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Yoga's Evolution in Sports Science: A Bibliometric Assessment of Research Trends

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ABSTRACT

This bibliometric assessment delves into the evolving relationship between yoga and sports science, exploring the interdisciplinary convergence of ancient holistic practices and modern athletic performance optimization. With a systematic approach employing the Web of Science database, this study analyzes 111 scholarly documents published between 2013 and 2023, providing insights into thematic trends, prolific authors, influential journals, and global contributions. The research showcases a steady annual growth rate of 4.14%, indicating a sustained interest in the subject. Collaborative efforts are evident, with an average of 4.47 co-authors per document and 18.92% international collaborations. The United States emerges as a research leader with 41 articles, closely followed by Australia, Canada, and China. These contributions highlight the multifaceted benefits of yoga in enhancing athletic prowess, injury prevention, and overall well-being. As global interest intensifies, this analysis underscores the importance of interdisciplinary cooperation and cross-cultural exploration to harness yoga's potential within sports science for informed practices and future advancements.

Keywords: Yoga, Sports Science, Bibliometric Analysis.

Introduction

Yoga, an ancient practice rooted in holistic well-being and mindfulness, has witnessed a significant surge in popularity and recognition in recent decades (Iyengar, 1991). Its potential benefits encompass physical, mental, and emotional dimensions, making it an intriguing subject of

study within the realm of sports science (Rauf, 2002). As athletes and sports enthusiasts continually seek innovative methods to optimize performance, prevent injuries, and enhance overall athletic prowess, the integration of yoga into sports training regimens has garnered attention as a potentially transformative approach (delectate & Cohen 2008).

The fusion of yoga and sports science offers a dynamic intersection that holds promise for both scientific inquiry and practical application (Lutz eta, 2008). As yoga's role in athletic performance and recovery becomes increasingly acknowledged, an exploration of its evolving presence within sports science literature becomes imperative (Streeter, et al., 2007). A bibliometric analysis of this interplay

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Objectives

The primary objectives of this research paper are as follows:

1. To quantify the volume of research conducted on the integration of yoga within the domain of sports science.
2. To identify seminal publications and influential country in the field.

Methodology

This bibliometric study involved a systematic approach to analyze the intersection of yoga and sports

science using the Web of Science database. The initial search utilized the key term "Yoga," which was subsequently refined to focus specifically on the sports science research area, resulting in the identification of 403 relevant documents. Further refinement was carried out by narrowing the search to articles published between the years 2013 and 2023, yielding a subset of 295 documents. To ensure linguistic consistency, only articles published in the English language were included, resulting in a final dataset of 292 articles. Within this refined dataset, the analysis was further narrowed down to focus exclusively on articles, resulting in a core set of 111 articles that were subjected to in-depth analysis using R Studio.

Data extraction encompassed pertinent details such as article titles, authors, publication years, journals, abstracts, keywords, and citation counts. The analysis phase involved the utilization of bibliometric software and packages within R Studio.

Analysis of Data

The dataset for this bibliometric study covers the timespan from 2013 to 2023 and comprises a total of 111 documents sourced from 52 different journals, books, and other academic publications. The annual growth rate for the documents within this period is approximately 4.14%, indicative of a steady increase in scholarly output over time. The average age of the documents is 4.35 years, suggesting that the research being analyzed is relatively recent. On average, each document has received approximately 11.59 citations, indicating a degree of recognition and impact within the academic community. Collectively, the documents reference a total of 4,217 sources, showcasing the depth of research engagement.

The contents of the documents are enriched by a substantial number of Keywords Plus (ID) and Author's Keywords (DE), totaling 477 and 357, respectively. These keywords provide valuable insights into the diverse thematic dimensions explored within the intersection of yoga and sports science.The dataset involves the contributions of 474 authors, with 7 authors having single-authored documents. Authors collaborated on average with 4.47 co-authors per document, underscoring the collaborative nature of the research field. Approximately 18.92% of the co-authorships are international, highlighting the global reach and collaboration within this subject.

IN terms of document types, the majority of the dataset comprises articles (106), while there are also 2 articles in the "early access" category and 3 articles classified as "proceedings paper. The year wise publication details present in the figure 1.

