

**Mapping Publication of Harassment in Sport: Bibliometric Analysis****Indra Prabowo^{1✉}, Yudy Hendrayana², Amung Ma'mun³, Berliana Rahely⁴, Davi Sofyan⁵**Postgraduate School Universitas Pendidikan Indonesia, Bandung, Indonesia and Universitas Majalengka, Majalengka, Indonesia¹Universitas Pendidikan Indonesia, Bandung, Indonesia^{2,3,4}Universitas Majalengka, Majalengka, Indonesia⁵**Article History**

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Abstract

This study aims to examine the evolution of scientific publications related to harassment in sports in the Scopus database using various bibliometric indicators such as publication trends, most active countries, scientific sources, top cites, and author keywords. From 1968 to 2022, the Scopus database recorded 1,721 publications related to harassment in sports. This review details bibliographic results using Microsoft Excel, Publish or Perish (PoP), and VOSviewer. Research findings indicate that between 1968 and 2005, publications followed a fluctuating trend. Since 2011, publications have increased to over 60 documents. 2021 will be the peak of publication with 221 documents. The International Review for the Sociology of Sport is the most active scientific source because it has published 40 documents. Leeds Beckett University, United Kingdom, became the most active institution with 37 documents. This study has several limitations; the method applied in this research needs to clarify how to find, categorize, and use databases. It should be noted that data can also be obtained from other databases. This bibliometric analysis provides important information regarding future research directions in sports harassment studies, which can be learned further by examining trending keywords.

How to Cite

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INTRODUCTION

Only over the last 20 years has research explored the different ways people experience sexual harassment in sport and the impact it has on the lives of athletes and sports organizations (Fasting et al., 2014). Most studies on sexual harassment in sports are prevalence studies, but there are various approaches to this subject, both theoretical and methodological (Fasting & Sand, 2015). This impetus for increased attention can be attributed to a series of cases of sexual abuse of athletes in several countries (Donnelly et al., 2016). Inappropriate sexual encounters experienced through sexual harassment can take many forms, including sexual harassment, gender harassment, hazing, and homophobia (Marks et al., 2012).

In sports sociology, bibliometric analysis has been used in a number of studies, such as sports crisis communication (Harker & Saffer, 2018), public services in sport (Zhong et al., 2022), social media in sports (López-Carril et al., 2020), European and North American-based sports sociology knowledge domains (Tian & NA, 2018), leadership in sports (Gan & Yusof, 2020), social capital and governance (Baharuddin et al., 2021). However, bibliometric reviews of harassment in sports are rare. This paper is based on metadata retrieved from the Scopus database. This study aims to assess scientific production that is relevant to the issue of harassment in sports. In addition, bibliometrics based on the Scopus database are scarce. Therefore, this study aims to examine the scientific output of the field of harassment in sports using the Scopus database.

This study focuses on bibliometric reviews, which include: 1) descriptive parameter descriptions of publications (evolution of publications); 2) main scientific sources; 3) countries and institutions; 4) visualization of citation patterns from academic works in the study of harassment in sports; and 5) extracting keywords and generating maps that describe the co-occurrence of terms in academic work related to harassment in sports. The data in this study are intended to provide a consistent summary of research patterns of sports harassment, which can inspire readers and researchers to evaluate the data for future studies.

A well-executed bibliometric review can lay the groundwork for substantial progress on a topic, enabling and empowering academics to gain a holistic view of the field, identify knowledge gaps, generate new research ideas, and position planned contributions to the field (Donthu et al., 2021). In general, there are three types of bib-

liometric indicators: (1) quantity indicators that measure productivity in terms of the number of publications; (2) quality indicators that measure the impact of publications in terms of the number of citations; and (3) structural indicators that measure the relationship between publications. These three indicators were favored by previous scholars in analyzing publication trends in their subject of interest relevant to bibliometric measurements (Valérie & Pierre, 2010). Therefore, bibliometric studies that consider the number and quality of publications are of great importance (Blanca-Torres et al., 2020).

