Bibliometric Analysis of Studies Conducted on Football Fans in Sports Literature

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ABSTRACT

Study aim(s): Football, which occupies a significant place in the sports industry, has become not only an important branch of sport but also a means of entertainment, enjoyment, and communication for people. Football likely has the highest number of fans among all sports. Therefore, the phenomenon of the fan as a sports consumer has become the subject of numerous scientific studies. For these reasons, this study is a bibliometric analysis of articles about football fans.

Methods: For the study, the term "football fans" was entered into the Scopus database, and the data was downloaded on May 17, 2024. This data was analyzed using the R programme. Based on basic information in the relevant literature, the research examined the number of publications, the most frequently used keywords, the countries with the most contributions, the most important journals, and the most productive institutions. The study's data covers the period from 1973 to 2024.

Results: The study found that 4201 authors have published papers on the topic of football fans. Among these, 707 studies have a single author. The average annual number of citations per article is around 13. The main keywords used in studies in this area are "football", "human", "male," and "sport". The country contributing the most to the literature is the United Kingdom.

Conclusion: This study's findings are of interest to researchers and practitioners interested in football fan engagement, stakeholders in the sports industry, and those working in the field.

Keywords: Football, Fans, Sports, Scopus, Biblioshny.

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INTRODUCTION

Football is one of the most popular sports in the world. It is not only a trendy sport but also a major economic sector in an industrial sense. With its clubs, players, managers, employees, and millions of fans, football has become a huge industry [1]. As a popular sport, football has reached many people and attracted attention. From the past to the present, countries have often used football to promote their cultures and national identities. In the process, this sport has professionalized with the growth of the football industry, becoming an important source of economic income [2]. The number of fans and their spending on their clubs play a crucial role in the transformation of football into an industry.

For thousands of people, football is an integral part of their lives and the most exciting game of all. For others, football is just a game and is seen as a hobby [3]. In this sense, the terminology related to football has expanded, leading to the use of many concepts such as fans, spectators, fanatics, hooligans, etc., in academic literature.

A person watching a sporting event from the stadium, sports hall, pitch, or the media is generally referred to as a spectator. A person who supports a team, is loyal to their team, follows their team's games and athletes closely, has an intimate bond with their team, and supports it, is called a fan [4]. Although the terms "fan," "spectator," and "audience" are similar in the academic literature, there are important differences between these concepts. While a person who does not follow sports games continuously but only watches occasionally is called a spectator, a person who closely follows developments related to their team, devotes special time to their team's games, and is intensely interested in their team is called a fan [5]. In addition to these characteristics, a person who goes one step further in their fanaticism and is passionately attached to their team is called a fanatic [6]. A fan is also a person who acquires services from the club they

support by paying a fee [7]. Based on the degree to which fans identify with their teams, the concepts of low, medium, and high-level fans emerge. Low-level fans follow their team's competitions for entertainment purposes. Medium-level fans support their favorite team economically and spend money on their team. High-level fans, on the other hand, remain loyal to their team over a very long period of time [8]. Fans are individuals who are connected to their favorite team through unconditional love and trust for their club [9]. Fan support is important for every sport, as clubs seek continuous support from their fans and often express this [10]. Although, there are numerous studies on football fans, a bibliometric analysis with the keyword "football fans" is notably absent from the literature. Understanding the football economy, which has a great influence and economic power within the sports industry, underscores the importance of research on fandom. Therefore, this study is a bibliometric analysis exploring existing literature on football fandom. It aims to compile the literature on football fandom and shed light on future studies.

METHOD

The bibliometric analysis method was employed in this study. In bibliometric analysis, scientific studies related to the research field are involved in terms of authors, keywords, citations, and topics to reveal their scientific structure [11]. In this analysis, the data are statistically evaluated by classifying them according to topics, authors, and number of citations. The results are then used as a guide to reveal the structure of a particular discipline [12].

Bibliometric analysis is one of the most crucial methods for conducting research at the national and institutional levels and for formulating publication policies. These studies provide access to scientific indicators, publication statistics, and important information about the researched subject [13]. In bibliometric studies, classification facilitates thorough

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data analysis ensuring reliable information. Bibliometric analysis is used to show the current status and development regarding the researched topic or phenomenon over the years [14].