The year-wise publication details presented in the dataset provide a nuanced perspective on the dynamic evolution of research at the intersection of yoga and sports science. In 2013, 6 articles marked an initial step towards recognizing the potential of yoga within this domain. This interest continued to develop in 2014, with 7 articles, and remained consistent in 2015, suggesting a sustained scholarly engagement. In 2016, the publication count surged to 12, indicative of an emerging recognition of yoga's relevance in optimizing athletic performance. A subsequent dip to 6 articles in 2017 may reflect shifts in research focus or a momentary reevaluation. However, the momentum quickly rebounded in 2018, with 13 articles, underscoring a renewed commitment to investigating the synergy between yoga and sports science. The year 2019 maintained a steady course with 7 articles, indicating

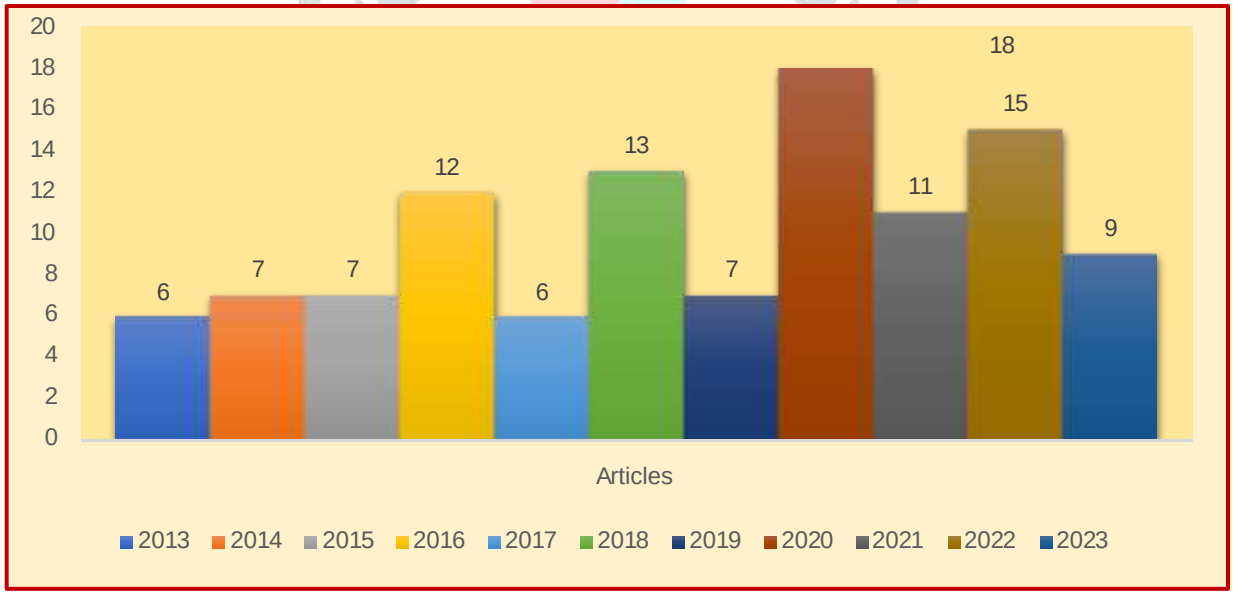

Figure 1

ongoing attention to this interdisciplinary field. A notable surge of 18 articles in 2020 could be attributed to the heightened interest in holistic approaches, like yoga, amid global health challenges. In 2021, 11 articles maintained the momentum, while 2022 experienced another notable increase with 15 articles, suggesting a consistent and sustained growth trajectory.

As the dataset concludes with 9 articles in 2023, the trend underscores a continuous scholarly dedication

to exploring the potential impact of yoga on athletic performance and overall well-being. This year-wise analysis reveals an overarching pattern of increasing interest and contributions, highlighting the expanding recognition of yoga's role in enhancing sports science research. Figure 2 shows the top 10 countries' publication details.

