

A Bibliometric Analysis on Covid 19 in Dance Studies

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ORIGINAL ARTICLE

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Abstract

The aim of this study is to examine the publications and research on dance during the COVID-19 pandemic using bibliometric analysis. For this purpose, the studies published in the sources scanned in the Web of Science Core Collection database between 2020-2023 were analysed bibliometrically and the trend in the last 4 years was revealed. In the research, a search was made with the key concepts "covid" and "dance" and a total of 350 studies were reached in the database. In the context of the purpose of the research, a total of 350 studies were reached by making document type and time interval restrictions. The distribution of these 350 studies by years, average citation numbers, journals with the most publications, authors with the most publications, scientific productivity of countries, cooperation networks, word cloud, word tree maps, and conceptual structures were reached. According to the results obtained, it can be said that the interest in the subject has increased after 2022. The journal in which the most articles on this subject were published was "Frontiers in Psychology" and the author who wrote the most articles was Knechtle B. It was determined that the most frequently used words in the studies was physical activity, exercise and impact.

Keywords: Covid 19, Dance, Bibliometric Analysis.

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Dans Çalışmalarında Covid 19 Üzerine Bibliometrik Bir Analiz

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Öz

Bu çalışmanın amacı, COVID-19 pandemisi süresince dans üzerine yapılan yayın ve araştırmaları bibliyometrik analiz kullanarak incelemektir. Bu amaçla 2020-2023 yılları arasında Web of Science Core Collection veri tabanında taranan kaynaklarda yayınlanan çalışmalar bibliyometrik olarak analiz edilmiş ve son 4 yıldaki eğilim ortaya konulmuştur. Araştırmada "covid" ve "dance" anahtar kavramları ile arama yapılmış ve veri tabanında toplam 350 çalışmaya ulaşılmıştır. Araştırmanın amacı bağlamında doküman türü ve zaman aralığı kısıtlamaları yapılarak toplam 350 çalışmaya ulaşılmıştır. Bu 350 çalışmanın yıllara göre dağılımı, ortalama atıf sayıları, en çok yayın yapılan dergiler, en çok yayın yapan yazarlar, ülkelerin bilimsel üretkenlikleri, işbirliği ağları, kelime bulutu, kelime ağacı haritaları ve kavramsal yapılarına ulaşılmıştır. Elde edilen sonuçlara göre 2022 yılından sonra konuya olan ilginin arttığı söylenebilir. Bu konuda en çok makalenin yayımlandığı dergi "Frontiers in Psychology", en çok makale yazan yazar ise Knechtle B. Çalışmalarda en sık kullanılan kelimelerin fiziksel aktivite, egzersiz ve etki olduğu belirlendi.

Anahtar kelimeler: Covid 19, Dans, Bibliometrik Analiz.

Introduction

Coronavirus (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. Since the World Health Organisation's (WHO) first report in 2019, the impact of the pandemic is still ongoing worldwide (WHO, 2023a). Globally, a total of 767,518,723 confirmed COVID-19 cases, including 6,947,192 death cases, were reported on 28 June 2023 (WHO, 2023b).

During the Covid-19 process, especially during quarantine times, the physical and psychological conditions of people were also adversely affected (Kola et al. 2021). The immobility that started with quarantine caused the emergence of some diseases. A study on COVID-19 found that physical inactivity is one of the risk factors for severe COVID-19 necessitating hospitalization (Hamer et al., 2020).

Regular physical activity improves the quality of life by enabling people to be physically and mentally well. In this respect, physical activity has been recommended by researchers both for a lower risk of contracting the virus and for maintaining physical and mental well-being during Covid-19 (Clemente-Suárez et al., 2022). Some of these activities include aerobic exercise, bodyweight training, dance, or balance exercises (Hammami et al., 2020; Jiménez-Pavón et al., 2020).

Research emphasizes that dance is one of the types of physical activity and is important in improving health (Podrihalo et al., 2022). It has been stated that dancing is an excellent way to increase physical fitness and improve social skills, thus improving mental health, as well as an activity that does not require much expense or equipment and can appeal to individuals of all ages (Malkogeorgos et al., 2011).

Bibliometric analysis can be stated as a method that is used as a quantitative analysis of scientific publications such as books, articles in peer-reviewed journals, letters to the editor, subject, author, citation, country, etc. with statistical comments and gives some clues about the collaboration between authors (Broadus, 1987; Osareh, 1996; Heberger, Christie, and Alkin, 2010). Especially in recent years, the opportunities and conveniences created by the developing information technologies have increased the interest in bibliometrics.

