2025) on athlete burnout, and Hidayat et al. (2026) on goal-setting and perfectionism dynamics, address specific sub-topics rather than the broader SEP field. The present study addresses these gaps by integrating PRISMA-compliant systematic literature review with comprehensive bibliometric mapping across a two-decade span (2005–2025), employing both VOSviewer and Biblioshiny to triangulate structural and thematic findings—an approach not utilised in prior SEP bibliometric studies.

Recent developments in adjacent fields underscore the urgency of such comprehensive mapping. In clinical psychology, González-Alcaide et al. (2023) demonstrated how integrated bibliometric-systematic approaches can reveal paradigmatic shifts invisible to either method alone. In sports science more broadly, Li et al. (2022) showed that a bibliometric analysis of physical activity research revealed significant geographical and methodological biases that require strategic intervention. Furthermore, the COVID-19 pandemic has accelerated the integration of mental health perspectives into sport and exercise research (Maugeri et al., 2020), creating an unprecedented need to map how this integration reshapes the field's intellectual structure. These developments reinforce the necessity of the present dual-method approach to capture both the quantitative landscape and qualitative depth of contemporary SEP scholarship. Therefore, this study aims to conduct a bibliometric analysis and a systematic literature review of SEP publications to examine development, key themes, and research patterns in the field. By analysing publication trends, collaboration networks, and thematic evolution, this research seeks to provide evidence-based insights into the current state and future directions of SEP research.

METHOD

This study employed a descriptive-exploratory bibliographic methodology (Lundberg, 2023) using software applications such as VOS viewer to facilitate graphical representation and visualisation of research trends, enabling reverse interpretation of literature relationships and intellectual structures across various fields (Donthu et al., 2021; Jan & Ludo, 2010; Yan & Zhiping, 2023). The approach was then focused through a systematic literature review to select and synthesise relevant research (Sauer & Seuring, 2023; Snyder, 2019). This technique aims to develop theoretical knowledge by increasing abstraction levels, subsequently narrowed through systematic review to filter and organise relevant research. Study quality was analysed based on PRISMA guidelines (Page et al., 2021) to ensure research reporting is transparent and complete.
Based on this research design, the author formulated the following research questions:

Table 1. Research Question

Code	Main Theme	Sub-theme	Research Question (RQ)
RQ1	Self & Motivation in Sport	Motivation & Self-Regulation	How are various types of motivation (intrinsic, extrinsic, and amotivation) explained in empirical studies related to sport and physical fitness behaviour?
RQ2	Self & Motivation in Sport	Self-Identity in Sport	What forms and roles of self-identity are associated with sport participation in empirical studies?
RQ3	Professional & Applied Psychology Practice	Role of Sport Psychology Practitioners	What competencies or professional roles are predominantly discussed in empirical studies of applied sport psychology practice?
RQ4	Exercise Psychology for Mental Health	Interventions for Students	How are psychological interventions through sport reported to impact student or university student mental wellbeing in empirical studies?
RQ5	Methodological Perspectives	Research Approaches & Strategies	What methodological approaches (quantitative, qualitative, mixed) are most frequently used in empirical sport psychology studies and in what contexts?

Code	Main Theme	Sub-theme	Research Question (RQ)
RQ6	Negative Outcomes & Psychological Risk	Psychological Risks in Sport	What types of psychological risks (e.g., eating disorders, exercise addiction, burnout) are most frequently examined in empirical studies and in which populations?

Data Sources

Articles from journals indexed in Scopus were analysed as representative samples of peer-reviewed international scientific activity (Baas et al., 2020). Scopus was selected as the sole database for several methodological reasons. First, Scopus provides the largest abstract and citation database of peer-reviewed literature, encompassing over 27,000 active titles across all scientific disciplines, including comprehensive coverage of sport science and psychology journals (Baas et al., 2020). Second, Scopus offers standardised bibliographic metadata essential for bibliometric analysis, including author affiliations, funding information, and subject classifications, which facilitate systematic extraction and analysis (Mongeon & Paul-hus, 2016). Third, while Web of Science (WoS) provides an alternative, previous comparative studies have demonstrated substantial overlap between Scopus and WoS for sport science literature, with Scopus offering broader journal coverage, particularly for interdisciplinary and emerging journals (Martín-martín et al., 2019; Visser et al., 2021). The limitation of using a single database is acknowledged in the Limitations section.

Table 2. Inclusion and Exclusion Criteria

Tipe Kriteria	Inklusi	Eksklusi
Document Type	Original research articles in Sport and Exercise Psychology	Editorials, opinions, proceedings, conference papers, book reviews, news, book chapters, and other non-research documents
Topic Scope	Articles addressing Sport and Exercise Psychology topics, including cognitive, affective, motivational, and behavioural aspects in sport contexts	Articles only discussing biomechanical, physiological, or technical aspects of sport without psychological relevance
Indexing	Articles from journals indexed in reputable databases such as Scopus, Web of Science, or DOAJ	Articles from non-indexed journals or unverified sources
Time Range	Articles published 2005–2025	Articles published before 2005 or outside the specified range
Title Keywords	Articles containing the exact phrase "Sport and Exercise Psychology" in the title	Articles not containing "Sport and Exercise Psychology" in the title.
Language	Articles written in English and relevant to research objectives	Articles in languages other than English
Research Type	Quantitative, qualitative, or mixed-method studies based on empirical data in the SEP domain	Non-empirical studies, non-systematic narrative reviews, pure theory, and other non-academic articles
Accessibility	Articles accessible in full-text, either through open access or institutional academic access	Articles unavailable in full-text or inaccessible through official channels

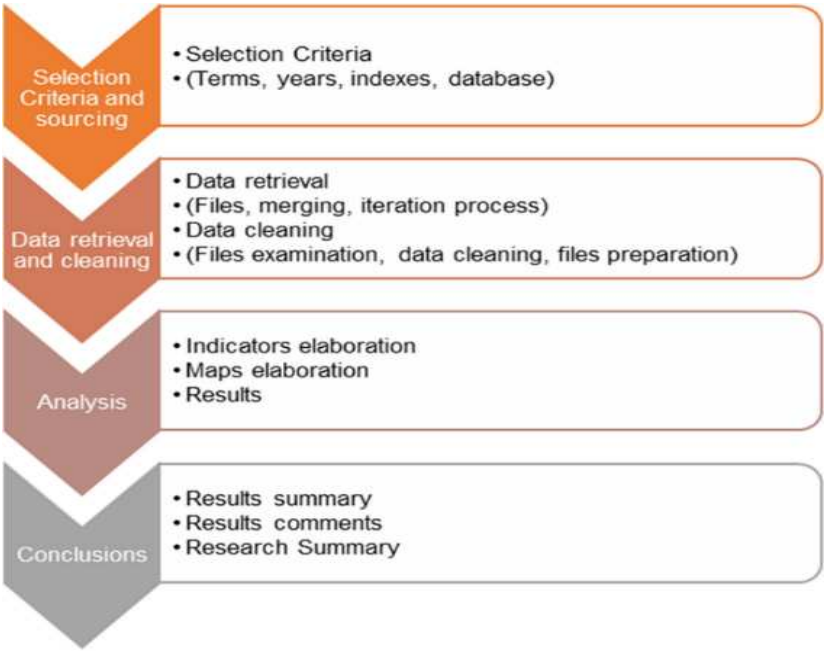

Figure 1. Methodology used. Methodology according to (Danvila-del-Valle et al., 2019; Mukherjee et al., 2022)

Search Strategy

The search was conducted in accordance with Preferred Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines, as shown in Figure 2. The Scopus database was used to retrieve information from indexed journal articles meeting the criteria in Table 2. The search query TITLE ("Sport and Exercise Psychology") was employed to retrieve articles that explicitly position themselves within the SEP discipline. This TITLE-only strategy was deliberately chosen to ensure high precision in identifying articles that self-identify as SEP scholarship, rather than articles that merely reference SEP tangentially. While TITLE-ABS-KEY searches yield broader results, they introduce significant noise from articles in adjacent fields (e.g., clinical psychology, public health, neuroscience) that reference SEP terminology without constituting SEP research per se (Donthu et al., 2021). This focused approach aligns with bibliometric best practices for field-delimitation studies, in which the objective is to map a discipline's core intellectual structure rather than its peripheral influence (Župič & Čater, 2015). However, this strategy may exclude relevant articles using alternative terminology (e.g., "sport psychology" without "exercise"), and this limitation is acknowledged in the Discussion section.

Bibliometric Analysis Parameters

To ensure transparency and reproducibility of the bibliometric analysis, the following technical parameters were employed across both software platforms. Keyword data source and extraction. It is important to clarify that the keyword analyses presented in this study, including keyword co-occurrence networks, word clouds, trending topics, and conceptual structure mapping, are based on author keywords extracted from the bibliographic metadata of the 2,637 retrieved articles, not on the search query itself. Author keywords are terms assigned by the original authors of each article to describe the content and focus of their research. These keywords were systematically exported from the Scopus database as part of the standard bibliographic metadata (including author names, affiliations, abstracts, references, and author keywords) and subsequently imported into VOSviewer and Biblioshiny (R-Bibliometrix) for analysis. This distinction is critical: the search query TITLE ("Sport and Exercise Psychology") served exclusively to identify and retrieve the corpus of articles, whereas author keywords embedded within each article's metadata served as the unit of analysis for thematic and conceptual mapping (Donthu et al., 2021; Van Eck & Waltman, 2020).

