

## THERAPEUTIC RECREATION: A BIBLIOMETRIC ANALYSIS FROM THE WEB OF SCIENCE (WoS) DATABASE

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### Abstract

This study aims to make a bibliometric analysis of published studies on therapeutic recreation. Publications with “therapeutic recreation” in the title were searched in the Web of Science database. The study covers the years 1980-2023. The research findings are limited to this database since the Web of Science database is preferred. However, no field filtering was done during the scanning process. A total of 217 publications, the first of which was published in 1980, were reached. When the countries of origin of the publications are examined, it has been determined that they mainly originate from the United States of America, Canada, and Australia. Due to the increasing rate of the elderly and disabled population, the number of studies is expected to increase in the future.

**Keywords:** Bibliometric, Disabilities, Health, Recreation, Therapeutic Recreation, Wellness

**JEL Codes:** I12, L83, Z30, Z39

## TERAPÖTİK REKREASYON: WEB OF SCIENCE (WoS) VERİ TABANINA DAYALI BİBLİYOMETRİK BİR ANALİZ

### Öz

Bu çalışma, terapötik rekreasyon üzerine yayınlanmış çalışmaların bibliyometrik analizini yapmayı amaçlamaktadır. Başlığında “terapötik rekreasyon” geçen yayınlar Web of Science veri tabanında taranmıştır. Çalışma 1980- 2023 yıllarını kapsamaktadır. Web of Science veri tabanı tercih edildiğinden araştırma bulguları bu veri tabanı ile sınırlıdır. Ancak tarama işlemi sırasında herhangi bir alan filtrelemesi yapılmamıştır. İlki 1980 yılında olmak üzere toplam 217 yayına ulaşılmıştır. Yayınların menşe ülkeleri incelendiğinde en çok Amerika Birleşik Devletleri, Kanada ve Avustralya kaynaklı olduğu tespit edilmiştir. Yaşlı ve engelli nüfus oranının her geçen gün artması nedeniyle gelecekte ilgili çalışmaların sayısının artırılması beklenmektedir.

**Anahtar Kelimeler:** Bibliyometrik, Engellilik, Sağlık, Rekreasyon, Terapötik Rekreasyon, Zindelik

**JEL Kodları:** I12, L83, Z30, Z39

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## Introduction

People have physical and spiritual needs (Maslow, 1943). In the hierarchy of needs, Maslow (1943) ranked needs according to their vitalness. Although physical needs are a priority, mental and psychological necessities are also substantial for people (Ventegodt, 2003: 1050-1054). Meeting these psychological needs (safety, love, belonging, esteem, and self-actualisation) energises people's minds and creativity. Therefore, it makes their leisure time more joyful (Kuykendall et al., 2018: 1-2). Thus, the concept of leisure time is gaining more and more importance. On the other hand, after the Industrial Revolution, economic and social activities changed. Because facilitating access to goods and services increases wealth and quality of life. In addition, mass production and high productivity have allowed individuals to spare time for other activities besides working to earn money (Cunningham, 2016: 13-14; Dubai Sensor, 2023). The increase in leisure time with modernisation makes recreational activities more important than ever (Gulam, 2016: 157-158). Although recreational activities are necessary for everyone, elderly or sick people need more leisure activities because regular physical activity has a preventive and rehabilitative effect on more than 25 chronic diseases (Kirk and Rhodes, 2011: 476).

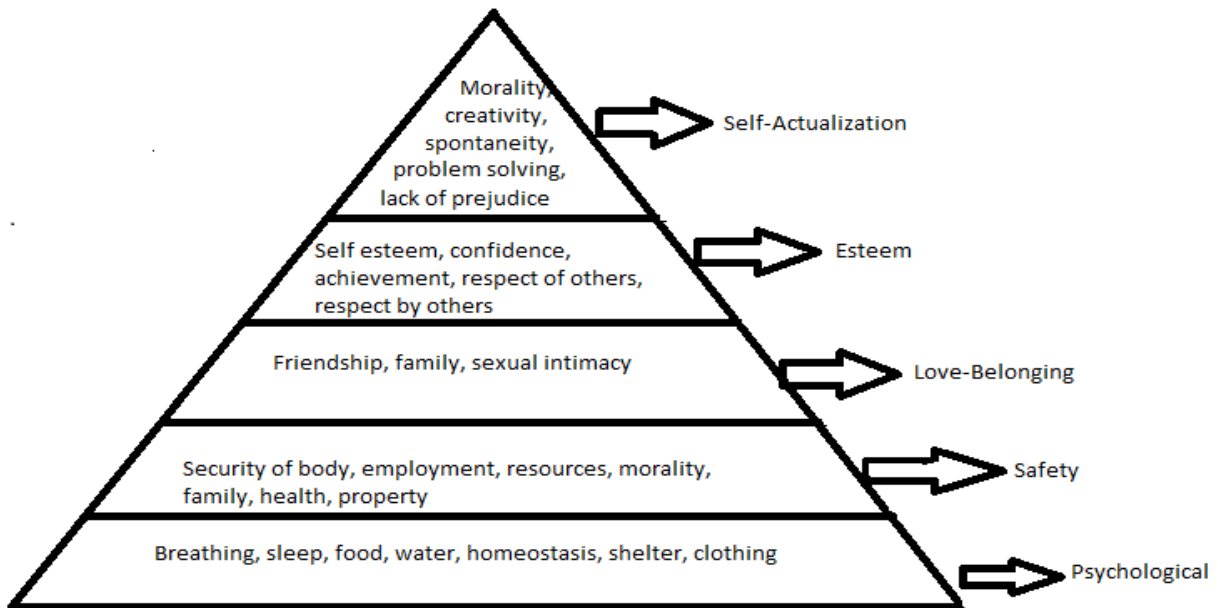
Recreational therapy uses leisure activities to help people improve their general health and emotional well-being, skills, and abilities. Also, recreational therapy helps rebuild skills, improve mood, boost quality of life, and strengthen social connections. In this process, recreational therapists help people create the right program and develop a plan to take advantage of the course. Recreational therapy significantly impacts physical and mental health, especially when treatment is designed around people's interests and needs. Therapeutic recreation activities can occur in hospitals, schools, inpatient and outpatient mental health facilities and programs, skilled nursing facilities, assisted living facilities, sports programs, and community centres. Therapeutic recreation helps people with these issues: getting rid of stroke, rehabilitating from an injury, illness, or surgery, working to increase motor skills, learning to maintain the activities of daily living independently, decreasing anxiety or worry in a hospital setting, and reducing isolation or depression. Besides this, therapeutic recreation improves depression symptoms and functional independence after an injury, raises self-esteem, and supports social connections and interactions (Hutchison and Dattilo, 2001: 44; Picton et al., 2020: 1837-1838; Healthline, 2023).