There are many bibliometric studies on different subjects in the literature (Ardito et al., 2019; Türkistanli et al., 2021; Bakır et al., 2022). When we look at the bibliometric analyses related to the field of dance, there are various studies in the Web of Science category (Ho & Ho, 2015; Wang & Ho, 2019; Podrihalo et al., 2022; Lara-Aparicio et al., 2022). However, when the literature is examined, there is no bibliometric study on "Covid" and "Dance". In this context, it is thought that the study will make an important contribution to the literature. The aim of the study is to examine the publications and research on dance during the COVID-19 pandemic using bibliometric analysis.

Material and Method

Bibliometrics is a branch of research that deals with the quantitative analysis and measurement of scientific publications (Koseoglu et al., 2016). This branch of research analyzes bibliographic data to determine the effectiveness, impact, trends and priorities of scientific work. Bibliometrics is becoming a generic term for a set of specific measures and indicators (Zupic & Cater, 2015). The bibliometric properties of the studies identified in the Web of Science database using the keywords "covid" and "dance" were established in this study, which adopted the descriptive research model. By permitting internal resource evaluations, bibliometric studies offer the chance to influence scientific publication policy. Additionally, it gives researchers a chance to learn more about the topics they are researching (Al et al., 2010). According to Huang et al. (2006), bibliometric analysis is a particularly efficient technique for locating and assessing nations, organizations, subject areas, journals, and specialized study topics.

Data Procedure

The research information is comprised of papers pertaining to the key terms "covid" and "dance" that were published in various journals between 2020 and 2023 and are available in the Web of Science database. This date was chosen as the starting date since the first study in the database was published in 2020 as a result of the data acquired for the topic area covered within the scope of the research. International citation indexes including the Science Citation Index (SCI), Social Science Citation Index (SSCI), and Art & Humanities Citation Index (A&HCI) are the most significant data sources in bibliometric investigations. As one of the databases that provide access to these indexes in this context, the Web of Science database was used for the research (Güzeller and Çeliker, 2017) and the bibliometric analysis system run through the R-Studio program is compatible with this database (Kurtuluş and Tatar, 2021; Kurtuluş and Bilen, 2021).

Data Collection

350 studies were found in the database after the key words "covid" and "dance" were searched during the investigation. By imposing constraints on document type and time period, a total of 350 studies that fit the research's objectives were found. We determined the distribution of these 350 studies by year, average amount of citations, top journals, authors, and nations for scientific productivity. We also determined collaboration networks, word clouds, word tree maps, and conceptual structures.

Data Analyses

The results pertaining to the papers scanned as part of the research were obtained using the R-Studio application. Through its official repository, <https://cran.r-project.org>, the R environment offers a variety of packages used for bibliometric analyses. For quantitative research, these package programs employed in bibliometrics are particularly helpful (Aria and Cuccurullo, 2017). R software was used in bibliometric analysis since it has more results and a more thorough representation.

The following procedures were performed respectively to the data file of the study prepared according to the criteria of the research from the Web of Science database; the "export" option was clicked, after clicking the WoS export option, the bibtex file was prepared by selecting the full record and cited references option. Then, the "bibliometrix" package was downloaded and activated through the R-Studio program. The "bibliometrix" package was run through R-Studio. Finally, the R-Studio program directed to the bibliometric analysis page via an address. Here, the "bibtex" file was uploaded to the data section and analyzed. The diagram relating to the study is shown in Figure 1.