The authors believe that bibliometric review techniques can significantly contribute to current sports harassment research by filling in gaps and opening up new avenues for future research. Based on bibliometric analysis and visualization, this study presents an impartial and up-to-date picture of the topic of harassment in sports.

METHODS

The main purpose of this bibliometric analysis is to examine the distribution of publications on harassment in sports in the Scopus database. The investigation was completed in the context of descriptive analysis using a document checking approach in the Scopus database. To access the Scopus database for this bibliometric analysis, search for keywords with the TITLE-ABS-KEY terms: “sport*” OR “competitive game” OR “physical activity” OR “game” OR “pastime” AND “bully*” OR “racis*” OR “harassment”. Only the type of article document is selected in this data collection.

There were 1,725 documents taken from the Scopus database on August 6, 2022. The number of publications started in 1968 and ended in 2022. The Scopus database was chosen because it contains more documents than the Web of Science and Pubmed (Sweileh et al., 2017). This bibliometric analysis uses data in Comma-Separated Values (CSV) format for VOSviewer and Research Information Systems (RIS) for Publish or Perish, which is then exported to Microsoft Excel (Abdullah, 2021). The information collected includes the author’s name, document source, year and title of publication, scientific source, subject matter, and publication format. These guidelines ensure that the type of publication chosen will successfully collect reliable and accurate data to meet the study objectives (Abdullah & Sofyan, 2022).

The amount of metadata that must be met for analysis varies widely in bibliometric analy-

sis (Sofyan, 2022). The minimum and maximum metadata standards that can be analyzed, as well as the number of metadata numbers for bibliometric analysis, are not specified. The number of validated publications is estimated to reach the minimum threshold of 300 papers to perform bibliometric analysis, and this research has met the minimum requirements (Donthu et al., 2021).

A data analysis of 1,725 articles on topics related to harassment in sports was found between 1986 and 2022. This review was originally exported in Comma-separated Values (CSV) and Research Information Systems (RIS) format to Microsoft Excel, Publish or Perish (PoP), and software VOSviewer software for additional analysis. Prior to the analysis using the software mentioned above, the file in CSV format is exported into an excel format file for manual analysis. This is done to check and filter any indication of duplicate documents. After manual analysis, there are four double documents, so the data to be analyzed is 1,721 documents related to harassment in sports.

The data collected includes the author's name, document source, year of publication and title, country, journal, subject matter, and type of publication. Bibliometric analysis and mapping of articles on sporting activities is possible with the tools of Van Eck & Waltman (2010) and VOSviewer. Van Eck and Waltman (2010, 2013, 2017) claim that VOSviewer converts CSV data into diagrams or clusters using visual cues based on mapping procedures.

RESULTS AND DISCUSSION

Publication trends

The number of publications indicates the quality of the work carried out in the study and developed over several decades (Abd Aziz et al., 2022). This section traces the evolution of scientific publications related to harassment in sports that were found between 1968 and 2022. From 1968-1996, publications related to harassment in sports were said to be few because the number of documents that had been published did not exceed one digit. Starting in 2011, the number of publications increased significantly. An average of over 50 documents have been published related to the theme of harassment in sports. Until now, the trend of publications continues to increase. Although there was a decline in 2016, it is not too significant when compared to the previous year, which was 89 documents, and in 2015, with 91 documents. Meanwhile, since 2017, the num-

ber of documents that have been published has exceeded three digits, exceeding 100 documents. In 2021, the highest number of publications was achieved with a total of 221 (12.84%) documents. The growth of publications is seen in **Figure 1**.

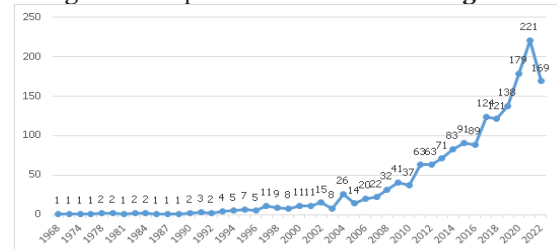


Figure 1. Trends in harassment research publications by year

Most active scientific sources

Tabel 1 lists the most active scientific sources in publishing articles related to harassment in sports, sorted by the number of publications. A list of ten scientific sources, each containing at least 15 publications, With 40 (4.63%) publications, the International Review for the Sociology of Sport has become the leading resource in this discipline. This scientific source shows that harassment studies are part of the sociology of sport. Harassment, which is thick with harassment, bullying, and racism, attracts scholars from various fields of sports and non-sports studies to study the factors and values contained in the study of harassment in sports.