When performing bibliometric analyses, databases such as Scopus, PubMed, and Web of Science are initially preferred, and the data is downloaded. In this study, filtering was done by entering the keyword "soccer fans" into the Scopus database. The data for this study was downloaded on 17.05.2024 in csv.csv format. While, inclusion and exclusion criteria were applied for the bibliometric analysis. The bibliometric analysis was performed using R software to analyze the data. The study was limited to the following questions:

- What is the number of articles, number of authors, and who are the most published authors on soccer fans?
- What are the most cited articles, universities, and countries on the topic of soccer fans?
- Which topics and keywords are particularly topical in connection with soccer fans?
- What is the annual increase in publications?

FINDINGS

This section presents results such as the annual growth rate of publications, the average number of citations per publication, the most cited article in the literature, and the countries and organizations with the highest number of publications. The analysis includes an examination of authors, highlighting the most cited authors in the results. The countries that have contributed the most to the topic are presented in diagrams. The Sankey diagram was used to show the relationships between keywords, countries, and authors. The results obtained with the Biblioshny program are presented in this section.

Descriptive Statistics of Publications

Figure 1. The publications analyzed using the keyword "football fan"

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As shown in Figure 1, the number of documents found in Scopus using the keywords "football fan" totals to 2,479. Only articles were included in the study, covering studies conducted between 1973 and 2024. The number of authors in the articles examined was 4,201, with 707 of these studies having only one author. The average number of citations per year is 12.95, and the average age of the articles is 7.75 years. The authors used 4,410 keywords in their studies. The number of references used in these studies is 95,566. While the average annual growth rate of publications is 9.6%, and the number of co-authors per paper is 2.36.

Although there have been ups and downs over the years, the trend in the number of articles has generally strengthened. Since 2007, the number of articles written in the field of football fans has been notable increased. Approximately 131 articles were published in 2017, around 194 articles in 2018, 137 articles in 2019, and around 210 articles in 2020. The trend continued with 211 articles in 2022, 214 articles in 2023, and 107 by May 17, 2024, the date of the study.
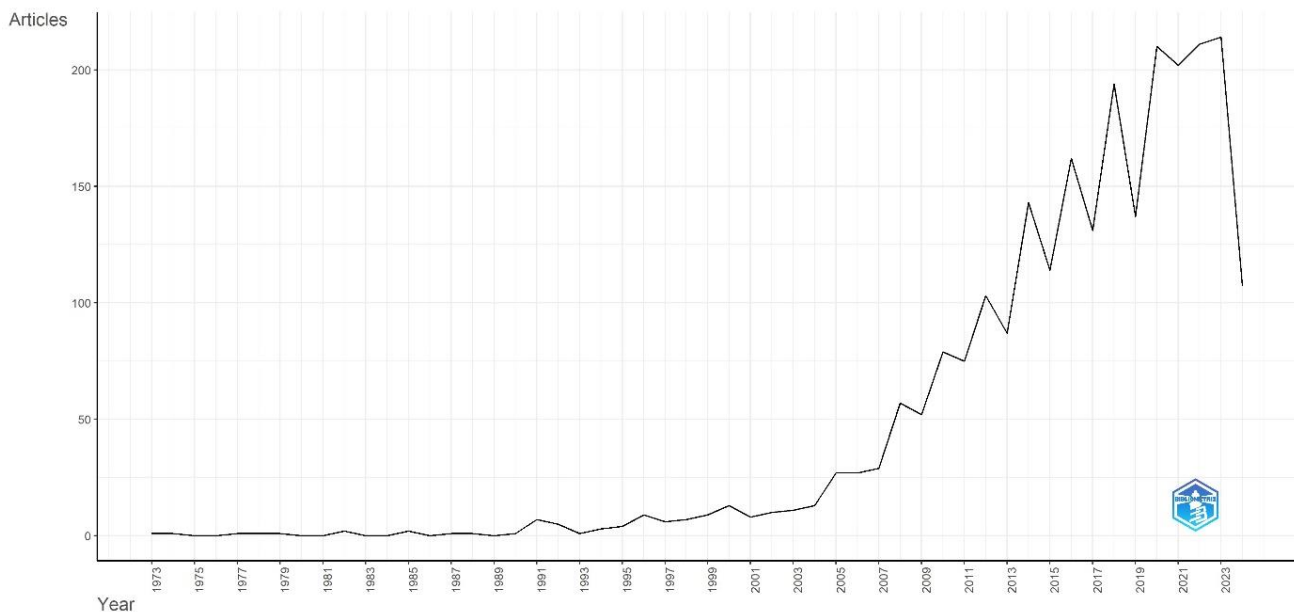
Annual Increase in Publications

