

Available online at: <http://journal.unj.ac.id/unj/index.php/gjik>
Gladi: Jurnal Ilmu Keolahragaan 16 (01) 2025, 111-124
Permalink/DOI: <https://doi.org/10.21009/GJIK.161.11>

THE EVOLUTION OF SPORT PSYCHOLOGY STUDIES IN BASKETBALL: A BIBLIOMETRIC APPROACH TO GLOBAL PUBLICATIONS

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(Submission Track: Received: 11-02-2025, Final Revision: 10-03-2025, Available Online: 17-03-2025)

Abstract : Research in the field of sport psychology, especially in basketball, has grown rapidly in the last decade. This study examines the trends and evolution of research in basketball sport psychology through a bibliometric analysis approach. With a total of 905 articles analyzed from 2014 to 2024, this study aims to understand the development of the research focus and its contribution to the discipline. Through bibliometric analysis of data obtained from the Scopus database, we investigated scientific publications related to sports psychology in basketball. VOSViewer software facilitated the visualization of collaboration networks between researchers, institutions, and research topics, thus providing a deeper understanding of the structure and dynamics within this field of study. The bibliometric methods used in this study provided insights into research trends over time, identified key topics of interest to scholars, and highlighted contributions from leading institutions and researchers in the field of sport psychology in basketball. This study emphasizes the importance of ongoing research and collaboration in developing a deeper understanding of the psychological aspects of basketball. In addition, the study included a systematic literature review to map out potential areas of future research based on current trends. As such, this study offers a comprehensive guide for future research in the field of sport psychology in the context of basketball, which can benefit coaches, athletes, and academics interested in the mental aspects of the sport.

Keywords: Sport Psychology; Basketball; Bibliometrics; Research Trends



INTRODUCTION

Psychology in sports has an important role in improving the performance of players or athletes, especially in sports that require high intensity such as basketball (Amaliyah & Khoirunnisa, 2018). Several psychological factors, such as anxiety, self-efficacy, and motivation, significantly influence athletes' performance on the field (Hardiansyah & Masturah, 2019; Sulendro, 2023). High motivation can help athletes train harder (Singh, Kaur Arora, & Boruah, 2024). With hard and consistent training, athletes have the potential to perform better in matches, while excessive anxiety can provide obstacles to players in decision-making and coordination of athlete movements (Mulya, 2021; Rhamadian, 2022). Self-efficacy or confidence in the athlete's ability also contributes to the player's success in maintaining performance to score points during the game (Febriani, Listiandi, Budi, Hidayat, & Burhansyah, 2024).

The role of sports psychology in modern sports, including basketball, has increased every year in the world (Cao et al., 2022; Reprint & Bianco, 2023; Zhou, 2022). Initially, research focused on mental training techniques to improve concentration and cope with the pressure of competition (Prapavessis & Carron, 1996). The pressure of a competitive sport like basketball can greatly affect a player's performance, so ways were developed to better manage stress (Tossici, Zurloni, & Nitri, 2024). Over time, psychological approaches to basketball have evolved to examine more complex aspects of psychology (Han, Gómez-Ruano, Calvo, & Calvo, 2023). Affective and cognitive approaches are now gaining more attention, with researchers and writers examining how self-control, perception, and emotions can profoundly affect athlete performance (Annisa & Kurniawan, 2022; Ashford, Abraham, & Poolton, 2021).

Bibliometric approaches play an important role in researching or analyzing global publication trends, including in the field of basketball sport psychology (X. X. Chen et al., 2023; Millet, Brocherie, & Burtscher, 2021). This analysis is done by quantitatively measuring publications globally, such as the number of citations, author collaborations, and relationships between keywords, which allows mapping the dynamics of research over time (Çelîk, 2023; Donthu, Kumar, Mukherjee, Pandey, & Lim, 2021; Nagorna et al., 2023). In the case of basketball sport psychology, this approach helps to identify key foci in research, such as motivation, confidence, and mentality to improve playing performance (Lestari & Dewi, 2022). Thus, this bibliometric analysis technique is a very

useful tool for the academic community and sports practitioners (Khatra, Shadgan, Taunton, Pakravan, & Shadgan, 2021).