This study aimed to emphasise the importance of therapeutic recreation. For this reason, 217 studies on therapeutic recreation were scanned between 1980 and 2023. The first part of the article describes Maslow's hierarchy of needs. The leisure time and entertainment are explained in the next section, and therapeutic recreation takes place in the third section. The data set, method, findings, and results are included in the last part.

## 1. What is the Hierarchy of Needs?

Maslow (1943) grouped people's needs into five steps. Figure 1 shows Maslow's hierarchy of requirements from the bottom of the appeal stage. The upward needs of people are physiological, safety, love and belonging, self-esteem, and self-actualisation.

**Figure 1. Maslow's Hierarchy of Needs.**



**Source:** It was drawn by the author based on Maslow (1943).

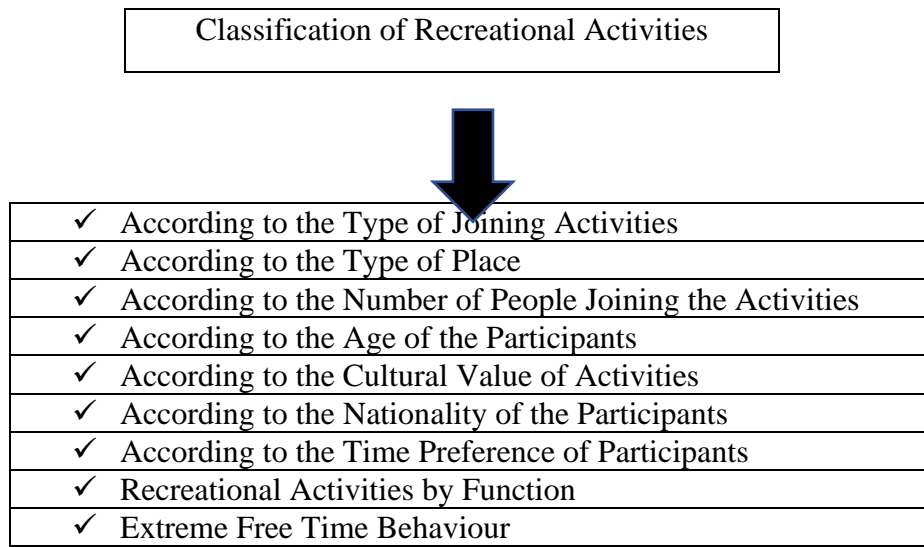
In the first step, people have vital requirements such as breathing, food, and shelter. Health, employment, property, family, and social ability occur in the second step. The next step includes love and belonging, friendship, family, intimacy, and loyalty. Confidence, achievement, respect for other people, and the desire to be unique individuals are about self-esteem. In the last part of the hierarchy, there is an aim for self-actualisation covers morality, creativity, spontaneity, acceptance, experience purpose, and inner potential (Maslow, 1943; Benson and Dundis, 2003: 316; Olusola et al., 2021: 72; Anuyah et al., 2023: 3). In Figure 1, it can be seen that needs start to become more individual and less vital from the bottom up. This theory provides a holistic perspective on people's needs (Hale et al., 2019: 109).

## 2. Leisure Time and Recreation

The importance of leisure time increased with industrialisation (Karaküçük and Yetim, 1996: 64). Many people reached much cheaper food, vaccine, and treatment facilities with fewer working hours after the Industrial Revolution. This circumstance brought more leisure time to the people (Loudoun County Public Schools, 2014). Leisure time covers the activities that are actualised not to earn money. The time which is the exception for working or the actions is obliged to do is identified as leisure time (Orel and Yavuz, 2003: 62).

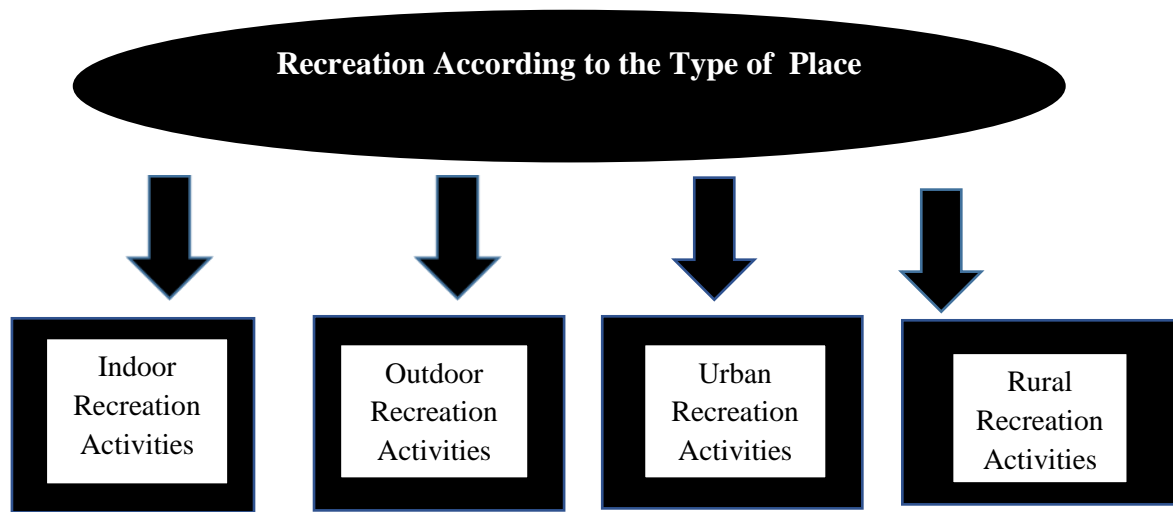
The increase in leisure time has brought recreational activities to the feature. Activities except for people's daily needs in their spare time can be defined as recreational activities. People participate in these activities voluntarily and freely (Deniz et al., 2019: 80). Recreational activities support the psychology and physical health of society (Sever and Buzlu, 2015: 393; Ab Dulhamid et al., 2023: 471). Physical or mental activities are necessary for adults, adolescents, and children for physical, mental, emotional, and social benefits (Hulteen et al., 2017: 15). As people need different activities besides working time, recreational activities and leisure time get significant for health both physical and psychological not only healthy people but also the elderly, disabled, and patient.

