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BIBLIOMETRIC ANALYSIS OF RESEARCH ON SPORT VOLUNTEERING CONDUCTED BETWEEN 2002-2023

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Abstract: The aim of this study is to examine sport volunteering studies conducted between 2002 and 2023 and scanned in the Scopus database in terms of bibliometric characteristics. The research was carried out with the bibliometric analysis method. The Scopus database was used as a data collection tool in the study. The study covers 178 studies conducted between 2002 and 2023 and published in the Scopus database. The analysis of the research was carried out with bibliometrix and biblioshiny packages in the R software program. Within the scope of the research, descriptive information on Sport volunteering, authors with the highest number of publications and their productivity by years, number of citations, collaborations, the most influential authors, journals and countries with the most influential publications and collaborations, the most used keywords, trending topics and thematic map and all the details of Sport volunteering were mentioned. As a result of the research findings, it has been determined that the researcher who has done the most studies on Sport volunteering is "Geoff Nichols", the most publishing journals are "Sport Management Review" and "European Sport Management Quarterly", and the most used keyword is "volunteering". According to the research results, volunteer motivation and volunteer satisfaction were found to be trending areas of study. Finally, the themes of the field were determined by thematic map analysis and guiding results were reached in many subjects.

Keywords: Sport Volunteer, Volunteering, Bibliometric Analysis, Scopus

2002-2023 YILLARI ARASINDA YAPILAN SPOR GÖNÜLLÜLÜĞÜ ARAŞTIRMALARININ BİBLİYOMETRİK ANALİZİ

Öz: Bu çalışmanın amacı, 2002-2023 yılları arasında yürütülen ve Scopus veri tabanında taranan spor gönüllülüğü çalışmalarını bibliyometrik özellikler açısından incelemektir. Araştırma bibliyometrik analiz yöntemi ile gerçekleştirilmiştir. Araştırmada veri toplama aracı olarak Scopus veri tabanı kullanılmıştır. Çalışma, 2002 ile 2023 yılları arasında gerçekleştirilen ve Scopus veri tabanında yayımlanan 178 çalışmayı kapsamaktadır. Araştırmanın analizi R yazılım programında yer alan bibliometrix ve biblioshiny paketleri ile gerçekleştirilmiştir. Araştırma kapsamında spor gönüllülüğüne ilişkin tanımlayıcı bilgiler, yıllara göre en çok yayın yapan yazarlar ve üretkenlikleri, atıf sayıları, işbirlikleri, en etkili yazarlar, en etkili yayın ve işbirliklerinin olduğu dergiler ve ülkeler, en çok kullanılan anahtar kelimeler, trend konular ve tematik harita ile spor gönüllülüğünün tüm detaylarına değinildi. Araştırma bulguları sonucunda spor gönüllülüğü konusunda en fazla çalışma yapan araştırmacının "Geoff Nichols" olduğu, en çok yayın yapan dergilerin "Sport Management Review" ve "European Sport Management Quarterly" olduğu, en çok kullanılan anahtar kelime ise "gönüllülük". Araştırma sonuçlarına göre gönüllü motivasyonu ve gönüllü memnuniyeti trend çalışma alanları olarak ortaya çıktı. Son olarak tematik harita analizi ile alanın temaları belirlenmiş ve birçok konuda yol gösterici sonuçlara ulaşılmıştır.

Anahtar Kelimeler: Spor Gönüllüsü, Gönüllülük, Bibliyometrik Analiz, Scopus



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INTRODUCTION

Including being used of volunteers in many public organizations and volunteers' willingness to take part in such organizations, volunteering has become a more demanded issue as a result of becoming a systematic movement in today's world. Volunteering has manifested itself in so many different forms in world culture. The value of volunteering itself is unanimously recognized as alike merely out of one's own desires, and as a willingness to contribute to the well-being created without imposing oneself and obtaining material benefits in exchange for the work performed (Briggs et al., 2010; Lindenmeier, 2008). People of all ages participate in volunteering because it offers great opportunities to develop personal skills and character, and increase financial well-being (Nichols & Shepherd, 2006; Sharpe, 2006).

Many sectors of society have derived benefits from the help of volunteers. The sectors of sport and event, especially, have relied heavily on volunteers who constitute a significant human resource to host a successful event. Sports volunteers take part in sport organizations such as olympics games to contribute to both themselves and the events (Holmes & Smith, 2009; Lockstone et al., 2010).

Sports Volunteers are people who dedicate their time and efforts to the success of sports organizations and who voluntarily meet and experience the human resources needed by international and national sports organizations without expecting any financial reward in terms of quantity and quality (Spor Gönüllüleri, 2024). In another definition, sports volunteer is someone who offers their time and effort to contribute sports activities, events or organizations without expecting any financial benefit (Noordegraaf et al., 2015). In addition, the concept of the Olympic volunteer taking part in the Olympic Games, which is considered as the largest of sports organizations, was clearly defined for the first time in an Olympic dictionary prepared as part of the Official Report of the 1992 Barcelona Olympic Games. The concept is defined as, "Volunteer is an individual, self-sacrificing cooperation to do one's best." and "A person who undertakes to carry out the tasks assigned to him/her in the organization of the Olympic Games without receiving any remuneration or other reward." (Moreno et al., 1999).

It is clear that volunteers have been very vital for the success of many sport activities from regional to international level. Many people prefer to volunteer in a large variety of sporting events. Planning and staging of sports events are actually carried out largely based on voluntary participation (Getz, 1997).

Major sporting events, especially those of international scale (Olympics, Commonwealth Games, FIFA World Cup, etc.), require the service of thousands, even tens of thousands of volunteers. Event volunteers are expected to work for relatively short periods of time, often at high intensity. The use of volunteers at major sporting events dates back to the 1948 London Olympics (IOC, 2019b). Since then, organizers of major sporting events have recruited volunteers to work with local communities and address the potentially prohibitive efforts and costs involved in running events. A time-consuming and important process for organizers of major sporting events is selecting volunteers from a large pool of applicants that far exceeds the number of volunteers and her workers needed. For example, the 2018 Gold Coast Commonwealth Games (GC2018) attracted over 53,000 applicants, of whom over 20,000 were selected for interviews for 15,000 general and professional volunteer positions (Cuskelly, et al., 2020). At the Olympic Games Tokyo 2020 (IOC, 2019a), he received 204,000 applications for an estimated 70,000 volunteer positions.