Tabel 1. Top 10 Sumber ilmiah

Source Title	Count	Percentage
International Review for The Sociology of Sport	40	4.63
Sport In Society	33	3.82
International Journal of Environmental Research and Public Health	30	3.47
Journal of Sport and Social Issues	25	2.89
Soccer and Society	20	2.31
International Journal of The History of Sport	19	2.19
Sport Education and Society	19	2.19
Leisure Studies	16	1.85
Sociology of Sport Journal	16	1.85
Ethnic and Racial Studies	15	1.73

Co-authorship analysis by author and country

When two or more people are listed as co-authors in the same publication, it is very likely that they worked together in some way (Laudel,

2002). This review's authors acknowledge and caution about possible similarities in the names of the document's authors, which is one of the limitations of bibliometric studies (Sofyan & Abdullah, 2022b). From the minimum number of 2 documents owned by each author and the minimum number of citations, 427 authors were found out of 4,628 authors related to harassment in sports. For each of the 472 authors, the author's total link strength, along with other authors, will be calculated. The author with the greatest total link strength will be selected. From the minimum number of 5 documents owned by each country and the minimum number of citations of 0, it was found that 42 countries out of 94 countries related to harassment in sports. For each of the 42 countries, the total link strength of the country, along with other countries, will be calculated. The country with the greatest total link strength will be selected. **Figures 2** and **Figures 3** show a visualization network map of co-authorships with author and country analysis units.

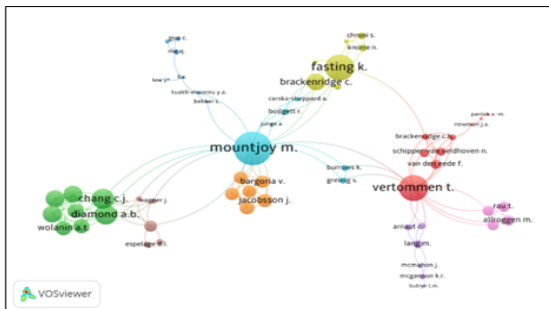


Figure 2. Map of the co-authorship visualization network with the authors' unit of analysis

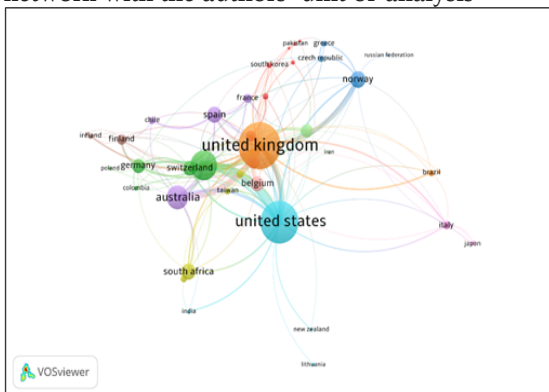


Figure 3. Map of the co-authorship visualization network with country analysis units

Top Cites

The number of citations and citations per year were used to evaluate the effects and performance of harassment research in sports. Starting August 6, 2022, citation metrics for documents

will be retrieved. By importing RIS-formatted files from the Scopus database, Harzing's Publish and Perish program has generated citation metrics. Table 2 shows the nine most cited publication titles in the Scopus database (by number of citations).