**Figure 2. Classification of Recreational Activities**



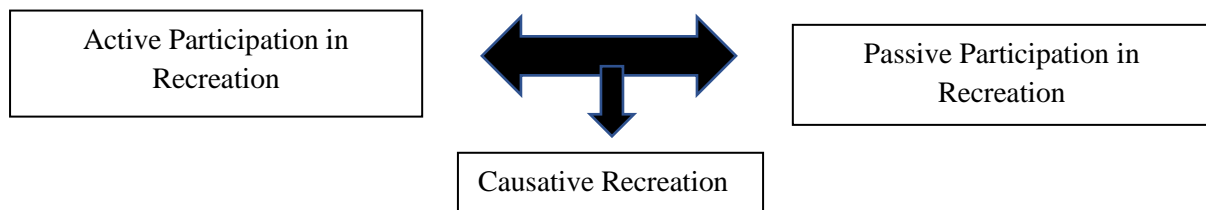
**Source:** Şahbaz and Tolga, 2016: 33.

In the literature, there is more than one classification for recreational activities. Figure 2 illustrates the classification of recreational activities. Recreational activities can be classified by the type of existence of people joining the recreational activities, by place, by the number of people participating in the activities, by the age, by cultural values, the nationality of the participants, the preference for time, by functional and extreme free time behaviour (Şahbaz and Tolga, 2016: 33-34; Dalkılıç and Mil, 2017: 43-45).

**Figure 3. Recreation According to the Type of Place**

Source: Şahbaz and Tolga, 2016: 34.

Figure 3 represents the classification of recreational activities according to the place selection in four groups: outdoor, indoor, rural, or urban. Also, participation in recreational activities can be classified into active, passive, and causative. This classification is in the table below.

**Figure 4. Activities by Type of Participation**

Source: Şahbaz and Tolga, 2016: 34.

Active participation is the way people join recreational activities effectively, such as playing musical instruments or doing sports. Passive participation is a group of activities in which people do not make an effort or use energy physically, like watching a sports game or theatre. According to Şahbaz and Tolga (2016), causal recreation includes therapeutic recreation, in which active or passive participants need the help of someone to participate in the action (Şahbaz and Tolga, 2016: 33-34).

### 3. Therapeutic Recreation

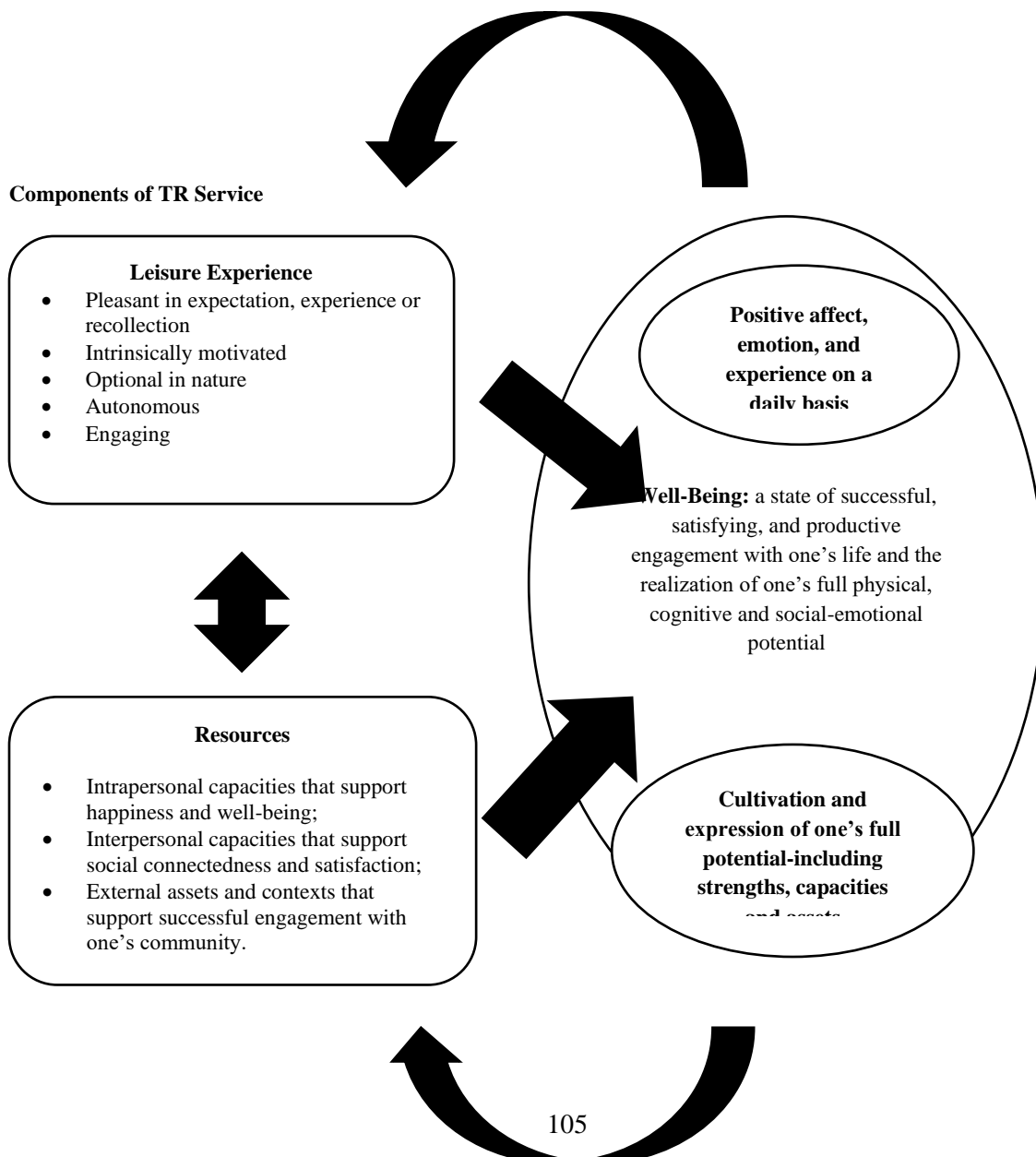
According to the World Disability Report, the number of disabled people has grown daily (World Disability Report, 2011). More than 1 billion people worldwide, 240 million children, are disabled. It accounts for about 15% of the World's population (UNICEF, 2023). There are 962 million people over the age of 60 in the world. It is also estimated that people over 60 will double by 2050 and reach approximately 2.1 billion (United Nations, 2017). These people constitute the group that needs someone else's help. Recreation has a significant well-