VOSviewer Parameters. Keyword co-occurrence analysis was conducted with a minimum co-occurrence threshold of 5 for author keywords, meaning only keywords appearing in at least five documents were included in the network visualisation. The full counting method was applied, whereby each co-occurrence of two keywords receives equal weight regardless of the total number

of keywords in a document (Jan & Ludo, 2010; Van Eck & Waltman, 2020). Network visualisation employed the association strength normalisation method, which normalises link strengths between items based on expected co-occurrence frequencies under a null model of independence (Van Eck & Waltman, 2020). The clustering resolution was set to 1.0 (default), and the minimum cluster size to 1, allowing the algorithm to determine the optimal cluster composition. Layout parameters used default settings with an attraction value of 2 and a repulsion value of −1.

Biblioshiny Parameters. Conceptual structure analysis was performed using Multiple Correspondence Analysis (MCA) based on author keywords, with the top 50 most frequent terms included in the dimensional mapping. Bradford's Law analysis used automatic zone calculation to identify core, secondary, and peripheral journal zones. Lotka's Law was assessed using the inverse generalised power model (Pao, 1985) to evaluate the author productivity distribution. The author productivity analysis included all authors with at least 1 publication to capture the full distribution, with a detailed analysis focused on authors with 5 or more publications.

Quality Appraisal

To assess the methodological quality of articles included in the systematic literature review, the Mixed Methods Appraisal Tool (MMAT) Version 2018 (Hong et al., 2018) was employed. The MMAT was selected because it accommodates the methodological diversity present in the included studies, enabling assessment of quantitative, qualitative, and mixed-methods designs within a single, validated framework. Each article was independently evaluated by two reviewers (YH and YY) using the MMAT's five core criteria appropriate to each study's design. Inter-rater agreement was 87% (Cohen's Kappa = 0.77). Discrepancies in ratings were resolved through discussion until consensus was reached. Articles were not excluded based on quality scores; rather, quality assessment results informed the weighting of evidence in the synthesis process (Hong et al., 2018). Table 3 presents the quality assessment summary for all 30 articles included in the systematic review.

Of the 30 included articles, 16 (53.3%) were rated high quality (5/5), nine (30.0%) good quality (4/5), and five (16.7%) moderate quality (3/5). No articles were rated as low quality. The majority of included studies employed qualitative approaches (n = 24, 80.0%), reflecting the predominance of review, theoretical, and methodological discourse within the sport and exercise psychology literature on research trends. Five studies (16.7%) used quantitative descriptive designs, primarily bibliometric analyses, and one study (3.3%) employed a mixed-methods design. All 30 articles passed the MMAT screening criteria, confirming that each study had clear research questions and collected data adequate to address those questions.

Table 3. MMAT Quality Assessment of Included Articles (n = 30)

No	Author (Year)	Type	Study Design	S1	S2	Q1	Q2	Q3	Q4	Q5	Rating	Quality Level
1	Stenling et al. (2015)	QN-D	Quantitative Descriptive – CFA with Bayesian SEM	Y	Y	Y	CT	Y	Y	Y	4/5	Good Quality
2	Holt & Tammine n (2010)	QL	Qualitative – Methodological review of grounded theory	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
3	Schweizer & Furley (2016)	QN-D	Quantitative Descriptive – Sample size analysis across 4 SEP journals	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
4	Smith & McGannon (2018)	QL	Qualitative – Critical review of rigor methods in qualitative SEP	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
5	Moran et al. (2011)	QL	Qualitative – Theoretical review of mixed methods research designs	Y	Y	Y	Y	Y	CT	Y	4/5	Good Quality

No	Author (Year)	Type	Study Design	S1	S2	Q1	Q2	Q3	Q4	Q5	Rating	Quality Level
6	Murphy (2009)	QL	Qualitative – Review/commentary on video games in sport psychology	Y	Y	Y	CT	CT	Y	CT	3/5	Moderate Quality
7	Stenling et al. (2017)	QL	Qualitative – Methodological review of longitudinal change analysis	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
8	Weed (2009)	QL	Qualitative – Systematic review of grounded theory articles in SEP	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
9	Ronkainen & Wiltshire (2021)	QL	Qualitative – Philosophical critique of relativist validity	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
10	Castillo (2020)	QL	Qualitative – Reflective paper with case study	Y	Y	Y	Y	CT	CT	Y	3/5	Moderate Quality
11	Hagger & Chatzisarantis (2009)	QL	Qualitative – Review of research assumptions in quantitative SEP	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
12	Leisterer & Elbe (2023)	MM	Mixed Methods – Survey (N=88) with quantitative + qualitative	Y	Y	Y	Y	Y	CT	Y	4/5	Good Quality
13	Eklund et al. (2011)	QL	Qualitative – Reflective commentary on qualitative methods	Y	Y	Y	CT	Y	Y	CT	3/5	Moderate Quality
14	Weed (2010)	QL	Qualitative – Commentary on grounded theory quality debate	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
15	Monforte & Smith (2023)	QL	Qualitative – Introduction of postqualitative inquiry in SEP	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
16	Brustad (2011)	QL	Qualitative – Editorial commentary on qualitative research	Y	Y	Y	CT	Y	Y	CT	3/5	Moderate Quality
17	Smith (2010)	QL	Qualitative – Theoretical paper on narrative inquiry	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
18	Keegan et al. (2017)	QL	Qualitative – Practice guidelines for applied case studies	Y	Y	Y	Y	CT	Y	Y	4/5	Good Quality

No	Author (Year)	Type	Study Design	S1	S2	Q1	Q2	Q3	Q4	Q5	Rating	Quality Level
19	Brewer et al. (2011)	QL	Qualitative – Metaqualitative reflections on qualitative research	Y	Y	Y	CT	Y	Y	CT	3/5	Moderate Quality
20	Whitehead et al. (2025)	QL	Qualitative – Semi-structured interviews with ASEPs on Think Aloud	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
21	Schinke et al. (2021)	QL	Qualitative – Editorial/guidelines on publishing strategies	Y	Y	Y	CT	CT	Y	CT	3/5	Moderate Quality
22	Ryba et al. (2013)	QL	Qualitative – ISSP Position Stand on cultural competence	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
23	Johnson & Andersen (2019)	QL	Qualitative – Thematic content analysis of student essays	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
24	Coulter et al. (2016)	QL	Qualitative – Theoretical paper on personality framework	Y	Y	Y	Y	Y	CT	Y	4/5	Good Quality
25	Perrier & Kirkby (2013)	QL	Qualitative – Methodological paper on voice recognition software	Y	Y	Y	Y	Y	CT	Y	4/5	Good Quality
26	Zhang et al. (2021)	QL	Qualitative – Narrative review of sport psychology in China	Y	Y	Y	Y	Y	CT	Y	4/5	Good Quality
27	Coimbra et al. (2022)	QN-D	Quantitative Descriptive – Bibliometric analysis of SEP journals	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
28	Kim et al. (2021)	QN-D	Quantitative Descriptive – Trend analysis of KJSP (1990–2019)	Y	Y	Y	Y	Y	CT	Y	4/5	Good Quality
29	Smith & Sparkes (2009)	QL	Qualitative – Theoretical paper on narrative inquiry	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality
30	Fiorese et al. (2019)	QN-D	Quantitative Descriptive – Text mining & bibliometric analysis	Y	Y	Y	Y	Y	Y	Y	5/5	High Quality

Type*: QL = Qualitative, QN-D = Quantitative Descriptive, MM = Mixed Methods
Y = Yes, N = No, CT = Can't Tell
Rating: 5/5 = High Quality, 4/5 = Good Quality, 3/5 = Moderate Quality, ≤2/5 = Low Quality
Note: Articles not excluded based on quality; scores inform evidence weighting (Hong et al., 2018)

Table 4. Documents obtained from searches in the databases

Database	Search String	Search Filters	Results
Scopus	TITLE ("*Sport and Exercise Psychology*")	Document Type: Article - Language: English - Publication Year: 2005– May 2025	2637

Study Selection

Searches were conducted in English to obtain the largest number of documents in the dataset about Sport and Exercise Psychology. The applied inclusion criteria were document type: only articles selected, language: English, and publication year: 2005–2025 (May).

Data Analysis Process

Documents analysed in this study include bibliographic information obtained after manual review of 3,656 relevant documents found in the Scopus database, limited only by document type, publication year, and language used, resulting in 2,637 articles. Data were systematically extracted from tables that included essential elements such as author names, research types, subject characteristics, participant numbers, research country of origin, intervention methods, measurement instruments, and results obtained for each study.

After identifying trends in the analysed research, a systematic literature review (SLR) was conducted, applying stricter quality standards. This study was structured based on the Preferred Reporting Items for Systematic Review (PRISMA) guidelines (Page et al., 2021) to ensure research reporting is transparent and complete.

