

Publication trends on sports sociology: Global perspectives and emerging themes

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ABSTRACT

This study examined the depiction of publication trends and the transformation of scholarly discourse within sports sociology publications. The investigation utilised the Scopus and WoS databases to compile a comprehensive list of sports sociology publications. Employing ScientoPy and VOSviewer, the study dynamically constructed science maps and visualisation networks. In the Scopus database, there were 516 publications, and in the WoS, 216, resulting in 732 publications, constituting 79.13% of the overall count between 1990 and 2022. Sports Sciences emerged as the predominant field with 119 publications, and the most prolific source title over the three decades was the International Review for the Sociology of Sport. The United States and Germany stood out as the top two countries, each contributing over 100 publications. The keyword “sports sociology” demonstrated close associations with “development,” “athlete,” and “physical education,” particularly evident since 2015. This study is poised to lay the groundwork for future endeavours to enrich and invigorate sports sociology research. It underscores the need for sports sociologists to delve into novel insights, including the interplay between sports sociology and mental health, gender disparities, sports injury management, and artificial intelligence. The intriguing social dimensions of

physical education and sports training are underscored for their significance in shaping daily human activities, behaviours, and emotions.

KEYWORDS

Sports Sociology; Physical Education; Sports; Bibliometrics

1. INTRODUCTION

The discipline of sports sociology, alternatively known as the sociology of sports, investigates the manifestation of sports and their influence on society (Crossman, 2021). Tan (2022) posits that sports sociology is a field that encompasses the integration of sports science and sociology, with a focus on social functions, developmental patterns, and the dynamic relationship between sports and society. Furthermore, scholars in the field of sports sociology have endeavoured to integrate components derived from disciplines such as education, philosophy, social psychology, and economics (Dart, 2014). Sports sociology has grown significantly in the 21st century, focusing on the interconnections between sports, cultures, and society (Tian & Wise, 2020). The acknowledgement of cultural features and values within athletics can be traced back to ancient civilisations, as exemplified by the inaugural Olympic Games held approximately in 776 BCE (Abdulsalam et al., 2022). The Olympic Games occupy a prestigious position among notable events. The study by Maheshwari et al. (2019) demonstrated a substantial impact of socio-cultural and economic aspects on the level of support received by the Olympic Games. These findings implicitly emphasise the crucial significance of sports sociology in understanding several facets of sports.

Sports are vital in promoting physical and mental well-being within contemporary society. Additionally, it serves as a protective barrier against potentially harmful foreign ideologies and behaviours, hence facilitating the development of young individuals to their utmost capabilities (Rakhimov, 2022). In addition, individuals across various age groups, including children, adolescents, and adults, constantly participate in sports and engage in physical activity to enjoy, display excitement, and promote overall well-being (Broch, 2022). Moreover, it is intriguing to observe that sports are a prominent force that interconnects several facets of contemporary existence, encompassing enjoyment, economics, society, and health (Sofian et al., 2022). Based on the limited information presented, one could deduce that sports possess multifaceted and existential qualities, serving as platforms for individuals to embrace contemporary societal standards and cultivate advantageous social phenomena within communities as time progresses. The factors mentioned

provide insight into the enduring presence of sports within human society, therefore providing a rationale for expanding research in sports sociology.

Due to its unique blend of universally appealing features, sports have become an indispensable social institution in every culture involving physical education and sports training. A likely reason is that social interaction occurs between individuals and groups through communication, conflict, commercialisation, bureaucratisation, socialisation, and institutionalising processes (Golia & Teubner, 2021). Sociologists have been documenting and analysing research trends in the field of sport sociology since the 1970s (Tian & Wise, 2020). However, Malcolm (2014) contends that the sociology of sport should not be viewed as entirely culturally neutral but rather as conveying ideas created via deep interest, unbiased and motivated. It is also important to wonder if there are significant inconsistencies in how the field of sociology of sport has grown (Tian & Wise, 2020). The sociology of science indicates that successful researchers in a particular subject add to the works of previous scholars whose citations demonstrate disciplinary knowledge domains (Harker & Adam, 2018). This suggests, inferentially, that debates about critical factors that can help solve related problems have been fundamental to previous sports sociological research that is frequently cited.

Due to its distinctive combination of universally appealing features, sports have evolved into an essential social institution across cultures, encompassing physical education and sports training. This prominence is likely attributable to social interaction unfolding among individuals and groups through various processes such as communication, conflict, commercialisation, bureaucratisation, socialisation, and institutionalisation (Golia & Teubner, 2021). Sports sociology has been a subject of documentation and analysis by sociologists since the 1970s, as highlighted by research trends (Tian & Wise, 2020).

Contrary to complete cultural neutrality, Malcolm (2014) argues that the sociology of sport should be seen as a conveyance of ideas shaped by deep interest, objectivity, and motivation. A critical inquiry arises concerning potential inconsistencies in the growth of the sociology of sport as a field (Tian & Wise, 2020). Drawing on the principles of the sociology of science, it is asserted that successful researchers in a specific subject contribute to the existing body of knowledge, as evidenced by citations reflecting disciplinary knowledge domains (Harker & Adam, 2018). Consequently, it can be inferred that debates surrounding crucial factors integral to resolving related problems have been foundational in previous sports sociological research, as evidenced by their frequent citation.

Limited in scope is the bibliometric analysis relevant to sports sociology. Specifically, Dart (2014) directs attention to substantive research papers within the *International Review for the Sociology of Sport*, the *Journal of Sport and Social Issues*, and the *Sociology of Sport Journal*. The author aims to discern the prevailing topics in the sociology of sport. Tian and Wise (2020), in their examination spanning 2008 to 2018, scrutinise scholarly articles published in the same journals, exploring knowledge domains and the discipline's status in Europe and North America. Seippel (2018) conducts a content analysis of publications from 1984 to 2014 in the *Sociology of Sport Journal*, *International Review for the Sociology of Sport*, and *Journal of Sport and Social Issues*—historically acknowledged as the three preeminent Sociology of Sports journals.

In order to delve deeper into the evolution of sports sociological research, the current study utilises bibliometric analysis, scrutinising publication patterns and the scholarly discourse's progression in the Scopus and Web of Science (WoS) databases. The adoption of bibliometric analysis, enabling the characterisation of global trends in sports sociology research and the proposition of new directions for study in this field is essential to surmounting the limitations of existing knowledge.