One of the significant research shortcomings in basketball sports psychology is the lack of thorough research on the development of this discipline using bibliometric analysis methods (Farhah, Muluk, & Kurniawan, 2024). Although research on basketball sport psychology has grown rapidly, most studies have focused on specific elements, such as athlete motivation or performance, without exploring the dynamics of the research as a whole through bibliometric mapping (Tanjung, Hidayat, & Hambali, 2023). A bibliometric approach enables the identification of evolutionary patterns in basketball sport psychology through a deeper understanding of publication trends, researcher collaborations, and emerging research topics (Yunus & Hanief, 2022). By reviewing the current literature, this study aims to fill the gap and provide new insights into the development of basketball sports psychology studies. The research covers key topics such as psychological influences on performance and effective mental interventions. In doing so, the study not only increases knowledge on the topic but also opens up opportunities for wider research collaborations within the field.

METHODS

In this study, a bibliometric analysis method was used to identify patterns, trends, and developments in the literature related to psychology in the sport of basketball (Apriady & , Mustika Fitri, 2024; Donthu et al., 2021; Verma & Gustafsson, 2020). This bibliometric method was chosen because it can provide comprehensive details about the relationship between researchers, journals, institutions, and research topics that are developing in this field (Garg et al., 2023; Wen et al., 2024). By using this analysis, the researcher aims to gain insight into the shaping of basketball sport psychology research trends (Permana Dewi, Setiakarnawijaya, Vanagosi, Lusiana, & Iragraha, 2023).

The data in this study was obtained through the Scopus Database provided by Elsevier, which is widely recognized as having a wide scope and high credibility in providing relevant academic publications (Soleh , Mustika Fitri, Sandey Tantra Paramitha, 2024; Yubo, Ramayah, Hongmei, Yifan, & Wenhui, 2023). The publications included journal articles, books, and other scientific documents related to sports psychology, especially basketball. The analysis process was preceded by a literature

search using keywords such as Basketball Physiology. Through these keywords, about 905 articles were found for more than 10 years, from 2014 to 2024. The analysis of the Scopus database on March 2, 2025, aimed to collect journals and articles. By applying a science mapping approach, the available literature was explored, and bibliographic data obtained from various documents in this field was analyzed (Hilmy Apriady, Babang Robandi, 2024).