The search and analysis were conducted using the Scopus database, applying established inclusion and exclusion criteria. Initially, 2,637 articles were found, then filtered to remove duplicates. Subsequently, inclusion criteria based on publication year (2005–2025) were applied to ensure reviewed articles matched the research timeframe. Selection was conducted based on study quality (Q1–Q4) and exclusion of articles without abstracts or reference systems managed with EndNote tools. After the filtering stage, 121 articles remained for screening. Title and abstract screening against the inclusion criteria resulted in 78 articles being assessed for eligibility. Of these, 48 articles were excluded based on full-text evaluation: 22 lacked empirical research design, 14 addressed topics outside the core SEP domain, and 12 were inaccessible in full-text or had insufficient methodological reporting. The remaining 30 articles met all inclusion criteria and were selected for a comprehensive systematic review. The complete selection process is illustrated in Figure 2.

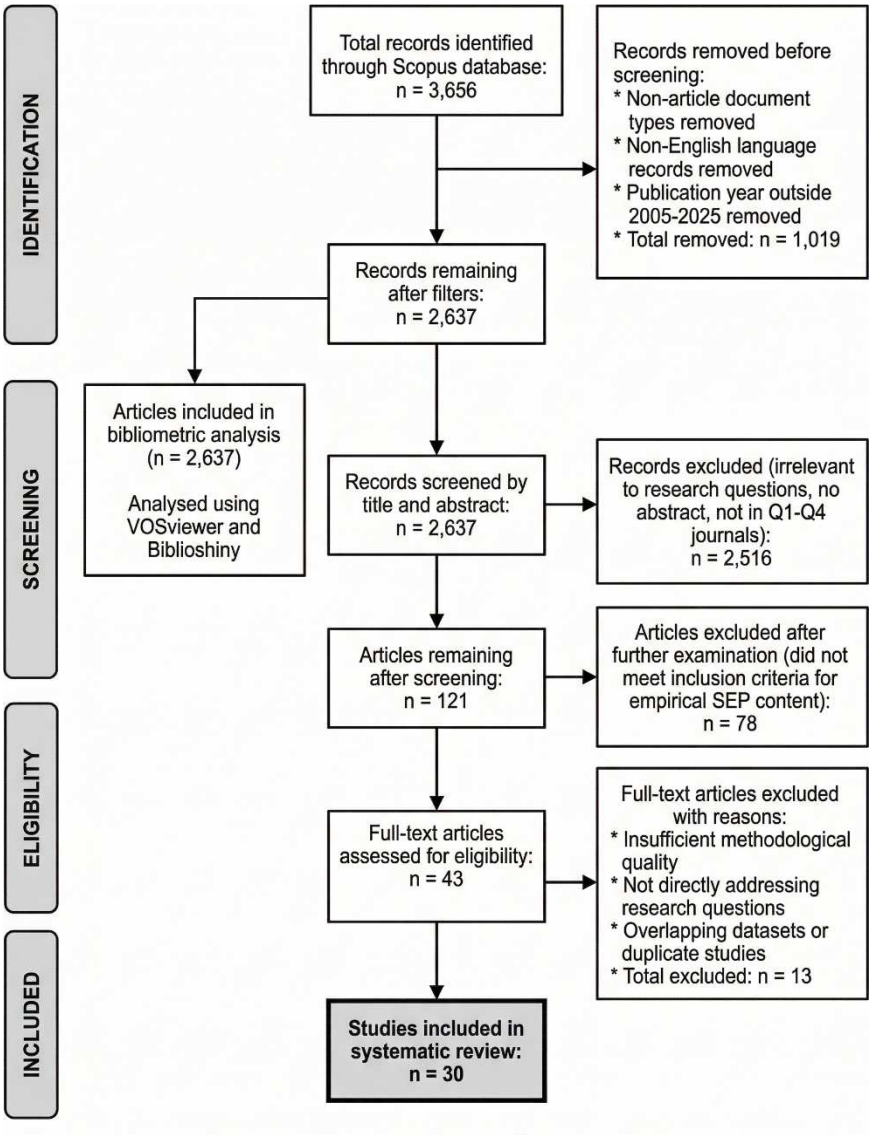

Figure 2. PRISMA Flow Chart

RESULTS AND DISCUSSION

Results

Results General Description

Bibliometric analysis was conducted using the online database (Biblioshiny) to collect and process all relevant documents published from 2005 to 2025. Analysis shows that during this period, 2,637 documents were published through 752 different scientific sources. These documents involved 10,990 authors, with 151 documents written by single authors. Collaborative research dominated, with an average of 5.05 authors per document, and 26.58% of publications resulted from international author collaboration, indicating high levels of global research collaboration in this field.

The annual publication growth rate reached 13.43%, reflecting significant and consistent increasing research interest over time. Additionally, the analysis identified 5,258 unique author keywords and 111,590 references cited across all data, reflecting a rich and diverse knowledge base. The average document age was approximately 6.09 years, indicating the field maintains a balance between recent and foundational literature. Each document received an average of 25.07 citations, confirming the relevance and academic impact of research outputs in this field.

Figure 3. Main Information Infographic

Document Growth During 2005-2025 Period

Publication growth trends show that in the early period, publication numbers remained relatively low, with only 16 articles in 2005. This number gradually increased in subsequent years, reaching 19 articles in 2006 and 30 articles in 2007. Growth continued despite small fluctuations, reaching 39 articles in 2009, then slightly declining to 36 and 34 articles in 2010 and 2011, respectively. In 2012, article numbers fell to the lowest level of 20. However, from 2013 onwards, growth trends showed significant increases, jumping to 50 articles, then more than doubling to 122 in 2014.

Growth continued consistently through 2017, with 200 articles, then increased to 222 in 2018 and to 250 in 2020. Fluctuations continued in subsequent years, such as decreases to 178 articles in 2021 and 157 articles in 2023. However, the highest peak in publications occurred in 2024, with 293 articles. In the final year, 2025, 199 articles were recorded. This development shows that scientific literature production in the studied field has experienced a significant upward trend over the last two decades. Year-to-year fluctuations reflect funding policy dynamics, research trends, and journal publication policies that continue to evolve in response to global needs and challenges. This pattern also demonstrates that researchers' interest in studied topics remains maintained, with average publication growth supporting sustained knowledge contributions.

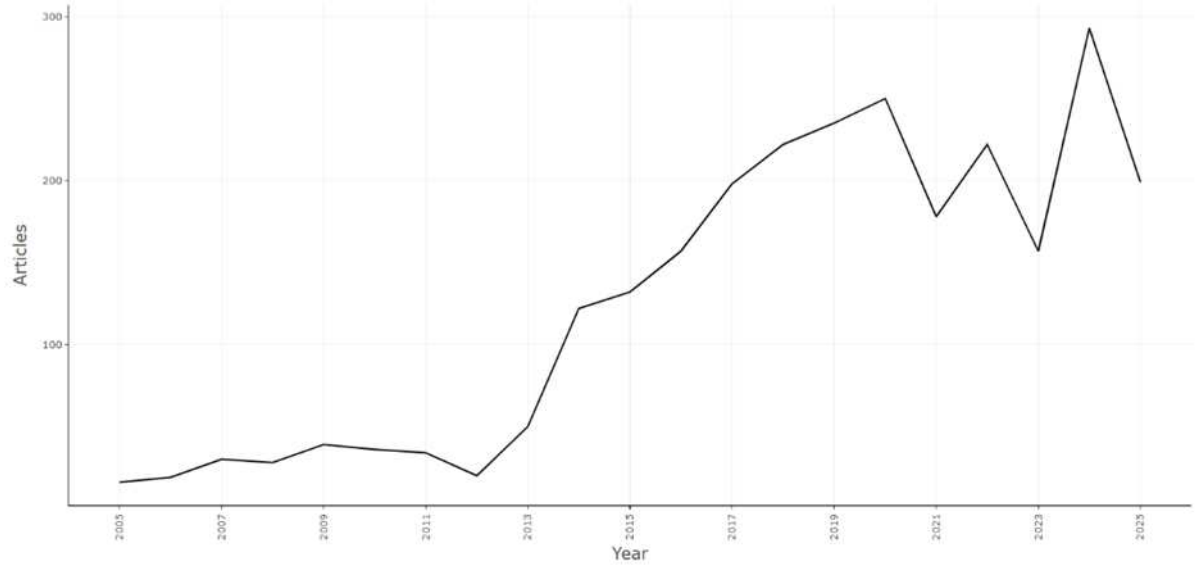

Figure 4. Document Growth Chart

Journals and Citations in Bradford Zone

A total of 2,637 scientific articles were published through 752 different journals during this research period. Analysis shows the top ten journals, each producing more than 17 articles related to sport and exercise fields. The top 10 journals by H-index include the Journal of Sports Sciences and Psychology of Sport and Exercise, leading with an H-index of 32, followed by International Journal of

Environmental Research and Public Health (31) and Medicine and Science in Sports and Exercise (29). BMC Public Health and PLOS ONE each have an H-index of 26. Four other journals have an H-index between 17 and 18, showing they remain relevant but with lower citation impact than core journals.