The following research questions are considered to accomplish the objective of this study:

1. What patterns emerge in annual publications, anticipated subject areas, influential sources, participating countries, and active institutions within sports sociology spanning three decades (1990 to 2022)?
2. What keywords have garnered attention in scholarly discussions within sports sociology over the past three decades (1990 to 2022)?

2. METHODS

The present study employed a bibliometric methodology to examine the representation of publishing trends and the development of academic discourse within sports sociology, utilising data from the Scopus and WoS databases. The datasets obtained for this study are not restricted by time or language. However, this study's temporal scope of analysis is limited to December 2022.

Bibliometric analysis quantifies publishing productivity by frequency, percentage, and other metrics for impact factors and citation metrics (Ellegaard & Wallin, 2015). Theme-based maps and excellent visualisations make modern bibliometric findings stand out (Abd Aziz et al., 2021; Abdullah, 2022). Bibliometrics gave a more holistic picture of the topic by merging past and present works and discovering fresh research (Abdullah & Othman, 2022; Alkhaleefah et al., 2021; Carrión-

Mero et al., 2022; Donthu et al., 2021; Mukherjee, 2022). Bibliometric methods may also allow academics to examine the field’s dynamics from a broader perspective of information and sources to expand knowledge and practice.

2.1. Database selection, searching strategy, and bibliometric software

This study relies on the Scopus and WoS databases to compile the list of publications on sports sociology. These databases were chosen because they were prestigious, and most prior researchers have identified them as conventional, trustworthy, and credible bibliometric measurements (Abdullah & Sofyan, 2023). Donthu et al. (2021) asserted that the Scopus and WoS databases offer complete and integrated data for evaluating the recent surge in large-scale publications. Consequently, adopting the Scopus and WoS databases is an authoritative intermediary for the academic harvesting of outputs, which has benefited many researchers in their pursuit of additional study.

Figure 1 depicts the method used for bibliometric analysis in this study, which was inspired by the work of Ruiz-Rosero et al. (2019). On the contrary, Figure 2 displays how the bibliometrics analysis was carried out so that potential readers and interested researchers can understand the approach taken in this study.

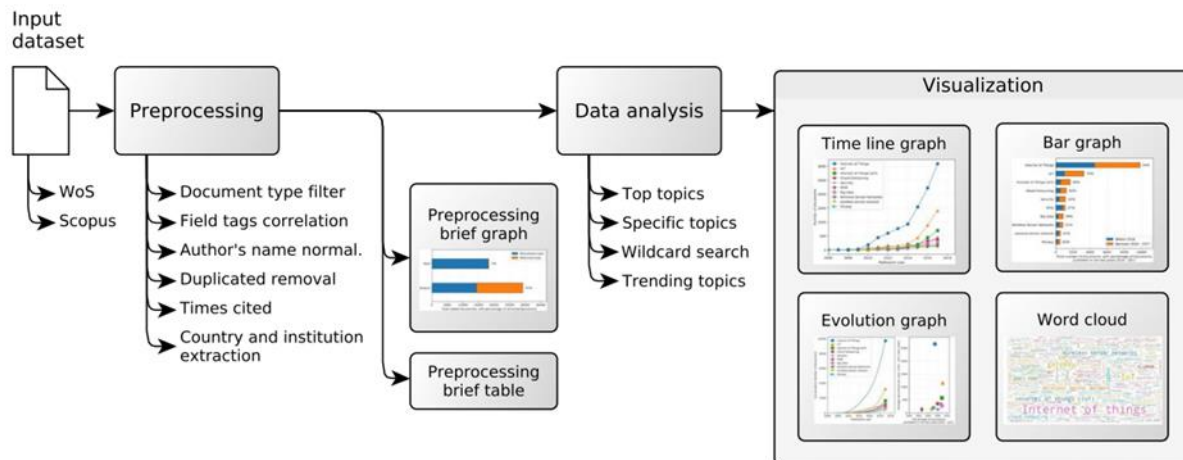


Figure 1. Bibliometric procedure

The accurate dataset retrieval from Scopus and WoS is essential to obtain relevant publications. The first step that needs to consider is the proper search criteria for a set of publications for sports sociology publications. For this reason, the datasets of the Scopus database were compiled

using the following query: (TITLE (“sports sociology” OR “sociology of sports” OR (“sports” AND “sociology”) OR (“sociology” AND “sports”) OR (“Sports” AND “society”))). The datasets from WoS were collected based on topic searching using the following query: (“sports sociology” OR “sociology of sports” OR (“sports” AND “sociology”) OR (“sociology” AND “sports”) OR (“Sports” AND “society”). The search technique is restricted to searching on the publication’s title in Scopus and WoS to confine the results to those that exclusively discourse sports sociology. Those keywords were retrieved on 1st January 2023, excluding the publication year of 2023. Nevertheless, the inclusion or exclusion of languages is not regarded as a criterion in this study. The datasets included in the present study analysis were restricted until December 2022.

In this study, the analysis of the collected datasets is conducted using ScientroPy and VOSviewer. ScientroPy, a Python tool developed by Ruiz-Rosero et al. (2017), is employed for the examination of publishing data extracted from the Scopus and WoS databases. On the other hand, VOSviewer, a Java-based application primarily designed by Nees Jan van Eck and Ludo Waltman at Leiden University’s Center for Science and Technology Studies (Pradhan, 2016), serves as a tool for constructing and visualising bibliometric networks based on co-citations, bibliographic pairings, or co-authorship associations (Al Husaeni & Nandiyanto, 2022).

2.2. Datasets integration and duplicate elimination

This section addresses the integration of datasets and the elimination of duplicates before conducting bibliometric analysis. The downloaded datasets were consolidated into a unified file in the initial phase. The subsequent step involved duplicate removal through dataset harmonisation. This process included replacing commas in author names with semicolons, removing dots, commas, or unusual accents, and filtering out instances with identical author and title combinations. Harmonising the datasets is a procedure outlined by Ruiz-Rosero et al. (2019) to enhance the consistency and precision of the data. Table 1 illustrates the dataset preparation, initially comprising 1561 unprocessed datasets (raw datasets). Following sorting based on document type, the datasets were reduced to 1076. After eliminating duplicate datasets, the study yielded 925 credible and valid datasets for subsequent analysis.