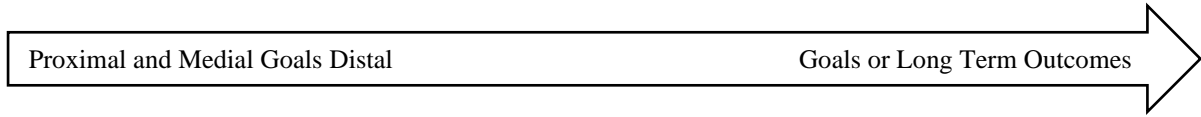
being effect on all types of people. But, recreational activities have more significant implications for the disabled, the elderly, or the sick. Therapeutic recreation briefly uses leisure activities to maximise the health, well-being, or quality of life of the elderly, disabled, or people in need of health (Robertson and Long, 2008: 4; Carter and Ander, 2019: 5-6). Therapeutic recreation aims to help people with illnesses, disabilities, and other conditions use and develop their leisure to enhance their health, functional abilities, independence, and quality of life and change their psychological situations (Hutchison and Dattilo, 2001: 44).

### 3.1. The Benefits of Therapeutic Recreation

Therapeutic recreation has lots of positive effects on the health of people. These positive effects can be classified into four groups: physiological health, psychosocial health, cognitive health, and life satisfaction. Figure 5 illustrates the results of therapeutic recreation on well-being.

**Figure 5. The Effects of Therapeutic Recreation on Well-Being**





**Source:** Carruthers and Hood, 2007: 279.

Therapeutic recreation reduces the risk and likelihood of health complications and improves mental function. It also reduces depression, anxiety and stress for psychosocial health, improving self-respect and survival skills. It has cognitive consequences, such as supporting and recording memory. Since it increases the quality of life and satisfaction, it also provides life satisfaction (Çakırlar and Yaman, 2022: 51).

#### 4. Method and Data Set

Bibliometrics was first used in 1969 in Alan Pritchard's article entitled "Statistical Bibliography or Bibliometrics?" (Pritchard, 1969). Bibliometric analysis is a prevalent method for examining scientific data. Citation and publication numbers and the distribution of keywords or topics can be objective by the nature of large volumes of data in the bibliometric analysis. Interpretations are based on aims such as performance analysis and thematic analysis, with knowledge-based techniques and procedures (Donthu et al., 2021: 285; Gaberli, 2023: 30). The method of this study is bibliometry because of displaying the retrospective of therapeutic recreation studies. It is aimed that this study will be a guide to see the deficiency in the literature. This study uses VOSviewer (visualisation of similarities) and Excel programs to demonstrate the relationship between sources to achieve this goal. The VOSviewer program is used to focus and separate details of the articles (Van Eck and Waltman, 2013: 1-3). It contains SSCI, ESCI, SCI-EXPANDED, CPCI-SSH, BKCI-SSH, CPCI-S, and A&HCI indexes, and there is no limit for any categories in the WoS database. Only in the time dimension 2023 is taken as the last year. The two hundred sixteen studies data in the WoS were obtained as a file on May 30, 2023. The VOSviewer program is an alternative for measuring numerical data or creating maps. Even if there are other programs like that, VOSviewer pays attention to the graphical representation of data for many bibliometric items (Van Eck and Waltman, 2012: 523).

