



Trends in dance/movement therapy research: A bibliometric analysis of publications in the scopus bibliographic and citation information database

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ABSTRACT

In recent years, the number of publications on dance/movement therapy has increased. However, there has been no comprehensive quantitative assessment of dance/movement therapy publications that analyze research trends, impact, and structure. This study aims to provide an overview of research trends in dance/movement therapy by identifying the influencing factors of publications and analyzing the research structure. The study analyzed 589 publications retrieved from the Scopus database. Indicators of productivity, impact, and collaboration were determined. The study is the first bibliometric analysis in dance/movement therapy. The results show publications in the fields of medicine, psychology, and healthcare, mainly with authors from the United States, the United Kingdom, Israel, and Germany. Although several publications are available, only a few authors have more than one publication. This resource can be used by researchers, practitioners, and students in dance/movement therapy. It provides an overview of existing research and suggests potential avenues for future research.

Introduction

The World Health Organization's holistic view of human health (Sajnani & Fietje, 2023), coupled with the increasing focus on mental health, which is facilitated by several factors (Patel et al., 2023), has created an enabling environment in which dance/movement therapy has gained increasing importance in healthcare. This research is critical to maximizing scientific resources in dance/movement therapy, advancing this field, and forming concepts for future studies.

In the latter half of the 20th century, dance/movement therapists, driven by a shared vision, made considerable progress in defining practice, developing job descriptions, and establishing theoretical concepts. This period saw the formation of professional organizations governing specific therapy areas in certain regions, the evolution of dance/movement therapy, and the strengthening of regulatory frameworks in various countries. The establishment of the American Dance Therapy Association (ADTA) in 1966, marked the development of the second generation of dance/movement therapists in the United States (Beaudry, 1997). In Europe, the Network for the Professional Development of Dance/Movement Therapy was founded in 1995, a crucial step that paved the way for the subsequent establishment of the European Association Dance Movement Therapy (EADMT, 2021a, 2021b).

The first Council of the American Dance Therapy Association recognized the publication of a periodical as a potent tool for disseminating information about dance/movement therapy to other professionals, promoting education and training opportunities, and fostering communication among dance/movement therapists. This was viewed as a significant leap in the development and strengthening of the field. This led to the establishment of the "American Journal of Dance Therapy" (Springer since 1977), "Arts in Psychotherapy" (since 1982, Elsevier), and "Arts & Health" (since 2009, Taylor & Francis), which continue to be influential periodicals in the field of arts therapies including dance/movement therapy. Another dance/movement therapy periodical is "Body, Movement, and Dance in Psychotherapy" (since 2006, Taylor & Francis). Since its inception, the profession has not only flourished in the United States but has also spread its influence globally, contributing to the proliferation of educational programs and the demand for diverse types of academic research (Cruz & Berrol, 2018).

Summarizing the results of previous research is one of the tasks in clarifying the direction of research and practice. Empirical research is an essential factor for evidence-based professional development that starts with primary research, continues with systematic reviews (e.g., Zande & Šuriņa, 2020), meta-analysis (e.g., Karkou et al., 2019; Koch et al., 2019), Cochrane reviews (e.g., Karkou et al., 2017; Meekums et al.,

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2015). Once the primary research has been developed and relevant experience has been gained, the next step could be to use tools and methodologies to analyze retrospectively what has been done, identify trends, and highlight avenues for research. In this context, bibliometric analysis offers the possibility to track research trends and relevant issues by providing tools that allow moving from the micro level (single publication, author, or institute) to the macro level (region, country) (Shi et al., 2020).

Bibliometric analysis relies on the extraction of bibliographic results using bibliometric analysis tools. These tools require researchers to have domain knowledge and manual data processing and offer support to identify relevant research directions and trends in a field that includes hundreds of studies. Bibliometric analysis is increasingly used to detect research trends, analyze the underlying structural patterns of the research field, and provide a representation of the current state of the intellectual structure and emerging trends within a given research topic or area (Ahmi & Mohamad, 2019; Zupic & Cater, 2015; Donthu et al., 2021). Bibliometrics is becoming increasingly popular (Lund, 2022), particularly in medical research (Kokol et al., 2021; Thompson & Walker, 2015).