Table 2. Top nine cite base on publication

Cites	Author	Title
857	L. Kann, T. McManus, W.A. Harris, S.L. Shanklin, K.H. Flint, J. Hawkins, B. Queen, R. Lowry, E.O. Olsen, D. Chyen, L. Whittle, J. Thornton, C. Lim, Y. Yamakawa, N. Brenner, S. Zaza	Youth Risk Behavior Surveillance - United States, 2015
571	L.H. McNeill, M.W. Kreuter, S.V. Subramanian	Social Environment and Physical activity: A review of concepts and evidence
567	T.H. Clutton-Brock, G.A. Parker	Sexual coercion in animal societies
398	A. KÃ¶rÃ¶nÃ¶r, M. Voeten, T.D. Little, E. Poskiparta, A. Kalljonen, C. Salmivalli	A Large-Scale Evaluation of the KiVa Antibullying Program: Grades 4-6
396	M.I. Norton, S.R. Sommers	Whites see racism as a zero-sum game that they are now losing
378	D.C. Grossman, K. Bibbins-Domingo, S.J. Curry, M.J. Barry, K.W. Davidson, C.A. Doubeni, Jr. Epling, J.W., A.R. Kemper, A.H. Krist, A.E. Kurth, C.S. Landefeld, C.M. Mangione, M.G. Phipps, M. Silverstein, M.A. Simon, C.-W. Tseng	Screening for obesity in children and adolescents us preventive services task force recommendation statement
365	I. Van Beest, K.D. Williams	When inclusion costs and ostracism pays, ostracism still hurts
363	G.S. Mesch	Parental mediation, online activities, and cyberbullying
327	M. KivimÃ¶ki, M. Elovainio, J. Vahtera	Workplace bullying and sickness absence in hospital staff

Most active institutions

A total of 160 institutions participated in publishing research papers on themes related to harassment in sports. **Table 3** shows ten institutions that have published at least 15 documents related to harassment in sports. The United States dominates with the seven most active universities, but for the first time, the most active university in publishing texts related to harassment in sports is Leeds Beckett University from the United Kingdom with 37 documents. Ranked second is the University of Toronto, Canada, with 26 documents. The interaction between the author and the institution has an impact on research by providing knowledge about harassment in sports to the public and academics. **Table 3** offers further information relating to the most active institutions.

Tabel 3. Institusi paling aktif

Rank	Affiliation	Country	Count
1	Leeds Beckett University	United Kingdom	37
2	University of Toronto	Canada	26
3	The Ohio State University	United States	23
4	Norges idrettshøgskole	Norway	18
5	University of Pittsburgh	United States	18
6	The University of Tennessee, Knoxville	United States	17
7	The University of Texas at Austin	United States	16
8	Northwestern University	United States	15
9	The University of North Carolina at Chapel Hill	United States	15
10	University of Minnesota Twin Cities	United States	15

Co-occurrence analysis based on author keywords

Co-occurrence in bibliometric research will usually focus on the occurrence of shared keywords that are often used by researchers. In general, co-occurrence can be identified with all types of data, for example: databases (Cao et al., 2007), text (Roche, 2020), and images (Verma et al., 2015). However, before being validated by an expert, the occurrence of the word together is often considered a candidate term (Roche, 2020). From a minimum number of 10 occurrences of

frequently used keywords, 64 keywords from a total of 3,737 keywords were found after the thesaurus process was carried out. For each of the 64 keywords, the total strength of co-occurrence links with other keywords will be calculated. The keywords with the greatest total link strength will be selected. Keyword design is an important factor that cannot be overlooked in order to find various documents that have a correlation with the topic of the research study (Sofyan & Abdullah, 2022a). **Figure 4** shows a visualization network map of co-occurrences with the author's keyword analysis unit. **Figure 3** illustrates the co-occurrence of the author's keyword. The six clusters are represented by various colors (Red, Green, Blue, Yellow, Purple, Blue, Sky). The list of keywords grouped into each cluster is shown in **Table 4**.