Table 5. Top 10 Journals by Source Local Impact (H-Index, G-Index, TC, NP)

Source	h-index	g_index	m_index	TC	NP	PY_start
Journal of Sports Sciences	32	49	1.684	2748	91	2007
Psychology of Sport and Exercise	32	57	1.524	3313	58	2005
International Journal of Environmental Research and Public Health	31	47	2.583	3080	169	2014
Medicine and Science in Sports and Exercise	29	50	1.381	2745	50	2005
BMC Public Health	26	42	2.000	1915	78	2013
Plos One	26	37	2.364	1548	87	2015
International Review of Sport and Exercise Psychology	18	25	1.059	3087	25	2009
Journal of Sport and Exercise Psychology	18	26	0.947	1012	26	2007
International Journal of Sports Physiology and Performance	17	29	1.545	1239	29	2015
Scandinavian Journal of Medicine and Science in Sports	17	30	1.214	1116	30	2012

H-Index provides an overview of citation quantities obtained from published articles, meaning the higher a journal's H-index, the more articles within it are recognised through citations. This value does not have an absolute linear relationship with total publication numbers, as it accounts for the citation quality of individual articles. G-Index represents the largest number (g) such that the top g articles have at least g^2 total citations.

In this context, H-index and G-index are used together to more comprehensively assess journal productivity and academic impact. Additionally, based on Bradford's Law, journal publication distribution is divided into several productivity zones. The first zone represents the core zone with very high productivity, whilst the second and third zones have medium to low productivity levels.

Table 6. Core Sources by Bradford's Law

SO	Rank	Freq	CumFreq	Zone
International Journal of Environmental Research and Public Health	1	169	169	Zone 1
Journal of Sports Sciences	2	91	260	Zone 1
Plos One	3	87	347	Zone 1
BMC Public Health	4	78	425	Zone 1
Psychology of Sport and Exercise	5	58	483	Zone 1
Medicine and Science in Sports and Exercise	6	50	533	Zone 1
European Journal of Sport Science	7	39	572	Zone 1
International Journal of Sport and Exercise Psychology	8	39	611	Zone 1
BMJ Open	9	36	647	Zone 1
Journal of Sport and Exercise Psychology	10	36	683	Zone 1

Table 5 demonstrates the application of Bradford's Law to the distribution in 752 identified journals. International Journal of Environmental Research and Public Health ranks first with 169 publications, followed by Journal of Sports Sciences with 91 and PLOS ONE with 87, all of which are included in the productive core (nuclear) zone. These data confirm that only a few journals dominate article production in this field, whilst hundreds of other journals have lower contributions distributed in subsequent productivity zones.

Author Productivity Through Lotka's Law

Using Lotka's Law, this section shows the author's production from 2005 to 2025. Lotka's Law states that authors making only one contribution comprise approximately 60% of all publications in a specific field, with authors producing two scientific works equalling one-quarter the proportion of those producing one work, and so forth (Danvila-del-Valle et al., 2019; Donthu et al., 2021; Mukherjee et al., 2022).

Table 7. Author Productivity through Lotka's Law

Document written	N. of Authors	Proportion of Authors	Theoretical
1	9574	0.871	0.639
2	949	0.086	0.160
3	261	0.024	0.071
4	108	0.010	0.040
5	44	0.004	0.026
6	22	0.002	0.018
7	13	0.001	0.013
10	7	0.001	0.006
8	6	0.001	0.010
9	5	0.000	0.008
11	1	0.000	0.005
13	1	0.000	0.004

Most Relevant Affiliations

Affiliation is an important research aspect as it shows the author's identity whilst also indicating funding sources and academic support. These relationships can originate from higher education institutions, official professional bodies, or public or private research organisations. The top ten affiliations most involved in sport field publications show the University of South Carolina in first position with 59 articles, followed by the University of Toronto (57 articles) and La Trobe University (53 articles). Other affiliations, such as Deakin University (52 articles) and University of Calgary (50 articles), also contributed significantly. Meanwhile, Loughborough University, University of Jyväskylä, University of Extremadura, The University of Queensland, and University of Basel each produced 46–49 publications. These data show that these universities have active researchers consistently listing their affiliations on published articles, thereby strengthening academic identity and institutional reputation in sport research fields.

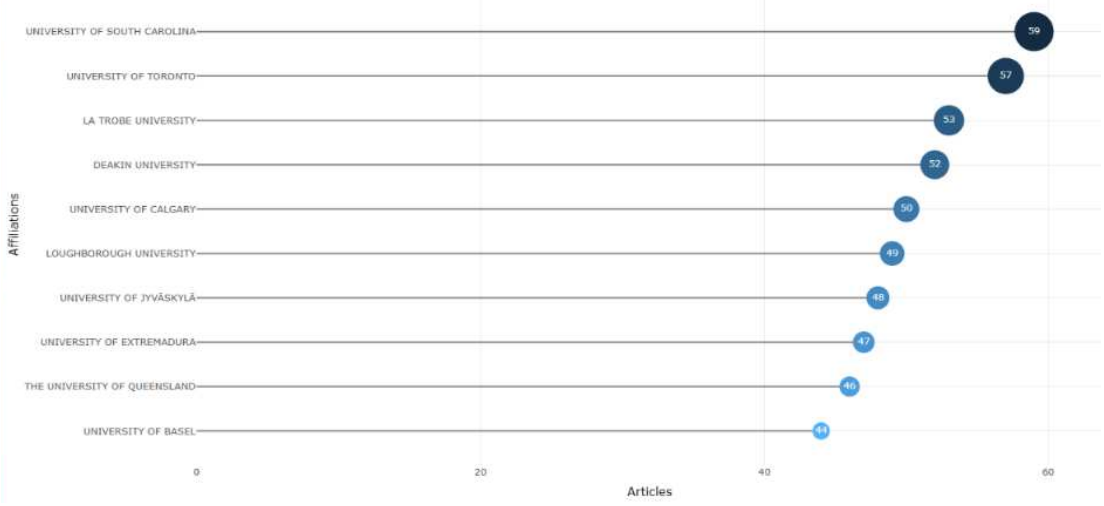

Figure 5. Most Relevant Affiliations chart

Publication Distribution by Country

SEP research is often funded by authors' affiliations with their institutions or by home-country governments. Analysis shows the United States ranks first with 411 articles (15.6% of total publications), followed by the United Kingdom (259 articles, 9.8%) and China (190 articles, 7.2%). Australia is in fourth position with 176 articles (6.7%), followed by Canada, Germany, and Spain, each contributing 4–5% of publications.

Interestingly, whilst the United States dominates Single Country Publications (SCP) with 371 articles, its international collaboration percentage (Multiple Country Publications/MCP %) is relatively low at only 9.7%. Conversely, countries such as Italy (38.7%), the Netherlands (33.8%), and Australia (32.4%) have much higher international collaboration rates, indicating greater openness to research and strong cross-country cooperation in sport psychology development.
Overall, these top ten countries are dominated by countries in North America, Europe, Asia, and Australia. No African country ranked among the top 10 publications in this field, confirming disparities in publication contributions between developed and developing countries in Sport and Exercise Psychology Research.

Table 8. Publication Distribution by Country

Country	Articles	Articles %	SCP	MCP	MCP %
USA	411	15.6	371	40	9.7
United Kingdom	259	9.8	196	63	24.3
China	190	7.2	154	36	18.9
Australia	176	6.7	119	57	32.4
Canada	152	5.8	106	46	30.3
Germany	121	4.6	90	31	25.6
Spain	111	4.2	76	35	31.5
Brazil	75	2.8	49	26	34.7
Netherlands	74	2.8	49	25	33.8
Italy	62	2.4	38	24	38.7

Most Globally Cited Documents

Quality scientific publications play a critical role in advancing knowledge in any academic discipline. One indicator of article influence is high citation counts from other researchers worldwide. Although citation numbers do not necessarily fully reflect a work's impact, many citations remain evidence that the article is widely recognised and referenced by the academic community.

The article with highest total citations was written by Smith & McGannon (2018) and published in International Review of Sport and Exercise Psychology, receiving 2,205 Total Citations (TC) with an average of 275.63 citations per year (TC per Year) and Normalised Total Citation (NTC) of 48.27, making it the most globally influential article in this dataset.

The second highest cited article was written by Eime et al. (2013) in International Journal of Behavioral Nutrition and Physical Activity, accumulating 914 citations, 70.31 TC per Year, and NTC of 14.84. Other important articles include those by Smith (2018) in Qualitative Research in Sport, Exercise and Health with 842 TC and by Maugeri et al. (2020) in Heliyon with 631 citations, reflecting both fundamental theoretical contributions and timely applied research.