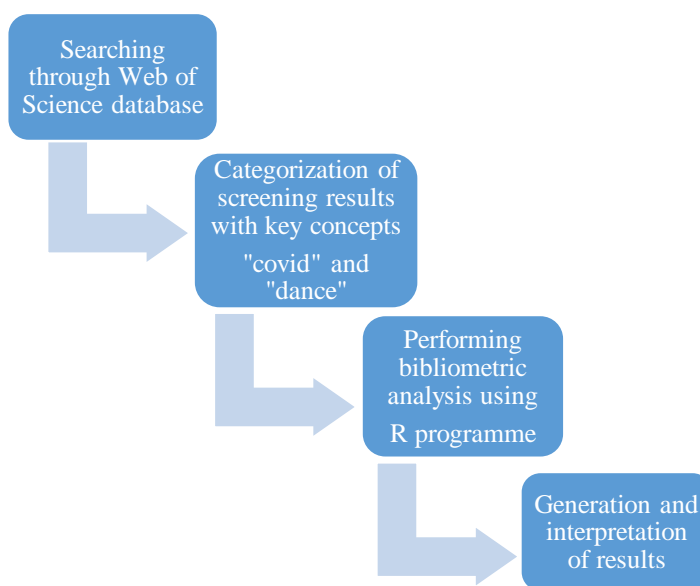


Figure 1. Working Diagram

Research Ethics

In this research, Higher Education Institutions Scientific Research and Publication Ethics Directive was followed. In order to carry out the study, the ethics committee approval of Bartın University, Social and Human Sciences Ethics Committee was obtained with Protocol number: 2023-SBB-0500 at meeting number 17

Results

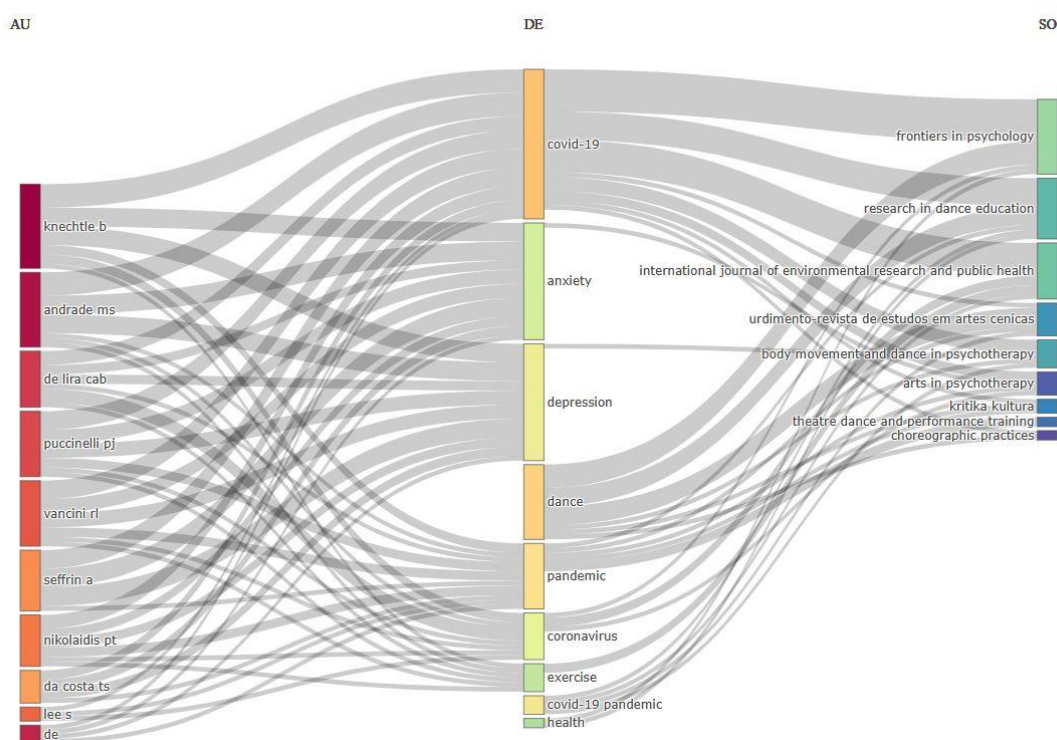
Table 1 displays data on the total number of covid-dance studies broken down by years.

Table 1

Number of Studies by Year

| Year | Number of Studies (f) | Percentage (%) |
|------|-----------------------|----------------|
| 2020 | 42 | 12,0 |
| 2021 | 128 | 36,5 |
| 2022 | 129 | 36,9 |
| 2023 | 51 | 14,6 |

When Table-1 is examined, it is seen that studies on covid-dance started to be published in 2020 according to the screening restrictions, and most publications in the relevant field were made in 2022 (f=129).