The annual increase in the number of studies on "football fans" is shown in Figure 2. The number of publications fluctuates over the years. From 1973 to 2003, the average number of publications per year was around 4, albeit with very slight fluctuations. In 2005, the number of publications increased. After 2007, the number of publications increased again until 2009.

Figure 2. Annual scientific production

Sankey Diagram

Two variables (articles and authors) were associated with the Sankey diagram using the Biblioshny program. According to Figure 3, the size of the rectangles indicates the meaning of these variables used in the literature. After the Sankey diagram, the most influential publication is "Soccer: a sociology of the global game" by Giulianotti R. (1999). The author who has made the greatest contribution to the literature is Jamie Cleland, with the most frequently used keyword being 'soccer'. The second-ranked author is

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Kevin Dixon. The keyword most frequently used by him is "fans".
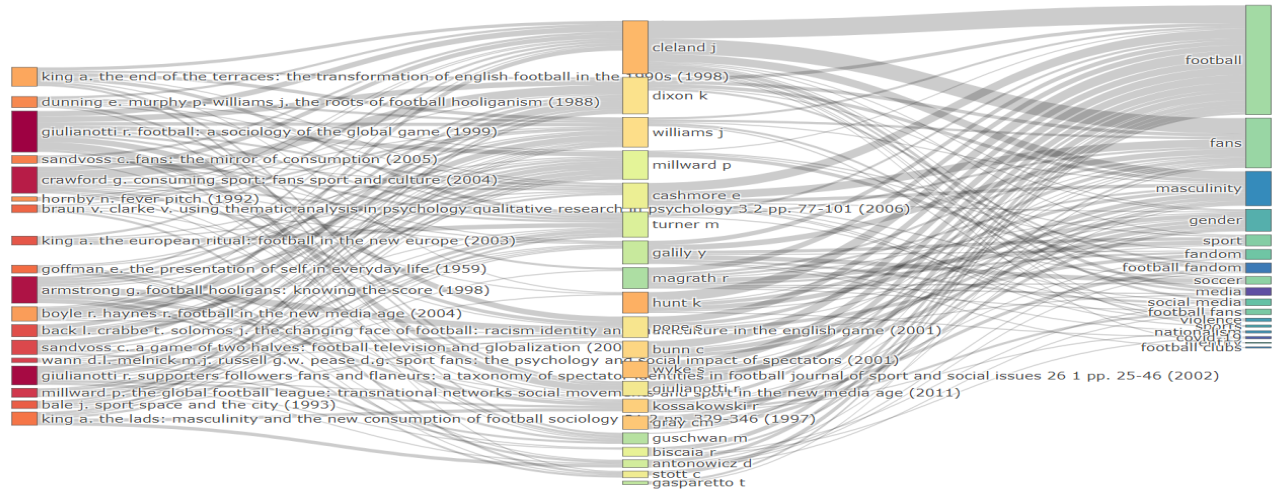

