

## Discovering directions in sports sociology research: a brief bibliometric analysis Descubriendo direcciones en la investigación en sociología del deporte: un breve análisis bibliométrico

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**Abstract.** This study aimed to investigate the portrayal of publishing patterns and the evolution of scholarly discourse of sports sociology publications. This study relies on the Scopus and WoS databases to compile the publications on sports sociology. In this study, ScientoPy and VOSviewer were used fervently to construct science mapping and visualisation networks in a flash. There were 516 publications in the Scopus database, whereas 216 were in the WoS. Thus, the total number of publications between 1990 and 2022 was 732, or 79.13% of the total. The top two countries, with over 100 publications each, are the United States and Germany. The keyword “Sports sociology” is closely associated with “development,” “athlete”, and “physical education”, which has emerged significantly since 2015. This study should pave the way for future initiatives to enhance and stimulate sports sociology research. Thus, sports sociologists should be concerned about new insights, such as the relationship between sports sociology and mental health, gender disparities, sports injury care, and artificial intelligence. Intriguingly, the social components of physical education and sports training are significant for human daily activities, behaviour, and emotions.

**Keywords:** Sports Sociology, Physical Education, Sports, Bibliometrics

**Resumen.** Este estudio tuvo como objetivo investigar la representación de los patrones editoriales y la evolución del discurso académico de las publicaciones de sociología del deporte. Este estudio se apoya en las bases de datos Scopus y WoS para recopilar las publicaciones sobre sociología del deporte. En este estudio, ScientoPy y VOSviewer se utilizaron fervientemente para construir redes de visualización y mapeo científico en un instante. Había 516 publicaciones en la base de datos Scopus, mientras que 216 estaban en WoS. Así, el número total de publicaciones entre 1990 y 2022 fue de 732, o el 79,13% del total. Los dos primeros países, con más de 100 publicaciones cada uno, son Estados Unidos y Alemania. La palabra clave “sociología del deporte” está estrechamente asociada con “desarrollo”, “atleta” y “educación física”, que ha surgido significativamente desde 2015. Este estudio debería allanar el camino para futuras iniciativas para mejorar y estimular la investigación en sociología del deporte. Por tanto, los sociólogos del deporte deberían preocuparse por nuevos conocimientos, como la relación entre la sociología del deporte y la salud mental, las disparidades de género, la atención de las lesiones deportivas y la inteligencia artificial. Curiosamente, los componentes sociales de la educación física y el entrenamiento deportivo son importantes para las actividades, el comportamiento y las emociones humanas diarias.

**Palabras clave:** Sociología del Deporte, Educación Física, Deportes, Bibliometría

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### Introduction

Sports sociology, sometimes known as the sociology of sports, examines the appearance of sports and their impact on society. Tan (2022) asserts that sports sociology is an interdisciplinary subject of sports science and sociology that focuses on social functions, development laws, and the interaction between sports and society. In addition, sports sociology has attempted to include elements from education, philosophy, social psychology, and economics (Dart, 2014). In the twenty-first century, the sociology of sport has grown into a flourishing field of study centred on the intersections among sports, cultures, and societies (Tian & Wise, 2020).

Sports is essential for both physical and mental health today. Sports also act as a barrier against harmful influences, helping young people reach their full potential in various aspects of life, including academics, personal growth, and future careers (Rakhimov, 2022). Besides, children, adolescents, and adults engage in sports and exercise consistently,

for enjoyment, with enthusiasm, and as a healthy (Broch, 2022). 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).

Bibliometrics analysis pertinent to sports sociology is limited. Most relevant to this topic, Dart (2014) focuses on substantive research papers published in three journals, namely the International Review for the Sociology of Sport, the Journal of Sport and Social Issues, and the Sociology of Sport Journal, in order to identify the topics that have featured within the sociology of sport. Tian and Wise (2020) analysed scholarly articles published in the International Review for the Sociology of Sport, Journal of Sport and Social Issues, and the Sociology of Sport Journal between 2008 and 2018 to evaluate knowledge domains and the status quo of the discipline in Europe and North America.

In order to gain a deeper understanding of the development of sports sociological research, the current study employed bibliometric analysis to analyse the depiction of publication patterns and the evolution of sports sociology scholarly discourse in the Scopus and Web of Science (WoS) databases. In order to overcome the limits of the existing body of knowledge, it is essential to undertake a bibliometric analysis to characterise worldwide research trends and propose new study directions in this subject (Abd Aziz et al., 2022).

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

1. What are the yearly publication patterns and productive countries on sports sociology for three decades (1990 to 2022)?

2. What are the most projected keywords of sports sociology that have attracted publications' attention during the previous three decades (1990 to 2022)?