The first time volunteers took part in sporting events was at 1948 London Olympics (IOC, 2019c). After this period, sports volunteers started to take part in sports events, especially the Olympics. According to the information obtained from the resources, the number of volunteers participated in Summer and Winter Olympic Games being held since 1980 is listed in table-1

Table 1. Estimated number of volunteers for the summer and winter olympic and paralympic games since 1980

Summer Games	Number	Winter Games	Number
1984 Los Angeles	28742	1980 Lake Placid	6703
1988 Seoul	27221	1984 Sarajevo	10450
1992 Barcelona	34548	1988 Calgary	9498
1996 Atlanta	60422	1992 Albertville	8000
2000 Sydney	62000	1994 Lillehammer	9054
2004 Athens (est)	60000	1998 Nagano	32579
		2002 Salt Lake City	20000

(Karlis, 2003)

In addition, approximately 130,000 volunteers took part in the 2008 Beijing Summer and Paralympic Games, 82,990 volunteers in the 2012 London Olympic Games (TMOK, 2016), approximately 40,000 volunteers in the 2016 Rio Olympic Games (TMOK, 2020), 70,000 volunteers in the 2020 Tokyo Games and finally 19,000 volunteers in the 2022 Beijing Winter Olympic Games (TMOK, 2022). It has been reported that more than 300,000 volunteer applications were received for the Olympic Games to be held in Paris in 2024 (IOC, 2022).

Sport volunteering has become an area that individuals prefer and participate in regarding to the number of volunteers in the Olympics in table 1 and the definition of volunteers made by IOC in 1992 (Moreno et al., 1999).

The role of sports volunteers is crucial in the sustainability and accomplishment of international sports organizations. Sports volunteers play a vital role in enhancing social capital, collective participation, and the sustainability of international sports events. Their involvement raises community engagement and encourages individuals to participate in sporting events (Fithroni et al., 2023).

Sport volunteering provides various benefits to participants and can positively impact career opportunities. Volunteers at international sports events report increased interest and participation in sports, as well as enhanced social capital (Downward & Ralston, 2006). Basic benefits include group interaction, competence enhancement, personal rewards and enrichment (Surujlal & Dhurup, 2008). Achieving skills and experience is a initial motivator for volunteers in amateur sports (Yadav & Singh, 2023). In job applications, sport volunteering can serve as a valuable signal which can positively affect employers to recruit these volunteers considering their social skills (Wallrodt & Thieme, 2020). Overall, Sport volunteering provides opportunities for personal growth, skill development, and potential career advancement. The aim of this study is to examine the research carried out in the field of Sport volunteering in terms of bibliometric features, to give a point of view to the field and to obtain information about the studies carried out.

In this regard, answers were sought to the following questions:

- 1. General quantitative metrics of Sport volunteering research**
 - a. What are the metrics for quantitative data?
 - b. What are the annual numbers of Sport volunteering research?

2. Quantitative metrics for researchers studying on Sport volunteering

- a. Who are the researchers?
- b. How is the productivity of researchers over the years?
- c. What are the researchers, citation numbers and index values?
- d. Which are the researchers' most cited studies?
- e. How is the collaboration network of researchers?

3. How is the collaboration of the countries where studies on Sport volunteering are carried out?

4. Metrics for journals publishing on Sport volunteering

- a. What are the journals and their index values?
- b. What is the relationship between journals, keywords and researchers?

5. In research on Sport volunteering;

- a. What are the most used keywords?
- b. What is the usage of keywords by year?
- c. What are the popular topics by year?
- d. What is the thematic map like?

METHOD

Research design

In this study, a research design was adopted by examining the studies in the relevant literature and a bibliometric analysis was conducted. Bibliometric analysis aims to improve knowledge in a field by guiding the researcher through related studies in a field and mapping these studies (Isık et al., 2022; Zupic & Cater, 2015).

With this research method, research trends in the field can be defined with a structural mapping. Moreover, developing methods and network information can be presented from the perspective of researchers and institutes studying in the field (Börner et al., 2012; Završnik et al., 2016). In order to carry out the bibliometric analysis, similar studies in the literature were examined and the protocol of this study was designed similar to previous studies (Baytur ve Ulaş, 2022).

Data Collection Source

Studies on Sport volunteering scanned in the Scopus database were used as the data collection tool of the research. The main reason for using the Scopus database instead of the Web Of Science database is that the Scopus database is more extended (Martín-Martín et al., 2018). Although the databases of Scopus and WoS are closely related, the examples of indexed journals overlap, but different journals are also indexed (Chadegani, et al., 2014; Vieira & Gomes, 2009). Scopus is recognized as the largest source of abstract and cited literature on a wide range of subjects (Chadegani, et al., 2013; Vieira & Gomes, 2009).

Collection of Data

At the beginning of this study, keywords were determined and research on Sport volunteering was scanned in the Scopus database. The field search was conducted with the keywords “Sport”, “Volunteering”, “Sport volunteer” and “Sport Volunteering”.

While searching the Scopus database with the keywords determined in this direction;

TITLE ("volunteer" OR "volunteering" AND "sport") AND "sport volunteer" OR "Sports volunteering" parameter was used and 183 studies were reached. In terms of document type articles, books, book chapters, conference papers, editorial and review publications, and research articles were included in the study. According to the language criterion, studies published in English and other languages were included.

Finally, in the inclusion criteria, only publications conducted in English were included using **TITLE("Volunteer" OR "Volunteering" AND "Sport") AND "Sport Volunteer" or "Sports volunteering" AND (LIMIT-TO (LANGUAGE, English"))** parameter and 178 studies were accessed. Analyzes were carried out with these 178 studies.

Data Analysis

In this study, R software program was preferred for bibliometric analysis. Analyzes were performed, visualized and reported by the help of bibliometrix and biblioshiny packages included in the R software program (Aria&Cuccurullo, 2017).

Procedures

Ethics committee approval for the research was given at the ethics committee meeting of Karabük University Ethics Committee dated 27.10.2023 and numbered 2023/07. In this study bibliometric analysis, was used to describe and evaluate previously conducted research.

RESULTS

In this study, findings regarding scientific productivity in Sport volunteering research, findings about researchers conducting research on Sport volunteering, and keywords used in studies on Sport volunteering were examined in order to present bibliometric data related to the research topic.

Descriptive Results

The data set consists of 178 studies. Basic information about the data set is given in Table 2.

Table 2. Key Findings on sport volunteering research

Basic Information About Data	Results
Time period	2002 - 2023
Resources (Journals, Books etc.)	78
Documents	178
Average citations per document	12,8
Resources	8412
Document Types	
Article	136
Book	1
Book Chapter	30
Conference Paper	5
Editorial	5
Review	1
Authors	
Authors	343
Authors who study with a single author	28
Authors who study with multiple authors	315
Collaboration of Authors	

Single author documents	32
Document per author	0,518
Author per document	1.92
Co-authors per document	2,74

When the main findings regarding studies on Sport volunteering were examined, it was determined that a total of 178 studies were conducted in 78 different types of resources between 2002 and 2023. It is seen that 136 of the studies on Sport volunteering are articles and 30 of them are book chapters. It is obvious that the majority of the researchers published their studies as articles. When the information regarding the citation rates of the studies are analyzed, a research receives an average of 12.8 citations as shown in Table 2. While 343 authors conducted studies on Sport volunteering and volunteering, 28 of the studies were carried out with a single author and 315 of them were co-authored. According to the findings, most of the researchers prefer to cooperate.