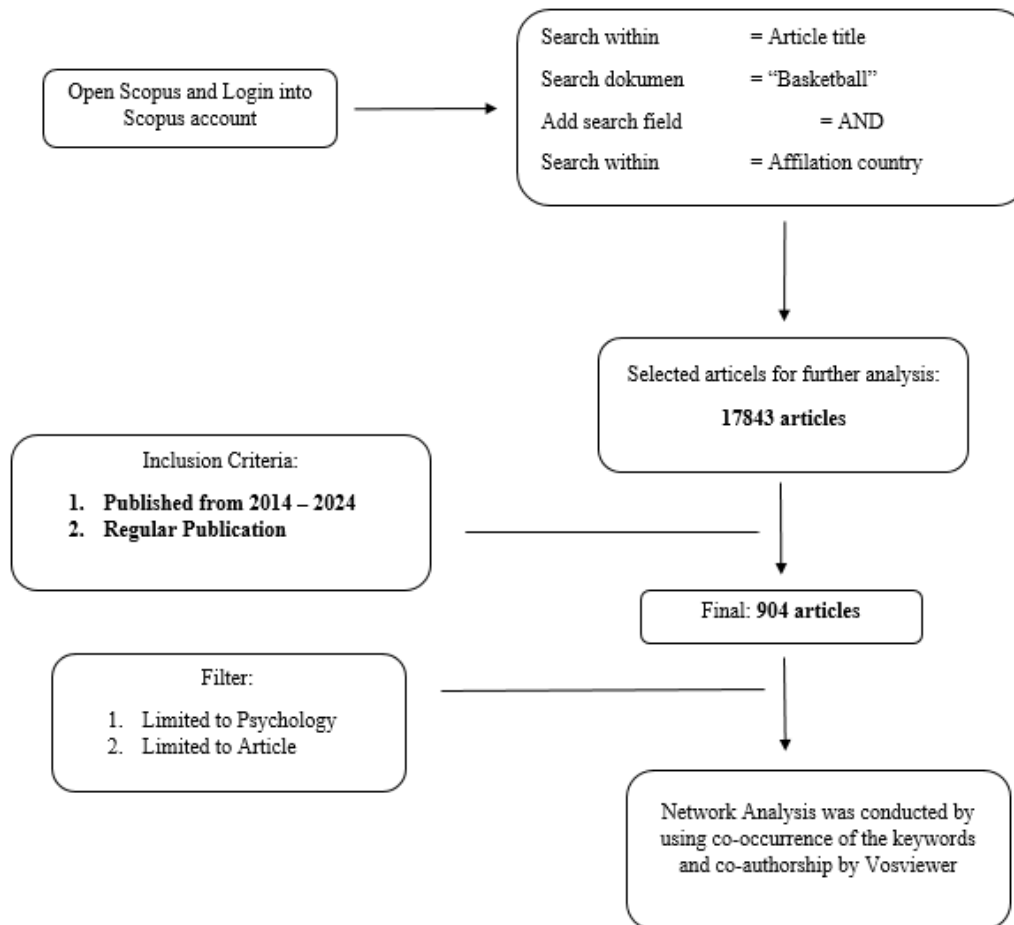


Figure. 1. Document Article Filtering Process in Scopus

To increase the relevance of the data, by narrowing the search to focus specifically on the topic of basketball sport psychology, by extracting relevant information such as bibliographic details, abstracts, citations, keywords, findings and other data. The search focused on article titles to ensure relevant inclusion of reports. VOSViewer software was used to visualize collaborations and patterns emerging from the bibliometric data. The specific keyword searches used are outlined below.

TITLE-ABS-KEY (basketball) AND PUBYEAR > 2013 AND PUBYEAR < 2025 AND (LIMIT-TO (SUBJAREA , "PSYC")) AND (LIMIT-TO (DOCTYPE , "ar"))

RESULTS AND DISCUSSION

From 2014 to 2024, researchers from various countries have published several articles on sport psychology in basketball. The publication trend related to sports psychology in basketball during this period is shown in Figure 2. Based on the Scopus Database analysis, in 2014, 44 articles were published. In 2015, the number of publications almost doubled to 87 publications, in 2016 it decreased to 49 publications, then this number increased again to 93 publications in 2017. In 2018 there was a change to 63 articles, then in 2019 and 2020, the number of publications did not increase significantly, namely 87 and 89 publications.

In 2021, the peak of article publications was 109 publications, then decreased in 2022 to 84 articles. this number continued to increase in 2023 and 2024 to 93 and 107 publications. From these data, it shows an increasing interest in research on basketball psychology.