Figure 3. Sankey Diagram

The Most Important Journals Contributing to the Literature

Figure 4 shows the journals that have made significant contributions to the literature and received the most citations. Accordingly, the journal "Soccer and Society" leads the list with 212 articles in the field of "Football fans". Following closely is "Sport in Society" with 73 articles.
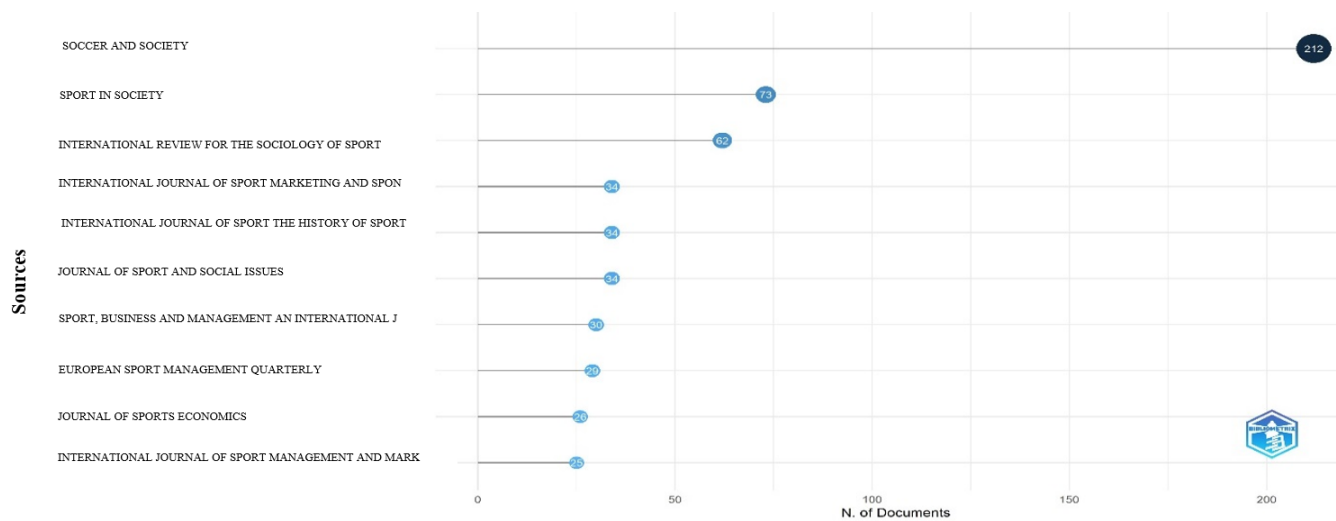

Figure 4. Most relevant sources

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With 62 articles, "International Review for the Sociology of Sports" ranked third. Finally, the journals that contributed the least to the literature were "International Journal of Sport" and "Management and Mark" with 25 articles.

The Most Important Institutions Contributing to the Literature

The universities to which the authors contribute to the literature are affiliated, along with the number of publications made by these universities are shown in Figure 5.
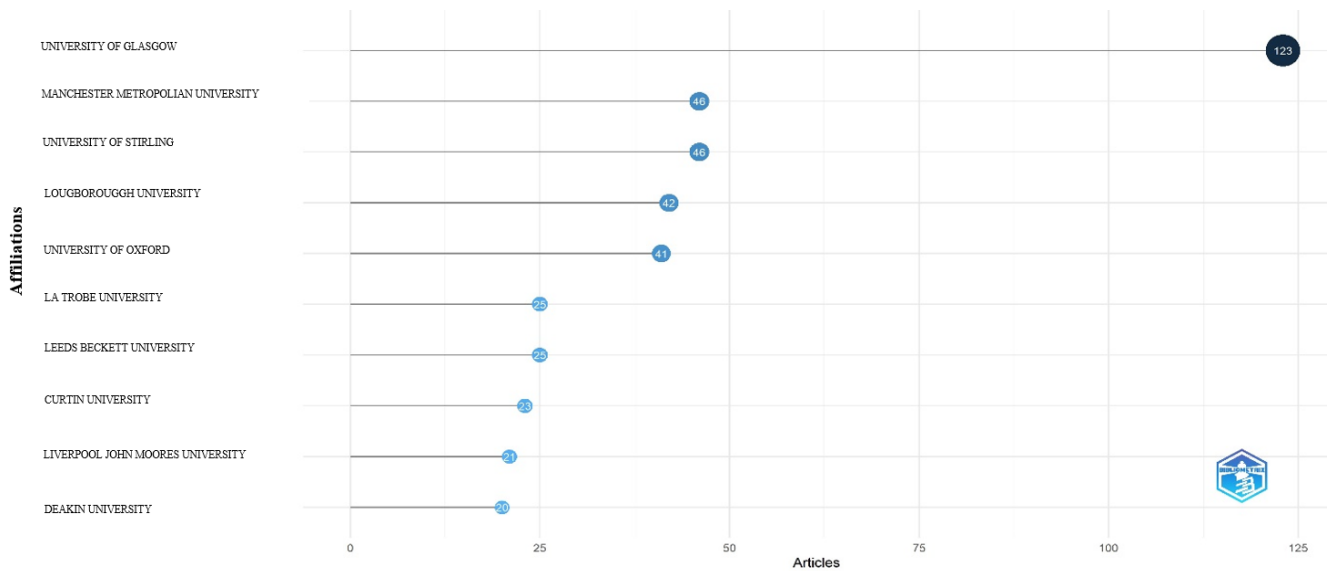