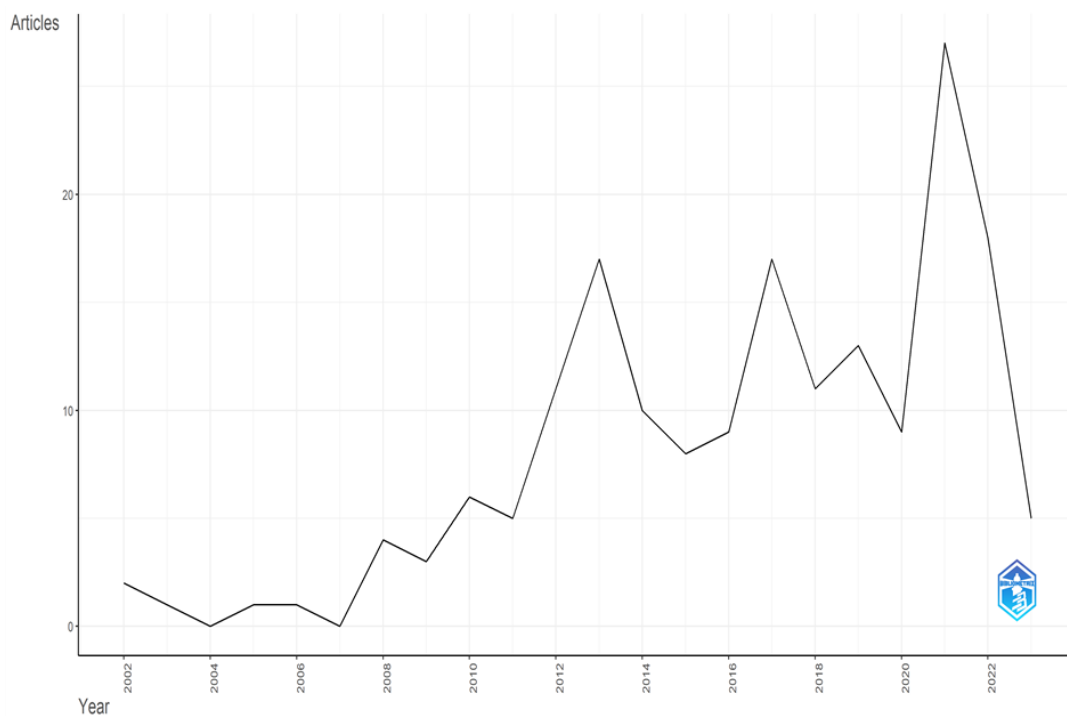


Figure 1. Evaluation of sport volunteering studies on a yearly basis

As can be seen in Figure 1, volunteering is a subject that has been studied in many different fields for years. The emergence of the concepts of Sport volunteering and volunteering dates back to the Olympic Games held in the last quarter of the 1900s. Approximately 30 thousand registered volunteers took part in the 1984 Los Angeles Olympics. As shown in Figure 1, research on Sport volunteering has begun to be carried out since the end of the 90s and the beginning of the 2000s.

Until 2010, although there was not much increase in the number of publications per year, it must be due to the importance of volunteerism admitted by both institutions and organizations; the number of publications showed an increasing tendency and continued as 17 studies in 2013, 17 studies in 2017, 27 studies in 2021 and 5 studies until May 2023.

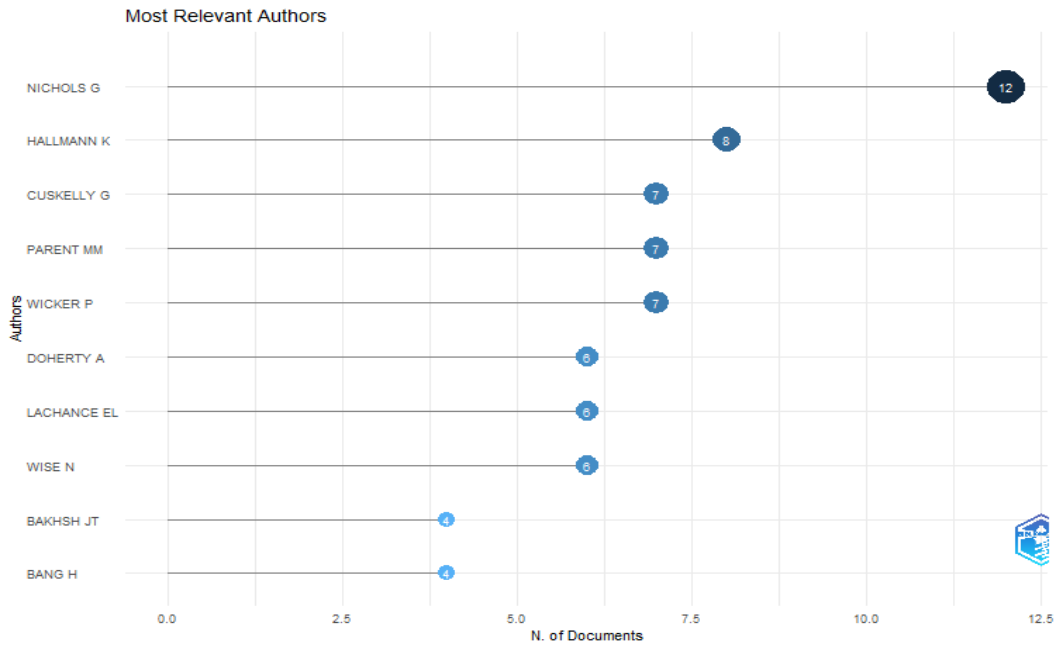


Figure 2. Authors who conducted the highest number of studies on sport volunteering

Figure 2 shows the number of studies carried out by researchers according to years. It is seen that the author who conducted the most studies on Sport volunteering and volunteering between 2002-2023 is Geoff Nichols with 12 studies. After Geoff Nichols, Kirstin Hallmann is the researcher who carried out the most studies. Graham Cuskelly, Milena Parent and Pamela Wicker conducted 7 studies each, and Alison Doherty, Erik L. Lachance and Nicholas Wise conducted 6 studies each, respectively. Finally, the researchers who conducted the fewest studies between 2002 and 2023 were Jordan Bakhsh and Hyejin Bang, with 4 studies each.