Table 1. Datasets integration and duplicate elimination

Data Preprocessing Output	Information	Number	Percentage (%)
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Initial results	Raw datasets from Scopus and WoS	1561	
	Automatic type-filter publication to remove non-related document	485	31.10
	Total publications after selecting particular document types (Research articles, conference papers, book chapters, review papers, and proceedings)	1076	
	Publications in WoS	290	27.00
	Publication in Scopus	786	73.00
Duplicated removal results	Duplicated publications in both databases	151	14.00
	Duplicated publications from WoS	16	5.50
	Duplicated papers from Scopus	135	17.20
Final results	Total publications after eliminating duplicates	925	
	Publications in WoS	274	29.60
	Publications in Scopus	651	70.40

2.3. Determination of the measurable factors

Table 2 presents a tabulation of 12 ScientoPy criteria utilised for identifying key concepts or topics, with the interpretation of measurable factors drawing on the work of Ruiz-Rosero et al. (2019). In many instances, researchers align their objectives or research questions with the application of these measurable factors in their studies.

Moreover, this study employed VOSviewer to extract authors' keywords and keywords from the abstracts of prior research. This process involved integrating preprocessed datasets with thesaurus files that amalgamate American and British English's singular and plural terms, abbreviations, and variant spellings.

It is important to note that VOSviewer's text-mining capabilities from abstracts aid researchers in constructing corpus-based term maps. A term map, as explained by Zahedi and Van Eck (2015), is a conceptual map that gauges the relationship between two terms based on their

proximity. The proximity of two phrases is generally proportional to the similarity of their meanings, and their co-occurrences establish a connection between the two terms.

Table 2. Measurable factors in ScientoPy

Measurable Factors	Interpretation
Author	This factor pertains to the last name and initial of the author
Source Title	The source title refers to the name of the publication or journal
Subject Area	The subject is pertinent to the research areas. It simply provides inputs from the WoS datasets
Author Keywords	Author keywords are the terms that authors use to describe their research. It is located following the abstract
Index Keywords	Index keywords are the keywords generated based on the index of databases; in WoS, they usually correspond to Keyword Plus, and in Scopus, they are referred to as Scopus Indexed.
Both Keywords	Both keywords are denoted as the author keywords and index keywords.
Abstract	An abstract is the summary of a document. It can be used with pre-set topics and the asterisk wildcard.
Document Type	ScientoPy, by default, filters publications that are categorised as one or more of the following document types: Conference Paper, Article, Review, Proceedings Paper, and Article in Press.
Database	A database is an ordered collection of data that is electronically stored and accessible. ScientoPy can simultaneously analyse the Scopus and WoS databases.
Country	Country determined based on the author's affiliations.
Institution	Institution determined based on the author's affiliations.
Institution with Country	Institution and country are determined based on the author's affiliations.

3. RESULTS

This section designates the results of a bibliometric analysis of the sports sociology publications from 1990 to 2022. The results are presented based on the previously formulated research questions. Consequently, ScientoPy graphical representation and VOSviewer are frequently utilised to convey the results vividly.

- Research Question 1: What patterns emerge in annual publications, anticipated subject areas, influential sources, participating countries, and active institutions within sports sociology spanning three decades (1990 to 2022)?

A publication is an asset that enables authors to earn a reputation as professionals or experts in a specific topic locally and globally. Similarly, the publication is a central medium which permits

researchers to disseminate their ideas, research outputs, and practise with the broader academic circles. The time-line graph in Figure 3 exemplifies the annual publishing trends of Scopus and WoS databases concerning sports sociology publications from 1990 to 2022.

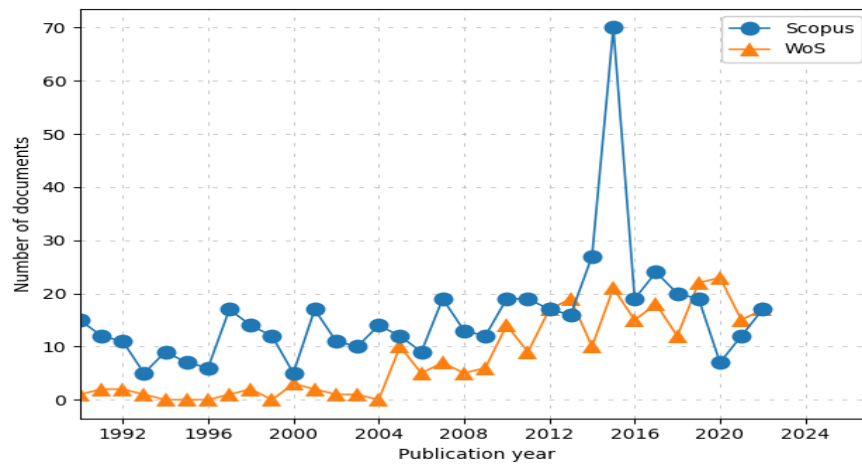


Figure 3. Database time-line graph of yearly publications

The Scopus database contained 516 publications, whereas the WoS database documented 216, resulting in a total of 732 publications recorded between 1990 and 2022, constituting 79.13% of the total. After removing duplicates from the materials and methods section, the total number of datasets was 925, with 193 publications or 20.87% predating 1990. This observation substantiates the significant surge in sports sociology publications post-1990, indicating a substantial increase in research interest in this field during that period.

However, an examination of annual publications in both databases revealed that from 1990 to 2013, the number of publications was consistently below twenty per year. In 2015, WoS reported 70 publications, marking the year with the highest number, while Scopus registered approximately 21 publications. The maximum number of articles in the Scopus database occurred in 2020, with 23 publications. Overall, the performance of sports sociology-related publications in Scopus and WoS databases is relatively modest, with most publications in these three decades falling below the 20 per year threshold. Given the interconnected nature of physical education, sports training, and sociology, especially in daily activities, behavior, and human emotions (Naragati et al., 2021), there is a call for future research to delve more rigorously and extensively into this topic.

The study identified Sports Sciences as the predominant subject area among the ten recorded categories, with a total of 119 papers. Between 2021 and 2022, 12.6% of all documents were published in Sports Sciences, indicating a recent growth in the prominence of sports sociology within

this field. Social Sciences ranked second, contributing 11.4% of publications between 2021 and 2022, with a total of 70 publications. Orthopedics secured the third position, publishing 14% of papers during the same period, amounting to 57 sports sociology-related publications. Since 1990, these three subject areas have collectively published more than 50 publications, contrasting with other subject areas such as Nutrition and Dietetics, Education and Educational Research, Physiology, Sociology, Cardiovascular System and Cardiology, Surgery, and Business and Economics, which have each produced fewer than 45 documents relevant to sports sociology.