## Materials and Methods

In this study, 1561 datasets were retrieved from Scopus and WoS databases using the following query: (TITLE ("sports sociology" OR "sociology of sports" OR ("sports" AND "sociology") OR ("sociology" AND "sports") OR ("Sports" AND "society")). Those keywords were retrieved on 1<sup>st</sup> January 2023, excluding the publication year 2023. Nevertheless, the selection of languages is not considered an inclusion or exclusion criterion of this study. This study used ScientoPy and VOSviewer to construct science mapping and visualisation networks in a flash. ScientoPy is a Python tool developed to analyse the publishing data in the Scopus and WoS databases (Ruiz-Rosero et al., 2019). Combining and removing duplicate datasets using ScientoPy generated 925 credible and valid datasets, with 651 datasets from Scopus and 274 from WoS. Instead, VOSviewer is a free Java-based application created principally by Nees Jan van Eck and Ludo Waltman at Leiden University's Center for Science and Technology Studies (Van Eck & Waltman, 2010).

## Results

**Research Question 1: What have the publication patterns and productive countries on sports sociology been for three decades (1990 to 2022)?**

Figure 1 illustrates the number of publications on sports sociology from 1990 to 2022. The blue circles represent publications indexed in Scopus, while the orange triangles represent those indexed in WoS. Over the years, the number of publications has fluctuated, with a significant spike in Scopus around 2013, when the number of documents reached 70. In contrast, WoS consistently shows fewer publications, generally below 30 each year, with a relatively stable pattern. Although there are fluctuations, both databases indicate an overall increase in sports sociology publications in recent years, though not

reaching the peak seen in 2013.

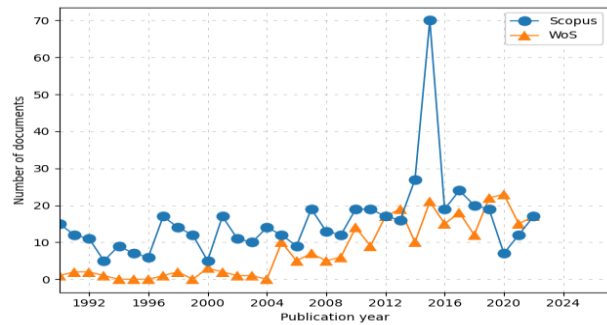


Figure 1. Database time-line graph of yearly publications

Figure 2 highlights the contributions of different countries to sport sociology research based on the authors' affiliations. The left panel of the figure shows the cumulative number of documents produced by various countries from 1990 to 2022. The United States stands out as the leading contributor, with a significant increase in publications, reaching around 160 documents by 2022. Germany and the United Kingdom also demonstrate substantial contributions, with Germany slightly ahead, both nearing 100 documents. Other countries like Canada, China, Australia, Spain, Brazil, France, and Switzerland have contributed fewer publications, generally below 60, but show steady growth over time.

The right panel illustrates the recent publication activity from 2021 to 2022, where the United States again leads with an average of around 8 documents per year, accounting for nearly 20% of the total publications in that period. Germany and the United Kingdom contribute significantly, with about 4 to 5 documents per year and 10 to 15% of the recent publications. Canada, Australia, and other countries have lower publication rates and smaller percentages of the total output. The United States emerges as the dominant force in sports sociology research, with Germany and the United Kingdom playing key roles. At the same time, other countries contribute more modestly but continue to grow in their research output.

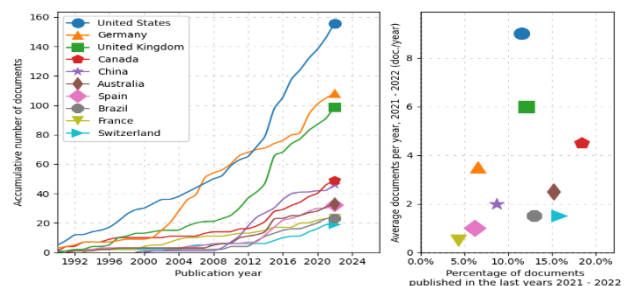


Figure 2. Country evolution graph

**Research Question 2: What are the most projected keywords of sports sociology that have attracted publications' attention during the previous three decades (1990 to 2022)?**

Figure 3 describes the results of the top ten authors'

keywords based on ScientoPy execution. The keyword “sports” ranked first with 80 publications, of which 4% were researched over the last two years (2021-2022). Figure 4 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.