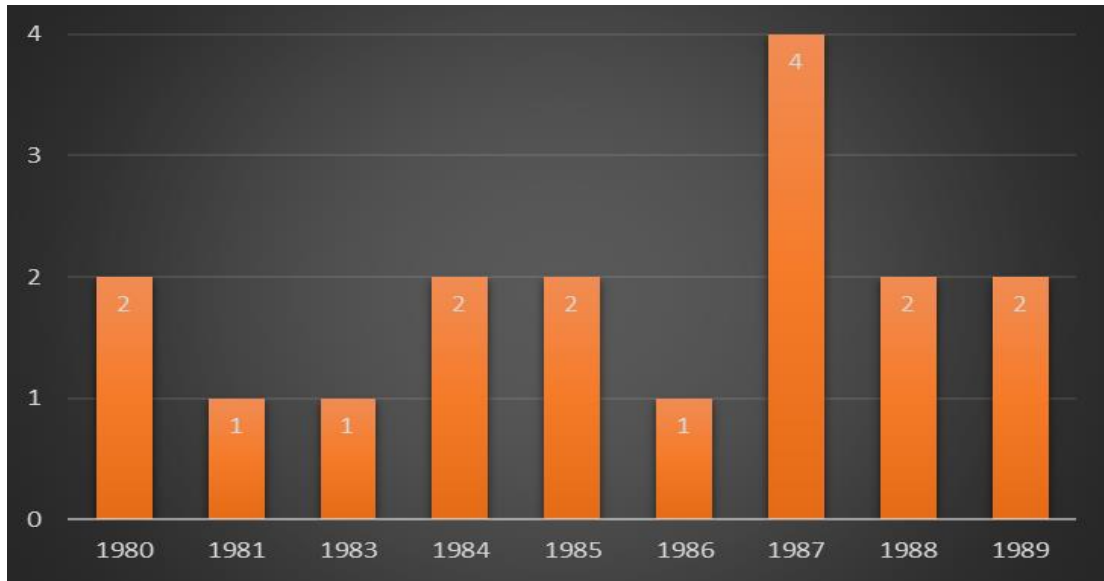
#### 5. Findings

There are two groups of numerical analysis of data and keywords co-occurrences for the bibliometric analysis of the data from Web of Science (WoS) with 43 years and 217 studies.

##### 5.1. Numerical Analysis of Data

There are 217 studies on "therapeutic recreation" title in 1980-2023. The first paper was published in 1980, and the number of papers rise after 2007. Figure 6,7,8,9, and 10 shows the quantitative distribution of studies by the years.

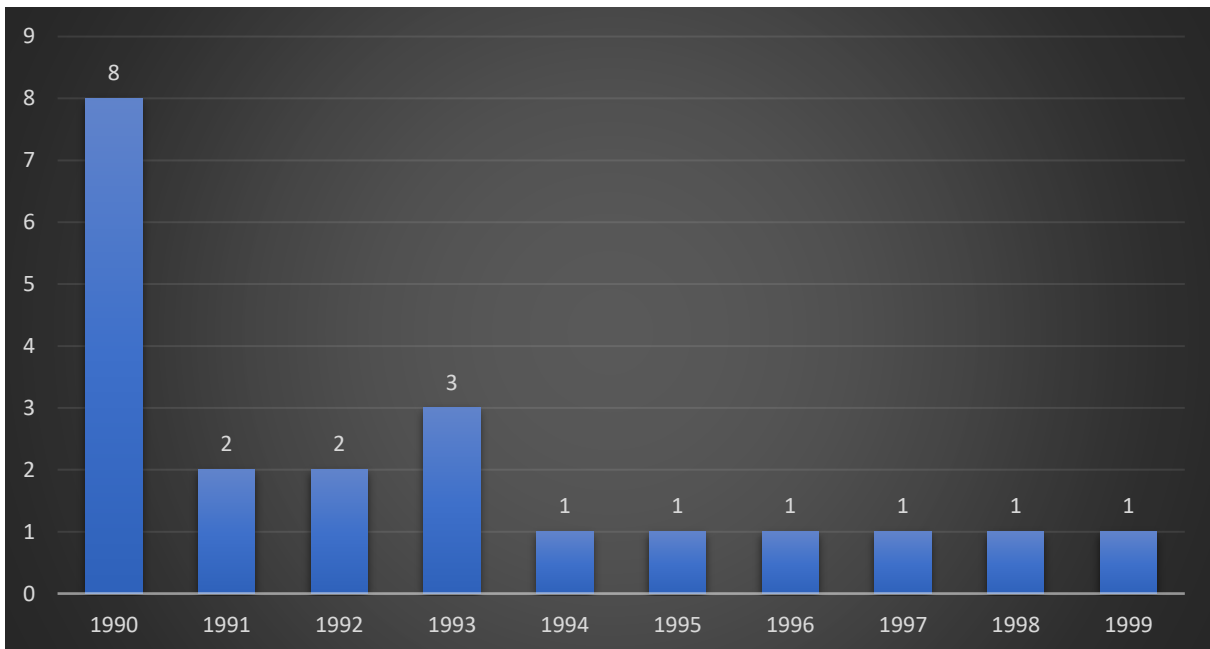
**Figure 6. The Number of Therapeutic Recreation Studies, 1980–1989**



Source: Created by author

Figure 6 shows the distribution of therapeutic recreation studies between 1980 and 1989. In 1982, there is no study. Generally, number of studies tends to increase. 1987 is the year with the most studies, with 4 papers.