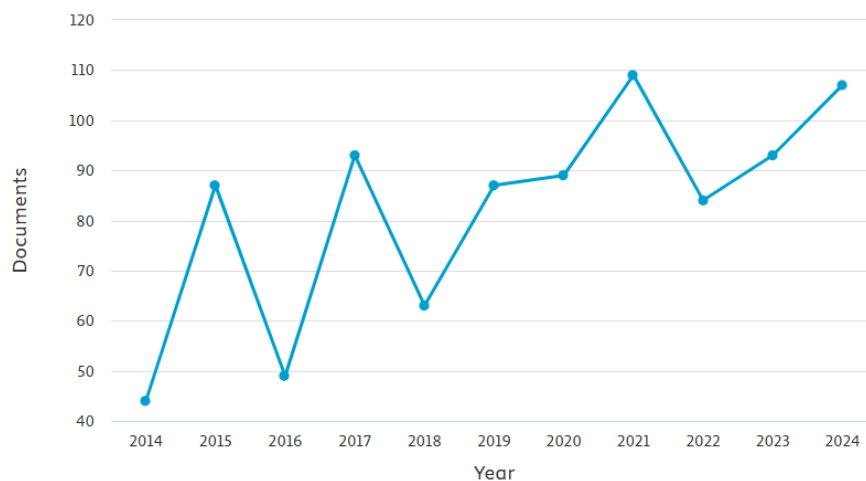


Figure 2. Document Published on Scopus Databased

Table 1 shows the 10 authors with the most influential articles in basketball sport psychology research. The first position is occupied by the article published by Fransen et al, with a total number of citations reaching 132. The second position is occupied by Anguera et al, with a total of 116 citations. The third position is occupied by the article published by Swaab et al, with a total of 103 citations. The fourth position is occupied by Tekovc et al, with a total of 96 citations. Meanwhile, the articles published by Swann, Gheller, Hively, Tse, Pino-Ortega, and Roman, respectively, have a total of less than 95 citations.

Tabel 1. Top 10 articles with the most citations on Scopus

Document title	Authors and Year	Citations Total
Believing in Us: Exploring leaders' capacity to enhance team confidence and performance by building a sense of shared social identity	(Fransen et al. 2015)	132
Observational methodology and sports psychology: State of affairs Metodología observacional y psicología del deporte: Estado de la cuestión	(Anguera et al. 2014)	116
The Too-Much-Talent Effect: Team Interdependence Determines When More Talent Is Too Much or Not Enough	(Swaab et al. 2014)	103
Perceptions of dual career development among elite level swimmers and basketball players	(Tekovc et al. 2015)	96
Youth sport as a context for supporting mental health: Adolescent male perspectives	(Swann et al. 2018)	95
Effect of different knee starting angles on intersegmental coordination and performance in vertical jumps	(Gheller et al. 2015)	94
You throw like a girl: The effect of stereotype threat on women's athletic performance and gender stereotypes	(Hively et al. 2014)	93
Examining the impact of physical activity on sleep quality and executive functions in children with autism spectrum disorder: A randomized controlled trial	(Tse et al. 2019)	88
Impact of contextual factors on external load during a congested-fixtured tournament in elite U'18 basketball players	(Pino-Ortega et al. 2019)	79
Training and competition load monitoring and analysis of women's amateur basketball by playing position: Approach study	(Roman et al. 2019)	76

Figure 3 shows that among the 10 most prolific researchers in the related field of basketball psychology, several authors have made significant contributions through

their publications. Researchers such as Weigelt Matthias and Guldenpenning Iris have contributed significantly by publishing 17 and 14 papers, respectively, while Ibanez Sergio Jose, Lorenzo Alberto, Garcia-Rubio, and Perez-Tejero have published 13, 12, 11, and 10 papers, respectively. Kunde Wilfried, Feu Sebastian, Khacharem Aimen, and Zhang Shaoliang have also made important contributions with 8 papers that address crucial aspects of basketball psychology research. However, in terms of the number of cited articles, the order of authors changes with Ibanez Sergio Jose having the highest number of citations has showing a very impressive level of productivity with his 13 articles. The authors illustrate their commitment through their publications by innovating and advancing knowledge in the field of sport psychology specifically in the sport of basketball.