The ranking of countries based on their contributions to the research landscape at the confluence of yoga and sports science offers a comprehensive perspective on the global engagement within this dynamic field. At the forefront, the United States (USA) takes a commanding lead with 41

articles, signifying a robust research culture and a dedicated exploration of the interplay between yoga and sports science. This dominant presence underscores the depth of scholarly inquiry and the extensive efforts to uncover the potential synergies between these disciplines. Australia secures the second position with 12 articles, indicating a notable commitment to advancing understanding in the realm of yoga and sports science. This substantial contribution showcases Australia's dedication to investigating the impact of yoga practices on athletic performance and overall well-being. In the third and fourth positions, Canada and China each contribute 8 articles, highlighting a shared interest in bridging the realms of yoga and sports science. These countries exhibit a growing recognition of the potential benefits that yoga may offer to athletes and the broader field of sports research. Japan's contribution of 6 articles demonstrates the nation's engagement in exploring the connection between yoga practices and athletic excellence. This presence reflects Japan's commitment to holistic approaches to health and well-being, encompassing both physical and mental dimensions. The United Kingdom (UK) follows with 5 articles, showcasing the UK's interest in examining the intersection of yoga and sports science from a British academic perspective. India, renowned for its rich heritage in yoga, presents 4 articles that underscore the nation's exploration of the application of yogic principles within the realm of sports science. This contribution highlights India's role as a source of traditional knowledge and its growing engagement with contemporary research domains. Both Iran and Turkey present 4 and 3 articles, and Lastly, Brazil's 2 respectively.

Conclusion

In conclusion, this bibliometric analysis has provided a comprehensive overview of the research landscape at the confluence of yoga and sports science. The dataset's temporal span, citation counts, diverse keywords, collaborative nature, and international engagement together emphasize the multidimensional nature of the field. The consistent growth in publications demonstrates the persistent interest in studying the potential benefits of yoga within the realm of sports science. As countries like the United States, Australia, Canada, China, and others contribute significantly, the global reach of research efforts is evident.

The interplay between yoga and sports science holds promising avenues for enhancing athletic performance, preventing injuries, and fostering overall well-being. This study's findings underscore the need for continued interdisciplinary collaboration, diversified research approaches, and a cross-cultural understanding to harness the potential benefits that yoga offers to athletes and the broader sports community. As the field advances, this research can serve as a foundation for informed decisions, evidence-based practices, and future directions in the integration of yoga within sports science.

Reference

1. delectate, A., & Cohen, D. (2008). "Physiological testing of basketball players: toward a standard evaluation of anaerobic fitness." The Journal of Strength & Conditioning Research, 22(4), 1066-1072.

2. Ganzel, W. (2003). "Bibliometrics as a Research Field: A Course on Theory and Application of Bibliometric Indicators." COLLNET Journal of Scient metrics and Information Management, 1(1), 5-20.

3. Iyengar, B. K. S. (1991). "Light on Yoga." HarperCollins.

4. Lutz, A., Slighter, H. A., Dunne, J. D., & Davidson, R. J. (2008). "Attention regulation and monitoring in meditation." Trends in cognitive sciences, 12(4), 163-169.

5. Ranasinghe Hairston, C., RAMESH, K., Raja Mani, R., & Suraya, M. P. A (2023). Bibliometric Analysis on Soccer Small Side Games. Rabindra Bharati Journal of Philosophy

6. Ramakrishnan, R., Parasuraman, T., Selvam hurricane, B., Vivek, T., Deepak, JS., Mohandas, L., (2023). Bibliometric Analysis of Research on Physical Activity and Motor Skills from 1990 – 2020. European Chemical Bulletin.

7. Rauf, J. A. (2002). "Psychophysiological effects of Hatha Yoga on musculoskeletal and cardiopulmonary function: a literature review." The Journal of Alternative and Complementary Medicine, 8(6), 797-812

8. Streeter, C. C., Jensen, J. E., Perlmutter, R. M., Cabral, H. J., Tian, H., Terhune, D. B., ... & Renshaw, P. F. (2007). "Yoga asana sessions increase brain GABA levels: a pilot study." Journal of Alternative and Complementary Medicine, 13(4), 419-426.