Turkish Journal of Sport and Exercise /
Türk Spor ve Egzersiz Dergisi
http://dergipark.gov.tr/tsed
Year: 2026 - Volume: 28 – Issue 1- Pages: 155-175
10.15314/tsed.1767312

Turkish Journal of Sport and Exercise
Türk Spor ve Egzersiz Dergisi
ISSN: 2147-5652
https://dergipark.org.tr/tr/pub/tsed

Comprehensive Bibliometric Analysis of Scientific Studies Focusing on the Research Topic of Recreation History: WoS (1980-2024)

Muhammet PAYLI[1A]

[1] *Karamanoğlu Mehmetbey University, Faculty of Applied Sciences, Recreation Recreation Management, Karaman, TÜRKİYE*
Address Correspondence to Muhammet PAYLI: e-mail: mu20pa33@gmail.com

(Date Of Received): 17.08.2025 (Date of Acceptance): 02.12.2025 (Date of Publication): 31.04.2026
A: Orcid ID: 0000-0002-9899-7026

Abstract

This study was conducted to reveal the performance status and conceptual structure of articles focused on the research topic of recreation history. For this purpose, relevant articles were filtered according to the identified scientific components and 964 articles, along with their tables and data files, were downloaded from the WoS database. Performance and scientific mapping analyses were conducted on the data in the tables obtained by testing these data with the relevant analysis program. As a result of the performance analysis, it was determined that articles focused on the research topic performed better by being published in English in 2023, in the Environmental Sciences-Ecology research field and in SCI-Expanded indexed journals. Furthermore, it was determined that the most cited article globally was Halpenny's (2010) article at doi:10.1016/j.jenvp.2010.04.006. As a result of the scientific mapping analysis, relevant articles were ranked in terms of usage counts: In terms of total scientific collaboration, recreation, history and management performed better with the keywords recreation, management and impacts, but less so with the keywords wilderness, vegetation, sports, endurance and outdoors.

Keywords: Recreation history, performance analysis, scientific mapping analysis.

Rekreasyon Tarihi Araştırma Konusuna Odaklı Bilimsel Çalışmaların Kapsamlı Bibliyometrik Analizi: WoS (1980-2024)

Özet

Bu çalışma, *rekreasyon tarihi* araştırma konu odağındaki makalelerin performans durumunu ve kavramsal yapısını ortaya koymak amacıyla gerçekleştirilmiştir. Bu amaçla; ilgili makaleler, belirlenen bilimsel bileşenler kapsamında filtrelenerek *964* makale ve makalelere ait tablo ve veri dosyaları WoS veri tabanından indirilmiştir. Bu verilerin ilgili analiz programında yapılan testi sonucunda elde edilen tablolardaki veriler üzerinde performans ve bilimsel haritalama analizleri yapılmıştır. Performans analizi neticesinde: Araştırma konusu odağındaki makalelerin *İngilizce*, *2023* yılında, *Çevre Bilimleri-Ekoloji* araştırma alanında ve *SCI-Expanded* indeksli dergilerde yayımlanarak daha fazla performans gösterdiği tespit edilmiştir. Ayrıca küresel düzeyde en fazla atıf, *doi:10.1016/j.jenvp.2010.04.006* adresindeki Halpenny'nin (2010) makalesine yapıldığı tespit edilmiştir. Bilimsel haritalama analizi neticesinde: ilgili makaleler kullanım sayıları açısından; rekreasyon, tarih ve yönetim, toplam bilimsel işbirliği açısından rekreasyon, yönetim ve

etkiler anahtar kelimelerinde daha fazla, vahşi doğa, bitki örtüsü, sporlar, dayanıklılık ve açık hava anahtar kelimelerin kullanımlarında ise daha az performans gösterdiği tespit edilmiştir.

Anahtar Kelimeler: Rekreasyon tarihi, performans analizi, bilimsel haritalama analizi.

INTRODUCTION

To fully understand the phenomenon of recreation, it is necessary to understand the concept of leisure (50). According to the International Sociological Association (ISA), leisure consists of a series of activities chosen by an individual after being freed from daily life activities for rest, relaxation, knowledge development, non-profit and voluntary social activities (73). Although recreation, like leisure, is not easy to understand and grasp, numerous scientists are working to provide it and have proposed numerous theories on the subject. In this context, the most widespread and accepted definition of recreation by leisure service providers is the activities individuals engage in during their free time (70).

While survival was a basic need for people and societies in previous periods, the need for recreation is gaining more importance and attention for humankind every day (7). The development of recreation has varied from civilization to civilization throughout history and these developments are noted to have impacted social, religious and cultural issues (74). Furthermore, in parallel with improvements and advancements in cultural, social, technological, economic and other fields, the demand for and diversity in leisure activities has become significant. These demands and developments have led to the emergence of recreational activities that serve purposes such as rest, socialization, entertainment, shopping, learning, skill development, monitoring, treatment, sports and so on (26). The unhealthy and unplanned urbanization unleashed by technological and industrial advancements since the 19th century has brought with it numerous negative physical, psychological and sociocultural consequences (4). Therefore, in addition to today's tiring work and intensity, the routine, boring and stressful environments of urban life negatively affect people in many ways and impair their health (13). Furthermore, the reduction in working hours due to technological advancements, the shift from physical labor to machine labor and the resulting need for a more monotonous lifestyle have forced people to be selective in spending their leisure time more productively (62). In parallel with technological advancements, the demand for recreational activities is also increasing as a result of factors such as the increase in people's free time, rising income and education levels and the extension of life expectancy (47). The widespread acceptance and mobilization of the notion that free time, which individuals can freely spend in addition to work, is a significant need is creating new lifestyles in the form of recreational activities, particularly in developed and developing countries. Recreational activities, which influence these lifestyles, are constantly increasing in both type and the number of participants (55).

Recreational activities can be classified as open-air recreational activities and indoor recreational activities based on their venue preferences. Open space recreation activities include all sports (volleyball, running, football, tennis etc.) and nature-based activities (picnics, camping, trekking, water sports etc.) held in open spaces (23). Indoor recreation activities include activities in gyms or similar indoor spaces, indoor concerts, cultural events, dancing, reading, music, movies, playing video games and surfing the internet (51). By enabling recreation year-round and expanding to different regions, the goal is to promote diverse natural environments and recreational activities and to promote tourism activities (sporting events) over a longer period of time, thereby contributing to the development and growth of the country in many ways (44). Furthermore, in developed countries, the increase in leisure time, coupled with the attainment of standards of living far exceeding the welfare of people, has increased initiatives related to recreational activities. On the other hand, recreation is closely linked to tourism, games, art, culture, landscape architecture, sports, education, economy, environment (ecology) and health (43).

Given the relationship between recreation and many other fields and its significant impact on human life in particular, it is considered important to understand and understand the evolutionary development and universal change in the history of recreation. Based on this understanding, it can be stated that historical information obtained through scientific studies will benefit individuals, society, the private sector and public institutions and organizations. This will enable us to evaluate the before, after and current state of recreation and provide information on how we can benefit from it further. Furthermore, the international literature on "recreation history" is a leading field of research.

Literature Review

This section of the study includes a literature review, as well as a theoretical framework for the research topic of recreation history and the bibliometric analysis methods to be used in the study. In this context, theoretical explanations related to the research topic and scientific studies contributed to the literature are presented below.

Recreation history

The word "recreation" originates from the English word "recreate" (10), meaning to have fun, revitalize, relax or revitalize. In French, it is the noun form of the verb "recreer." In Latin, it means "renewal, refreshment." In this context, the purpose of recreation is defined as the regeneration of an individual's mental and physical resources that have diminished as a result of work (79).