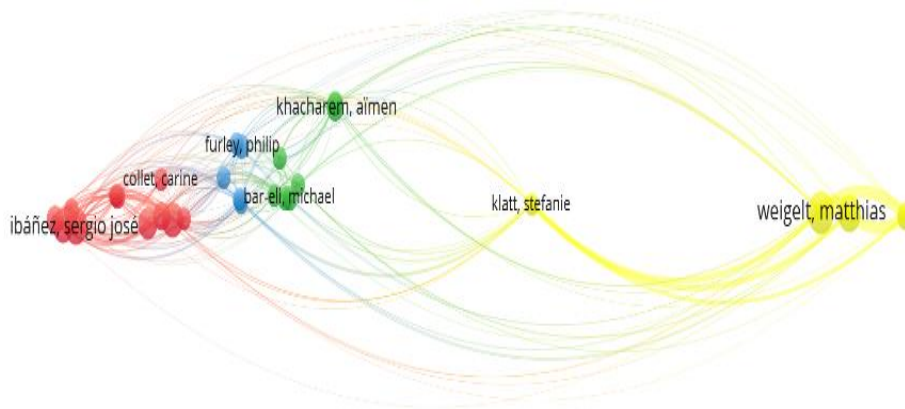


Figure. 3. Productive Authors based on Documents and Citation

Tabel. 2. Authors, Documents and Citations

Rank	Author	Document	Cite	Rank	Author	Document	Cite
1	weigelt, matthias	17	145	6	pérez-tejero, javier	10	72
2	güldenpenning, iris	14	129	7	kunde, wilfried	8	88
3	ibáñez, sergio josé	13	292	8	feu, sebastián	8	189
4	lorenzo, alberto	12	139	9	khacharem, aïmen	8	42
5	garcía-rubio, javier	11	270	10	zhang, shaoliang	8	98

Table 3 provides information on the top 10 countries based on the documents generated. Spain occupies the first position with a total of 216 documents, followed by

the United States in the second position with 192 documents, and the third position is occupied by the United Kingdom with a total of 64 documents. Germany produced 65 documents. Australia, Canada, China, and Brazil produced 41, 54, 82, and 54 documents respectively. Portugal and Italy produced less than 40 documents. Table 3 also shows the 10 countries with the highest number of citations, where the United States is ranked first with 2504 citations, Spain is in second place with 1900 citations, and the third rank is occupied by the United Kingdom with 1076. While other countries such as Australia, Brazil, Germany, Canada, Italy, Portugal, and China have less than 1000 citations. Figure 4 illustrates the collaboration network map, where the United States has the most significant central role, followed by Spain, the United Kingdom, China, and Canada. This data shows close collaboration with other countries and a very strong academic presence.