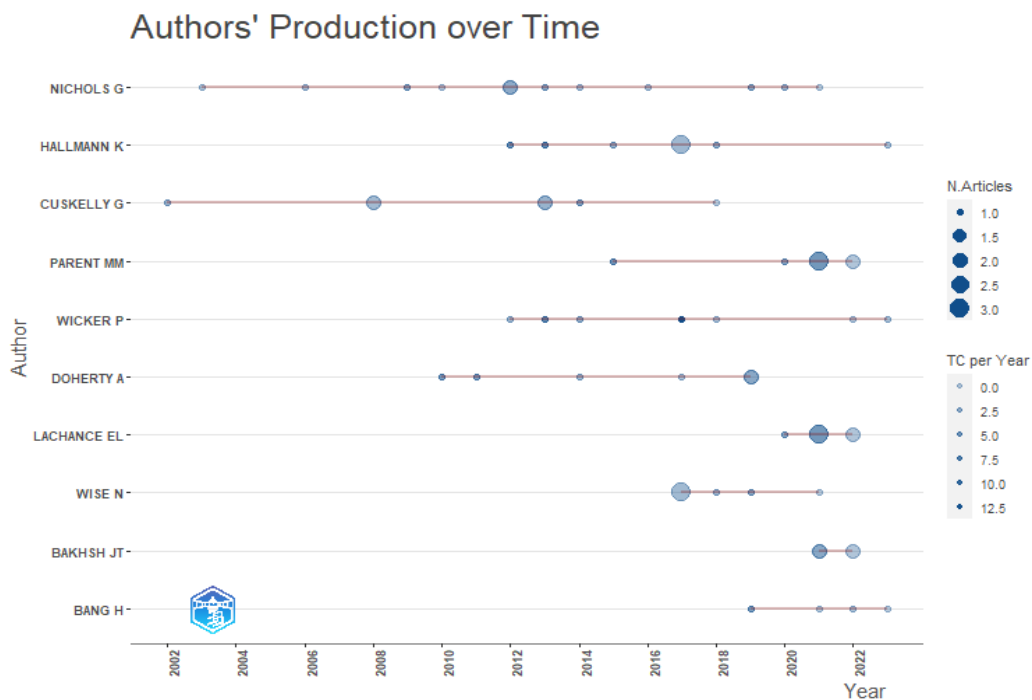


Figure 3. Productivity of authors working on sport volunteering by year

The lines in Figure 3 show the studies carried out by researchers between 2002 and 2023. The circles above the lines indicate the frequency of studies according to their size and darkness of color.

In this regard, Geoff Nichols, the researcher with the most publications in the field, carried out his first study in 2003 and put into practice his most productive period with 6 studies between 2009 and 2014. Kirstin Hallmann, the second author who has contributed the most to the field, has conducted all of her studies since 2012. A different result from the figure demonstrates that Kirstin Hallmann, Milena Parent, Erik L. Lachance and Nicholas Wise carried out 3 different studies in one year. Furthermore, Jordan Bakhsh, Erik L. Lachance, Hyejin Bang and Nicholas Wise are the researchers who have carried out recent studies in the field. Finally, Kirstin Hallmann, Pamela Wicker and Hyejin Bang are the researchers who conducted studies in 2023.

Within this scope, it may be useful for new researchers to review the studies of Kirstin Hallmann, Pamela Wicker, Hyejin Bang, Jordan Bakhsh, Erik L. Lachance and Nicholas Wise in order to see the current approaches and trends after examining the studies of Geoff Nichols regarding the content and approaches of the subject.

Table 3. 10 Popular authors studying on sport volunteering and their characteristics

Authors	H Index	G Index	M Index	Total Citation	Number of Publication	Beginning year of publications
NICHOLS G	8	12	0,381	213	12	2003
DOHERTY A	5	6	0,357	166	6	2010
HALLMANN K	5	8	0,417	206	8	2012
PARENT MM	5	7	0,556	77	7	2015
WICKER P	5	7	0,417	224	7	2012
BREUER C	4	4	0,333	62	4	2012
CUSKELLY G	4	7	0,182	138	7	2002
LACHANCE EL	4	5	1	31	6	2020
NAGEL S	4	4	0,364	92	4	2013
DICKSON G	3	4	0,429	25	4	2017

In Table 3, the effects and productivity of the authors who conducted studies on Sport volunteering are examined. According to the table, Geoff Nichols, who contributed the most publications to the literature between 2002 and 2023, received a total of 213 citations with 12 publications. In addition, he ranks first in the list of popular authors with an 8 H index. It is also noticed that the researcher who published the oldest article among these authors is Geoff Nichols. Although Milena Parent, one of the authors with a 5 H Index score, started her research 3 years later than other authors with a 5 H index score, she entered the ranking of popular authors with 77 citations and 7 publications in a period of approximately 8 years. Another noteworthy author in the table is Siegfried Nagel, who started to publish studies in 2020. In a period of 3 years, Nagel has been ranked among the popular authors with 4 publications, 92 citations and 4 H index points.

Table 4. The most cited studies of authors working on sport volunteering

Author and Research Year	Journal	Article DOI	Total Citation	Total Citation Per Year
Kay T, Bradbury S, 2009	Sport, Education and Society	10.1080/13573320802615288	107	7,13
Wicker P, 2017	Sport Management Review	10.1016/j.smr.2017.01.001	92	13,14
Wicker P, Hallmann K, 2013	European Sport Management Quarterly	10.1080/16184742.2012.744768	76	6,91
Hallmann K, Harms G, 2012	International Journal of Event and Festival Management	10.1108/17582951211262701	73	6,08
Darcy S, Maxwell H, Edwards M, Onyx J, Sherker S, 2014	Sport Management Review	10.1016/j.smr.2014.01.003	67	6,70
Misener K, Doherty A, Kerwin S, 2010,	Journal of Leisure Research	10.1080/00222216.2010.11950205	66	4,71
Doherty A, Hoye R, 2011	Nonprofit Management Leadership	10.1002/nml.20043	59	4,54
Downward P, Lumsdon L, Ralston R, 2005	Managing Leisure	10.1080/13606710500348086	59	3,11
Morgan H, 2013	International Journal of Sport Policy and Politics	10.1080/19406940.2013.764542	58	5,27
Nichols G, Ojala E, 2009	Voluntas	10.1007/s11266-009-9097-9	55	3,67

In Table-4, the most cited studies and citation rates of the authors who conducted studies on Sport volunteering are examined. As seen in Table-4, the study titled 'Youth sport volunteering: Developing social capital?' conducted by Kay and Bradbury in 2009, which examines the capacity of youth sport volunteering to contribute to the development of social capital, was the most cited study with 107 citations. The annual average number of citations this study received was 7.13. The study titled 'Volunteerism and volunteer management in sport', conducted by Wicker in 2017, which provides an overview of existing research on volunteering and volunteer management in sports, highlights important issues and makes suggestions for future research, also draws attention in the table. It is seen that this study is the second most cited study, with a total of 92 citations and an annual average of 13.14 citations in approximately 4 years. The other The most cited authors and information about their research is also given in the table.