**Figure 7. The Number of Therapeutic Recreation Studies, 1990–1999**

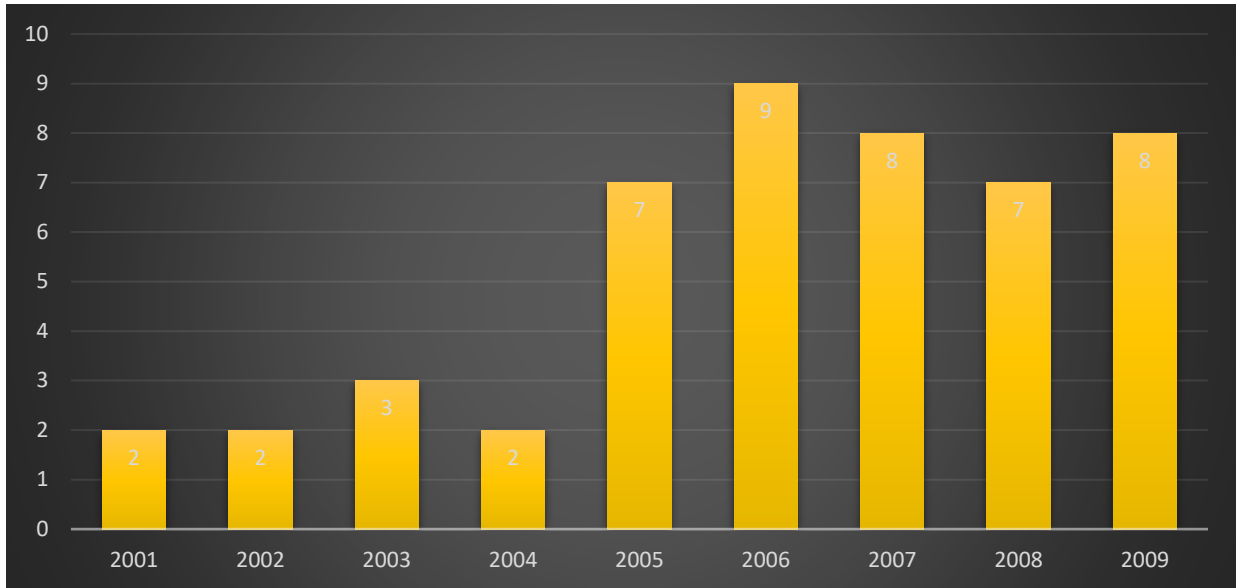


Source: Created by author



Figure 7 shows the distribution of therapeutic recreation studies between 1990 and 1999. Generally, number of studies tends to decrease by the year. 1990 is the year with the most studies, with 8 papers.

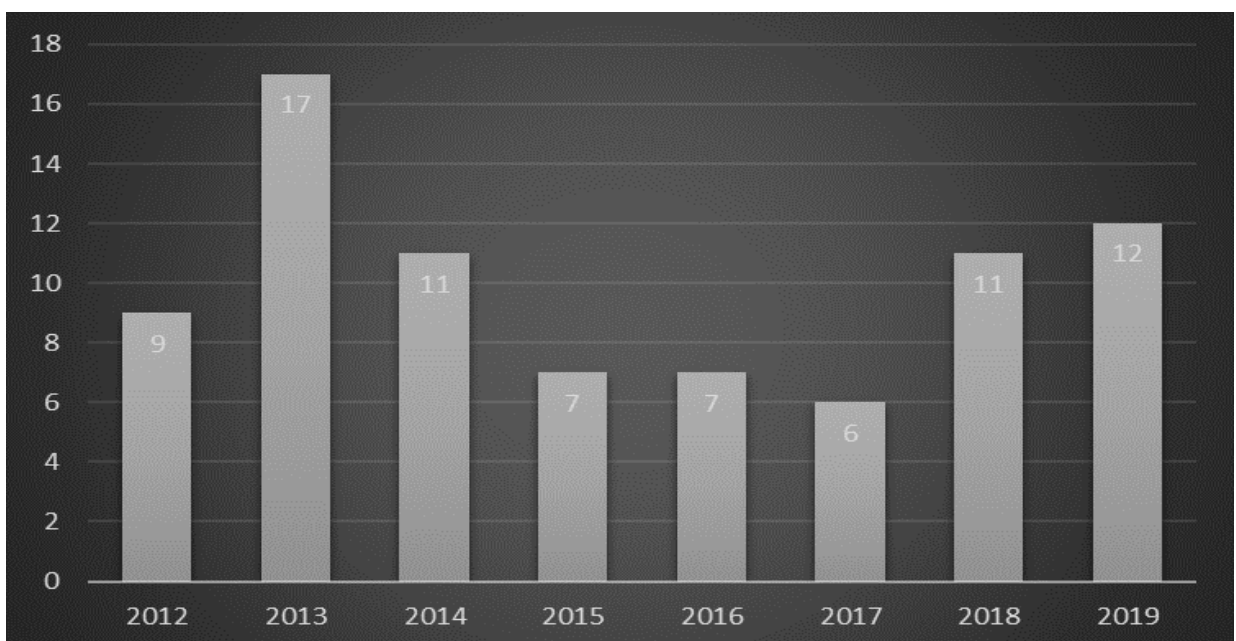
**Figure 8. The Number of Therapeutic Recreation Studies, 2000-2009**



**Source:** Created by author

Figure 8 shows the distribution of therapeutic recreation studies between 2000 and 2009. In 2000, there was no study about therapeutic recreation. Generally, many studies tend to increase by the year. After 2004, there was a significant increase in the number of studies. 2006 is the year with the most studies with 9 papers.

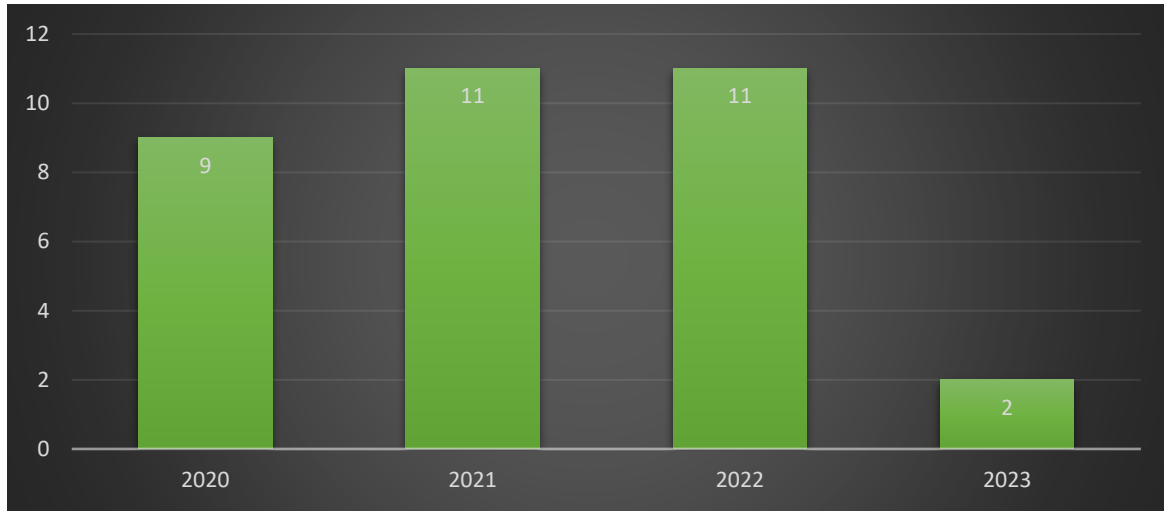
**Figure 9. The Number of Therapeutic Recreation Studies, 2010-2019**



**Source:** Created by author

Figure 9 shows the distribution of therapeutic recreation studies between 2010 and 2019. There is no study in 2010 and 2011. After these years, the number of studies increased. This 10-year group has the most significant number of studies about therapeutic recreation.