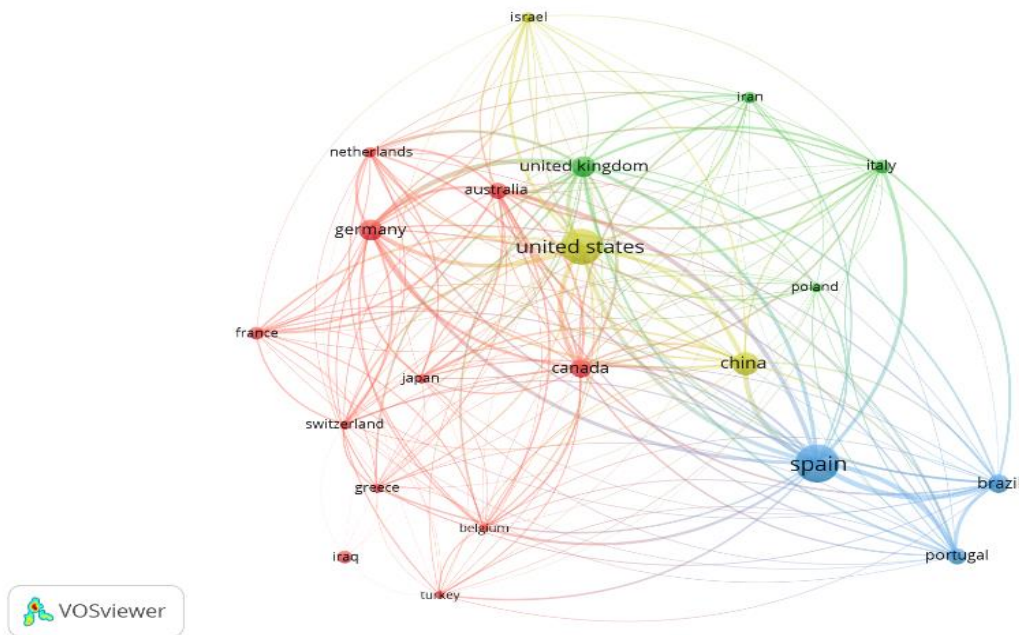


Figure 4. Most productive countries based on documents and citations

Tabel 3. Country, Documents and Citations

Rank	Author	Document	Cite	Rank	Author	Document	Cite
1	Spain	216	1900	6	Canada	54	758
2	United States	192	2504	7	China	82	442
3	United Kingdom	64	1076	8	Brazil	64	803
4	Germany	65	796	9	Portugal	39	472
5	Australia	41	854	10	Italy	29	572

Keywords provide key information about the content of an article, and when two or more keywords appear simultaneously in the same article, they are known as co-keywords (Su & Lee, 2010). In the field of scientific knowledge, co-keyword analysis can be utilized to identify trending research topics and explore research boundaries (C. Chen, Dubin, & Kim, 2014; Su & Lee, 2010). In this study, researchers created a co-keyword graph using the co-keyword function in VOSviewer with the fractional counting method, set the minimum number of occurrences of 7 keywords, and used the author's keywords as the unit of analysis. Each cluster has been grouped and is presented in Table 4 and Figure 5 of the clustering results.

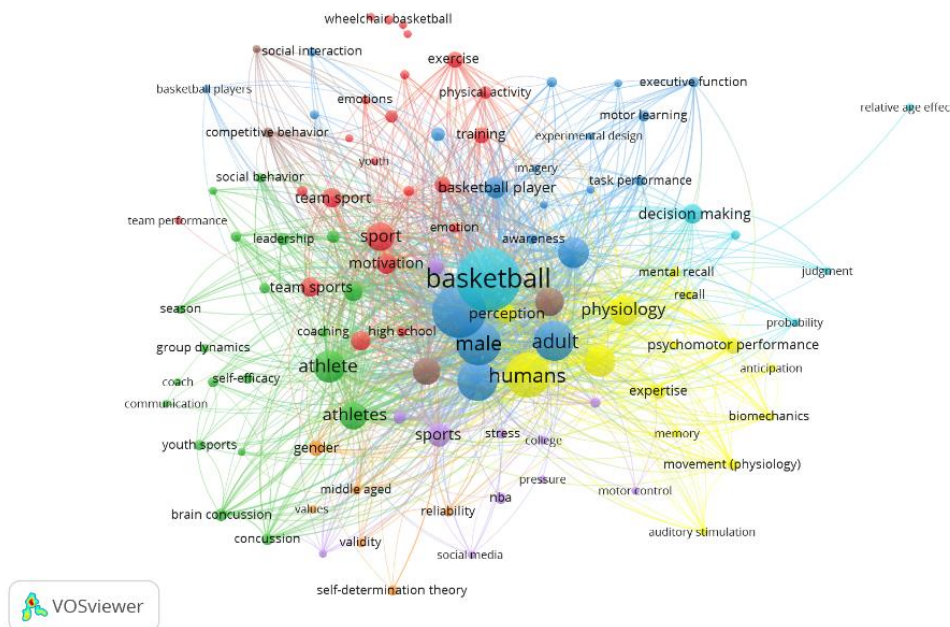


Figure 5. Keyword Analysis

Table 4. Clusters and Keywords based on VOSViewer

Cluster	Item	Colour	Percent	Total
Cluster 1	classification, coaches, comparative study, emotion, emotions, exercise, heart rate, high school, motivation, paralympic sport, performance, performance analysis, physical activity, self-determination, shooting, skill, sport, team performance, team sport, team sports, training, wheelchair basketball, youth	Merah	22.12%	23