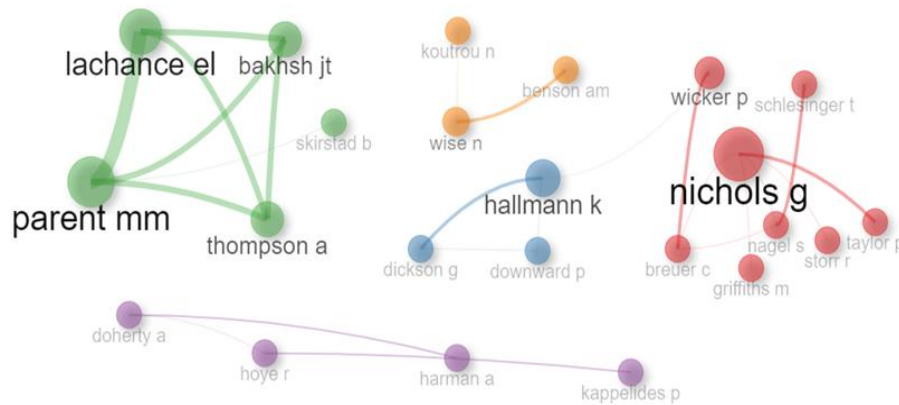


Figure 4. Collaborative network of researchers studying on sport volunteering

The colored circles in the figure 4 indicate common groups whereas the thick lines and the density of these lines indicate collaboration of the researchers with other researchers. When the collaboration of researchers studying on Sport volunteering is examined; it can be put forward that Milena Parent, Erik L. Lachance, Jordan Bakhsh, and Ashley Thompson as shown in green studied the subject intensively and collaborated with each other more than other authors. It is also seen that Geoff Nichols is the most intensively collaborated author in the red-colored research area.

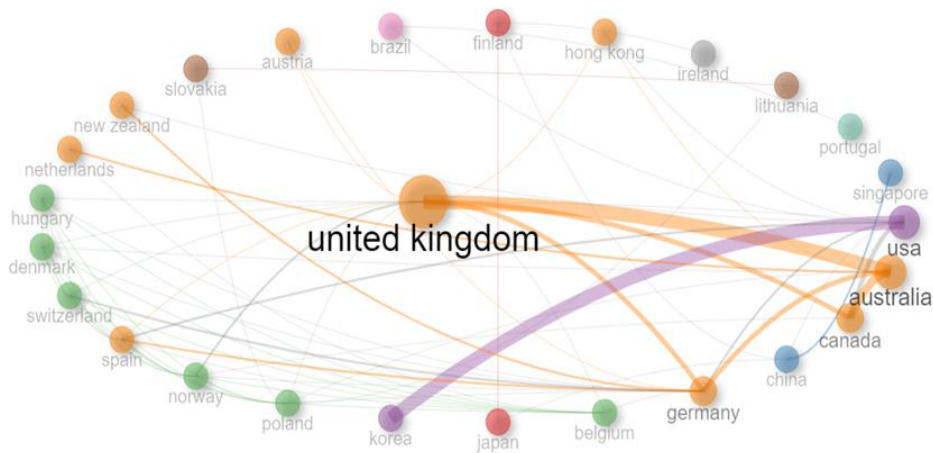


Figure 5. Collaborative network of countries studying on sport volunteering

When the collaboration network of countries conducting research on Sport volunteering is analyzed in figure 5, countries in America, Australia and Europe have a high level of cooperation. In addition, while European countries cooperate with each other to a less extent, a significant cooperation is available especially between the United Kingdom, Australia and Canada. Furthermore, Turkey is not included in the figure of collaborative network of countries that proves the inadequacy of research in that country.

Table 5. Journals accepting publications on sport volunteering and index values

Journal Name	h_index	g_index	m_index	TC	NP	PY_start
Sport Management Review	10	12	0,714	373	12	2010
European Sport Management Quarterly	8	12	0,571	269	12	2010
Managing Leisure	6	6	0,273	201	6	2002
International Journal of Sport Policy	4	5	0,333	130	5	2012
Sport, education and society	2	6	0,133	127	6	2009
International Journal of Event And Festival Management						
Management	5	5	0,417	122	5	2012
Journal of Sport Management	4	5	0,333	100	5	2012
Voluntas	2	6	0,133	76	6	2009
International Journal of Sport Management And Marketing						
Marketing	4	4	0,286	68	4	2010
Journal of Leisure Research	1	1	0,071	66	1	2010

In Table 5, the index values of the journals publishing on Sport volunteering, their total citations, the number of documents they published and when they started publication on the relevant subject are evaluated. The table demonstrates that the journal 'Sport Management Review', which published articles on sport volunteering in 2010, has the highest H index. Also, 'Sport Management Review' magazine ranks first with a total of 373 citations. The journals that accept the most publications on the subject are 'Sport Management Review' and 'European Sport Management Quarterly'. In addition, it is clearly seen that the oldest published journal on the subject is 'Managing Leisure'. Finally, the majority of the journals that have been publishing on the subject since 2000s accepted studies after 2009.