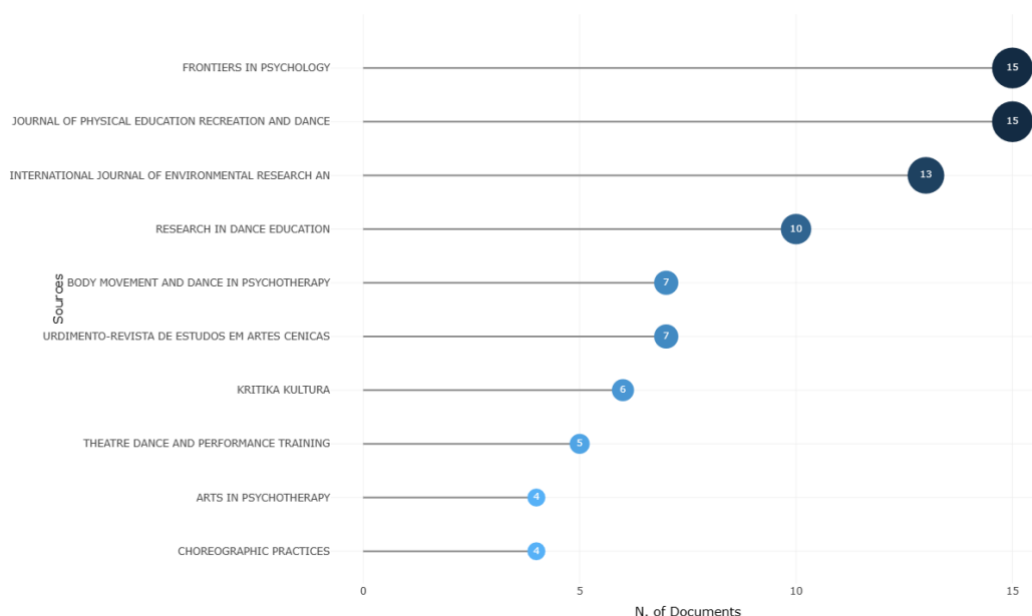


Au: Authors; De: Author's Keywords; So: Sources

Graphic 1. Three Fields Plot

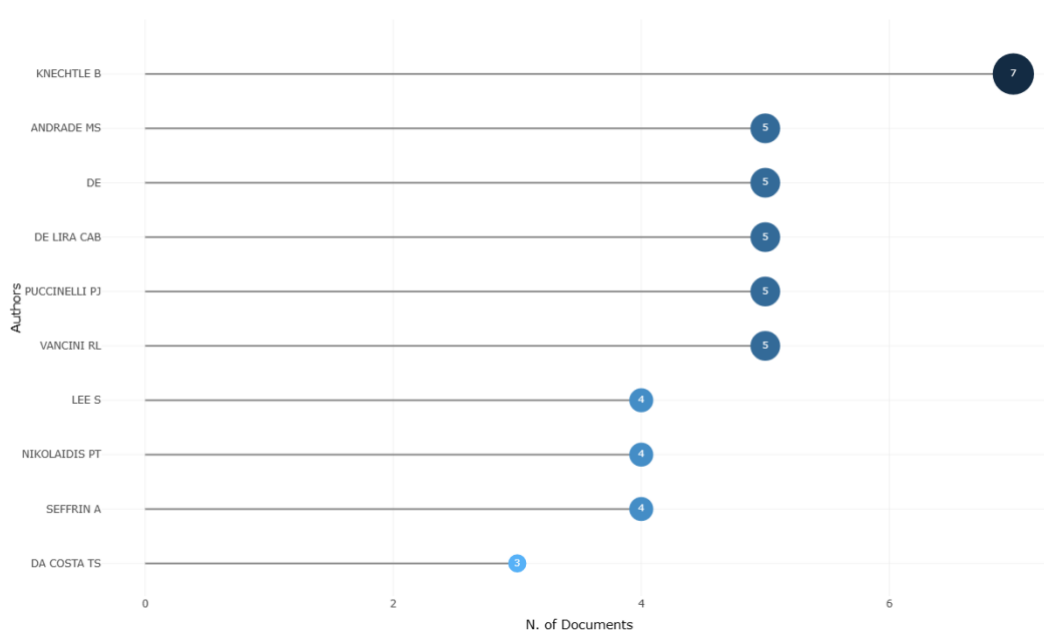
Graph-1 shows the three-field plot graph. Three fields-plot summarises important information about the subject area by combining three different graphs. In Graph-1, the left field shows the authors who have published more studies on the subject, the middle field shows the keywords used most by the authors, and the right field shows the journals that have published more studies on the subject. Analysis of Graph 1 reveals that the writers named "Knechtle B", "Andrade Ms", De Lira Cab" are

important names in the field, the keywords "covid-19", "anxiety", and "depression" are frequently used, and finally the journals "Frontiers in Psychology", "Research in Dance Education", "International Journal of Environmental Research and Public Health" are interested in the field.