In today's world, recreation is defined as enjoyable activities/events undertaken in groups or individually during free time, providing a sense of immediate gratification and meeting an individual's need for renewal through participation (53). Leisure time, on the other hand, is defined as the time spent by an individual for essential needs and which can be managed/used as desired outside of work hours (64). Furthermore, while the concept of recreation has been defined in various ways by scientists, these definitions generally focus on human health and its benefits (37). Historically, from the modern era to the present, societies' perceptions of leisure time have varied depending on state administration, religious beliefs, philosophy and professional life (20). Since the dawn of time, humankind has engaged in activities for the purpose of occupying themselves, resting and having fun in time not covered by essential needs such as sleeping, eating and drinking. Therefore, leisure time is as old as human history. Activities that people engage in voluntarily in their free time are called recreation (39). Recreation and leisure are considered two important phenomena inseparable from each other throughout history (24). In this context, recreation and leisure have been examined historically as Antiquity, Antiquity, Roman Period, Modern Age and Modern Age and are explained below.

Antiquity

It is stated that early humans lived collectively in caves to meet their clothing, nutrition and protection needs. Later, they settled down and lived in small villages and cities (2). It is also stated that early humans needed to hunt for survival and developed weapons and hunting tactics for hunting. In addition, they developed games inspired by the fighting and movements of the animals they hunted (25). These games included horse races, hunting, archery, gambling, drinking, dancing etc., held in ancient Egypt. Examples are given (29). Furthermore, historical documents and remains indicate that since ancient times, people have valued exciting activities related to entertainment and begging, in addition to various functions in their lives. This demonstrates that recreation has a very long history in human life. In this context, activities, individual behaviors and cultural developments related to entertainment and begging have been preserved from ancient times to the present day (57).

Ancient Greek period

The first evidence regarding the term "leisure" dates back to the Ancient Greek period. It is stated that the term was derived from the word "schole" by the Ancient Greeks. The Ancient Greeks defined the term as a cultural value. The Ancient Greeks established institutions such as schools to utilize their leisure time. These institutions are considered to have made significant contributions/values to society and the Ancient Greeks were the first civilization to define and utilize leisure (40). It is stated that the first attempts to understand leisure occurred around 300 BC. It is emphasized that the idea of leisure as we know it today was influenced by the Early Greek civilization and that it first emerged as a result of the writings of Aristotle and Plato. In ancient Greek culture, the concept of leisure included recreational activities as well as learning (27). While leisure was initially viewed as an activity, over time, during the Greek period, it became a form of entertainment for the upper classes and rulers and later, it became a social rather than an individual recreation/activity (29).

Roman period

The Roman Empire is noted to have influenced various religions, cultures, traditions and approaches to leisure and was particularly successful in influencing urban and social life. It is explained that the Romans

influenced not only the architecture and laws of the regions they annexed (3), but also recreation and leisure activities. In this context, races, entertainment and games were held in amphitheaters during this period and the survival of baths from the period demonstrates that these places prioritized recreation, relaxation, socialization and exercise (78). Unlike the Greeks, the Romans distinguished between leisure and work time and they recognized that recreational activities were not exclusive to the upper class/noble, but rather the rights of the entire society. According to the Romans, leisure time was seen as a time used by the entire society for relaxation and entertainment, necessary to rest after work and recharge for the next day's production. Examples of recreational/leisure activities during this period include running, spear and sword games, horseback riding, weightlifting, wrestling, swimming, gladiator fights, festivals and so on (60). Looking at the Middle Ages, the spread of Christianity following the collapse of Rome profoundly influenced people's lifestyles. During this period, leisure time signified the acquisition of wisdom, work, learning and transformation. It is noted that during the Industrial Revolution in England in the 18th century, the fact that people in workplaces often worked unsatisfactory and irregular hours made leisure time even more important (6). In the Middle Ages, recreational activities were limited under the influence of feudal society (46). However, folk festivals, feasts, hunting, dancing etc. Activities were widely held. It is noted that technological advances, improvements in hunting weapons such as arrows and bows and minor improvements in musical instruments were limited during the relevant period (68).

New age

In France in 1778, holidays were labeled "the enemy of commerce" emphasizing the evils of work ethics, laziness and drunkenness. The church administration also abolished Sundays as holidays. Furthermore, because production relied on human labor in England and France, working hours were increased (39). It is reported that working groups, although not entitled to paid leave in the 1880s, took significant breaks such as Easter and Bank Holidays. However, later (in the last century), the annual working hours were reduced from 3000 to 2200 hours, thus increasing employees' rest time (31).

Despite technological advances and advances, it is noted that working hours of workers increased in the 19th century. This situation is exemplified by the 70-hour workweek for people working in factories in the US (38). In the early years of industrialization, work was prioritized and leisure time was characterized as laziness and wastefulness. This situation reversed from the 1930s onward. Societies that produced and earned more due to automation and industrialization saw reductions in work hours and increases in leisure time. The 40-hour workweek and paid leave policies for employees created an environment for a transition to a lifestyle that fostered development and activity (41).

Modern age

From the 19th century onwards, the production- and profit-oriented business approach driven by industrialization, the resulting exhaustion caused by intense work and the resulting air and visual pollution resulting from urban living, along with the stress, psychological and physical harms experienced by individuals due to population and traffic congestion, paved the way for the concept of leisure to gain importance for both institutions and individuals/societies (42). Thus, significant developments and advancements have been made in the fields of industry and technology in the 20th and 21st centuries in recreation and leisure. In line with these developments, the inclusion of factors such as urbanization, transportation, technological advancements, rising welfare levels, paid vacations, population growth and the importance of healthy living in social life in the modern world has increased the importance of recreation (45).

People need recreational activities to escape stressful and tense environments in their lives, to maintain their health, to relax and to rest. Therefore, recreation has become a necessity in social/human life in the 21st century. Recreation is essential, especially for people living in cities and living the same lifestyle all the time (76). This is because people are considering opting for other spaces at certain times to escape the negative impact of their work/living spaces (80).

The widespread recognition and implementation of the importance of free time, where individuals can feel free, is giving rise to new lifestyles in the form of recreational activities in both developed and developing countries (28). Since human beings' demands for nature and recreational activities vary in nature and extent at different stages of their lives, providing a wide range of opportunities to meet these demands, especially in their living spaces, is crucial for their quality of life (72). The new lifestyle created by urbanization and

industrialization has freed up the free time for individuals and they are increasingly choosing to spend their free time for activities such as entertainment, having a good time and resting. Recreational areas (recreation businesses etc.) are being built in almost every city around the world (18). In this context, recreation is seen and used as an economic resource in many countries today (11). It is believed that examining the history of recreation from an educational perspective will contribute to this study. Yersüren and Özel (77) note that recreation and leisure departments were first established in the United States in the mid-1920s and the recreation studies they introduced to the literature have significantly influenced the field. Furthermore, as the concept of recreation has evolved over time, the number of academic research has increased, leading to changes and developments in the field. In parallel with these changes and developments, Sever and Buzlu (63) state that the rapidly increasing number of recreation departments and majors worldwide are generally located in the Sports Technology Colleges, Tourism and Hospitality Management Colleges and Health Sciences Faculties of relevant universities.

Bibliometric analysis

There are numerous scientific studies reflected in the international literature. It is known that scientists in these studies employ different analysis techniques and methods and prefer various statistical analysis programs. In this context, scientists have been observed to use a variety of analysis techniques and methods (61). It is also noteworthy that performance and scientific mapping analysis techniques and methods are used in scientific studies within the scope of bibliometric analysis conducted for literature review (15). This study is a bibliometric analysis of scientific articles focused on the research topic of recreation historyand since it is a literature review, it is believed that including explanations regarding bibliometric analysis is important for the clarity of the tests and analyses to be conducted.