Figure 5. Most relevant affiliations

"University of Glasgow" ranks first with 123 publications, followed by "Manchester Metropolitan University" and "University of Stirling" with 46 publications. "Loughborough University" ranks third with 42 publications, followed closely by the "University of Oxford" with 41 articles. "La Trobe University" and "Leeds Beckett University" ranked fifth with 25 publications each.

Most Productive Countries

Figure 6 shows the most productive countries based on the number of citations in publications in the field of "football fan". Accordingly, the United Kingdom is in first place with 7,751 citations, followed by The United States of America with 6,274 citations and Australia in third place with 1,289 citations. They are followed by Germany with 989 citations and Portugal with 539 citations. Spain, Canada, Poland, and Israel are among the countries with fewer than 500 citations each. Thailand has the lowest number of citations with 270 citations.
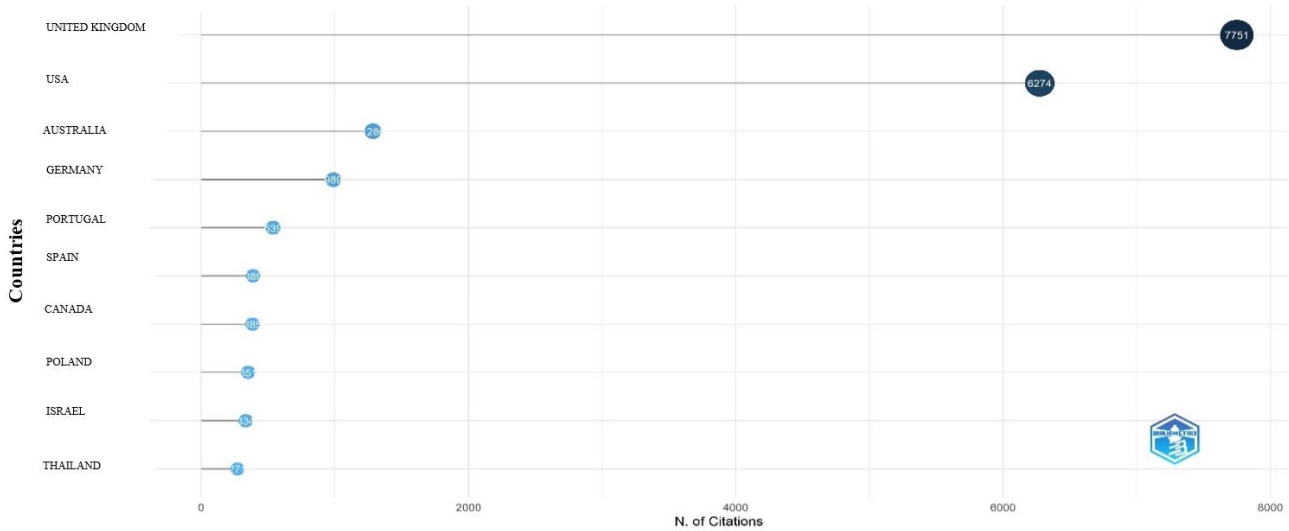
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Figure 6. Most cited countries

Most Important Keywords

The most common keywords used in the studies are given in Figure 7 and the tree map of these keywords is displayed in Figure 8. According to this, the most important keywords in the articles in the field of "Football fan" found in the literature between 1973-2024 are as follows: The word "football" was repeated 332 times in the literature, making it the most used word in the first quarter of 2014, the second quarter of 2019, and the third quarter of 2021.