Cluster 2	age, athlete, athletes, brain concussion, child, coach, coaching, communication, concussion, group dynamics, leadership, peer group, season, self-concept, self-efficacy, social behavior, sport psychology, sports psychology, youth sport, youth sports	Hijau	19.23%	20
Cluster 3	adult, awareness, basketball player, basketball players, children, college student, executive function, experimental design, female, human, human experiment, imagery, male, mental health, mindfulness, motor learning, physical education, social interaction, task performance, theoretical study	Biru	19.23%	20
Cluster 4	anticipation, auditory stimulation, biomechanics, expertise, humans, memory, mental recall, movement (physiology), perception, physiology, psychomotor performance, recall, social perception, young adult	kuning	13.46%	14
Cluster 5	anxiety, college, decision-making, motor control, NBA, pressure, social media, sports, stress, student, student athlete	ungu	10.58%	11
Cluster 6	basketball, decision making, judgment, prediction, probability, relative age effect	Biru muda	5.77%	6
Cluster 7	gender, middle aged, reliability, self-determination theory, validity, values	Oranye	5.77%	6
Cluster 8	athletic performance, competitive behavior, psychology, social status	Coklat	3.85%	4
	Total		100%	104

The results of this study indicate a significant increase in publications related to basketball sport psychology over the period 2014 to 2024. This trend indicates that mental factors such as motivation, psychological resilience, and emotion regulation strategies are increasingly recognized as key elements in the development of athletes' skills and performance. The number of publications peaked in 2024 with 107 articles, reinforcing the view that psychological approaches in the sport of basketball not only contribute to

improved individual and team performance but also to the mental well-being of athletes. An analysis of researcher contributions shows that several researchers, such as Weigelt Matthias and Guldenpenning Iris, have played a very significant role in expanding the sport psychology literature, especially regarding psychology in basketball. The high number of publications shows that the researchers have been successful and dedicated to developing understanding in this field. Ibanez Sergio Jose, with a high number of citations, shows great influence in the understanding of basketball psychology, indicating that their research has made an important contribution to the direction of future research. In addition, Spain leads the way in the number of published articles on this topic, followed by the United States and the United Kingdom, with each country showing that psychology influences the other.

In addition, Spain leads in the number of published articles on this topic, followed by the United States and the United Kingdom, with each country showing that psychology influences the success of basketball athletes. Spain also has a close network of international collaborations with various countries, including Germany, Australia, Canada, and China, demonstrating the importance of global cooperation in improving the understanding of the influence of psychology in sports, especially basketball, around the world. Analysis of the co-occurrence of keywords in this study also revealed key topics in the basketball sport psychology literature. Themes such as “motivation” “emotion” and “self-determination” emerged as dominant topics, indicating that researchers' attention is currently focused on understanding the motivations of basketball players, and how they manage their emotions when practicing or competing. These groupings provide an overview of the main trends in research as well as aspects that still require further exploration.

Overall, the findings of this study highlight that basketball sports psychology is increasingly recognized as a crucial element in the development of athletes globally. An increasing number of studies, significant contributions from leading experts, and extensive international collaboration demonstrate that psychological aspects play a fundamental role in improving athletes' performance, mental resilience, and readiness to deal with competitive pressures. The results of this study provide a strong foundation for the development of more effective sports psychology strategies that support the improvement of the mental well-being and performance of basketball athletes at all levels.

CONCLUSIONS

In brief, the findings provide comprehensive insights into the trends, evolution, and collaborative dynamics of research in basketball sport psychology from 2014 to 2024. Based on publications from the Scopus Database, the findings revealed that the number of published articles has increased, although there is an up-and-down trend from year to year. This study shows that the trend and number of publications increased at its peak in 2021, then in the last year 2024 it decreased but not too drastically. Most publications are written by researchers located in several countries, Spain is the country that contributes the most documents, the United States is the country with the highest number of citations, Weigelt Matthias is the most published author, Ibanez Sergio Jose is the most influential author with the most citations. This analysis can provide insight into the development of research in the field of sport psychology in basketball, as well as being a useful source of information for coaches, athletes, sports psychologists, educational institutions, and the sports community.

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