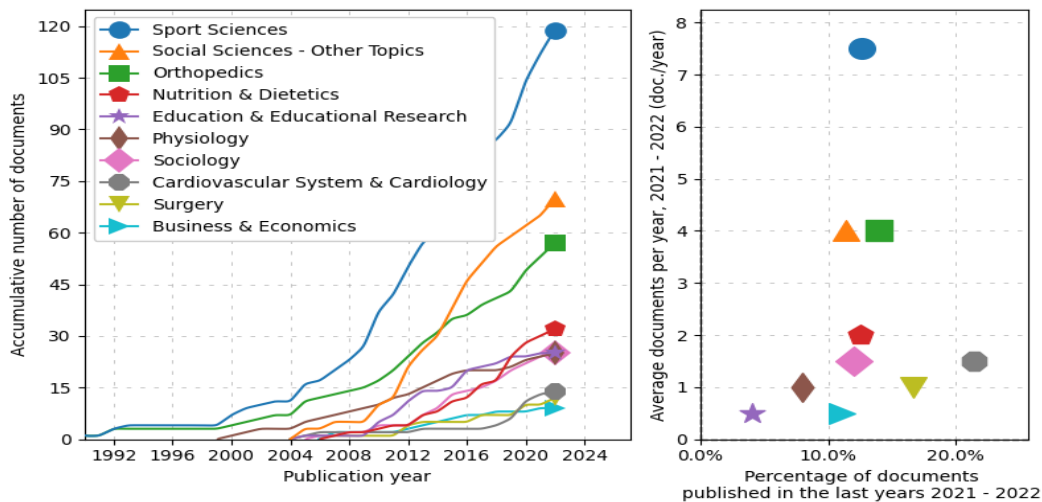


Figure 4. Subject area evolution graph

The term source title relates to the title of the journal. Choosing a source's title is the initial step in any publication endeavour. Professionally, it is necessary to choose a captivating source title. To impetus research outputs to the most relevant publication hubs, the source titles chosen should coincide with the study's scope and context. Figure 5 depicts the top ten source titles that may assist sports sociology readers and scholars in acquiring massive reference sources or publishing their academic works. The most productive source title in this three decades observation was the International Review for the Sociology of Sport. This publication hub has published more than 80 publications since 1990.

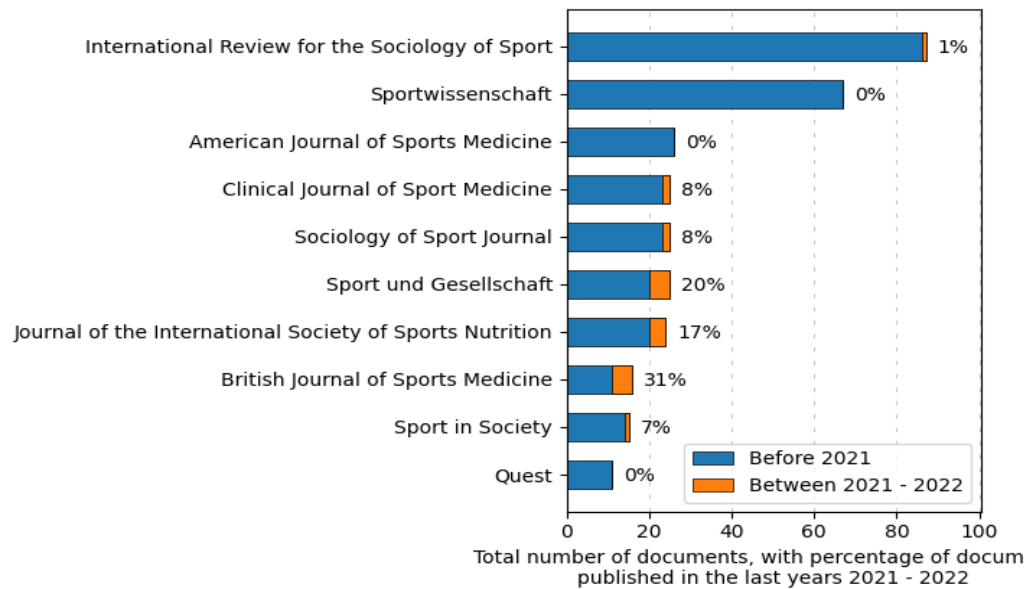


Figure 5. Source titles bar trend graph

In defining the path of a research field, it is also appropriate to consider publishing countries and prolific publishing institutions. Because of the rapid investigation of the research field, recognising productive countries and institutions can facilitate the development of research in obtaining assiduous outputs. This endeavour will be accorded researchers indirect possibilities to strengthen their research skills while also serving as a stepping stone for their professions. In addition, researchers will conduct in-depth studies to investigate and improve contributions to the body of knowledge and practice through research and publication collaborations.

Figure 6 illustrates the top ten countries that actively publish papers linked to sports sociology. With more than 100 publications, the United States and Germany dominate the top two countries. The United Kingdom has published 99 research papers on this topic, which places it in third place. Figure 6 also indicates that with 19 publications, Switzerland had minor publications among the top ten productive countries. Based on the results, most of the top ten countries were located in Europe; therefore, it can be stated that sports sociology was a valiant effort by European scholars and sports practitioners to increase scientific contribution to this area. Sport, when utilised in a manner that is sensitive to the context and intricacies of social systems and cultural variation, can contribute to constructive social change (Darnell & Millington, 2019). This indirectly affects the study of sports sociology within Europe because the sociology of sports continues to face new issues, but it is crucial to emphasise that many old challenges remain unresolved (Foldesi, 2015).