Figure 7. Keywords

The word "human" is repeated 273 times in the literature. It ranks as the second most used word in the first quarter of 2014, the second quarter of 2019 and the third quarter of 2022. The word "male" is repeated 242 times in the literature. It ranks as the third

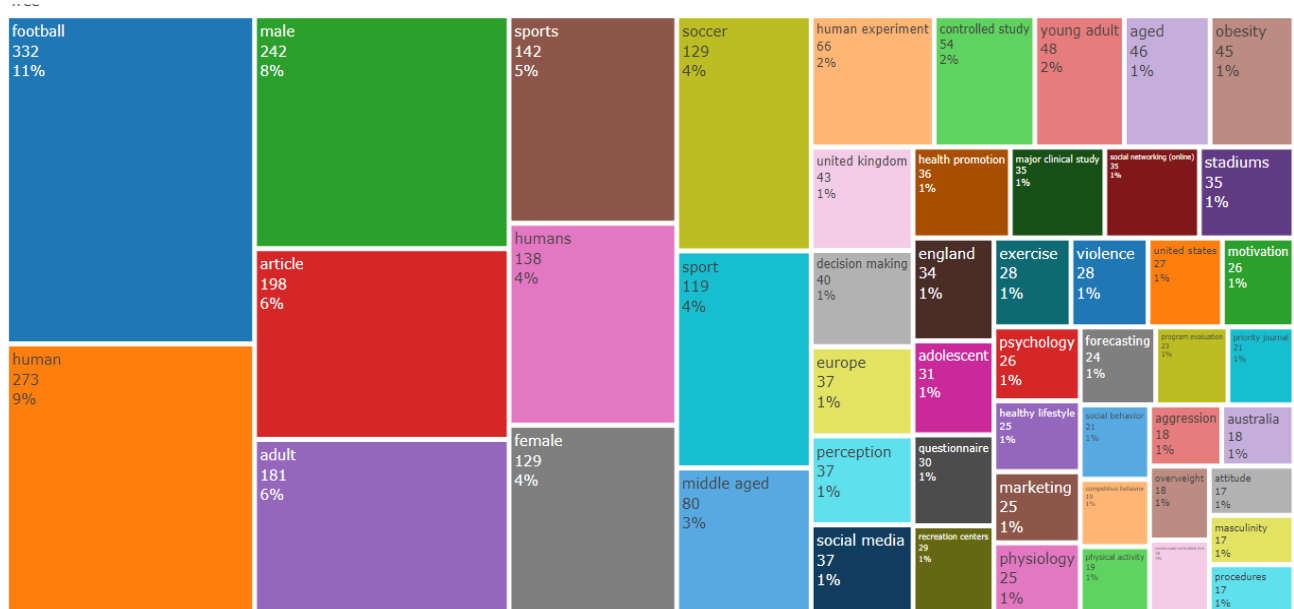most used word in the first quarter of 2014, the second quarter of 2018, and the third quarter of 2021.

Figure 8. Tree map of keywords

The sizes of the rectangles in the treemap represent the number of publications of the keywords used in the studies on 'football fan'. In the literature, "football" accounts for 11% of the publications, "human" for 9%, and "male" for 8%.