Table 9. Most Global Cited Documents

Paper	DOI	Total Citation	TC per Year	Normalized TC
Smith B, 2018, Int Rev Sport Exerc Psychol	10.1080/1750984X.2017.1317357	2205	275.63	48.27
Eime Rm, 2013, Int J Behav Nutr Phys Act	10.1186/1479-5868-10-135	914	70.31	14.84
Smith B, 2018, Qual Res Sport Exerc Health	10.1080/2159676X.2017.1393221	842	105.25	18.43
Maugeri G, 2020, Heliyon	10.1016/j.heliyon.2020.e04315	631	105.17	25.18
Aubert S. 2018, J Phys Act Health	10.1123/jpah.2018-0472	620	77.50	13.57
Schmitz Kh, 2019, Ca Cancer J Clin	10.3322/caac.21579	550	78.57	21.23
Rosenbaum S 2014 J Clin Psychiatry	10.4088/JCP.13r08765	548	45.67	13.01
Kellmann M. 2018. Int J Sport Physiol Perform	10.1123/ijspp.2017-0759	502	62.75	10.99
Barker Davies Rm 2020, Br J Sports Med	10.1136/bjsports-2020-102596	479	79.83	19.11

Paper	DOI	Total Citation	TC per Year	Normalized TC
Kanaley Ja 2022. Med Sci Sports Exerc	10.1249/MSS.0000000000002800	473	118.25	43.19

Thematic Evolution and Conceptual Structure

Author Keywords and Trending Topics

Word cloud visualisation shows "physical activity" and "exercise" as the two most frequently appearing dominant keywords in various scientific publications. Large font sizes indicate high frequency, confirming these themes' central positions in research discourse. Additionally, several other prominent keywords that indicate the main research foci include "mental health," "sport psychology," "quality of life," "motivation," and "adolescents." These terms' presence shows that the field not only examines physical aspects alone but also attends to psychosocial dimensions and individual wellbeing, particularly in adolescent and athlete populations.

Figure 6. Word Cloud from Author Keywords

Author keyword trend analysis over time shows emerging topic dynamics year by year. For instance, "physical activity" and "exercise" began to appear frequently in 2017 and 2016, with median usage values in 2019. Terms "mental health," "psychology," and "quality of life" also experienced significant increases in recent years, with the latest median occurrences in 2020 to 2023, reflecting contemporary research focus on mental health issues in sport. Keywords such as "children" (frequency = 60), "adolescent" (frequency = 49), and "stress" (frequency = 41) indicate that young populations and psychological stress receive serious attention. This increasing trend also aligns with increasing global attention to mental wellbeing in physical activity and sport in the post-pandemic era.

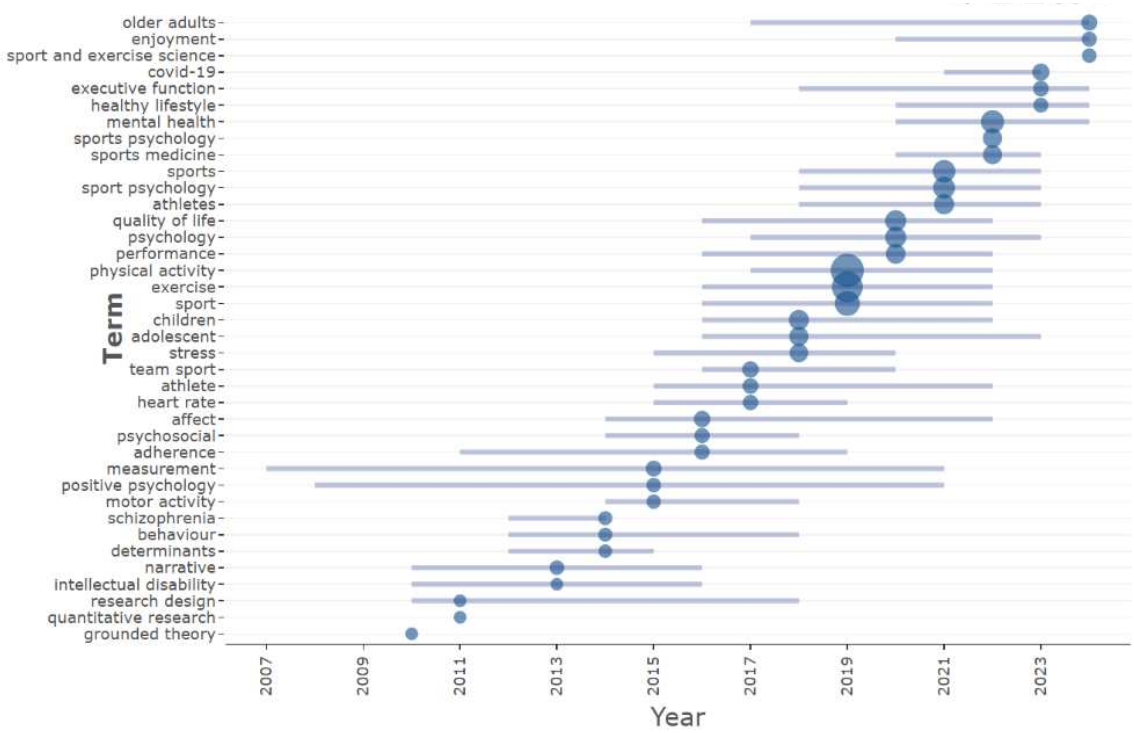

Figure 7. Trending Topics Chart and Trending Topics Data

Three-Field Plot: Sources, Authors, and Keywords

The three-field plot visualisation illustrates how leading journals such as Scandinavian Journal of Medicine and Science in Sports, Journal of Sport and Exercise Psychology, and Psychology of Sport and Exercise serve as the main platforms for authors to publish their research results. Several authors with significant contributions appearing in this visualisation include Sabiston CM, Gerber M, Rhodes RE, and Smith B. Their works are frequently associated with topics such as physical activity, exercise, mental health, depression, and sport psychology, indicating that these themes become the main areas of focus in sport psychology research, particularly concerning mental health, athletic performance, and quality of life.

Furthermore, relationships between authors and keywords reflect the academic specialisations of individual researchers. For instance, Sabiston CM contributed extensively to research related to physical activity and mental health, whilst Gerber M shows strong associations with depression and exercise topics. These patterns show directed, consistent research foci by researchers in developing fields.

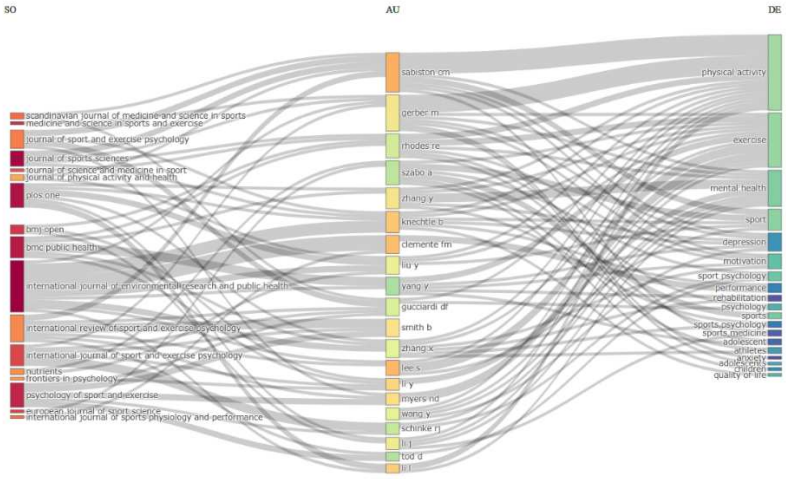

Figure 8. Three-Field Plot Diagram

Conceptual Structure Map

The conceptual structure map shows the relationships among the most frequently used keywords in SEP Research publications. This visualisation was built using Multiple Correspondence Analysis (MCA) to depict thematic connections among terms based on their proximity in spatial

dimensions. Each keyword is positioned based on Dimension 1 (Dim 1) and Dimension 2 (Dim 2) values, with words whose values are not significantly different tending to cluster in adjacent areas.

Conceptually, the red area dominates with various keywords such as "mental health," "sport psychology," "exercise," "stress," "performance," "self-esteem," "depression," and "motivation." The density of these terms shows themes related to mental health, performance, and psychological wellbeing constitute dominant foci in the analysed research. Furthermore, keywords such as "covid-19," "sleep," "fatigue," "recovery," and "stress" concentrate at the top of the map, indicating close connections amongst these topics, particularly in post-pandemic recovery and physical/psychological fatigue contexts in athletes and general populations.

As specified in the Bibliometric Analysis Parameters section, the MCA was conducted using the top 50 most frequently occurring author keywords extracted from the dataset's bibliographic metadata and automatically ranked by Biblioshiny based on descending frequency. The number of clusters was automatically determined by the system based on clustering algorithms. Results show that research in the sport and exercise psychology fields does not stand in isolation but rather intersects, with themes such as mental health, quality of life, and psychological interventions through physical activity.