**Figure 10. The Number of Therapeutic Recreation Studies, 2020-2023**



**Source:** Created by author

Figure 10 shows the distribution of therapeutic recreation studies between 2020 and 2023 according to the years.

There are 139 articles, 25 meeting abstracts, 22 book reviews, 15 editorial materials, 8 proceedings, 6 review articles, 4 book chapters, 2 letters, and 1 correction as a type of study. In addition, there are 215 English studies, equal to 99.07 % of the total. Other languages are Polish and Russian.

**Table 1. Distribution of the Type of Publications**

Document Type	N	Share (%)
Article	139	64.05
Meeting Abstract	25	11.52
Book Review	18	8.29
Book Chapter	4	1.84
Editorial Material	15	6.91
Proceeding Paper	7	3.22
Review Article	6	2.76

<b>Letter</b>	2	0.92
<b>Correction</b>	1	0.46
<b>Total</b>	<b>217</b>	<b>100</b>

Table 1 shows the distribution of therapeutic recreation studies. The studies can be grouped into multiple classifications such as art, sport, medicine, and sociology.

**Table 2. Journals Ranked by Total Publications**

<b>Rank</b>	<b>Journal</b>	<b>Quantity</b>	<b>Citations</b>	<b>Number of Average Citations</b>
1	Therapeutic Recreation Journal	102	728	7.13
2	International Journal of Mental Health Nursing	7	7	1
3	Journal of Leisure Research	5	6	1.2
4	Palaestra	5	0	0
5	Global Therapeutic Recreation	4	1	0.25
6	Journal of Spinal Corn Medicine	4	70	17.50
7	Leisure Sciences	4	0	0
8	Psycho-Oncology	3	0	0
9	World Leisure Journal	3	4	1.33
10	Archives of Physical Medicine and Rehabilitation	2	0	0

Table 2 shows the top 10 journals ranked by total publications. The most cited journals are published in different fields. Therapeutic Recreation Journal is at the top of the list.

**Table 3. Most Cited Papers**

<b>Rank</b>	<b>Author/s</b>	<b>Title</b>	<b>Journal</b>	<b>Year</b>	<b>Citations</b>
1	Carruthers & Hood	Building a Life of Meaning Through Therapeutic Recreation: The Leisure and Weil-Being Model, Part I	Therapeutic Recreation Journal	2007	86
2	Kiernan et al.	Outcomes Associated With Participation In A Therapeutic Recreation Camping Programme For Children From 15 European Countries: Data From The 'Barretstown Studies'	Social Science and Medicine	2004	61
3	Zabrinski et al.	Quality of Life and Identity: The Benefits of a Community-Based Therapeutic Recreation and Adaptive Sports Program	Therapeutic Recreation Journal	2005	52

4	Békési et al.	Health-Related Quality of Life Changes of Children and Adolescents With Chronic Disease After Participation in Therapeutic Recreation Camping Program	Health and Quality of Life Outcomes	2011	43
5	Hutchinson et al.	Leisure and Stress-Coping: Implications for Therapeutic Recreation Practice	Therapeutic Recreation Journal	2008	42
6	Anderson & Heyne	Flourishing through Leisure: An Ecological Extension of the Leisure and Well-Being Model in Therapeutic Recreation Strengths-Based Practice	Therapeutic Recreation Journal	2012	39
7	Hill & Sibthorp	Autonomy Support at Diabetes Camp: A Self-Determination Theory Approach to Therapeutic Recreation	Therapeutic Recreation Journal	2006	34
8	Török et al.	Outcome Effectiveness Of Therapeutic Recreation Camping Program For Adolescents Living With Cancer And Diabetes	Journal of Adolescent Health	2006	32
9	Heintzman	Leisure-Spiritual Coping: A Model for Therapeutic Recreation and Leisure Services	Therapeutic Recreation Journal	2012	30
10	Heyne & Anderson	Theories that Support Strengths-Based Practice in Therapeutic Recreation	Therapeutic Recreation Journal	2008	29

Table 3 shows the most cited studies in the literature. The top paper, ranked by number of citations, is *Building a Life of Meaning Through Therapeutic Recreation: The Leisure and Well-Being Model*. Part I focuses on the dimensions of well-being guided by therapeutic recreation. The subjects examined in the article are service delivery models, leisure, well-being models desired by therapeutic recreation, origins of well-being, positive emotions and experience, and determinants of happiness. The second most cited study examines the effects of the symptoms and psychosocial outcomes of the Barretstown Gang Camp therapeutic recreation program on European children with chronic illnesses. It was suggested that camp programs have a substantial role as a complementary tool in facilitating adaptation to chronic disease in this study. Zabriskie et al. (2005) studied the effect of a community-based therapeutic recreation and adaptive sports program on 129 disabled people with a skiing and horseback riding program. According to the study, therapeutic recreation programs positively affect participants' quality of social and family life and overall health. Békési et al. (2011) also examined the effect of therapeutic recreational camp programs on children and adolescents with chronic diseases. The positive influence of therapeutic recreation on children and adolescents is emphasised as a result of the study. In the fourth most cited study, Hutchinson et al. reviewed leisure time, individual differences in leisure, variations of leisure activities, and the implication of therapeutic recreation in the literature. Anderson and Heyne (2012) explore a model for the practice of strengths-based therapeutic recreation called leisure development alongside