Factor analysis

In the factor analysis map, words used in the literature are shown in colored sections in the order of their meaning. Words shown in red are the most frequently used and most important group of words. Words such as "decision making, soccer, young adult, controlled study, Europe" are in the red cluster. The second most frequently used words are in the blue cluster, therefore terms like "stadiums, sports, sports marketing" are in the blue cluster. Finally, the least used words in the literature were collected in the green cluster, including words like "physical activity, middle-aged, overweight".
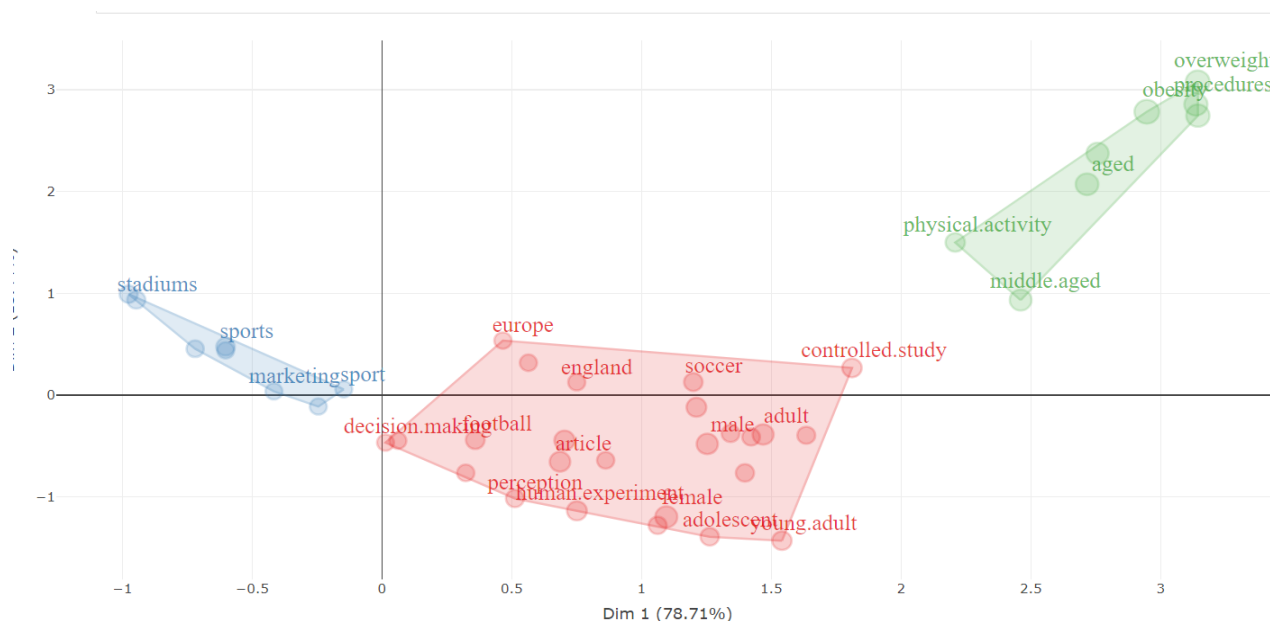
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Figure 9. Factor analysis

DISCUSSION

In this study, a bibliometric analysis of publications in the field of sport was carried out using the keyword "football fan". The Scopus database was used for the analysis. The years analysed are between 1973 and 2024. 2,400 articles published in journals were initially filtered out and analysed, taking into account the selection criteria. When examining the bibliometric literature, it was found that 461 articles were written in 2018 and later in the analysis of academic articles in the field of leisure management conducted by Eban in 2022 [15]. In the bibliometric analysis of doctoral theses written in the field of volleyball in 2022, Çetinkaya determined that the number of theses on football was 1,445 [10]. Çetiner found 3,518 publications with the keyword "sports tourism" in his research

in 2022 [11]. Football is a large field and a large industry with its consumers, fans and employees. This field is important for both the sports industry and sports literature [27]. For this reason, the studies in the field of football have maintained their importance and increased their number over the years.

The average age of the articles was 7.75 years and the average number of citations per document was 12.95. In the study, 707 of the 4,201 authors published as single authors. Genç et al. found that 1,606 authors participated in the study they conducted in 2023, in which the concepts of physical education and sport and fair play were used together [16]. Baytur and Ulaş [4] found that 2,434 authors conducted a study on the physical education model in 2022, 69 of them as single authors, 2,365 as multiple authors, and they

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concluded that the majority of them preferred to conduct joint studies [4].