Based on the literature review and considerations above, Thanuskodi and Venkatalakshmi (69) state that Alan Pritchard first defined the term "bibliometrics" in 1969. Bibliometrics encompasses performance indicators of change and development in the field of science, whether geographically or institutionally and during specific publication periods (65). According to Pitt et al. (58), bibliometric analysis is defined as the quantitative examination of written scientific works such as academic articles, papers, theses, books, book chapters etc. Using statistical and mathematical methods, bibliometric analysis: a) Identifying the "performance" of scientific components (articles, authors, keywords, institutions, countries, journals etc.) in any discipline/research area, performing their analysis through ranking and measurement. b) Depicting the conceptual, social and intellectual structure that demonstrates scholarly communication in the field/discipline under consideration using "mapping" techniques (67). Bibliometric analysis is a popular analysis method widely used by scientists (81). Bibliometric analyses not only provide insights into previous years, identify trends and developments in studies, but also help bridge gaps in scientific studies in the future (22). Two analysis methods are used in bibliometric analyses. These can be defined as "performance analysis" and "scientific mapping analysis" (5). Performance analysis examines the contributions of study participants to a specific field. Descriptive analysis, by its nature, is considered a distinguishing feature of bibliometric studies (19). It aims to evaluate scientific components (institutions/organizations, universities, publication years, researchers, languages of publication etc.) through bibliographic indexes based on citation and publication data from a scientific study (52). Scientific mapping analysis: It attempts to address the dynamic and structural aspects of scientific studies, classify a research field/discipline and identify, depict and quantify its thematic subfields (35). The primary goal of this analysis is to uncover the social, intellectual, or conceptual structure of the research field identified through techniques identified through scientific mapping (analyses of co-authorship, country, citations etc.) combined with enriched bibliometric techniques (clusters, mapping, networks etc.) (9).

METHOD

A literature review reveals that scientists have received ethical permission/approval for their scientific studies (71), while some scientific studies have not (34). It has also been noted that scientific studies within the scope of bibliometric analysis reflected in the literature are literature reviews and therefore, ethical permission/approval has not been obtained (16,17,56). In this context, since this study, which will be conducted on the research topic of recreation history, is based on a literature review, ethical permission/approval has not been obtained.

This section of the relevant study describes the purpose of the research, its significance, the universe and sample, its limitations, its stages, the determination of the database, the creation of question parameters, the acquisition and downloading of data and the analysis techniques and methods used, all of which are explained separately under the following subheadings.

Purpose and significance of the research

A literature review revealed numerous scientific studies on recreation history (33), among others. However, it was determined that no scientific study had explored the performance status and conceptual structure of scientific studies contributed to the literature on this research topic, creating a scientific gap in the literature. In this context, this study aims to address this gap in the literature by revealing the performance status of scientific articles focused on recreation history within the specified scientific components (publication language, year, research field and field/searched index) and the conceptual structure of the common keyword used in the keyword, abstract and title sections.

Research population and sample

Scientific studies are conducted within a specific population and sample (56). In this context, all scientific studies on recreation history in the Web of Science (WoS) database constitute the population of this research. Scientific articles in the WoS database focusing on the research topic of recreation history and covering the years 1980-2024 were determined as the sample of the research.

Research limitations

There are some limitations to conducting scientific studies. These limitations can be listed as follows:

- ✓ Conducting the research solely on the WoS database,
- ✓ Including only scientific articles in the tests and analyses related to the study,
- ✓ Considering specific scientific components of the relevant articles (publication year, research field and index),
- ✓ Conducting the research between 1980 and 2024,
- ✓ Using only VOSviewer and Bibliometrix R (RStudio) analysis programs in the tests and analyses,
- ✓ Conducting scientific mapping analysis only in the context of common words and author keyword analysis,
- ✓ Bibliometric tests and analyses being limited to RIS and BibTex data files and
- ✓ Using tables, graphs, scientific network maps, world density maps and word clouds created in accordance with the study's objectives.

Determining the database and search strategy

Numerous scientific studies in the literature have utilized various databases, including Scopus, WoS, Microsoft Academic, Google Scholar Dimensions etc. (48). Gürler (30) explains that while Web of Science (WoS) is the world's oldest and most popular database, it is also recognized by many indexes (ESCI, BKCI, CPCI, AHCI, SSCI and SCI-Expanded). In this context, the WoS database was used to obtain data and files for scientific articles related to the research.

To achieve the study's objectives, the search strategy and the identified scientific components for the search conducted in the WoS database to obtain scientific articles focusing on the research topic of recreation history are presented below.

- ✓ Topic: "Recreation history"
- ✓ Identified scientific components: Year of publication, field of research and indexes searched.

Configuring question parameters

Certain question parameters needed to be configured in line with the research objectives. In this context, the relevant question parameters (n=6) were constructed considering the tables and data files containing the obtained data. The relevant question parameters are labeled with “Q”. These are:

- ✓ What is the distribution of scientific studies (proceedings, articles, books, book chapters etc.) by publication language? (Q_1)
- ✓ What is the distribution of scientific articles between 1980 and 2024? (Q_2)
- ✓ What is the distribution of scientific articles according to the designated research fields? (Q_3)
- ✓ What is the distribution of scientific articles according to the indexes in which the journals in which they are published? (Q_4)
- ✓ Which are the top three most cited scientific articles globally? (Q_5)
- ✓ How is the conceptual structure of scientific articles shaped regarding author keywords in the context of common words? (Q_6)

It is thought that the aims of the research will be achieved by obtaining answers corresponding to the question parameters constructed above.

Data acquisition and downloading

To answer the question parameters formulated in line with the study's objectives, scientific articles focusing on the research topic of recreation history were retrieved from the WoS database. To this end:

- ✓ Tables 1, 2, 3 and 4, which include the attributes and indicators of the scientific components associated with the relevant articles were obtained and organized.
- ✓ As a result of testing the BibTex data file, Table 5 representing the most cited scientific articles globally, was obtained.
- ✓ Next, the RIS and BibTex datasets containing the analytical data of the relevant articles were downloaded.
- ✓ The tables and data files to be used in the planned performance analysis and scientific mapping analyses related to the research topic were downloaded on April 3, 2025, at 11:49 PM.

Research phases

The planned and implemented bibliometric analysis phases related to the research topic are listed below. Additionally, the database, statistical analysis program, tables and data files used in the relevant stages, the identified scientific components and the data from the resulting article studies are presented.

- ✓ Determining the research topic,
- ✓ Determining the significance and purpose of the research,
- ✓ Determining the research population and sample, as well as the limitations,
- ✓ Determining the database and search strategy,
- ✓ Configuring question parameters,
- ✓ Determining the search strategy,
- ✓ Conducting the first search and determining its scientific components,
- ✓ Performing filtering/elimination within the relevant scientific components,
- ✓ Conducting the second search,
- ✓ Obtaining and organizing relevant tables,
- ✓ Downloading data files,
- ✓ Conducting performance analyses based on the relevant tables,
- ✓ Testing relevant data file in relevant analysis program,
- ✓ Illustrating the test results with tables, scientific networks, density maps and word clouds,
- ✓ Reporting the data, findings and images obtained regarding the research and making recommendations.

Analysis techniques and methods used

In the literature review, performance analysis and scientific mapping analysis were used in bibliometric analysis studies (59) and only one or both of the relevant analysis techniques and methods could be used depending on the research objectives (54). In this context, both bibliometric analysis techniques and methods, performance analysis and scientific mapping analysis, were used to reveal the performance status and

conceptual structure of scientific articles focusing on the research topic of recreation history within the framework of the specified scientific components.