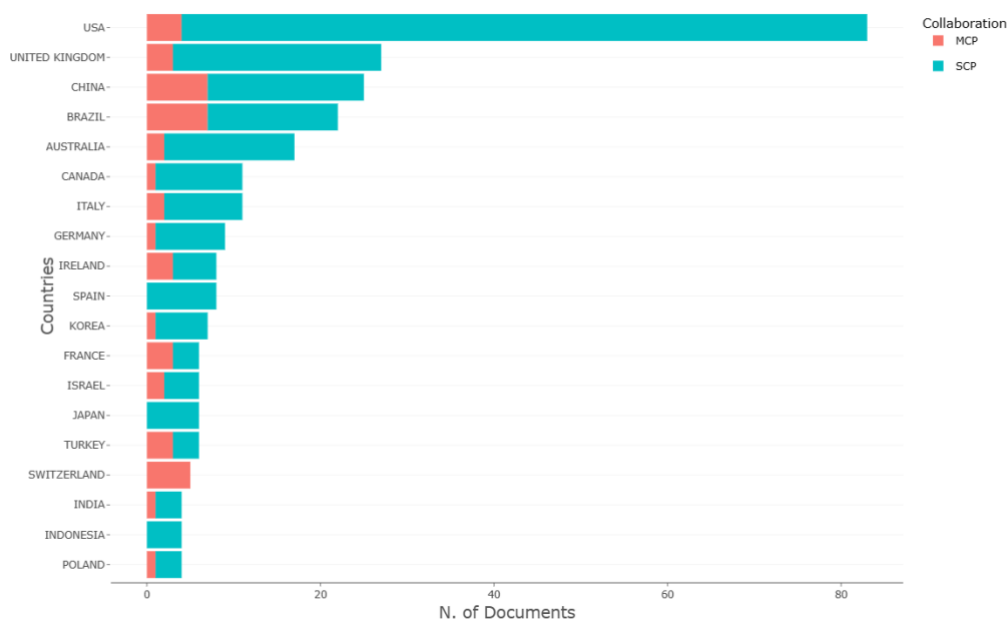
Graphic 2. Journals That Have the Most Articles Published in the Field

Graph-2 shows the top 10 journals with the highest number of publications. It was determined that the publications found by searching the keywords "Covid" and "Dance" were published in 350 different sources. It is seen that Frontiers in Psychology ($f = 15$), Journal of Physical Education Recreation and Dance ($f = 15$) and International Journal of Environmental Research and Public Health ($f = 13$) are the sources where the studies were published the most.



Graphic 3. Authors with the Most Publications in the Subject Area

The analysis of Graph 3 reveals that Knechtle B. ($f = 7$), Andrade MS ($f = 5$), and De ($f = 5$) are the authors who conducted the most studies on "covid" and "dance".



Graphic 4. Countries of Corresponding Authors and Number of Studies

Graph-4 shows the nationalities of the authors who conducted the study. The number of publications created by researchers from the same nation is shown in the SCP (Single nation Publications) part, while the publications made by researchers from many countries are shown combined in the MCP (many Country Publications) section. When the nations of the authors that contributed are examined, USA with 83 studies (SCP: 79, MCP: 4), United Kingdom with 27 studies (SCP: 24, MCP: 3), and China with 25 studies (SCP: 18, MCP: 7) are in the first three places (Table-2).