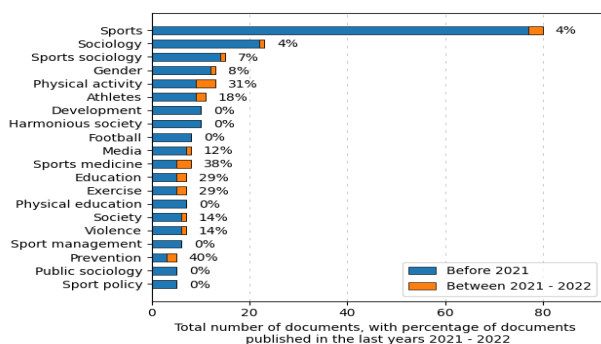


Figure 3. Authors' keywords bar trend graph

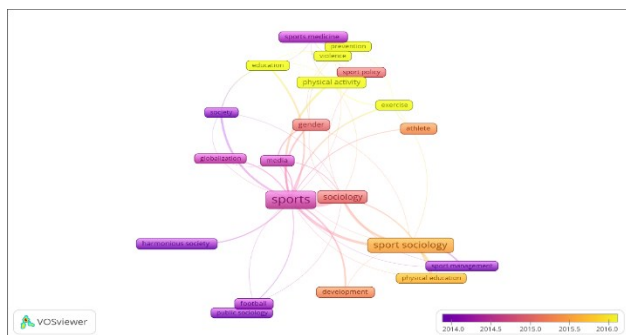


Figure 4. Overlay visualisation of co-occurrences of authors' keywords

## Discussion

Since 1990, the number of sports sociology journals has skyrocketed, with 70 publications being the most prevalent in 2015, as reported by WoS. In the 1990s, the growth of relevant sports sociology compelled sports sociologists to confront and make fundamental decisions on critical imperatives and obstacles implicitly or explicitly identified in recent work. Indirectly, this demonstrated that a cultural studies approach and a more applied sociology of sport were judged vital in the 1990s and experienced substantial growth. The increase in issues may justify the skyrocketing publication of WoS in 2005, which may also result in a significant increase in publications. In addition, the increase in the number of articles in WoS may be attributable to expanding publications in the database.

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).

According to ScientoPy results, “sports” ranked first, with 80 articles among the most anticipated keywords of the scientific discourse of sports sociology. Moreover, according to the co-occurrence analysis conducted using VOSviewer, the keyword “sports” emerged in 2014 and has tight ties to “sociology”, “media”, and “globalisation”. These insights could explain why sports sociology in 2014 had a comprehensive media and globalisation study. The current model of sport, which evolved within societies, embodies the characteristics of contemporary societies. This study indicates that the technologically advanced diffusion of sports information today is the consequence of the globalisation trend and the role of the media (Bondin et al., 2020).

The keyword “sociology” is the second most projected term in ScientoPy. It was strongly associated with “gender” and “sports policy” in 2015, based on the overlay visualisation of co-occurrences in VOSviewer. This is an intriguing finding of the current investigation. Sociology can facilitate a critical and analytical approach to understanding gender relations in the diverse field of sports administration, according to Mansfield and Velija (2022). This demonstrated that sociology in sports provides valuable insight into gender inequality in sports organisation boards, especially in decision-making positions, which remains a significant problem (Evans & Pfister, 2021). The keyword “sports sociology” occupies the third place and accounts for 7% of articles in 2021 and 2022. “Sports sociology” is associated with 2015’s most prominent terms, “development,” “athlete”, and “physical education”. These inputs suggest inferentially that most sports sociological research was undertaken in 2015 in the aggregate of measurable elements of development, athletes, and physical education. In addition, Figure 3 demonstrated that three terms occurred most frequently, accounting for over 30% of publications in 2021 and 2022. The keywords “Physical activity”, “sports medicine”, and “prevention” are the projected keywords. This stated that in 2021 and 2022, sports sociology would focus more on these topics in order to contribute more knowledge and practises to readers and academics. In addition, Figure 4 identified the phrases “physical activity,” “education,” “violence,” “prevention,” and “exercise” that have been most prevalent in sports sociology studies from 2016 onward. This implicitly demonstrates that the study of

sports sociology is also significant within the context of physical education and sports training. Therefore, sports practitioners, educators, and researchers should enhance sports sociology's themes, ideas, and principles for incorporation into physical education and sports training.

## Conclusions

In delving into sports sociology, this research unveils publication patterns and the evolutionary trajectory of scholarly discourse. Employing scientific mapping tools like ScientoPy and VOSviewer facilitates the rapid creation of visual networks. While providing valuable insights, there is untapped potential to broaden the meaning and interpretation of the findings. As an interdisciplinary pursuit, sports sociology extends beyond theory to impact the professional landscape. Further development is warranted by addressing emerging themes like technological advancements and societal behaviour. Enhancing bibliometric research with innovative methods can elevate its analytical prowess.

Consequently, this study illuminates publication trends and lays the groundwork for future endeavours to invigorate sports sociology research. Sport sociologists should focus on novel dimensions, including the nexus between sports sociology and mental health, gender disparities, sports injury treatment, and artificial intelligence. The societal dimensions of physical education and sports training substantially influence daily activities, behaviours, and emotions. A meticulous summary of these findings enables the extraction of heightened value from existing data, fostering continued exploration and a more substantial positive impact on the future trajectory of sports sociology.

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