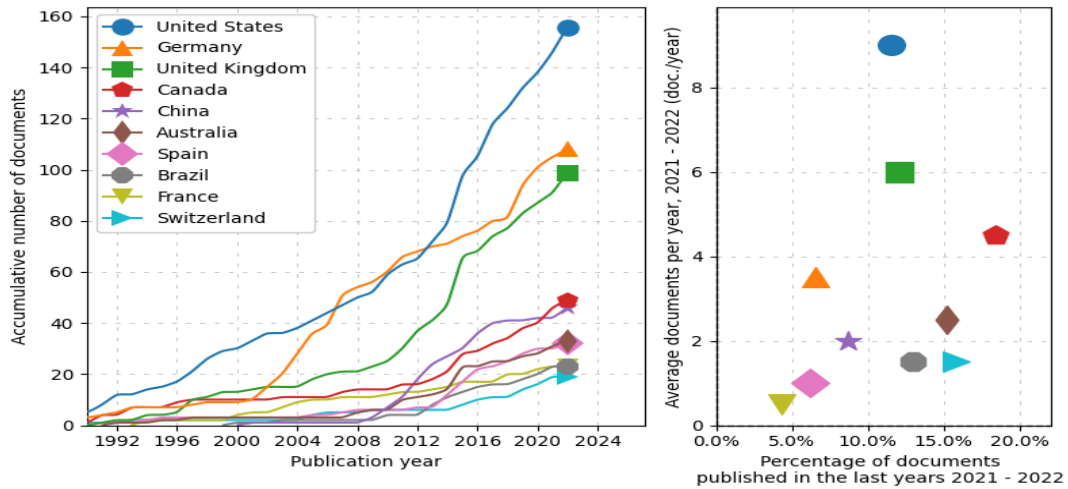


Figure 6. Country evolution graph

As depicted in Figure 7, a network map created with VOSviewer was used to visualise the co-authorship among authors from various nations who publish sports sociology-related publications cooperatively. It is noted that Figure 7 portrays four co-authorship clusters, noticeable in red, blue, yellow, and green. The red cluster indicates a close relationship between the German, British, and Canadian authors. Furthermore, the United States and Canada have a robust co-authorship network in this cluster. In the green cluster, it is shown that Swiss authors prefer to work with Austrian authors. In the green cluster, positive contributions also helped Denmark, Luxembourg, and Scotland achieve significant collaboration. The yellow cluster comprises only two countries, the Netherlands and Israel, which have a close link in undertaking sports sociological research. Norway and Sweden are verified as the two countries in the blue cluster that eagerly collaborate and support each other's research.

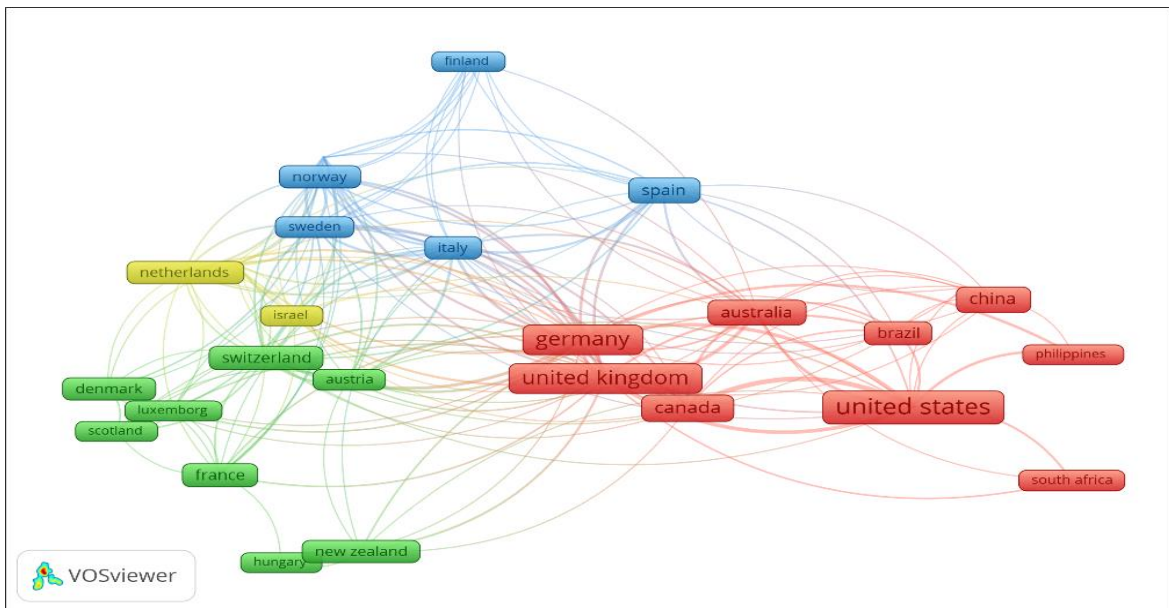


Figure 7. Overlay visualisation of co-authorship by country

Meanwhile, 647 organisations, including universities and research centres, have published publications on sports sociology across the globe. Figure 8 depicts the top ten institutions that have published research concerning sports sociology. Most of these institutions are American institutions. It is vividly designated that Texas A&M University and the University of South Florida, both in the United States, contributed 13 publications to this research perspective. However, 23% of the articles were published by the University of South Florida in 2021 and 2022. In recent years, the University of South Florida has reportedly focused on sports sociology as a public research institution. According to the 2022 Times Higher Education University Impact Rankings, the University of South Florida is the most outstanding university in Florida and the fifth best in the United States (University of South Florida, 2022). The University of North Carolina, the College of Applied Health Sciences, and the University of Central Florida are also productive publication hubs that have published more than ten articles on sports sociology.

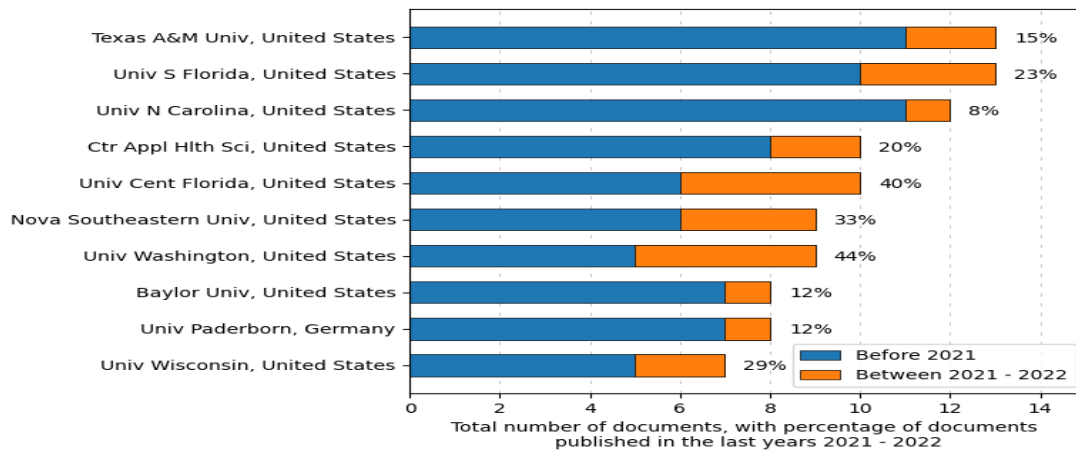


Figure 8. Institution with country bar trend graph

- Research Question 2: What keywords have garnered attention in scholarly discussions within sports sociology over the past three decades (1990 to 2022)?