Table 10. Conceptual Structure Dimensions

Factor/Dimension	Central Theme	Related Keywords
Dimension 1	Sport Motivation & Performance	motivation, performance, anxiety, goal orientation
Dimension 2	Exercise & Mental Health	depression, well-being, physical activity, self-esteem
Dimension 3	Youth Sport & Education	students, physical education, school, intervention
Dimension 4	Cognitive Aspects in Sport	attention, reaction time, cognitive function

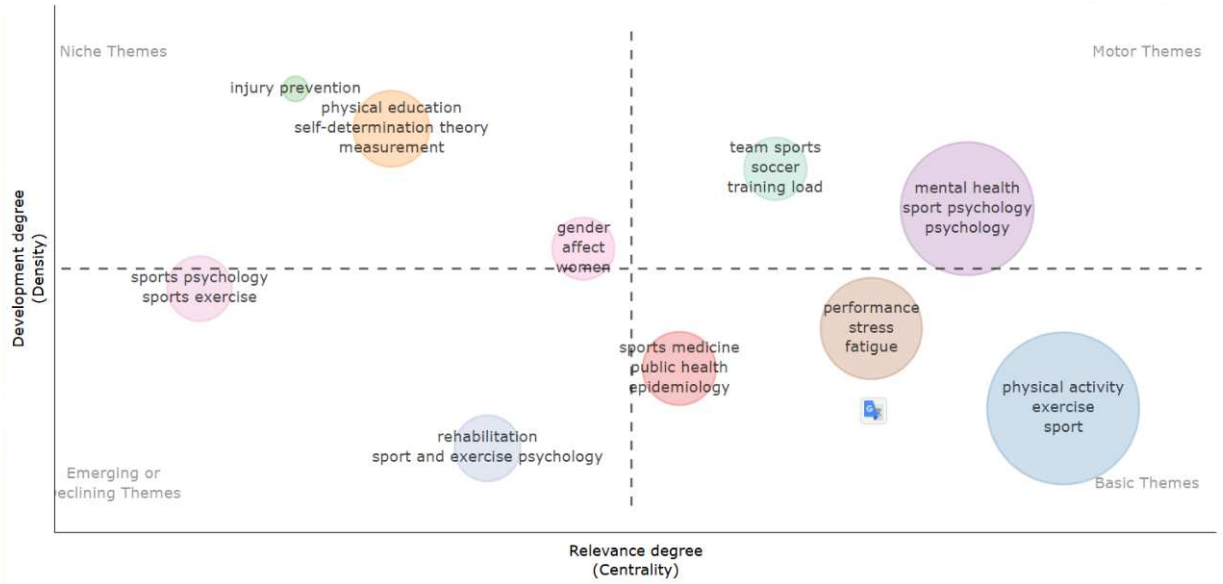

Figure 9. Conceptual Structure Map

Interpretive Analysis of Thematic Evolution

The observed keyword evolution in this bibliometric analysis reflects a significant paradigmatic shift in sport and exercise psychology over the past two decades. In the early period (2005–2012), dominant keywords such as "sport psychology," "motivation," and "performance" indicate the field's traditional orientation toward competitive sport and performance enhancement. Consistent with what Gill (2009) described as the "performance narrative" dominating first-generation SEP scholarship. The conceptual structure was primarily organised around individual-level psychological constructs applied to athletic contexts.

However, from approximately 2013 onwards, a marked shift is visible in the emergence and rapid growth of keywords such as "mental health," "depression," "quality of life," "wellbeing," and "physical activity." This transition signals the field's evolution from a predominantly performance-

oriented paradigm toward integration with public health frameworks. The increasing prominence of "COVID-19" in 2020–2022 publications further accelerated this paradigmatic expansion, as the pandemic highlighted the inseparable relationship between physical activity and psychological wellbeing at a population level (Maugeri et al., 2020). This shift aligns with broader movements in psychology toward positive psychology and prevention-oriented approaches (Seligman & Csikszentmihalyi, 2000).

The growth of developmental keywords ("children," "adolescents," "students") alongside health-oriented terms suggests a third dimension of paradigmatic evolution: from adult elite athletes to lifespan and community populations. This democratisation of SEP research reflects increasing recognition that psychological principles of sport and exercise are relevant beyond competitive contexts (Arya et al., 2025; Biddle & Mutrie, 2021). The four dimensions of the conceptual framework are sports motivation and performance, sports and mental health, adolescent sports and education, and cognitive aspects. These four dimensions represent not only thematic categories but also epistemological orientations that have emerged sequentially and now coexist within the intellectual structure of this field. This multidimensional evolution suggests that SEP is transitioning from a specialised sub-discipline to an integrative field that bridges sport science, clinical psychology, and public health.

Systematic Literature Review Findings

Having established the macro-level bibliometric landscape of SEP research, the analysis now shifts to a micro-level examination of empirical evidence. Following PRISMA-guided selection, 30 high-quality empirical articles were included for detailed synthesis addressing the six research questions. This systematic review component complements the bibliometric findings by examining the substantive content of SEP scholarship, thereby enabling triangulation between structural publication patterns and empirical research outcomes.

RQ1 & RQ2: Self and Motivation in Sport

Studies consistently demonstrate that intrinsic motivation, autonomous regulation, and sport-related self-identity significantly predict sustained participation and psychological wellbeing (Holt & Tamminen, 2010; Stenling et al., 2015; Teh & Rajkumar, 2022). Research employing Self-Determination Theory frameworks shows autonomous motivation relates positively to exercise adherence, enjoyment, and mental health outcomes amongst diverse populations, including adolescents, university students, and recreational athletes.

RQ3: Professional Practice in Sport Psychology

Literature reveals ongoing debates regarding professional competencies, training standards, and philosophical approaches in applied sport psychology (Castillo, 2020; Smith & McGannon, 2018). Key competencies identified include evidence-based intervention skills, cultural competence, ethical practice, and reflective capacity. However, there is significant international variation in training requirements and professional recognition.

RQ4: Exercise Psychology for Student Mental Health

Intervention studies demonstrate that structured physical activity programmes can effectively reduce depression, anxiety, and stress whilst enhancing self-esteem and life satisfaction in student populations (Coimbra et al., 2022; Jun et al., 2022; Zhang et al., 2021). Proposed mechanisms include both physiological pathways, such as endorphin release and hypothalamic-pituitary-adrenal axis regulation (Reardon et al., 2019), and psychological processes, including mastery experiences, enhanced self-efficacy, and social connection (Biddle & Mutrie, 2021; Eime et al., 2013).

RQ5: Methodological Perspectives

Quantitative approaches remain predominant, though qualitative and mixed-methods studies have increased substantially (Moran et al., 2011; Schweizer & Furley, 2016). Emerging

methodologies include narrative inquiry, interpretative phenomenological analysis, and participatory action research, reflecting the field's methodological diversification.

RQ6: Negative Outcomes and Psychological Risk

Research on psychological risks such as burnout, eating disorders, exercise addiction, and performance anxiety remains limited but growing (Brustad, 2011; Johnson & Andersen, 2019; Satapathy et al., 2025). Studies highlight the need for preventive approaches and mental health screening in high-performance sport environments.

Table 11. Article–Research Question Mapping Matrix (n = 30)

No	Author	RQ1	RQ2	RQ3	RQ4	RQ5	RQ6
1	(Stenling et al., 2015)	YES	YES	N/A	YES	YES	YES
2	(Holt & Tamminen, 2010)	YES	YES	N/A	N/A	YES	YES
3	(Schweizer & Furley, 2016)	N/A	N/A	N/A	N/A	YES	N/A
4	(Smith & McGannon, 2018)	N/A	N/A	YES	N/A	YES	N/A
5	(Moran et al., 2011)	YES	YES	YES	YES	YES	YES
6	(Murphy, 2009)	YES	YES	YES	YES	YES	YES
7	(Stenling et al., 2017)	YES	N/A	N/A	N/A	YES	N/A
8	(Weed, 2009)	N/A	N/A	YES	N/A	YES	N/A
9	(Ronkainen & Wiltshire, 2021)	N/A	N/A	YES	N/A	YES	N/A
10	(Castillo, 2020)	YES	YES	YES	YES	YES	N/A
11	(Hagger & Chatzisarantis, 2009)	YES	YES	YES	N/A	YES	N/A
12	(Leisterer & Elbe, 2023)	YES	N/A	YES	YES	YES	N/A
13	(Eklund et al., 2011)	YES	N/A	YES	N/A	YES	YES
14	(Weed, 2010)	N/A	N/A	YES	N/A	YES	N/A
15	(Monforte & Smith, 2023)	N/A	N/A	YES	N/A	YES	N/A
16	(Brustad, 2011)	N/A	N/A	YES	YES	YES	YES
17	(Smith, 2010)	N/A	N/A	YES	YES	YES	YES
18	(Keegan et al., 2017)	N/A	N/A	YES	YES	YES	N/A
19	(Brewer et al., 2011)	N/A	N/A	YES	YES	YES	YES
20	(Whitehead et al., 2025)	N/A	N/A	YES	YES	YES	N/A
21	(Schinke et al., 2021)	N/A	N/A	YES	N/A	N/A	N/A
22	(Ryba et al., 2013)	N/A	YES	YES	YES	YES	YES
23	(Johnson & Andersen, 2019)	N/A	YES	YES	YES	YES	YES
24	(Coulter et al., 2016)	YES	YES	YES	YES	YES	YES
25	(Perrier & Kirkby, 2013)	N/A	YES	YES	YES	YES	YES
26	(Zhang et al., 2021)	YES	YES	YES	YES	YES	YES
27	(Coimbra et al., 2022)	YES	YES	YES	YES	YES	YES
28	(Kim et al., 2021)	N/A	N/A	YES	YES	YES	N/A
29	(Smith & Sparkes, 2009)	YES	YES	YES	YES	YES	YES
30	(Fiorese et al., 2019)	YES	YES	YES	YES	YES	YES