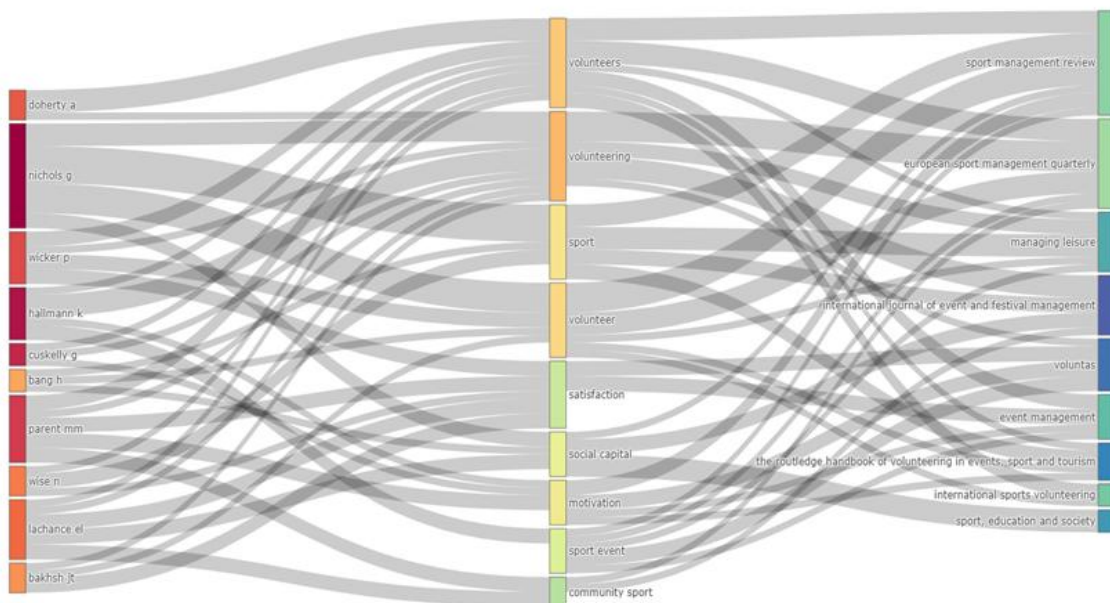


Figure 6. Relationships between journals, key words and authors

The research on Sport volunteering was analyzed with a three-dimensional Sankey diagram, and the keywords of the studies accepted by these journals and the list of authors using these keywords are given in figure 6. In this regard, the most commonly used keywords in research on Sport volunteering are 'Volunteers' and 'volunteering'. These keywords were mostly used in 'Sport Management Review' and 'European Sport Management Quarterly' journals. The keyword 'volunteers' was used most frequently by Alison Doherty, the keyword 'volunteering' was used most frequently by Geoff Nichols and Kirstin Hallmann, and the keywords 'volunteer' and 'sport' were used most frequently by Geoff Nichols. It is also appeared that the majority of the keywords of the studies accepted by 'Sport Management Review' and 'European Sport Management Quarterly' are 'volunteers', 'sport' and 'volunteer'.



Figure 7. Key words of research on sport volunteering

In line with the data collected from the database on Sport volunteering (Figure 7), the keywords used in 178 documents determined for this study are expressed in the largest font size. In this context, the most popular keywords used in the studies were found to be 'volunteering', 'volunteers', 'volunteer', 'sport', 'motivation' and 'sport event'.

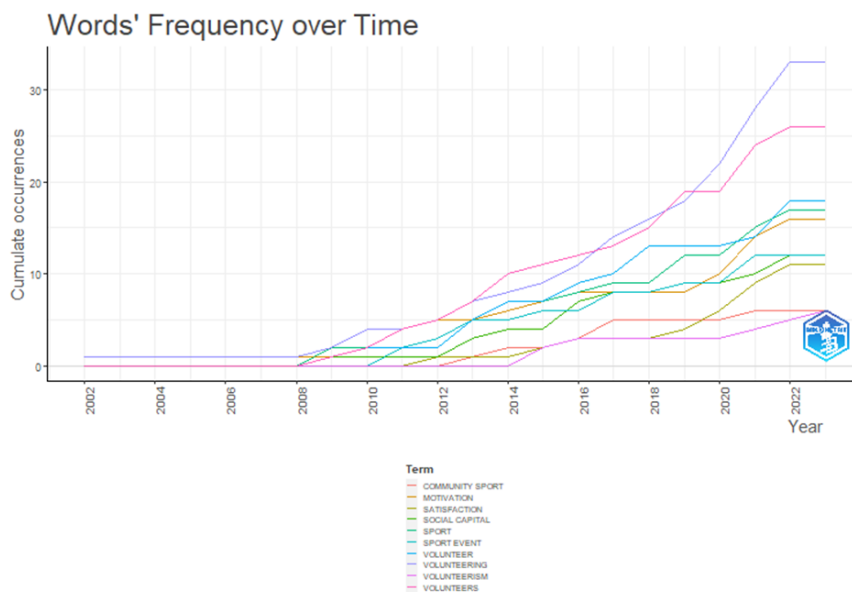


Figure 8. Rates of keywords used in research on sport volunteering by year

When the frequency of keywords used in research on Sport volunteering is examined; it is ascertained that the keywords 'volunteering', 'volunteers', 'volunteer', 'sport', 'sport event' are highly preferred and continue to be used increasingly especially after 2010. It is clear from the use of keywords and the number of articles that the interest in Sport volunteering continues to increase each year.

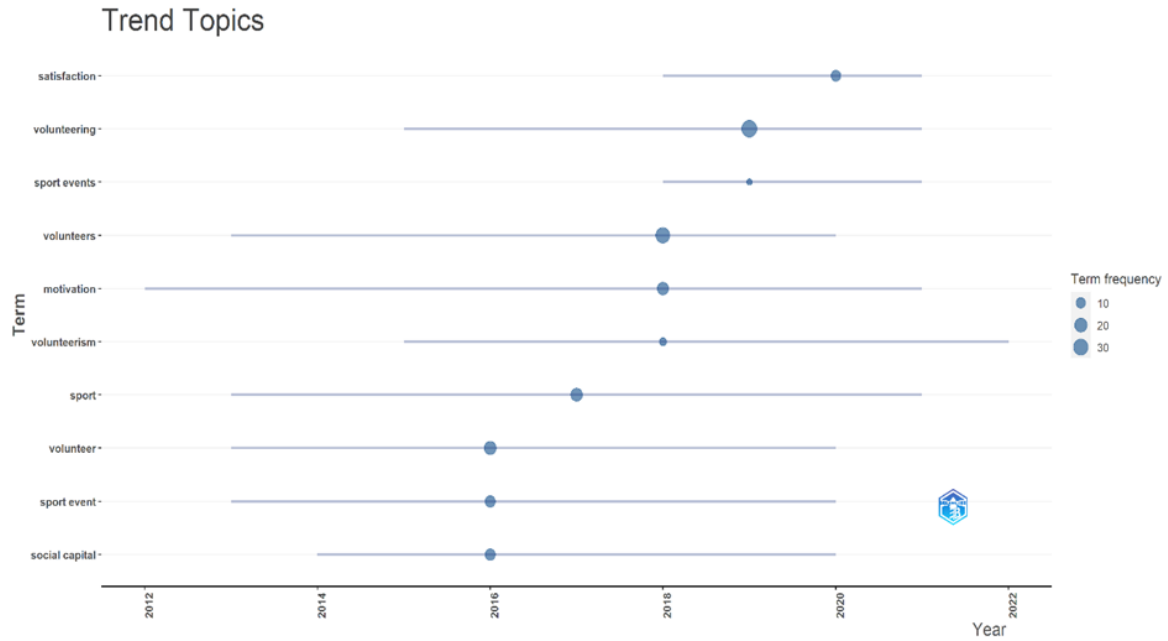


Figure 9. Popular sport volunteering topics by year

When the popular research topics on Sport volunteering are analyzed on a yearly basis (Figure 9), the lines indicate the beginning and end of the topics used in research by year, and the circles show the time when the topics were used most intensively. The topic 'Sport' was discussed continuously between 2011 and 2021. In addition, 'motivation' was another topic that the authors preferred to investigate in the studies conducted between 2012 and 2021. As it can be interpreted from the figure, the topics 'volunteering' were heavily preferred in 2019 whereas 'volunteers' and 'motivation' were mostly discussed in 2018. Lastly, there appears to be a trend towards the topic of 'satisfaction' as a new concept between 2018 and 2021.