Using ScientoPy and VOSviewer, this study analyses the authors’ keywords used to determine which are most frequently employed by researchers. Concerning the ScientoPy analysis, the authors intend to illustrate the topics extensively discussed over the three decades (1990-2022). During VOSviewer execution, this study set the minimum number of occurrences as five; thus, this study directed that out of 1912 keywords, only 21 met the requirement. The VOSviewer diagram signified that the box size indicates the keyword’s frequency, whilst the line between the boxes indicates their co-occurrence. Another relevant input concerns the box size and line, implying that the larger the box, the greater the occurrence frequency. And the thicker the line, the greater the link strength of the keywords’ association.

The author’s keywords are associated with the article’s field, subfield, topic, and research focus in academic publications. Other scholars can benefit from conducting a subject search to find specific papers pertinent to their research interests. Figure 9 is described the results of the top ten authors’ keywords based on ScientoPy execution. The keyword “sports” was in the first ranking with 80 publications, of which 4% were researched over the last two years (2021-2022). Figure 10 indicates that the keyword “sports” appeared in 2014 and has a close association with “sociology”, “media”, and “globalisation”. Sport’s massive international audience has made it a potent tool for the promotion of multinational corporations. Whether or not certain sporting events are required or imposed upon the increasing satellite television audience remains a matter of contention, but the fact

remains that people are tuning in. Audiences can be segmented by demographics, commodified, and sold to advertising and marketing firms because they are watching or perceived to be watching. Therefore, it is evident that sports, media, and globalisation are interconnected these days and have become significant components in studying sports sociology.

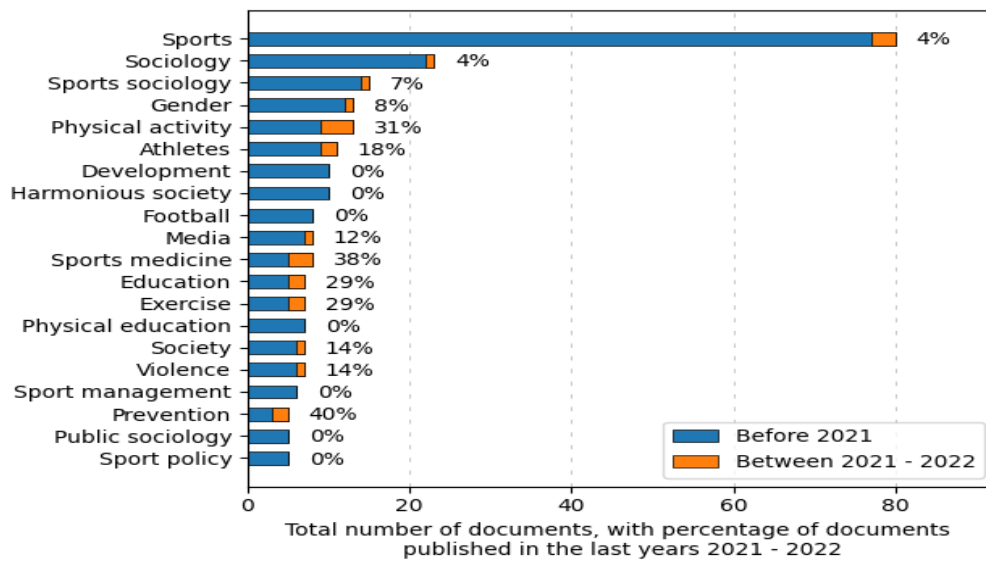


Figure 9. Authors' keywords bar trend graph

The second-ranked keyword is “sociology”, with 23 publications using this keyword. Based on the overlay visualisation of co-occurrences of authors' keywords, “sociology” was found in 2015 and grouped with “gender” and “sports policy”. This input speculates that gender and sports policies exploded after 2015 and have impacted sociology research. A dominating portrayal, primarily constructed by middle-aged and older men, views the gender order as an issue outside the political responsibility of sports organisations, as an individual “woman problem” or a “time lag problem” (Hovden, 2006). The alternative argument asserts that gender hierarchy is primarily the result of male domination in sports and is an essential and pertinent policy issue. In the past decade, research on gender and sexual diversity in sports has evolved; it now needs a greater understanding of fostering inclusive sports cultures that allow all individuals to play as themselves (Kavoura & Kokkonen, 2021).

The keyword “sports sociology” is positioned in the third position, with 15 papers containing this term. This keyword also makes up 7% of publications in 2021 and 2022. The keyword “sports sociology” is grouped in the same period, which protruded most in 2015, “development”, “athlete”, and “physical education”. These inputs indirectly demonstrate that research concerning sports sociology was conducted predominantly in an aggregation of measurable factors of development,

It is also interesting to analyse the abstract’s content analysis to give particular views regarding the most often used terms in the prior study. This contribution simultaneously illustrates the aspects of earlier research that pertain to sports sociology research. Based on the abstract, Figure 11 shows the visualisation of word occurrences. Consider a minimum of 55 occurrences of a term while conducting abstract analysis in this study. As a result, 24 of 10369 terms satisfied the criteria and were granted a relevance score. So, 60% of the most relevant phrases were selected as the default selection based on this score. In the end, 14 terms were chosen to complete the abstract analysis. Figure 11 visualises that purplish clusters represent the terms or keywords in which the most recent study was conducted. The most current keywords discovered in the abstracts were “challenge”, which is closely related to “sociology”, “athlete,” “exercise,” and “evidence.” The keyword “athlete” is closely associated with “use” and “exercise”. In addition, “evidence” is intimately associated with “sports medicine” and “level”.