Table 2

Number of Studies, SCP and MCP Values of Countries

| Country | Articles | SCP | MCP | Freq | MCP_Ratio |
|----------------|----------|-----|-----|-------|-----------|
| USA | 83 | 79 | 4 | 0,237 | 0,048 |
| UNITED KINGDOM | 27 | 24 | 3 | 0,077 | 0,111 |
| CHINA | 25 | 18 | 7 | 0,071 | 0,28 |
| BRAZIL | 22 | 15 | 7 | 0,063 | 0,318 |
| UNKNOWN | 20 | 20 | 0 | 0,057 | 0,000 |
| AUSTRALIA | 17 | 15 | 2 | 0,049 | 0,118 |
| CANADA | 11 | 10 | 1 | 0,031 | 0,091 |
| ITALY | 11 | 9 | 2 | 0,031 | 0,182 |
| GERMANY | 9 | 8 | 1 | 0,026 | 0,111 |
| IRELAND | 8 | 5 | 3 | 0,023 | 0,375 |
| SPAIN | 8 | 8 | 0 | 0,023 | 0 |
| KOREA | 7 | 6 | 1 | 0,02 | 0,143 |
| FRANCE | 6 | 3 | 3 | 0,017 | 0,5 |
| ISRAEL | 6 | 4 | 2 | 0,017 | 0,333 |
| JAPAN | 6 | 6 | 0 | 0,017 | 0 |
| TURKEY | 6 | 3 | 3 | 0,017 | 0,5 |
| SWITZERLAND | 5 | 0 | 5 | 0,014 | 1 |

| | | | | | |
|-----------|---|---|---|-------|------|
| INDIA | 4 | 3 | 1 | 0,011 | 0,25 |
| INDONESIA | 4 | 4 | 0 | 0,011 | 0 |
| POLAND | 4 | 3 | 1 | 0,011 | 0,25 |

The first 20 countries in Table 2 that are analyzed are those where the responsible author has conducted the most studies. Switzerland stands out as the nation with the highest MCP rate among the 20 countries, despite being ranked 17th overall. High MCP rates are found in France and Turkey. This demonstrates that scholars in France and Turkey are more receptive to global joint investigations. Spain, Japan, and Indonesia have the lowest MCP ratios among all the nations. Figure 2 displays the countries' study output.

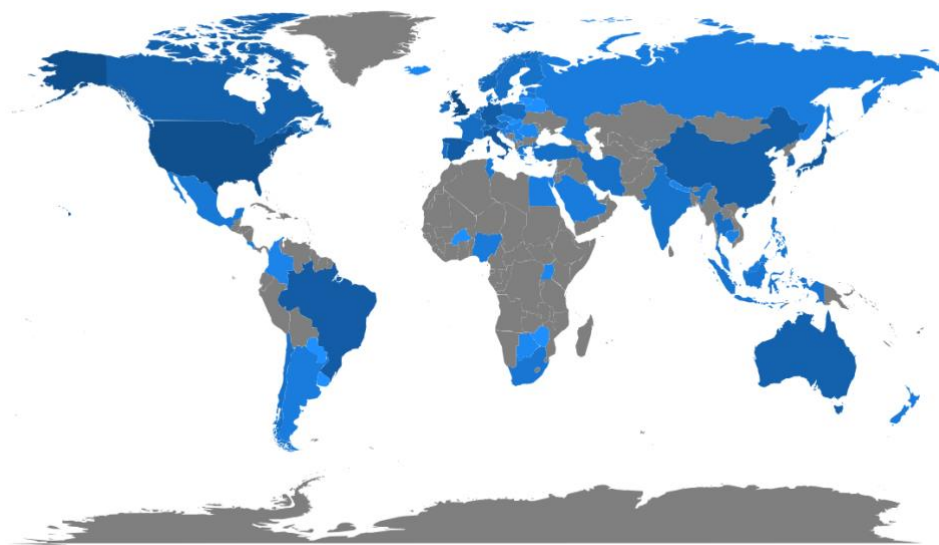


Figure 2. Scientific Productivity of Countries

When looking at Figure 2, the map's colors, which range from dark blue to light blue, show the number of publications. It is known that as the color changes from dark blue to light blue, the number of studies reduces. There are no studies scanned in the database for the nations highlighted in grey. Examining the map's quantitative data section, the United Kingdom with 532 studies, the United States of America with 442 studies, and Italy with 164 studies are in the first three places.