Table 12. Distribution of Included Articles Across Research Questions

Research Question	n	%	Key Focus Areas
RQ1: Motivation & Self-Regulation	14	46.7	SDT, intrinsic/extrinsic motivation, exercise adherence
RQ2: Self-Identity in Sport	14	46.7	Athletic identity, self-concept, social identity
RQ3: Professional Practice	26	86.7	Competencies, training standards, ethics, and cultural competence
RQ4: Mental Health Interventions	19	63.3	Student wellbeing, depression, and anxiety reduction
RQ5: Methodological Perspectives	29	96.7	Qualitative, quantitative, mixed methods, post-qualitative
RQ6: Psychological Risks	16	53.3	Burnout, eating disorders, exercise addiction

As shown in Table 12, the distribution of articles across research questions reveals notable asymmetry. RQ5 (Methodological Perspectives) received the highest coverage (n = 29; 96.7%),

reflecting the predominant focus of the included studies on methodological discourse within SEP. RQ3 (Professional Practice) also attracted substantial attention (n = 26, 86.7%). In contrast, RQ1 (Motivation & Self-Regulation) and RQ2 (Self-Identity in Sport) each received coverage from 14 articles (46.7%). In comparison, RQ6 (Psychological Risks) was addressed by 16 articles (53.3%), indicating that negative psychological outcomes remain a comparatively underexplored area within systematic SEP scholarship. This distributional pattern suggests that the field's self-reflective literature has prioritised questions of 'how we study' (methodology) and 'who practices' (professional identity) over 'what harms occur' (psychological risks)—an imbalance with implications for evidence-based practice and athlete welfare. Notably, the majority of included articles addressed multiple research questions simultaneously, with 19 articles (63.3%) contributing to four or more RQs, indicating the interconnected nature of these themes within SEP scholarship.

Cross-Study Comparison and Thematic Synthesis

Across the included studies, three overarching themes emerge from cross-study comparison that transcend individual research questions. First, a methodological pluralism theme is evident: while early studies in the review period (Hagger & Chatzisarantis, 2009; Smith & Sparkes, 2009; Weed, 2009) primarily debated the relative merits of quantitative versus qualitative approaches, more recent studies (Monforte & Smith, 2023; Ronkainen & Wiltshire, 2021) demonstrate movement toward post-positivist and post-qualitative paradigms, suggesting epistemological maturation rather than mere methodological diversification. Second, a cultural contextualisation theme emerges from comparing studies across different geographical and institutional settings. Ryba et al. (2013) established the foundation for culturally competent practice, while Kim et al. (2021) and Fiorese et al. (2019) demonstrated how regional contexts (Asia-Pacific and Brazil, respectively) shape research priorities and professional development pathways. Zhang et al. (2021) further illustrated that SEP's features and missions are culturally situated, with Chinese sport psychology emphasising the integration of the national sport system. These cross-study patterns reveal a tension between globalising professional standards and preserving culturally responsive approaches. Third, a professional identity formation theme connects studies addressing practitioner competencies (Castillo, 2020; Keegan et al., 2017; Leisterer & Elbe, 2023) with those examining researcher epistemologies (Brustad, 2011; Smith & McGannon, 2018). Both streams converge on the conclusion that professional development in SEP requires integration of scientific rigour with reflexive practice—a finding consistent across quantitative, qualitative, and mixed-methods studies in the review.

Discussion

Implications

A striking paradox emerges from this analysis: despite the field's remarkable 13.43% annual growth rate and increasing international collaboration (26.58% MCP rate), research production remains heavily concentrated in high-income Western nations. The United States, the United Kingdom, and Australia alone account for approximately 32% of all publications, while no African country appears among the top 10 contributors. This geographical concentration mirrors broader patterns in global science production identified by Marginson (2022). It raises fundamental questions about the cultural validity of SEP knowledge generated predominantly within Western, educated, industrialised, rich, and democratic (WEIRD) contexts (Henrich et al., 2010). The relatively low international collaboration rate of the United States (9.7% MCP) despite its dominant publication volume further suggests that the world's largest contributor operates relatively independently, potentially reinforcing rather than challenging Western-centric frameworks. In contrast, countries with smaller output but higher collaboration rates (Italy 38.7%, Netherlands 33.8%) may be producing more culturally diverse and internationally informed scholarship.

The bibliometric patterns identified in this study carry significant epistemological implications for understanding SEP's development as a scientific discipline. The dominance of quantitative keywords ("questionnaire," "intervention," "randomised controlled trial") alongside the growth of qualitative terms ("narrative," "lived experience," "phenomenology") reflects the ongoing ontological debate between realist and constructionist orientations that has characterised SEP scholarship (Smith & McGannon, 2018; Sparkes & Smith, 2014). Importantly, the co-occurrence network reveals that these paradigms are increasingly interconnected rather than isolated,

suggesting movement toward methodological pluralism that Moran et al. (2011) advocated as the "third paradigm." The temporal analysis further shows that this pluralism is not merely additive but transformative: the field's conceptual structure has evolved from a single-dimension performance paradigm to a multidimensional configuration integrating health, developmental, and cognitive perspectives, each associated with distinct epistemological traditions and methodological preferences (Hidayat et al., 2026). This epistemological diversification, empirically documented through keyword co-occurrence networks and conceptual structure mapping in this study, serves as an indicator of maturation, suggesting that SEP has moved beyond paradigmatic debates toward the productive coexistence of multiple research traditions (Ronkainen & Wiltshire, 2021).

The concentration of publications in public health-oriented journals, with the International Journal of Environmental Research and Public Health leading at 169 publications, raises important questions about which paradigmatic lens increasingly defines SEP research. While the integration of public health perspectives has broadened the field's relevance and impact, it may also marginalise traditional sport psychology concerns, such as performance optimisation, competitive anxiety management, and coach-athlete relationships, which remain central to practitioners' work (Nesti, 2024). The Bradford's Law analysis reveals that core SEP journals (e.g., Psychology of Sport and Exercise, Journal of Sport and Exercise Psychology) share their nuclear zone with general science and public health outlets, suggesting a diffusion of disciplinary identity that warrants careful attention. This is not inherently problematic—indeed, interdisciplinary integration may strengthen the field—but it requires reflexive awareness of how publication incentives may shape research agendas in ways that privilege certain questions and populations over others (Simsek et al., 2023). Specifically, the gravitational pull of high-impact public health journals may inadvertently encourage SEP researchers to frame their work in medical or epidemiological terms, potentially obscuring the psychological specificity and practitioner relevance that distinguish SEP as a discipline (Nesti, 2024; Weinberg & Gould, 2024).

Field development demonstrates continued expansion with increasing methodological sophistication and thematic diversification. However, realising sport and exercise psychology's full potential requires addressing geographical disparities through international capacity development, bridging research-practice gaps through improved knowledge translation mechanisms, and expanding research to underserved populations and contexts. The foundation built through two decades of growth provides a strong platform for addressing these challenges whilst maintaining the field's commitment to evidence-based practice and theoretical advancement.

Research Contributions

Bibliometric analysis demonstrates that sport and exercise psychology has experienced extraordinary growth with an annual increase of 13.43% during the research period. This acceleration, from 16 publications in 2005 to a peak of 293 articles in 2024, reflects increasing academic interest and research capacity in this field. The 2,637 documents published from 752 different sources, involving 10,990 authors with an average of 5.05 authors per document, indicate substantial collaborative research activity within this discipline. The emergence of "COVID-19" as a keyword in recent publications reflects the field's responsiveness to contemporary global health challenges and the importance of physical activity for mental health during pandemic restrictions (Arya et al., 2025; Maugeri et al., 2020).

Geographical distribution analysis reveals significant disparities in research contributions between regions. The United States dominates with 15.6% of total publications (411 articles), followed by the United Kingdom (9.8%, 259 articles) and China (7.2%, 190 articles). Australia contributes 6.7% (176 articles), whilst Canada, Germany, and Spain each contribute 4–5% of total publications. Notably, no African country appears amongst the top contributors, highlighting geographical imbalances in research production. International collaboration patterns vary considerably, with the United States showing relatively low international collaboration at 9.7% despite high publication volume, whilst countries such as Italy (38.7%), the Netherlands (33.8%), and Australia (32.4%) demonstrate much higher cross-border research cooperation rates.