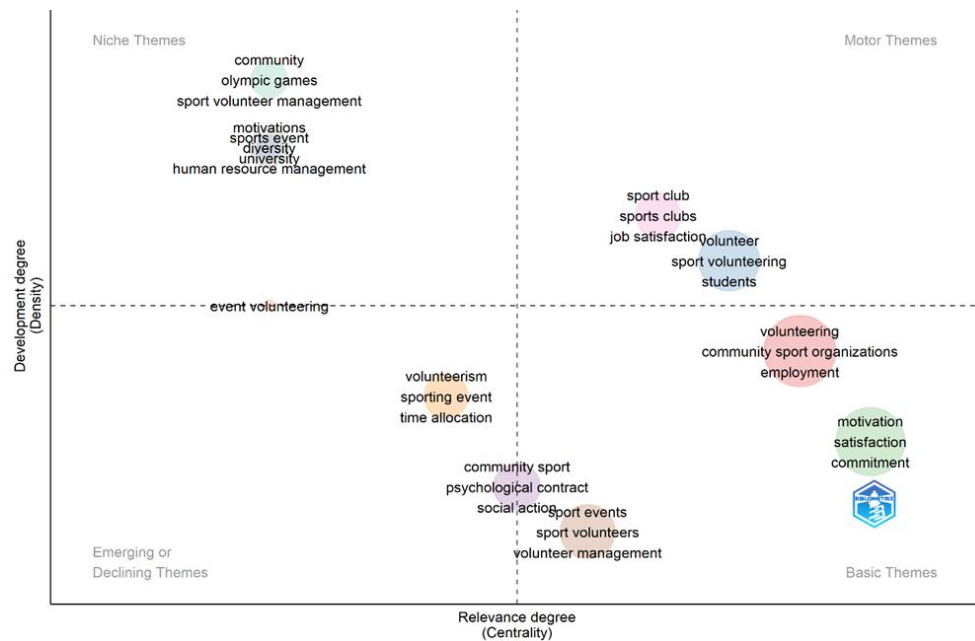


Figure 10. Thematic map findings for sport volunteering research

The study examined how the concepts develop and interact in order to reveal the conceptual structure in sport volunteering research. The concepts clustered according to their relationships with each other and their impact on the whole literature are presented with the help of thematic map analysis.

In thematic map analysis, a strategic diagram is drawn based on density and centrality. In a thematic map, the vertical line on the coordinate plane is called density and the horizontal area is called centrality. The thematic map includes 4 areas formed by this vertical and horizontal coordinate plane. This diagram consists of four parts (Muñoz-Leiva et al., 2012). The conceptual structure of the literature can be discovered with the help of thematic map analysis.

In a thematic map;

- The themes at the top right side are motor themes,
- The themes at the top left side are niche themes,
- The themes at the bottom right are simple basic themes,
- The themes at the bottom left are called disappearing or emerging themes.

When the motor themes area of the thematic map is examined in Figure-10, it is obvious that this area is located in the positive area in both density and centrality coordinates. The keywords in this area are both overused and used together more than other articles. This area of the thematic map is the most robust themes of the literature. In this context, it is clear that the concepts of volunteer, sport volunteering, students, sport club(s) and job satisfaction constitute the center of the subject area of sport volunteering.

The Niche themes area on the top left side is located in the positive area in the density coordinate plane whereas it is in the negative area in the centrality plane. The concepts in this area exist in the literature but are referred to as slightly off-center concepts. The Niche Area themes consist of concepts such as community, Olympic games, sport volunteer management.

As can be seen in the plane of the thematic map coordinates, the area of disappearing or emerging themes at the bottom left is located in the negative area of both density and centrality.

In this direction, the concepts of volunteerism, sporting event, time allocation generate the disappearing or emerging concepts of the thematic map. In addition, the concept of event volunteering is right in the center between the Niche theme and disappearing or emerging themes.

Finally, the simple basic themes area is located in the positive area of the centrality plane and in the negative area of the density area. This area is particularly related to motor themes but they are used less. In other words, simple themes are important but underdeveloped for a research area. In this regard, the concepts of volunteering, community sport organizations, sport events, sport volunteers, volunteer management are included in the simple basic themes area.

DISCUSSION AND CONCLUSION

Bibliometric analysis presents opportunities to constitute theoretical and empirical foundations (Ramos-Rodriguez and Ruiz-Navarro, 2004), by identifying paradigm shifts within the literature (Pasadeos et al., 2010). This study focuses on the bibliometric analysis of scientific studies in the area of Sport volunteering in the Scopus database. It is considered that an in-depth analysis of the literature will be a helpful guide for researchers who will study in this area by examining issues such as the research topic in the literature, contributing authors, keywords used in research, popular journals, the most cited authors and their studies, and trending topics in the literature.

As in many fields of science, researches have been carried out with bibliometric method in the field of sports sciences (Bahçe & Zorba, 2021; Gholampour et al., 2019; Karafil & Akgül, 2021; Santos & Garcia, 2011; Seyfi & Polat, 2024; Shilbury, 2011; Şahin, 2021; Uysal & Atay, 2021; Tekneci, 2013), and studies with bibliometric method have started to be done more frequent recently.

According to the results of this study covering sport volunteering research conducted between 2002-2023, it is seen that the vast majority of research conducted in this field has been published as articles and book chapters. The most preferred academic publication type in the literature on Sport volunteering is the article.

An article is very important in terms of academic production. Because this publication type provides objective indicators in determining the academic effectiveness and scientific productivity of scientists. In this respect, the preference of the article as a document type in the literature is an expected result. Factors such as faster publication of articles, inclusion in journals focusing on a specific subject, high citation potential, and ease of digital publication may have caused researchers to work on their publications as articles or book chapters.

When the literature is reviewed, the subject of sport volunteering, which started to be studied to a small extent in the late 1990s (Auld, 1997; Cuskelly et al., 1998; Cuskelly & Boag, 2001; Farrell et al., 1998), has become more prevalent since the early 2000s (Cuskelly et al., 2006; Hallmann, 2015; Harman & Doherty, 2014; Nichols & Taylor, 2010; Wicker & Hallmann, 2013; Taylor et al., 2016).

A bibliometric analysis reveals that academic research on sport volunteering has intensified since the early 2000s. The increase in the number of studies on Sport volunteering can be

interpreted as a result of both the increase in the number of sports organizations and the increase in the participation of volunteers in these organizations.