Figure 3. Word Clouds

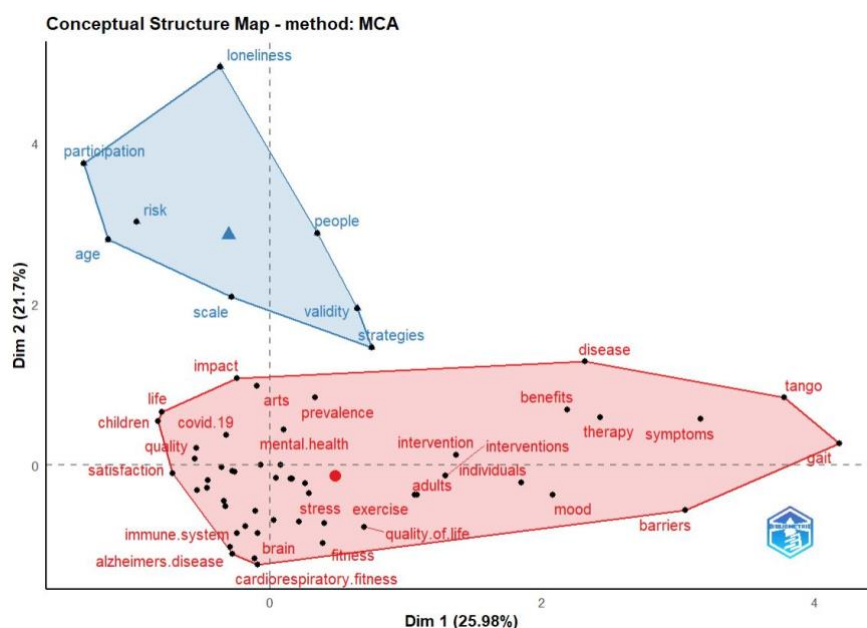
The graph of the most utilized keywords in the investigations is shown in Figure 3. One text mining technique called word clouds displays the most frequent words in a text or phrase. The word most frequently used in relation to the subject area is displayed in the center. The words used are particular to the subject area, as indicated by the size of the words and their placement near the center. The word is used less frequently as the word size shrinks and goes outside the center. When Figure-3 is analyzed, it is seen that the most used words are physical activity ($f=22$), exercise ($f=20$), impact ($f=15$), health ($f=14$), and quality of life ($f=14$).



Figure 4. Word Tree Map

The graph in Figure 4 displays the words that were used the most in the study titles. Word tree mapping is another text mining technique. The most frequent terms in a text or paragraph are displayed using word trees. The most often used terms are physical activity ($f=22$), exercise ($f=20$), and impact ($f=15$), according to the graph.

The conceptual structure mapping of the articles is one of the significant analyses carried out as part of bibliometrical investigations. The dynamics of the conceptual structure and the conceptual turning points in the associated literature may be ascertained by examining the keywords employed by the authors as a consequence of the factor analysis of the concepts. The two dimensions of the MCA (Multiple Correspondence Analysis) plot explain 47,68% of the total variance of the keywords (dimension 1 = 25,98%, dimension 2 = 21,70%). The analysis shows the formulation of two clusters, which express common concepts. Graph 5 presents conceptual structure mapping on the topic.



Graphic 5. Conceptual Structure Mapping

The factor analysis produced the clusters that are shown in Graph 5. Articles about physical activity, exercise, impact, health, and other topics linked to covid-19 and dancing are included in the larger category, which is depicted in red.

Discussion and Conclusion

In this study, the key words "covid" and "dance" were used to search the Web of Science database, which offers access to international publications and citation indexes. The search yielded a total of 350 studies, and using the R-Studio application, bibliometric analysis was carried out on these 350 studies. We used text mining techniques to reach conclusions about the distribution of articles by years, the journals with the most publications on this topic, the authors with the most publications, the scientific productivity of countries, collaboration networks, word cloud and word tree structures, and conceptual structures.

It was determined that the studies published on this subject were published in 226 different sources. This is an indication that a large number of sources give importance to the subject area. It was determined that the journal that published the most studies on this subject was "Frontiers in Psychology" ($f=15$). It is clear that the other sources on the list, which are respected journals in the field, also have articles on the topic. It was discovered that 4160 authors contributed to the subject area, either individually or collaboratively. It was observed that Knechtle B ($f=7$) was the author who made the most publications on the subject area. Researchers are expected to increase both the number of publications and h indexes due to the popularity and interest in the subject.

The data obtained by using word cloud and word tree map methods, it shows both the keywords used while searching on this subject and the concepts used most frequently by the researchers while writing the summary section. When these findings are analyzed specifically for the study, it is seen that the researchers associate the fields of physical activity, exercise, and impact on covid-dance.

Ethics Committee Permission Information

Ethics review committee: Bartın University Social Sciences and Humanities Ethics Committee

Date of the ethical assessment document: 17.08.2023

Number of the ethical assessment document: E-23688910-050.01.04-2300084878

Declaration of Contribution Rates of Researchers

Both authors contributed equally to all stages of the study.

Conflict Statement

The authors have no conflict statement regarding the research.

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