While the average annual growth rate of football fan publications was 9.6%, it was found that the number of co-authors per paper was around 3. It was found that the number of authors of single-authored documents was 707 and the references used in these studies were 95,566. In Dalkıran and Uysal's 2024 Bibliometric Analysis of Teaching Methods in Physical Education and Sports, the ranking of the most frequently referenced studies in terms of document type was examined and it was determined that the first study was a book, the second and third studies were research articles [12]. As for the document type in the field of football fans, more articles were produced. It can be said that articles on fan tendencies and fan diversity have been written as the phenomenon of fanhood has diversified and has become important in this process.

According to the Sankey diagram, the author who has contributed the most to football fan literature is "Cleland J.". In the bibliometric analysis of studies on sports and emotional intelligence conducted by Belli and Başoğlu [5], it was found that the author who produced the most studies is "Laborde Sylvain" [5]. The authors' areas of study differ from each other and each author focuses his work on a specific area. Since the most prolific authors, reference works and most of the articles are freely available, a large number of authors have emerged as the subject has progressed. The authors' contributions are wide-ranging and have spread rapidly over the years.

The keyword most frequently used by the author who contributed most to the study is "football". When Belli and Saraçoğlu [6] examined their research on e-sports, they found that the most frequently used keyword was "esports" [6]. In bibliometric studies, research is reduced to a specific and narrow field. For this reason, it is natural that the most frequently repeated terms and words differ in the reduced topic.

According to the Sankey diagram, the publication that contributed the most to the literature in the research is the article titled "Football: a sociology of the global game" in 1999. In the study conducted by Karasakaloğlu on winter tourism in 2020, it was concluded that the first ranked source was the "Organization for Economic Co-operation and Development" [20].

The study found that the 4 most productive countries are the United Kingdom, the United States, Australia and Germany. These countries are also highly developed in the field of football and have teams and fans that are constantly talked about in the world public. This could be the reason for the ranking. In Güler's 2023 bibliometric analysis of movement research, it was found that the top 5 countries with the highest number of publications are the USA, Canada, Australia, England and Spain [17]. Tekneci, in his study on the bibliometric analysis of scientific publications in the field of sport in Turkey in 2013, found that China ranked first among the countries with the highest number of publications in the field of sport [25].

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The journal most frequently cited in the study on the subject of soccer fans is "Soccer and Society". This journal has a wide range of publications in the field of soccer and fan research. For this reason, it is also the journal with the most citations.

In terms of research, the University of Glasgow" is in first place among the organizations that contribute the most publications in this area, with Manchester Metropolitan University" and the University of Stirling" in second place. In their study for 2022, Dündar and Gülcan found that the university with the most publications in the field of tourism and leisure belongs to the University of Calgary" [14].

In the study, the largest keyword set in the literature is "football, human, male". Karafil and Akgül [19] determined the most frequently used keywords as sports management and management in the bibliometric analysis of articles on sports management in 2021 [19]. After the factor analysis, the most important words used in the literature were grouped into clusters in order of importance. These clusters include words such as "decision making, football, young adults, stadiums, sport, Europe". The fact that these words are used in many articles about football and football fans cannot be denied.

CONCLUSION

This study is a bibliometric analysis of studies on football fans, who are a large part of the sports industry, both economically and numerically. It is important to understand the behavioral patterns of fan communities in order for football to maintain its size and importance in the sports industry. At the same time, many factors such as fans' habits and preferences affect the industry. For this reason, studies on football fans will always have an important place in the sports industry. In this way, both the sports industry and the football industry can be better understood.

In this study analysing the studies on football fans, it was found that the number of studies on the subject has increased day by day and has gained importance in the literature over the years. Most of the studies in the literature on fandom have been in the form of articles. As the phenomenon of fandom has changed and diversified, these articles have turned to exploring topics such as fandom tendencies and fandom characteristics over time. The fact that many of these studies are freely available will help authors and researchers determine the direction of future studies, and this will help increase the number of researchers in the field.

It is suggested that future studies in the area of the sports industry should be conducted using different databases and investigate other terms that are important in the industry. The increase of studies in this area will contribute to the scientific literature and the sports industry.

CONFLICT OF INTEREST

The authors reported no potential conflict of interest.

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