When the field indexes of the related authors is examined; it is seen that Geoff Nichols, who conducted his first study in 2003, is the most popular author with a total of 12 studies, 213 citations and 8 H index points. Alison Doherty, who started researching on Sport volunteering in 2006, ranks second with 6 studies, 166 citations and 5 H index points. In addition, although Pamela Wicker started contributing to the field in 2012, she is among the popular authors of the field with 7 studies, 224 citations and 5 H index points.

As it is clearly seen that Geoff Nichols, Alison Doherty, Pamela Wicker are the most important researchers in the field of Sport volunteering, which started to be researched more in the early 2000s and attracted the attention of many researchers. In this regard, it may be useful for researchers who will study on Sport volunteering to examine the studies of Kirstin Hallmann (2023), Pamela Wicker (2022), Hyejin Bang (2023), Jordan Bakhsh (2021), Erik L. Lachance (2021) and Nicholas Wise (2021) in order to see the current approaches and trends after reviewing content and approaches of Geoff Nichols' studies.

The journals that accept the most studies in the field are Sport Management Review and European Sport Management Quarterly. Both journals accepted the first studies in 2010 and published 12 studies on Sport volunteering between 2002 and 2023. While Sport Management Review received a total of 373 citations annually on sport volunteering, European Sport Management Quarterly received a total of 269 citations.

In the bibliometric study conducted in 2021, "Sport Management Review" and "European Sport Management Quarterly" journals appear to be the most productive and accept the most articles on volunteering (Ahmad et al., 2021). The results obtained in a bibliometric analysis study on the motivation of sports event volunteers also support the results we obtained in our research.

It was determined that the most used keywords in the field of Sport volunteering are 'volunteers' and 'volunteering'. These keywords were mostly used in 'Sport Management Review' and 'European Sport Management Quarterly' journals. The keyword 'Volunteers' was most frequently used by Alison Doherty, the keyword 'Volunteering' was most frequently used by Geoff Nichols and Kirstin Hallmann, and the keywords 'Volunteer' and 'Sport' were most frequently used by Geoff Nichols. In addition, it is seen that the majority of the keywords of the studies accepted by the journals 'Sport Management Review' and 'European Sport Management Quarterly' are 'volunteers', 'sport' and 'volunteer'. Moreover, it was revealed that the most popular keywords used in the studies were 'volunteering', 'volunteers', 'volunteer', 'sport', 'motivation', 'sport event' and continued to be used increasingly especially after 2010.

Analysis of keywords analyses the strength of an association of terms describing publications in a given field by measuring the frequency of keyword (Krishnan et al., 2020). This approach can help better understand the keywords that help expand sports volunteer searches.

The network of topics and their relationships that reflect the intellectual side of a field of study are revealed by examining the emergence of the keywords of that field (Cancino et al., 2017; Martínez-López, et al., 2018).

From the findings obtained within the scope of the research; it can be commented that the subject has offered different perspectives to the sector and literature for the last twenty years,

revealed the intellectual aspects of the field and contributed to the widespread study of these results.

The topics of studies conducted in the field of Sport volunteering have varied over the years, and the topic 'Sport' has been used continuously between 2011 and 2021. In addition, 'motivation' was another topic that the authors preferred to investigate in the studies conducted between 2012 and 2021. 'Volunteering' in 2019, 'volunteers' and 'motivation' in 2018 are the other most preferred topics. Finally, there appears to be a trend towards the topic of 'satisfaction' between 2018 and 2021. It can be put forward that different concepts have been researched to reveal volunteers' achievements and various perspectives from these kind of experiences.

When the collaboration network of researchers studying on the subject of Sport volunteering is examined; Milena Parent, Erik L. Lachance, Jordan Bakhsh, Ashley Thompson conducted intensive studies. Geoff Nichols collaborated with many researchers in the field, especially Pamela Wicker.

According to obtained data researchers working on sport volunteering are likely to collaborate for reasons such as increasing the effectiveness and productivity of the study, increasing the scientific impact of the study, combining areas of expertise, approaching the subject from different perspectives, and expanding the academic network.

When the country collaborations that carried out research on sport volunteering are examined; it is seen that a significant cooperation is available between the United Kingdom and Australia, Canada and Germany. The United States and South Korea are also cooperating countries. According to the 2022 Charities Aid Foundation (CAF) World Giving Index report, countries studying on the related topic ranked as United States (3), New Zealand (5), Australia (4), Canada (8), the United Kingdom (17) (The Charities Aid Foundation, 2022). These countries are also among the countries that spend the most time on volunteering in this report.

It can be interpreted that the willingness of these countries to volunteer, their ranking in the report and the number of sports organizations they held in the national and international arena contribute to their being in the first place among the countries conducting research and studies on sport volunteering. It is also noteworthy that Turkey, which ranks much lower in the same report, is not among the countries collaborating in this study field.

The following results were obtained in the thematic map analysis, which is one of the last and most important analyzes of the study and was prepared to reveal the conceptual structure in sport volunteering research.

The motor themes area at the top right of the map constitutes the strongest emerging themes of this article. It is seen that the keywords volunteer, sport volunteering, students, sport club(s) and job satisfaction generate the field concepts which form the center of sport volunteering.

The Niche Themes area is on the top left which exist in the literature but it is a little far from the center. The Niche Areas theme consists of specific concepts such as 'community', 'olympic games' and 'sport volunteer management'.

The area of disappearing or emerging themes is located at the bottom left. These concepts are formed by the keywords 'volunteerism', 'sporting event', 'time allocation'.

The simple basic themes area is located at the bottom right corner. This area is particularly related to motor themes but they are in little usage. In other words, simple themes are significant for a research area but they are not sufficiently developed. In this context, the simple themes area was created by the keywords 'volunteering', 'community sport organizations', 'sport events', 'sport volunteers' and 'volunteer management'.

Volunteering has become an area of interest due to people's taking part in sports organizations as volunteers, increasing number of these organizations and providing individuals serious experiences. A study has revealed that young people prefer to take part in sports organizations as volunteers (Yılmaz et al, 2019). In this context, volunteering has become a part of sports organizations as one of the most important committees of all sports organizations, both national and international.

As can be understood from the conceptual map, as the number of studies conducted in the field of sport volunteering increases, the variety of topics studied also increases.

The attendance of people in sport events as volunteer and many researches on Sport volunteering in different aspects support the findings of this study.

This research has specific limitations. Firstly, this study is based on Scopus database. Secondly, researches in Turkish languages were not taken in consideration as the number of these studies are inadequate.

Finally, in this study, the research on Sport volunteering was examined from a broad perspective and the studies conducted in this field between 2002 and 2023 were analyzed. Decision-makers, authorized people in sport organizations can benefit from this study. This study will also illuminate researchers who focus on Sport volunteering in order to enhance different point of views.

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