FINDINGS

In this section of the study, scientific mapping analyses were conducted based on the performance and data obtained based on the scientific components (publication year, research field and searched index) and are explained separately under the following subheadings.

Performance analysis

Performance analyses of scientific articles on recreation history, within the scope of the determined scientific components are conducted based on the relevant publication languages and years, the determined research fields and the searched indexes. These analyses are presented under separate headings below. Furthermore, for the performance analysis, the relevant tables are numbered A, B, C, D and E to facilitate analysis.

Performance analysis in relevant publication languages

To determine the performance of scientific studies on the research topic within the publication language, Table 1 obtained from the WoS database is presented for review and analysis.

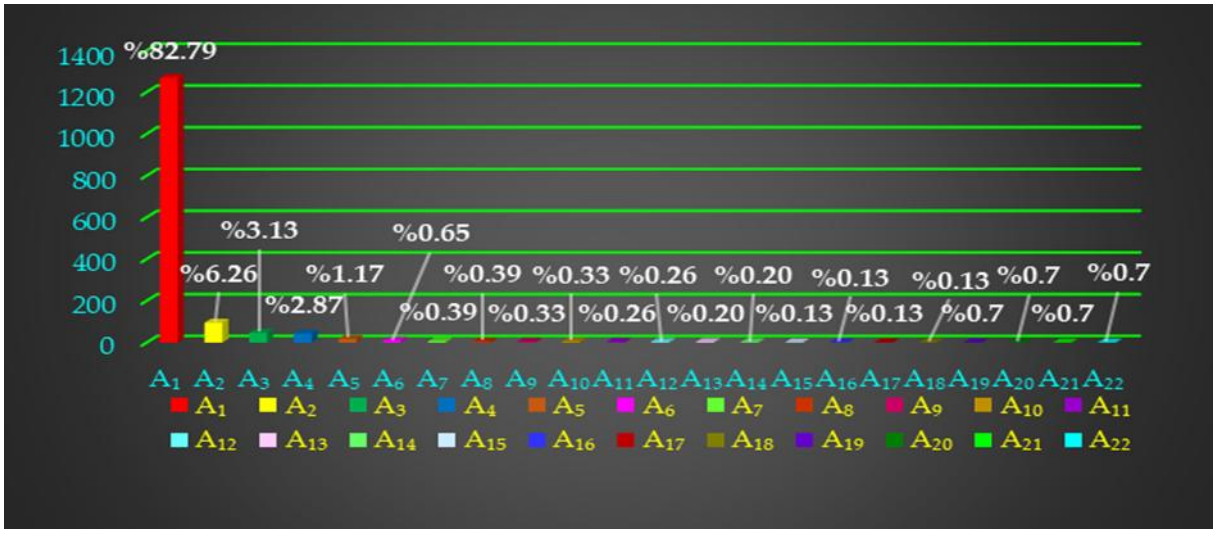
Table 1. Distribution of publication languages

Sn	Publication languages	n	Sn	Publication languages	n
A_1	English	1270	A_{12}	Turkish	4
A_2	Spanish	96	A_{13}	Czech	3
A_3	Portuguese	48	A_{14}	Italian	3
A_4	Russian	44	A_{15}	Arabic	2
A_5	French	18	A_{16}	Catalan	2
A_6	German	10	A_{17}	Slovenian	2
A_7	Polish	6	A_{18}	Romanian	2
A_8	Ukrainian	6	A_{19}	Dutch	1
A_9	Chinese	5	A_{20}	Greek	1
A_{10}	Croatian	5	A_{21}	Korean	1
A_{11}	Afrikaans	4	A_{22}	Slovak	1

n: Number of publications

An examination of Table 1 revealed that 1534 scientific studies (articles, papers, books etc.) were published in 22 different languages between 1980 and 2024 focusing on the research topic of recreation history. In this context, it was determined that English ranked first in the international literature for publication of scientific studies focused on this topic, followed by Spanish in second place, Portuguese in third place, Russian in fourth place and French in fifth place. It was determined that 1270 scientific studies were contributed to the literature in the publication languages of English with one scientific study contributing the fewest to Dutch, Greek, Korean and Slovak.

Table 1, which lists the publication languages of scientific studies focused on this topic and Chart 1 based on the findings have been created and are presented below for review.



* (The data in the relevant graph can be seen more clearly when zoomed in.)

Graph 1. Percentage (%) distribution of publication languages

An examination of Chart 1 revealed that scientific studies focusing on the research topic of recreation history were published primarily in English (A_1) at %82.79 and in the languages between (A_{19}) and (A_{22}) (inclusive) at %0.7. Based on these findings, it was determined that a significant number of scientific studies focusing on the research topic in English were published in scientific journals that are scanned/indexed in international literature.

Regarding recreation history research: Following the Performance Analysis Concerning Relevant Publication Languages conducted above, other performance and scientific mapping analyses were conducted and scientific articles published in English (A_1) and on the research topic, contributing to the international literature were taken into account.

Performance analysis concerning relevant publication years

To determine the performance of scientific articles on the research topic within the publication year, Table 2 obtained from the WoS database is presented for review and analysis.

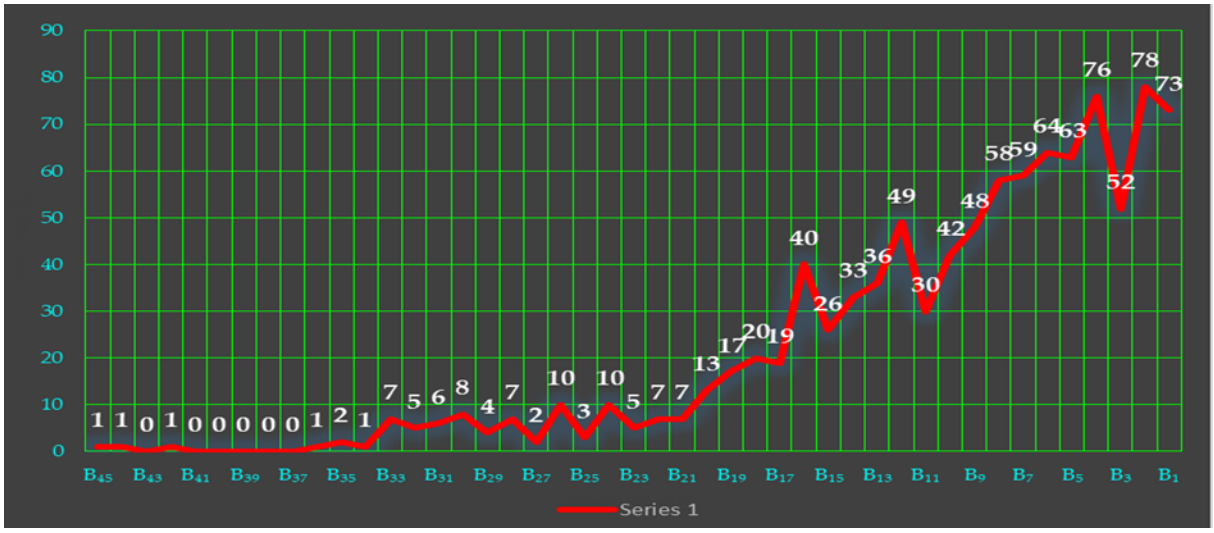
Table 2. Distribution by publication years