ecology. According to this study, therapeutic recreation is aimed at helping the person and changing social and physical environments. While Hill and Sibthorp (2006) searched for a way to grow the effectiveness of diabetes camps as a therapeutic recreation approach, Török et al. (2006) investigated the therapeutic recreation camping outcomes for adolescents living with cancer and diabetes. As a result, it is accepted that the type of illness does not determine the children's response to the camp programme. Benefits from camp are independent of age or gender. Heyne and Anderson (2012) emphasised that therapeutic recreation is for the holistic approach, creative use of resources, openness to collaboration, and positive outcomes. Heintzman (2008) synthesised leisure time, stress, and spiritual coping through therapeutic recreation.

**Table 4. The Density of Main Research Countries**

Rank	Country	Quantity	Citations	Number of Average Citations
1	United States of America	109	739	6.77
2	Canada	32	259	8.09
3	Australia	17	64	3.76
4	Ireland	11	90	8.18
5	England	7	49	7
6	South Korea	3	6	2
7	Germany	2	43	21.5
8	Hungary	2	75	37.5
9	Spain	2	17	8.5
10	Japan	2	9	4.5

Table 4 shows the origin of the research countries. According to the table, the most productive countries are the United States, Canada, and Australia, respectively.

**Table 5. Organisations Ranked by Number of Average Citations**

Rank	Organisation	Country	Quantity	Citations	Number of Average Citations
1	Wollongong University	Australia	12	48	4
2	Indiana University	United States of America	9	108	12
3	Brigham Young University	United States of America	8	91	11.37
4	Dublin City University	Ireland	7	3	0.42
5	Dalhousie University	Canada	7	78	11.14
6	University of Regina	Canada	7	17	2.42
7	University College Dublin	Ireland	6	3	0.5

8	East Carolina University	United States of America	6	10	1.66
9	State University of New York at Cortland	United States of America	6	90	15
10	Temple University	United States of America	5	34	6.80

Organisations ranked by number of average citations are shown in the table above. The United States and Australia top the list of organisations ranked by average citation count. While the University of Wollongong has the most studies, Indiana University has the most citations.

**Figure 7. The Network Between Countries in Therapeutic Recreation Studies**

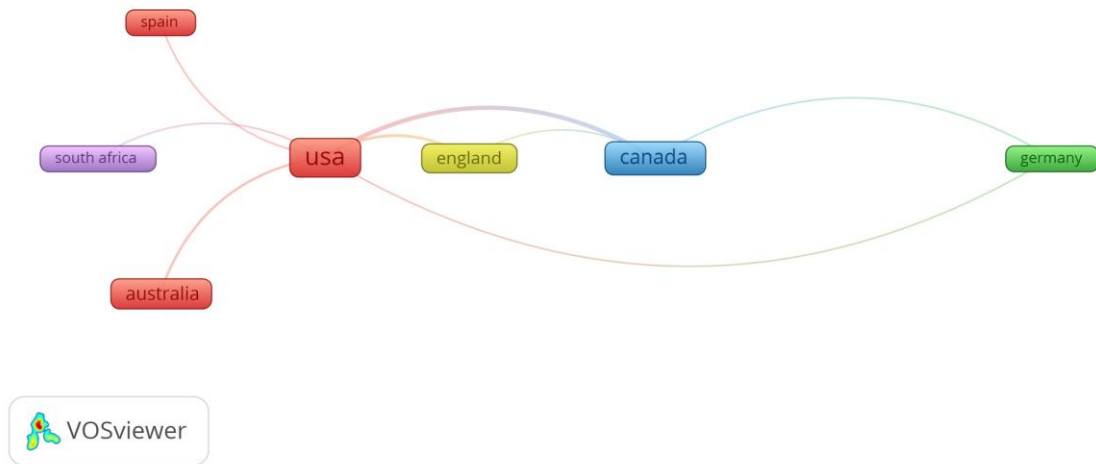


Figure 7 shows the network between countries in therapeutic recreation studies. According to the number of studies belonging to nations, the USA, Canada, Australia, South Africa, Spain, England and Germany have networked. The thicker cluster line shows the more robust relationship between the countries. According to this information, Spain, South Africa, Australia, England and Germany have weaker relationships while the USA and Canada have a strong network.

## 6. CONCLUSION

In this article, which aims to search the therapeutic recreation literature with the bibliometric analysis method, 217 studies were reached. The findings of this study are limited as the WoS database is preferred, and only the titles are scanned.

The first of the studies in the WoS database was published in 1980. Although the literature is not very old, the number of studies has increased yearly. This study covers between 1980 and 2023. In the literature, no similar research examines the therapeutic recreation issue using the vos viewer program as a bibliometrics analysis. The absence of the same or similar study in the literature makes this study original.

The importance and originality of this study also come from the number of people who are disabled, old and need help. About 250 million of the world's population are disabled, and 962 million are over 60. According to the World Disability Report, the number of disabled people is increasing, and it is predicted that this rate will increase even more in the future. These reports prove the importance of therapeutic recreation for people with disabilities and the aged. The numbers show that more studies about therapeutic recreation are needed. This bibliometric analysis aimed to be a guide by presenting statistics to researchers about therapeutic recreation studies.

In this study, it is recommended to increase studies on the effects of therapeutic recreation on individuals with disabilities and over 60 years. Because the number of people disabled and aged is increasing day by day, this study has the potential to be a guide for future studies. There is no similar research about therapeutic recreation uses vos viewer program and bibliometrics analysis in the literature. This original study aims to guide people focusing on therapeutic recreation. Future work on this topic will help explore the needs and demands of people who need help and care.

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