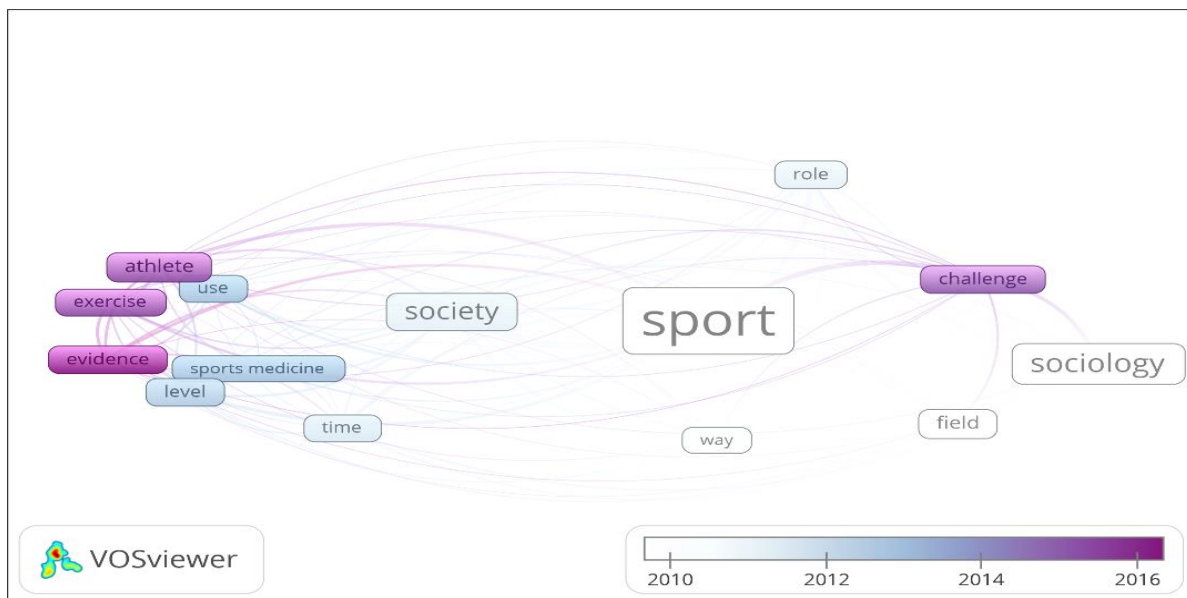


Figure 11. Overlay visualisation of terms in the abstract

4. DISCUSSION

Sports sociology, often known as the sociology of sports, is a subfield of sociology subject that examines sports as a social component in society. Sports sociology demonstrates and measures the relationship between sports sociology and other sociological aspects, such as socio-culture, individual thought, organisations, and sports-related groups (Zirin, 2008). In addition, sports

sociology frequently emphasises the positive benefits of sports on individuals and society, involving the scope of economic and social as well as the behaviour patterns of individuals engaged in any sporting activities (Eigenschenk et al., 2019).

This study assessed the evolution of sports sociology research articles indexed in the Scopus and WoS databases. ScientoPy was used to monitor publishing patterns, and VOSviewer was executed to evaluate co-authorship based on country, co-occurrences of authors' keywords, and abstract text mining. This study presents a concise summary of sports sociology articles to support potential readers, sports practitioners, and researchers in acquiring essential knowledge for future studies on this issue. Notably, it highlights the value of interdisciplinary studies, including the present philosophy of sports sociology and discusses the societal implications of sports sociology.

From 1990 onwards, there has been a significant surge in the number of sports sociology journals, reaching a peak of 70 publications in 2015, as documented by WoS. The growth of sports sociology in the 1990s compelled practitioners to address crucial imperatives and obstacles identified in recent scholarly work within the discipline (Nixon, 1991). This indirectly reflects the recognition that a cultural studies approach and a more applied sociology of sport were deemed essential during that period, leading to substantial development. The notable increase in issues may explain the sharp rise in WoS publications in 2005, potentially influenced by the expanding content within the database.

Nonetheless, the general performance of sports sociology-related publications in Scopus and WoS is less encouraging, with most of these three decades falling below the threshold of 20 articles per year. The results contradict the findings of Seippel (2018), who discovered that the sociology of sports had become a dynamic and prolific scholarly discipline replete with foundational publications, journals, conferences, celebrities, and anniversaries. From 1984 to 2014, the author analysed the content of sports sociology articles published in the three most prominent sociology of sports journals: *Sociology of Sport Journal*, *International Review for the Sociology of Sport*, and *Journal of Sport and Social Issues*. This study, however, analysed the general description of publications in the Scopus and Web of Science databases from 1990 to 2022, which relied on the title of publications and concentrated on research articles, conference papers, book chapters, review papers, and proceedings. This may be the reason why the findings of this study contradict those of Seippel (2018), who analysed the occurrences of the terms “sports” and “sociology” in conducting content analysis in each article.

This study indicated that Sports Sciences and Social Sciences were the most prevalent subject areas among the ten recorded facts. Decent sociological studies of sports speak beyond boundaries, fields of inquiry, sub-disciplines, and national borders (Evans & Thiel, 2019). This demonstrates that sports science and social science researchers are actively engaged in elaborating research-related components of sports sociology. However, they must consider how the study of sports sociology can be advanced by debating important parameters in preserving the study of sports sociology following the advancement of science and technology.

The endeavours could be the study of sports, society, and the influence of artificial intelligence, the effect of e-sports on physical activities, further investigation on the application of ergonomic sports equipment, and the impact of technology on user physical endurance training. By debating these issues, it is anticipated that the study of sports sociology will contribute to the current body of knowledge and an interdisciplinary field that considers the passage of time. Since this opinion has been aired, this topic is anticipated to be shifted in the coming years.

The International Review for the Sociology of Sport was this more than thirty-year study's most fruitful source title. This publication centre has published over eighty works since 1990. Professionally, it is required to choose an appealing source title. The source titles should align with the study's scope and context to propel research findings to the most relevant publication hubs. The journals have themes that they expand their ownership over time. Indirectly, comparing the productive publication hubs would be intriguing to grasp the sports sociology better studies these source titles were interested in publishing. The United States and Germany each have more than 100 publications, making them the top two countries. This issue has been the subject of 99 research papers published in the United Kingdom, placing it third. Based on the data, most of the top ten countries were in Europe; consequently, sports sociology was a gallant endeavour by European academics and sports practitioners to boost scholarly contributions to this field. Sports can contribute to positive social change when utilised with sensitivity to the context and complexities of social systems and cultural diversity (Darnell & Millington, 2019). This indirectly impacts the study of sports sociology in Europe as the sociology of sports continues to encounter new challenges. However, it is essential to note that many old problems remain unanswered (Foldesi, 2015).

The United States and Canada have a robust network of co-authors, while Swiss authors favour collaborating with Austrian authors. The European Association for the Sociology of Sport supported the collaboration between these scholars through interactions made at international congresses, managing council meetings, and official visits to several European countries (Kosiewicz,

2009). Undoubtedly, as long as this body of literature continues to be researched and scholars continue to collaborate efficiently, this treasure of knowledge will continue to grow and be valuable to the body of knowledge and practises about sports and society or sports sociology.