Sn	Related years	n	Sn	Related years	n	Sn	Related years	n	Sn	Related years	n
B_1	2024	73	B_{13}	2012	36	B_{25}	2000	3	B_{37}	1988	0
B_2	2023	78	B_{14}	2011	33	B_{26}	1999	10	B_{38}	1987	0
B_3	2022	52	B_{15}	2010	26	B_{27}	1998	2	B_{39}	1986	0
B_4	2021	76	B_{16}	2009	40	B_{28}	1997	7	B_{40}	1985	0
B_5	2020	63	B_{17}	2008	19	B_{29}	1996	4	B_{41}	1984	0
B_6	2019	64	B_{18}	2007	20	B_{30}	1995	8	B_{42}	1983	1
B_7	2018	59	B_{19}	2006	17	B_{31}	1994	6	B_{43}	1982	0
B_8	2017	58	B_{20}	2005	13	B_{32}	1993	5	B_{44}	1981	1
B_9	2016	28	B_{21}	2004	7	B_{33}	1992	7	B_{45}	1980	1
B_{10}	2015	42	B_{22}	2003	7	B_{34}	1991	1			
B_{11}	2014	30	B_{23}	2002	5	B_{35}	1990	2			
B_{12}	2013	49	B_{24}	2001	10	B_{36}	1989	1			

n: Number of publications

In the examination of Table 2, it was determined that a total of 964 scientific articles were published in English between 1980 and 2024 on the research topic of Recreation History. In this context, it was determined that in terms of publication of scientific articles focused on this research topic in the international literature, the year 2023 ranked 1st, the year 2021 2nd, the year 2024 3rd, the year 2019 4th and the year 2020 5th. It was

determined that in the relevant research topic, the most of 78 scientific articles were published in 2023 and 1 (one) scientific article was published and added to the literature in at least 1991, 1989, 1983, 1981 and 1980. However, it was determined that no scientific articles were published in English within the scope of the specified scientific components on the subject of recreation history in the publication years 1988, 1987, 1986, 1985, 1984 and 1982. Table 2, which lists the publication years of scientific articles focused on the research topic and Chart 2, based on the findings, have been created and are presented below for review.



* (The data in the relevant graph can be seen more clearly when zoomed in.)

Graph 2. Percentage (%) distribution of publication years (1980-2024)

In the examination made on Graph 2, it was determined that the number of scientific articles contributed to the literature focused on the research subject of Recreation history, within the scope of 1980-2024, first followed a horizontal path (1980-1991/B_{34}-B_{45}) and then followed an up-and-down/wavy path (1992-2024/B_{33}-B_1) in the following years. In parallel with these findings; It is noteworthy that the highest (maximum) level of scientific articles published on relevant research topics and contributing to international literature was 78 in 2023 (B_2) and the lowest (minimum) level was 1 article in 1980 (B_{45}), 1981 (B_{44}), 1983 (B_{42}), 1989 (B_{36}) and 1991 (B_{34}). Furthermore, the graph line for article publications was found to be at point zero (0) in 1982 (B_{43}), 1984 (B_{41}), 1985 (B_{40}), 1986 (B_{39}), 1987 (B_{38}) and 1988 (B_{37}).

Performance Analysis within Relevant Research Areas

To determine the performance of scientific articles within the scope of the research topic within the specified research areas, Table 3 obtained from the WoS database is presented for review and analysis.

Table 3. Distribution of specified research areas

Sn	Identified related research areas	n	Sn	Identified related research areas	n
C_1	Environmental Sciences-Ecology	223	C_{34}	Anthropology	10
C_2	Social Sciences Other Subjects	180	C_{35}	Archaeology	10
C_3	History	77	C_{36}	Development Studies	10
C_4	Sociology	49	C_{37}	Substance Abuse	10
C_5	Forestry	47	C_{38}	Art	8
C_6	Geography	47	C_{39}	Asian Studies	8
C_7	Biodiversity Conservation	39	C_{40}	Music	8
C_8	Arts Humanities Other Subjects	38	C_{41}	Religion	8
C_9	Public Environment Occupational Health	37	C_{42}	Film-Radio-Television	7
C_{10}	Sports Sciences	36	C_{43}	Linguistics	7
C_{11}	Business Economics	33	C_{44}	Imaging Science-Photographic Technology	6
C_{12}	Education/Educational Research	32	C_{45}	International Relations	6
C_{13}	Geology	32	C_{46}	Philosophy	6
C_{14}	Psychology	31	C_{47}	Women's Studies	6
C_{15}	Urban Studies	29	C_{48}	Communication	5
C_{16}	Orthopedics	27	C_{49}	Materials Science	5
C_{17}	Science Technology Other Subjects	27	C_{50}	Information Science/Library Science	4

C_{18}	Marine-Freshwater Biology	26	**C_{51}**	Ethnic Studies	3
C_{19}	Public Administration	24	**C_{52}**	Fisheries	3
C_{20}	Water Resources	24	**C_{53}**	Health Science Services	3
C_{21}	Literature	22	**C_{54}**	Life Sciences Biomedical Other Subjects	3
C_{22}	Psychiatry	20	**C_{55}**	Physiology	3
C_{23}	Neurosciences-Neurology	18	**C_{56}**	Theater	3
C_{24}	Rehabilitation	18	**C_{57}**	Classics	2
C_{25}	Architecture	17	**C_{58}**	Computer Science	2
C_{26}	Engineering	17	**C_{59}**	Construction-Building Technology	2
C_{27}	History of Philosophy of Science	16	**C_{60}**	Social Issues	2
C_{28}	Plant Sciences	16	**C_{61}**	Social Work	2
C_{29}	Area Studies	15	**C_{62}**	Acoustics	1
C_{30}	Zoology	15	**C_{63}**	Behavioral Sciences	1
C_{31}	Agriculture	14	**C_{64}**	Dance	1
C_{32}	Physical Geography	14	**C_{65}**	Instruments/Instrumentation	1
C_{33}	Cultural Studies	13	**C_{66}**	Mathematical Methods in the Social Sciences	1

n: Number of publications

An examination of Table 3 identified 66 research areas related to the research topic of recreation history within the relevant scientific components. It was determined that many scientific articles focusing on this research topic were published in different research areas and contributed to the international literature. Environmental Sciences Ecology (C_1) ranked first, Social Sciences Other Subjects (C_2) ranked second, History (C_3) ranked third, Sociology (C_4) ranked fourth and Forestry (C_5) ranked fifth in terms of publication rates. It was also determined that fewer scientific articles focused on recreation history were published in the research fields of Mathematical Methods in Social Sciences, Instrumentation, Dance, Behavioral Sciences and Acoustics (C_{62}-C_{66}) in the table. In addition, it is noteworthy that the number of articles contributed to the literature in the research fields of Environmental Sciences-Ecology and Other Topics in Social Sciences is much higher than the research fields between C_3-C_{66}.