The field's thematic evolution is clearly visible through keyword analysis, where "physical activity" and "exercise" emerge as the most frequently used author keywords. Mental health-related terms, including "mental health," "depression," "anxiety," and "stress," are prominent, indicating the field's shift towards psychological wellbeing applications. The presence of adolescent-focused

keywords such as "children" (60 occurrences) and "adolescents" (49 occurrences) indicates a focus on developmental populations in the research. Keywords such as "motivation," "quality of life," and "sport psychology" reflect the theoretical and applied core within this discipline. Journal publication patterns follow a Bradford distribution, with the International Journal of Environmental Research and Public Health leading with 169 publications, followed by the Journal of Sports Sciences (91) and PLOS ONE (87). The top ten journals by H-index are led by Journal of Sports Sciences and Psychology of Sport and Exercise (both H-index = 32), followed by International Journal of Environmental Research and Public Health (H-index = 31). This concentration indicates that relatively few journals function as primary venues for high-impact research in this field, with the majority of 752 identified journals contributing fewer publications.

The most highly cited research demonstrates the field's breadth and impact, with Smith B's 2018 article in International Review of Sport and Exercise Psychology receiving 2,205 citations (275.63 citations per year). Other highly cited works include Eime RM's 2013 publication (914 citations) and Maugeri G's research on the impacts of COVID-19 (631 citations), reflecting both fundamental theoretical contributions and timely applied research. The three-field plot analysis reveals key researchers, including Sabiston CM, Gerber M, Rhodes RE, and Smith B, as central figures connecting major journals to leading research themes. Author productivity analysis shows that the field follows common academic distribution patterns, with most researchers contributing a single publication, whilst a small number of highly productive authors generate substantial research output. The most relevant affiliations include University of South Carolina (59 articles), University of Toronto (57 articles), and La Trobe University (53 articles), indicating concentrated institutional expertise. These patterns demonstrate democratised research participation and specialised research centres underpinning field development.

The systematic literature review component, which narrowed 2,637 articles to 30 final selections following PRISMA guidelines, reveals several important themes. Research Question analysis shows that motivation studies frequently address intrinsic, extrinsic, and amotivation constructs, often in the context of applications of Self-Determination Theory. Identity research explores how sport participation shapes self-concepts and social identities. Professional practice studies highlight competency gaps and needs for standardised training approaches. Mental health applications show increasingly strong evidence for sport-based interventions, particularly in student populations. Methodological diversity encompasses quantitative, qualitative, and mixed-method approaches, with growing recognition of narrative and post-qualitative methodologies. Risk factor research remains limited but addresses important issues, including burnout, eating disorders, and psychological stress.

Conceptual structure mapping reveals four main dimensional clusters: sport motivation and performance, exercise and mental health, youth sport and education, and cognitive aspects in sport. These clusters demonstrate the field's multifaceted nature and interconnections amongst performance, health, developmental, and cognitive domains. Trending topics analysis identifies "exercise training" and "dyspnea" as emerging areas with high growth rates, indicating field evolution towards more applied and health-focused research directions.

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the exclusive reliance on Scopus as the sole bibliographic database introduces coverage bias. Although Scopus is the largest abstract and citation database, it may underrepresent journals not indexed in Scopus, particularly regional journals from developing countries and newer open-access outlets (Mongeon & Paul-hus, 2016). Future studies should consider triangulating results with Web of Science and/or Google Scholar to provide more comprehensive coverage. Second, the English-language restriction excludes substantial scholarship published in other languages, including significant sport psychology traditions in Spanish, Portuguese, German, Chinese, and Japanese. This linguistic bias disproportionately affects representation from non-Anglophone regions and may distort findings on geographical distribution (Amano et al., 2023). Third, the TITLE-only search strategy, while ensuring high precision in identifying core SEP literature, may have excluded relevant articles that address sport and exercise psychology topics but use alternative terminology in their titles (e.g., "sport psychology," "physical activity and mental health," "exercise and wellbeing"). A broader TITLE-ABS-KEY search may capture additional relevant literature at the cost of reduced

precision. Fourth, bibliometric indicators such as citation counts are subject to citation accumulation bias, in which older articles have had more time to accrue citations, potentially overrepresenting their impact relative to more recent, equally significant work (Van Eck & Waltman, 2020).

The normalised citation metrics used partially address this limitation, but temporal bias cannot be eliminated. Fifth, the keyword-based bibliometric analysis relies on author-assigned keywords, which vary in consistency and specificity across journals and time periods. The absence of a controlled vocabulary may result in fragmentation of conceptually related terms and underestimation of thematic coherence (Donthu et al., 2021). Sixth, grey literature (including conference proceedings, dissertations, government reports, and non-indexed publications) was excluded from this analysis. Given that substantial SEP knowledge production occurs outside peer-reviewed journals (e.g., applied practice guidelines, organisational reports), the bibliometric landscape presented here reflects formal academic publishing rather than the totality of SEP knowledge production.

Suggestions

Several critical gaps emerge from this analysis. Geographical concentration in high-income Western countries limits the cultural validity and global application of current research findings. The research-practice gap, evident in limited consensus on professional competencies, suggests that rapid research growth has outpaced efforts to standardise practice, a concern that has been repeatedly noted in the sport and exercise psychology literature (Keegan et al., 2017; Weinberg & Gould, 2024). The selection ratio from 2,637 initial publications to 30 articles meeting systematic review criteria (1.14%) reflects both the stringent inclusion requirements applied and the observation that a substantial proportion of SEP literature comprises commentaries, editorials, and theoretical papers rather than empirical research, a pattern consistent with selection ratios reported in other bibliometric-systematic reviews in sport science (Marzi et al., 2025; Simsek et al., 2023). Furthermore, limited representation of certain populations, particularly older adults and individuals with disabilities, suggests important research priorities for future investigation.

The quantitative evidence from this bibliometric analysis supports four strategic priorities for future SEP research. First, the geographical concentration data (Section 3.5) indicate an urgent need for capacity-building initiatives in underrepresented regions, particularly Africa, South America (beyond Brazil), and South/Southeast Asia, potentially through funded international collaborative networks and multilingual publication platforms (Kim et al., 2021). Second, the keyword evolution analysis suggests that research on psychological risk factors (burnout, eating disorders, exercise addiction) remains disproportionately understudied relative to its practical importance, warranting targeted funding and journal special issues (Hidayat et al., 2026). Third, the low representation of certain population keywords (older adults, disability, gender minorities) indicates significant gaps in inclusivity that limit the field's relevance to diverse populations (Ryba et al., 2013). Fourth, the methodological trend toward mixed-methods and post-qualitative approaches requires investment in researcher training and development of quality assessment frameworks appropriate for these emerging paradigms (Monforte & Smith, 2023). Collectively, these four priorities (geographical equity, risk factor research, population inclusivity, and methodological capacity) constitute an evidence-based roadmap derived from two decades of bibliometric data, offering research funders and professional organisations concrete directions for strategic investment in SEP development.

CONCLUSION

This study offers the first integrated bibliometric and systematic literature review of Sport and Exercise Psychology from 2005 to 2025, showing that the field has grown rapidly and evolved from a performance-focused area into a broader, more interdisciplinary discipline connected to public health, mental health, and lifespan development. By combining bibliometric mapping and systematic synthesis, this study provides a strong and replicable methodological framework for understanding both the structural characteristics and substantive development of SEP research. The findings also highlight important practical and policy implications, particularly the need to expand SEP applications beyond performance enhancement to include mental health promotion in educational and community settings, and to reduce global research inequalities through stronger international collaboration, multilingual knowledge platforms, and capacity-building initiatives. Future research should focus on longitudinal evidence, underrepresented populations, psychological

risk factors, and the real-world implementation and sustainability of SEP interventions across diverse cultural contexts.

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AUTHOR CONTRIBUTION STATEMENT

YH: Conceptualization, Methodology, Formal Analysis, Investigation, Writing – Original Draft, Project Administration, Funding Acquisition. MSOF: Validation, Writing – Review & Editing, Supervision. NS: Supervision, Writing – Review & Editing. ST: Writing – Review & Editing, Validation. UI: Writing – Review & Editing. HAM: Writing – Review & Editing. BH: Data Curation, Visualization. DIM: Data Curation, Software. NM: Data Curation, Visualization.

AI DISCLOSURE STATEMENT

The author transparently discloses that artificial intelligence technology (Claude AI, Anthropic) was utilized for language editing, grammatical refinement, and formatting consistency checks. All intellectual contributions, including research design, conceptual framework development, data collection and analysis, systematic review implementation, interpretation of findings, and original manuscript drafting, were performed entirely by the human author. AI tools did not contribute to the formulation of research questions, the selection of literature, the development of data analysis strategies, or the generation of substantive content. This disclosure reflects the author's commitment to research integrity and to emerging scholarly standards for the transparent use of AI in academic publishing.

CONFLICTS OF INTERES

The author declares no conflicts of interest related to this research. This study was funded by the Annual Work Plan and Budget of the Research and Community Service Institute, Universitas Pendidikan Indonesia, Fiscal Year 2025 (Contract Number 360/UN40.D/PT.01.01/2025). The funding institution had no role in the design of the study, data collection and analysis, interpretation of results, manuscript preparation, or the decision to publish the findings. The author maintains no professional, financial, or personal relationships with organizations or individuals beyond the disclosed institutional funding that could present conflicts of interest concerning this manuscript's subject matter, methodology, findings, or conclusions.

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