As per the ScientoPy analysis, the term “sports” holds the top position, featuring in 80 articles as the most prominent keyword in the scientific discourse of sports sociology. Additionally, the co-occurrence analysis using VOSviewer reveals that the keyword “sports” became prominent in 2014 and is closely linked with “sociology,” “media,” and “globalisation.” This observation provides potential explanations for the extensive focus on media and globalisation within sports sociology in 2014. The contemporary model of sports, which has evolved within societies, reflects the characteristics of present-day societies. The study suggests that the technologically advanced dissemination of sports information today is a result of the globalisation trend and the influential role of the media. Consequently, contemporary media has been instrumental in shaping values, behavioural standards, and lifestyles beyond professional sports (Bondin et al., 2020). Moreover, the modern technologies employed in broadcasting, sports coverage, sportscasting, and sports analysis, particularly in Europe, have inspired local sports players and spectators, leading them to admire and emulate renowned European athletes (Dashti et al., 2022).

The term “sociology” emerges as the second most prominent term in ScientoPy. In 2015, its close association with “gender” and “sports policy” was evident through the overlay visualisation of co-occurrences in VOSviewer, marking a noteworthy discovery in the current investigation. Sociology, as highlighted by Mansfield and Velija (2022), is a crucial tool for adopting a critical and analytical perspective in comprehending gender relations within the expansive field of sports administration. This underscores the valuable contribution of sports sociology in shedding light on gender inequality within sports organisation boards, particularly in decision-making positions, which remains a persistent challenge (Evans & Pfister, 2021).

Despite prolonged research efforts to enhance gender equity in sports, the representation of women at the highest echelons of sports governance remains disproportionately low, as noted by Evans and Pfister (2021). This observation indirectly suggests that future scholars may be interested in delving deeper into this issue and identifying optimal solutions for addressing gender considerations and sports policy. The significance attributed to sociology, gender studies, and sports policy emphasises that educational courses related to sports, such as kinesiology, sociology, sports studies, and sports management, often lack consistent encouragement in sports education (Allison & 2023).

The term “sports sociology” claims the third position, constituting 7% of articles in 2021 and 2022. Its association with the prominent terms of 2015, namely “development,” “athlete,” and “physical education,” suggests an inference that a significant portion of sports sociological research took place in 2015, exploring measurable elements related to development, athletes, and physical education. Figure 9 illustrates that three terms dominated, collectively representing over 30% of publications in 2021 and 2022. The keywords projected for this period include “Physical activity,” “sports medicine,” and “prevention,” indicating a focused emphasis on these topics in sports sociology research to contribute knowledge and practices to readers and academics.

Moreover, Figure 10 identifies prevalent phrases from 2016 onward, including “physical activity,” “education,” “violence,” “prevention,” and “exercise.” This implicit demonstration underscores the significance of sports sociology within the context of physical education and sports training. Consequently, sports practitioners, educators, and researchers are encouraged to enhance the incorporation of sports sociology themes, ideas, and principles into physical education and sports training. The identification of trending keywords aids researchers in determining rising variables, concepts, or research ideas that warrant attention in their current work.

These findings also offer potential readers and future researchers valuable insights for identifying research gaps that can be explored in-depth, thereby contributing to the expanding body of knowledge and practice in sports sociology. The inherent dangers associated with athletic practice, encompassing physical, emotional, and mental aspects, establish a theoretical and analytic connection between risk and sports in the sociology of sports. Following the traditional sociological approach, Atkinson (2019) argues that organised sport, as a hierarchical social organisation, tends to socialise young athletes to passively accept the inherent risk of pain and injury in sports participation. Consequently, sports sociology studies play a crucial role in explaining the interplay between elements commonly associated with the keyword “sports sociology,” focusing on sports growth, the role of athletes, and the risks of injury during physical education training.

Based on the abstract’s content analysis, offering specific opinions on the most often-used terms in the previous study is possible. This contribution concurrently highlights parts of previous research relevant to sports sociology research. The terms or keywords for which the most recent investigation was undertaken. The most recent keyword found in the abstracts was “challenge”, which is strongly associated with “sociology”, “athlete”, “exercise”, and “evidence”. The keywords “use” and “exercise” are intimately related to “athlete.” Additionally, “evidence” has close ties to “sports medicine” and “level”. Historically, new-fangled or revolutionary therapies have been a part

of sports medicine. Athletes, coaches, and trainers have sought a competitive edge for performance enhancement, injury prevention, therapy, and return to play (McNamee et al., 2018). Potential readers and future researchers of physical education and sports can use the keywords frequently used in previous sports sociology studies to search for additional information regarding the effectiveness of sports and physical activity training programmes. Among the intriguing aspects that might be addressed in sports and physical activity training programmes are exercise, sports medicine, and an athlete's capacity to accept physical activity challenges. Suppose this topic is connected to the ideas of sports sociology. In that case, it will undoubtedly provide fresh insights that physical education researchers and sports practitioners can use as a resource.

5. CONCLUSIONS

Sports sociology is a field of study that has spawned a multidisciplinary academic field linked to both theory and the needs of the professional world. It can be further extended with new ideas or fresh insights related to the prominent trending themes of sports and society, such as technological advancement and how modern society behaves. Over the years, bibliometric studies have incorporated a variety of approaches and technologies that can be supplemented to increase the studies' robustness and consistency. Hence, this study aimed to investigate the portrayal of publishing patterns and the evolution of scholarly discourse of sports sociology publications from Scopus and WoS databases.

Several limitations exist in this study. First, it is necessary to consider the changing dynamics of science. This suggests that various bibliometric performance metrics and the structure of science could evolve. Several scholars have appeared to publish on this topic, but nothing guarantees that they will continue to consolidate and develop their study. Nonetheless, as stated, this study aims to provide an up-to-current overview of sports sociology research conducted to date. Second, the bibliometric performance indicators are based on the analysis of scientific publications, which examines the general description of publications in the Scopus and Web of Science databases from 1990 to 2022 and relies on the title of research articles, conference papers, book chapters, review papers and proceedings. Future research should extend or supplement this bibliometric analysis with data from other databases, such as JSTOR, Academic Search Complete, PsycINFO, or EBSCO.

This study is anticipated to pave the way for advancing sports sociological research. This analysis is only a starting point that can be expanded upon with additional research, such as a systematic literature review, meta-analysis, thematic analysis, and empirical studies, to obtain more

accurate information regarding this study's content, methods, discussion, and results. New insight themes, such as the connection between sports sociology and mental health, gender inequalities, treatment of sports injuries, and artificial intelligence, should also concern sports sociologists. Furthermore, examining sports sociology and e-sports among the younger generation deserves more attention to increase the number of publications for research articles, conference papers, book chapters, review papers, and proceedings. There is a pressing need for a more systematic and all-encompassing advancement in the sociology of sports due to the profound influence that physical education and sports training have on people's daily activities, behaviour, and emotions.

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