Performance analysis of the ındexes searched

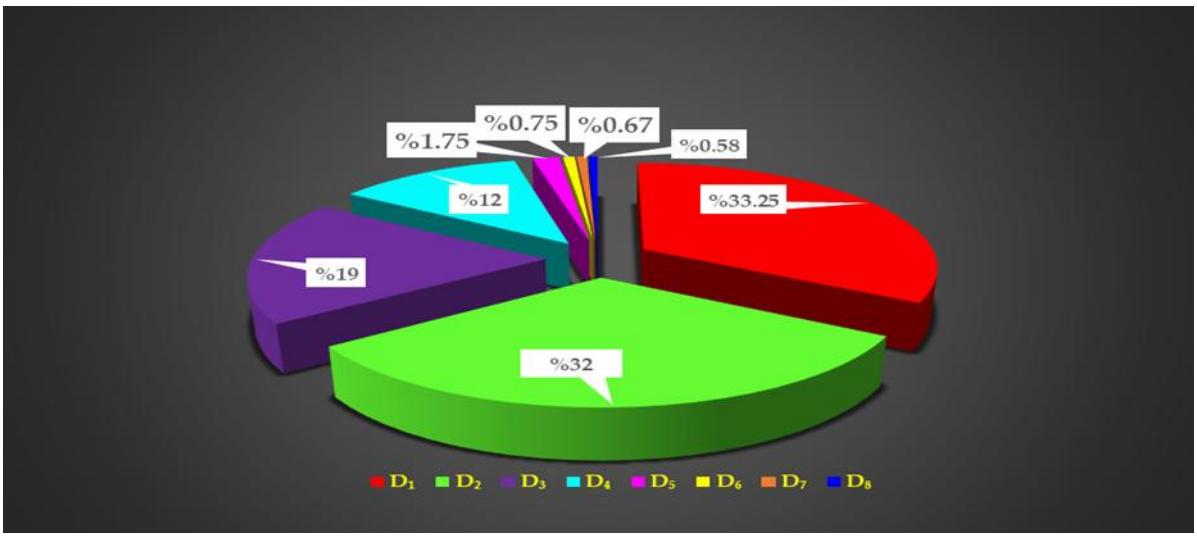
To determine the performance of journals publishing scientific articles focused on the research topic within the indexes they are scanned in, Table 4 obtained from the WoS database, is presented for review and analysis.

Table 4. Distribution of indexes in which journals are searched

Sn	Related ındexes	n
D_1	Science Citation Index Expanded (SCI-EXPANDED)	399
D_2	Social Science Citation Index (SSCI)	384
D_3	Emerging Citation Index (ESCI)	228
D_4	Conference Science Citation Index-Science (CPCI-S)	8
D_5	Conference Science Citation Index-Social Sciences and Humanities (CPCI-SSH)	7

n: Number of publications

An examination of Table 4 reveals that scientific articles focusing on the research topic of recreation history were published in scientific journals indexed in five different indexes, contributing to the literature. In terms of the indexes in which the relevant articles were published, SCI-EXPANDED (D_1) ranked first, SSCI (D_2) ranked second and ESCI (D_3) ranked third. The table also reveals that fewer scientific articles focusing on the research topic were published in scientific journals indexed in indexes CPCI-S and CPCI-SSH (D_4-D_5). Furthermore, it was observed that scientific journals indexed in SCI-EXPANDED, SSCI and ESCI indexes contributed to the literature more than those indexed in indexes between D_4-D_5.



Graph 3. Percentage (%) distribution of indexes in which journals are scanned

My analysis of Chart 3 revealed that scientific articles focusing on the research topic of recreation history were published most frequently in scientific journals indexed in SCI-EXPANDED (D_1) at %33.25, followed by CPCI-SSH (D_8) at %0.58, CPCI-S (D_7) at %0.67 and BKCI-S (D_6) at %0.75 contributing to the international literature. Based on these findings, it was determined that the publication rate of scientific articles focused on the research topic in scientific journals indexed in SCI-EXPANDED is quite high.

Performance Analysis of Related Articles in Global Citations

To determine the performance of the most cited scientific articles by research topic and globally, Table 5 obtained from the WoS database is presented for review and analysis.

Table 5. Distribution of citations to articles at the global level

Sn	Author, Yıl, Journal	Doi	n_1
E_1	(Halpenny 2010). Journal of Environmental Psychology	10.1016/j.jenvp.2010.04.006	547
E_2	(Vos ve Meekes 1999). Landscape and Urban Planning Journal	10.1016/S0169-2046(99)00043-2	291
E_3	(Jim ve Chen 2009). Journal of Cities	10.1016/j.cities.2009.03.003	278
E_4	(Acreman vd. 2014). Frontiers in Ecology and the Environment	10.1890/130134	273
E_5	(Chapman ve Underwood 2011). Journal of Experimental Marine Biology and Ecology	10.1016/j.jembe.2011.02.025	271
E_6	(McIntyre ve Pigram 1992). Leisure Sciences	10.1080/01490409209513153	265
E_7	(Blumstein vd. 2005). Journal of Applied Ecology	10.1111/j.1365-2664.2005.01071.x	234
E_8	(Byrne 2012). Geoforum	10.1016/j.geoforum.2011.10.002	233
E_9	(Staff vd. 2010). Development and Psychopathology	10.1017/S0954579410000544	223
E_{10}	(Eschtruth ve Battles 2009). Ecological Monographs	10.1890/08-0221.1	189

n_1: Total number of citations

In the examination of Table 5, it was determined that the most cited scientific studies on the global level that were published on the research topic of Recreation history were (49,75,8,21,36,66,32,14,12,1). In this context; In terms of total citation count globally, the most cited article, doi: 10.1016/j.jenvp.2010.04.006, published in the Journal of Environmental Psychology, ranked first with 547 citations. The article, doi: 0.1016/S0169-2046(99)00043-2, published in the Journal of Landscape and Urban Planning, ranked second with 291 citations. The article, doi: 10.1016/j.cities.2009.03.003, published in the Journal of Cities, ranked third with 278 citations. Furthermore, it was determined that the number of global citations to the scientific article numbered E_1 was significantly higher than the number of citations to scientific articles ranked between E_2 and E_{10}.

Scientific Mapping Analysis

To uncover the conceptual structure of scientific articles on recreation history, RIS (1-964) and BibTex (1-964) data files containing analytical data from the articles were analyzed using the relevant statistical analysis program within the scope of bibliometric analysis. The tests and analyses performed are listed below.

Scientific Mapping Analysis of Author Keywords in the Context of Common Words

To uncover the conceptual structures of scientific articles focused on the research topic, the RIS data file was introduced into the VOSviewer statistical analysis program to determine the number of occurrences (uses) and total link strength values of the keywords used in the relevant articles. Threshold values were then determined within the analysis program to enable bibliometric analyses based on the relationship between author keywords in the context of common words. The relevant threshold values were selected as follows:

Scientific Mapping Analysis of Author Keywords in the Context of Common Words

To uncover the conceptual structures of scientific articles focused on the research topic, the RIS data file was introduced into the VOSviewer statistical analysis program to determine the number of occurrences (uses) and total link strength values of the keywords used in the relevant articles. Threshold values were then determined within the analysis program to enable bibliometric analyses based on the relationship between author keywords in the context of common words. The relevant threshold values were selected as follows:

- ✓ Analysis Type : Common Words,
- ✓ Analysis Unit : Keywords,
- ✓ Counting Method : Full Count and
- ✓ Minimum number of occurrences of an author keyword : 4 the RIS data file was tested by selecting the following values.

To obtain answers corresponding to the constructed Q_6 question parameter, the data outputs obtained from the analysis program as a result of the testing of the RIS data set were examined. In the analysis: A keyword validation table (Verify selected keyword), which shows the number of usages and total link strength values of keywords used in published scientific articles focused on the research topic and exceeding the threshold values and scientific maps (scientific network, layer and density map) were obtained as data output from the analysis program. An examination of the relevant tables and scientific maps revealed that there were words with the same meaning. In this context, in the tested RIS data file, the words recreation and impact, impacts and impacts, history and tourism and tourism, which have the same meaning, were combined and corrected and recorded in the data file.

The RIS data file was retested a second time using the same threshold values in the relevant statistical analysis program. As a result of the test, the data outputs obtained from the relevant analysis program were examined a second time. As a result of the examination, it was determined that 277 keywords out of a total of 5369 keywords used in published scientific articles focused on the research topic exceeded the selected threshold values. Based on these findings; The keyword verification table (Verify selected keyword), which presents the top twenty keywords in terms of usage count and total link strength values of 277 keywords is presented below for review.