Table 4. The Group of Clusters and Keywords

Clusters	Keywords
Red (16 items)	cricket (12), critical race theory (25), discrimination (50), ethnicity (24), football (44), identity (30), masculinity (29), media (33), physical education (32), race (106), racism (182), south africa (13), sports (222), stereotypes (23), united states (17), and whiteness (34).
Green (14 items)	anxiety (18), children (29), covid-19 (13), cyberbullying (64), depression (30), exercise (29), health disparities (11), obesity (55), physical activity (138), qualitative research (22), resilience (20), stress (27), victimization (49), and youth (49).
Blue (13 items)	anti-racism (11), diversity (14), education (32), games (10), gender (113), harassment (52), health (12), intersectionality (14), online harassment (15), sexism (27), social media (47), video games (51), and women (20)
Yellow (10 items)	adolescents (211), aggression (19), bullying (209), bullying victimization (9), mental health (47), prevention (38), risk factors (13), school health (14), substance use (20), violence (20)
Purple (6 items)	health promotion (26), homophobia (14), intervention (28), overweight (34), school (29), and stigma (16)
Blue Sky (5 items)	Athlete (16), culture (19), internet (16), sexual abuse (24), and sexual harassment (81)

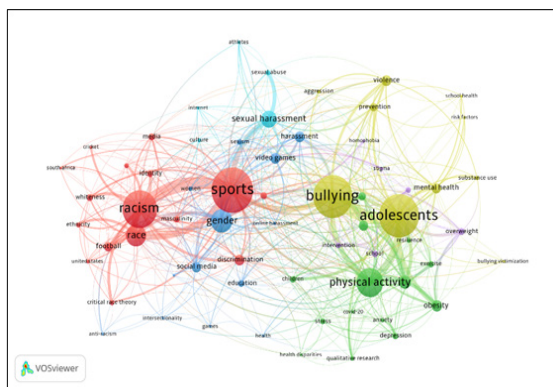


Figure 4. Co-occurrence visualization network map with author keyword analysis unit.

CONCLUSION

This bibliometric review can provide important and necessary information for readers, scholars, and academics about the publishing pattern of harassment in sports over the past 55 years:

The number of academic papers on harassment in sport has fluctuated over the last five decades. The highest number of publications is 221 documents, occurring in 2021.

The most active journal that publishes harassment in sports is the *International Review for The Sociology of Sport*, with 40 (4.63%) documents.

Obtained 857 citations, L. Kann, T. McManus, W.A. Harris, S.L. Shanklin, K.H. Flint, J. Hawkins, B. Queen, R. Lowry, E.O. Olsen, D. Chyen, L. Whittle, J. Thornton, C. Lim, Y. Yamakawa, N. Brener, S. Zaza with the article title "Youth Risk Behavior Surveillance-United States" in 2015, becoming the article with the highest number of citations.

With 37 publications, Leeds Beckett University, United Kingdom, is the most active educational institution in the study of the topic of harassment in sports.

The most common term of keywords used is "sports", which is grouped with cricket, critical race theory, discrimination, ethnicity, football, identity, masculinity, media, physical education, race, racism, South Africa, sports, stereotypes, the United States, and whiteness. This shows that the topic of sports is closely related to the keywords mentioned, and prospective scholars should investigate these keywords to better understand the topic of harassment in sports.

Meanwhile, more specific keywords related to harassment in sports that are often used are "adolescents," which are grouped with: ag-

gression, bullying, bullying victimization, mental health, prevention, risk factors, school health, substance use, violence

Furthermore, by understanding the idea of harassment in sports and the growth trend of publications, researchers, academics, and readers can assess and propose research in this field that can synergize collaborative networks between researchers, academics, and readers.

Consequently, the bibliometric review in this study allows researchers to gain insight into the state of the art in specific fields or subjects related to harassment in sports. However, this study has some unavoidable limitations. The researcher's research technique has not been maximized; for example, searching, categorizing, and retrieving databases should be more robust with keyword combinations. Additional databases such as Google Scholar, Microsoft Academic, PubMed, and Web of Science can be used to collect data for research on sports harassment. Further studies should be conducted to examine the trend of publishing harassment topics in sports. Readers, academics, and researchers will be better able to find the knowledge necessary to analyze or test the sociology of sports subjects in their future studies because of this bibliometric evaluation.

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