Table 6. Distribution of keywords' usage and total link strength values

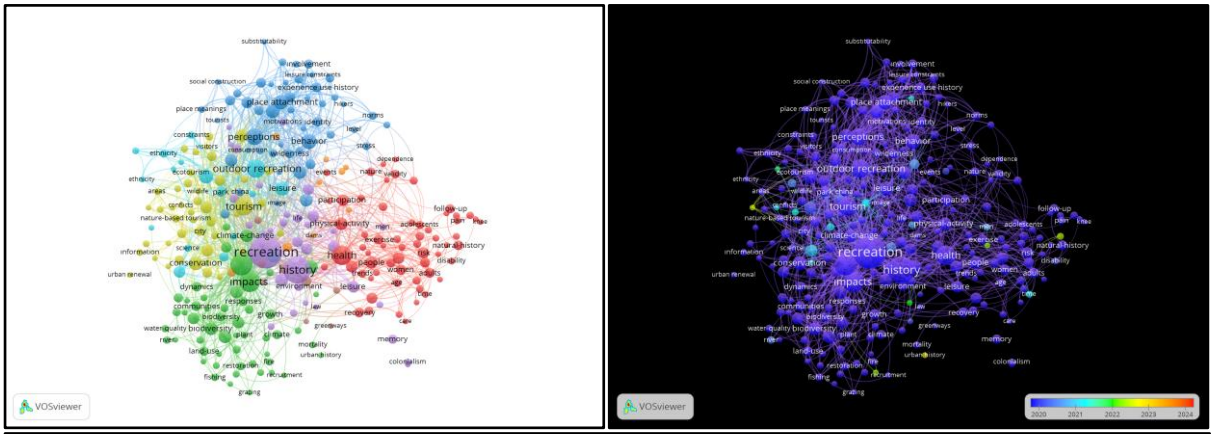
Verify selected keywords | Verify selected keywords

Selected	Keyword	Occurrences	Selected	Keyword	Total link strength
☑	recreation	115	☑	recreation	426
☑	history	78	☑	management	245
☑	management	52	☑	impacts	231
☑	impacts	46	☑	health	184
☑	health	40	☑	perceptions	184
☑	outdoor recreation	37	☑	outdoor recreation	178
☑	tourism	36	☑	place attachment	160
☑	perceptions	30	☑	history	153
☑	behavior	25	☑	experience-use history	135
☑	place attachment	23	☑	behavior	127
☑	race	22	☑	preferences	124
☑	conservation	21	☑	race	112
☑	leisure	20	☑	tourism	110
☑	experience-use history	19	☑	leisure	107
☑	parks	19	☑	biodiversity	100
☑	biodiversity	18	☑	conservation	99
☑	attitudes	18	☑	physical-activity	97
☑	patterns	18	☑	sense	97
☑	preferences	17	☑	attitudes	94
☑	physical-activity	17	☑	climate-change	90

* (Key words can be seen more clearly and explicitly when zoomed in on the relevant table.)

An examination of Table 6 revealed that the relevant keywords are ranked from highest to lowest in terms of usage counts and total link strength. The table consists of two sections: keyword usage counts and total link strength, each containing 20 keywords.

The scientific network (left), layer (right) and density (blue/below both images) maps for the usage counts and total link strength values of the keywords in the two-section table above are presented below for your review.



* (Keywords in the relevant images can be seen more clearly and distinctly when zoomed in.)

Figure 1. Scientific network, layer and density map showing the usage and total link strength values of relevant keywords.

Figure 1 above shows three different scientific network maps. The scientific maps presented in Figure 1 are analyzed and presented below:

The analysis of the scientific network map (top left) revealed eight keyword clusters, each colored by related keywords, with a total of 277 keywords, 3846 scientific links and a total link strength of 5174. In this context, cluster 1 contained 61 keywords (red), cluster 2 contained 53 keywords (green), cluster 3 contained 49 keywords (dark blue), cluster 4 contained 45 keywords (yellow), cluster 5 contained 35 keywords (purple), cluster 6 contained 17 keywords (light blue) and cluster 7 contained 10 keywords (orange).

Based on these findings: In terms of the number of keywords used in scientific studies focused on the research topic of recreation history, the following were determined: Recreation ranked first with 115, history ranked second with 78, management ranked third with 52, impacts ranked fourth with 46 and the keyword "health" ranked fifth with 40.

In terms of total link strength values, recreation ranked first with 426, management ranked second with 245, impacts ranked third with 231, health ranked fourth with 184 and the keyword "perceptions" ranked fifth with 184.

In terms of scientific links, recreation ranked first with 192, management ranked second with 128, impacts ranked third with 131, health ranked fourth with 99 and the keyword "perceptions" ranked fifth with 94. An examination of the Scientific Layer Map (top right) revealed that the most recent and current keywords used in scientific articles contributing to the international literature focused on the research topic of recreation history were urban history and environmental justice. Considering the color (yellow) and date scale (lower right corner) of the layer map, these keywords were also used in a scientific article contributing to the international literature in 2023.

An examination of the scientific density map (below the two images) revealed that the keywords recreation, history, management and impacts were more prevalent in scientific articles focused on the research topic of recreation history. In this context, it was determined that more scientific articles were published on the research topic based on these keywords.

In order to obtain a word cloud consisting of the top 50 keywords (a) that are prominently used as keywords in the literature of articles focused on the research topic of recreation history and the top 50 common words that are prominently used in the abstract (b) and title (c) sections, the BibTex data file was tested in the Bibliometrix R (RStudio) statistical analysis program. As a result of the test, the relevant word cloud obtained as data output from the relevant analysis program is presented below for review.

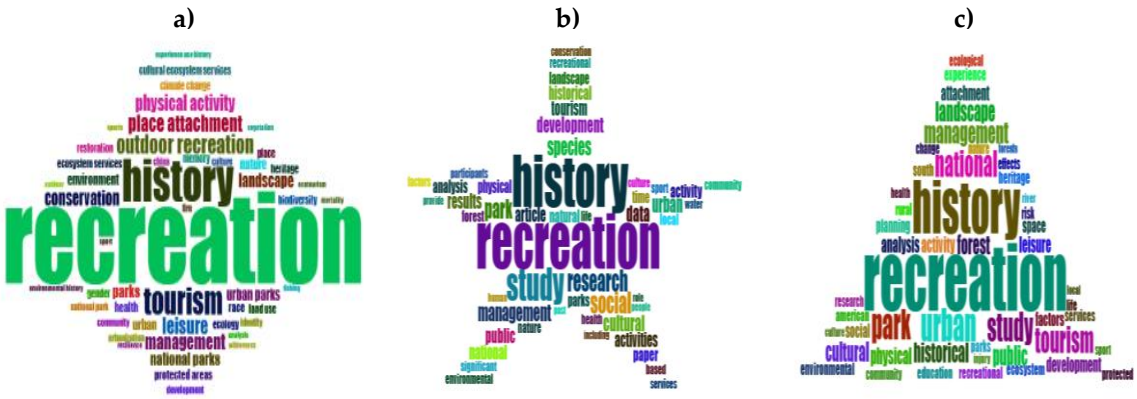


Figure 2. Word clouds of related keywords and usage situations of common words

The word clouds in Figure 2 display numerous words in different colors. The colors of these words indicate different words and their sizes indicate the number of words commonly used as keywords in the abstracts and titles of relevant articles. The image in question was examined within the scope of keywords

used in scientific articles contributed to the international literature on the research topic of Recreation History, as well as common words used in the abstracts and titles of these articles. The analysis:

In this context, as can be seen in the image, in terms of keyword (a), the words recreation, history, tourism, outdoor recreation and leisure are seen to be used more frequently. Considering the keywords more frequently used in relevant articles: The keywords "wilderness", "vegetation", "sports", "resilience", "outdoor", "mortality", "fishing", "experience use history", "environmental history" and "ecotourism" were found to be used less frequently in articles focused on the research topic. In terms of common words used in the abstract (b) section of relevant articles, the words "recreation", "history", "study" and "social" were found to be used more frequently. In terms of common words used in the title (c) section of these articles, the words "recreation", "history", "urban", "park" and "study" were found to be used more frequently.

DISCUSSION AND CONCLUSION

Recreation is as old as human history and it is known that in ancient civilizations and eras, people engaged in many pursuits (occupations) to sustain their lives. The numerous pursuits of those times have undergone significant changes and developments, reaching us today as activities that provide physical, spiritual and mental renewal. These activities are referred to as recreation in today's world.

In addition to the benefits they provide to humans, recreational activities are also known to make significant contributions to many fields (education, culture, art, economy, environment, health etc.) and sectors/institutions (organizations, government, universities etc.). Therefore, presenting scientific articles that reveal the changes and developments before and after these contributions to the literature is considered strategically important for individuals and societies. Based on this understanding, a comprehensive bibliometric analysis of scientific articles contributed to the international literature focused on the research topic of "Recreation History" was conducted. In this context, the findings and conclusions reached through performance analysis of relevant publication languages, research fields, indexes searched, global citations and author keyword analysis in terms of common words, along with relevant recommendations, are presented separately below.

The performance analysis across relevant publication languages indicates that the highest number of articles published in the international literature on the topic of recreation history was published in English. Based on this finding, it can be assumed that the number of articles published in English will increase in subsequent years and maintain its leading position. This is likely due to the fact that English is a global language and that English is the language of publication for numerous scientific journals in the scientific world. It can be interpreted that scholars conducting research on this topic should consider scientific studies published in English, find what they are looking for and contribute to a successful literature search.

The performance analysis across relevant publication years (1980-2024) indicates that the highest number of articles published in recreation history research was published in 2023. Although the publication trend for relevant articles in the literature is on the rise between 1980 and 2024, it has been observed that the trend fluctuates, with ups and downs occurring between these years. Based on these findings, when considering relevant articles for the 2023-2024 period, it can be assumed that there will be no significant decline and that the trend will increase in the following years.

As a result of the performance analysis within the context of relevant research fields, it was determined that most articles on recreation history were contributed to the literature in the fields of Environmental Sciences-Ecology and Other Topics in Social Sciences. These findings indicate that, while recreation is generally nature-based, it is also studied by scientists within the framework of the Environmental Sciences-Ecology research field. The publication of articles on this topic within the field of Other Topics in Social Sciences indicates that the relevant field falls within the realm of social sciences. In this context, it can be interpreted that publication of articles on this topic will be at the forefront. It can be noted that many other research fields listed in the relevant table could contribute to the literature. Studies in the field of Education/Educational Research, in particular, that uncovering the applicability of recreation in education and its related effects will further contribute to the world of education and science.

As a result of the performance analysis within the context of relevant indexes, it was determined that most articles on recreation history were contributed to the literature by being published in scientific journals

indexed in SCI-EXPANDED. Based on this finding, it is assessed that high-quality publications are being published by examining the research topic from multiple perspectives. Researchers wishing to conduct research in the relevant field should consider scientific journals indexed in SCI-EXPANDED, SSCI and ESCI indexes, which can contribute to the conduct of high-quality research. Furthermore, considering that the journals in which relevant articles are published are indexed in SCI-EXPANDED, it can be assumed that more research-related articles are generally written by engineering scientists. Introducing scientific studies related to the categories related to scientific journals indexed in other indexes to the literature can be interpreted as contributing to the universal change and development of the recreation field.

A performance analysis of relevant articles in terms of global citations revealed that Halpenny (32), whose article was added to the literature on recreation history research, registered at doi: 10.1016/j.jenvp.2010.04.006 is the most cited scientific study globally. The relevant study was also published in the Journal of Environmental Psychology. It is noteworthy that the number of citations to this study is significantly higher than the number of citations to other prominent articles. Based on these findings, researchers conducting scientific research on this topic should review or consider the other scientific articles listed in Table 5, in addition to the relevant article, as this would contribute significantly to the quality of their work in the literature.

Author-Keywords scientific mapping analysis in the context of common words: It was determined that the keywords recreation, history, management, health, impacts and perceptions were most frequently used in articles on recreation history research reflected in the international literature. These findings indicate that the topic of recreation history research is being examined within the scope of relevant keywords and that articles in this area are being published and added to the literature. In parallel with these findings, the keywords wilderness, vegetation, sports, resilience, outdoor, mortality, fishing, experience use history, environmental history and ecotourism were least frequently used in articles focusing on the research topic. This finding suggests that the number of scientific investigations/research studies based on these keywords is limited. Conducting scientific studies on recreation history research within the scope of relevant keywords can be considered to fill the gap in the literature by uncovering numerous unidentified or undiscovered findings. Considering all the tests conducted and the results obtained based on the findings, recommendations can be made to certain parties. Based on this consideration, recommendations have been made to researchers/scientists in academia and universities. These can be presented as follows:

Recommendations:

Researchers/scientists:

- ✓ Conduct scientific studies on recreation history research in languages other than English (See Table 1).
- ✓ Since the number of articles published in the literature on this topic is on a decreasing trend in 2024, articles on this topic should be added to the literature (See Table 2).
- ✓ Conduct articles focusing on the research topic in other research fields between C_3 and C_{66} and contribute to the literature (See Table 3).
- ✓ Conduct and publish articles focusing on recreation history research, especially in journal categories indexed in D_5-D_8 indexes (See Table 4).
- ✓ Scientists wishing to conduct research on recreation history should examine and consider the findings and findings of leading E_1-E_{10} articles, which are globally recognized in terms of citation counts (See Table 5).
- ✓ Conduct scientific studies focusing on the research topic. It is recommended that people conduct their studies on the following keywords: wilderness, vegetation, sports, resilience, outdoor, mortality, fishing, experience use history, environmental history and ecotourism and fill the gap in the literature on this subject (See Figure 2). To universities/institutions and

Organizations:

- ✓ Encourage and encourage the publication of articles on recreation history research in various languages.

- ✓ Encourage academics to conduct articles on the increasing trend observed in 2024, in order to scientifically examine the topic of recreation history, investigate its past and shape its future.
- ✓ Direct and encourage relevant departments to conduct scientific articles on research, particularly in areas falling between C_3 and C_{66} (See Table 3).
- ✓ Establish scientific collaboration with journal editors to conduct and publish relevant articles in the relevant categories of scientific journals indexed in D_4-D_8 indexes (See Table 4).
- ✓ Organize conferences, symposiums etc., to contribute to education, particularly in the field of Education/Educational Research, enabling the research topic of recreation history to be scientifically interpreted in multiple ways.
- ✓ It is recommended that they utilize leading global scholars in recreation history research, as needed (See Table 5).

Considering the international literature review and the results of the study, the fundamental proposal for this research is to scientifically examine the history of recreation (health, education, social, cultural, economic, natural etc.) within the context of pre, post and present-day contexts. Recreation is known to provide numerous benefits to humanity. In this context, it is considered necessary to uncover undiscovered findings regarding how we can utilize recreation more effectively and more effectively in today's world. Thus, it can be argued that humanity can benefit more from the productive impacts of recreation-related discoveries on related fields (economy, social, cultural, educational, democracy etc.).

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