So far, no bibliometric analysis has been carried out in the field of dance/movement therapy to provide insight into the current state of research. However, it should be noted that several bibliometric analyses have already been conducted in music therapy (Yin et al., 2022; Li et al., 2021), art therapy (Liu et al., 2022; López-Escribano et al., 2023; Rodríguez Novo et al., 2021; Wei & Zhong, 2022; Wu & Chung, 2023), drama therapy (Constien & Junker, 2023; Fernández-Aguayo & Pino-Juste, 2018; Korde et al., 2023), and bibliotherapy (Xu et al., 2023). The bibliometric analyses performed previously in art therapy included several data components, including the number of articles published, distribution of publication years, languages of published articles, countries of origin, number of citations received, clusters of research topics based on co-occurrence of words in article titles, and abstracts. A review of the available bibliometric analysis of publications in art therapy shows that publications in languages other than English should also be considered. This approach allows for an emphasis on locally relevant research (Constien & Junker, 2023), thus complementing and deepening the results of the bibliometric analysis.

Therefore, this study aims to provide a comprehensive overview of research trends in dance/movement therapy within the Scopus database. This review includes an analysis of publications dissociated from time, language, and geographical constraints. The study is based on a bibliometric analysis of bibliographic data components including authors, institutions, publications, journals and their impact indicators, research areas, keywords, and countries. This leads to identifying productivity indicators of scientific performance, impact indicators of publications, and a description of the social and conceptual aspects of the research structure.

The following research question was posed to determine the productivity indicators of scholarly output: (RQ1): What are the productivity rates of publications in dance/movement therapy research indexed in Scopus?

To determine the impact of dance/movement therapy publications, the following research question (RQ2) was posed: What publications and journals are most influential in the field of dance/movement therapy in the context of the current dataset?

To assess the social structure of the dance/movement therapy research field, the following research question was asked: (RQ3): Which countries and researchers in dance/movement therapy have collaborated most frequently in the studies indexed in Scopus?

To describe the conceptual structure of the research field in dance/movement therapy, the following research question was asked: (RQ4) What are the most frequently occurring author keywords in the studies indexed in Scopus, and what are the current research themes?

Materials and methods

Research design and methodological approach

Bibliometric analysis uses two main techniques: performance analysis and science mapping (Donthu et al., 2021). Performance analysis focuses on the contribution of research components to dance/movement therapy (Donthu et al., 2020). Science mapping, on the other hand, explores the relationships between research components (Baker et al., 2020). In this study, the components of the performance analysis include publication-related variables. The science mapping components include citation analysis to help identify publications with the greatest impact, co-word analysis to reveal current or potential topic relevance, and co-author analysis to track author or country collaboration. Combining these methods with network analysis is useful for capturing the social and academic structures of a research field (Baker et al., 2020; Donthu et al., 2020).

This methodology consists of three essential steps, illustrated in Fig. 1:

Step 1: Define the research objective and questions.

Step 2: Formulate the research design, including: a) Data collection: this subsection deals with the selection of the database, the selection of keywords, and the criteria for inclusion and exclusion of data, b) Data analysis: this stage involves selecting the methodology and software that will be used to analyze the data, considering the research questions.

Step 3: Analysis of the results using descriptive statistics and interpretation of the findings.

Source of data

The metadata of scientific articles is stored in online bibliographic and citation information databases such as *Web of Science from Clarivate Analytics* and *Scopus from Elsevier*. The data used in this study were obtained from Elsevier's Scopus database. The decision to use a particular database was taken after observing differences in the number of indexed publications between these databases. *Scopus* was found to contain a higher number of publications ($n = 625$) than *Web of Science* ($n = 448$) using the publication criterion. In addition, many duplicate studies in both databases in the field of dance/movement therapy ($n = 480$) were identified using the *EndNote* offline reference tool (desktop version of *EndNote*).

Keyword selection

The search strategy was developed in consultation with a senior librarian. Wildcards (*) were used to ensure maximum inclusion of data sources and considered variable keyword endings. For example, the keyword "therap*" included the terms "therapy," "therapist," "therapists," etc. The following literature analysis considered the specific criteria and scope of the selected literature sources, which were searched using the keywords "dance/movement therapy", "dance and movement therapy", and "dance and movement psychotherapy". The keywords "movement therapy" or "dance therapy" were not deliberately chosen at this stage. Finally, a refined search strategy was developed to obtain the required corpus of data. The search was conducted in several fields, including the title and summary fields, using the following keywords: (TITLE-ABS-KEY ("dance and movement therap*") OR TITLE-ABS-KEY ("dance movement therap*") OR TITLE-ABS-KEY ("dance/movement therapy") OR TITLE-ABS-KEY ("dance and movement psychotherap*").

Procedure and sample

For this bibliometric analysis, publications were searched in the multidisciplinary database Scopus, covering data from 1948 onwards, to identify publications related to dance/movement therapy. A total of 625 journal articles were selected from the Scopus database (see Fig. 1).

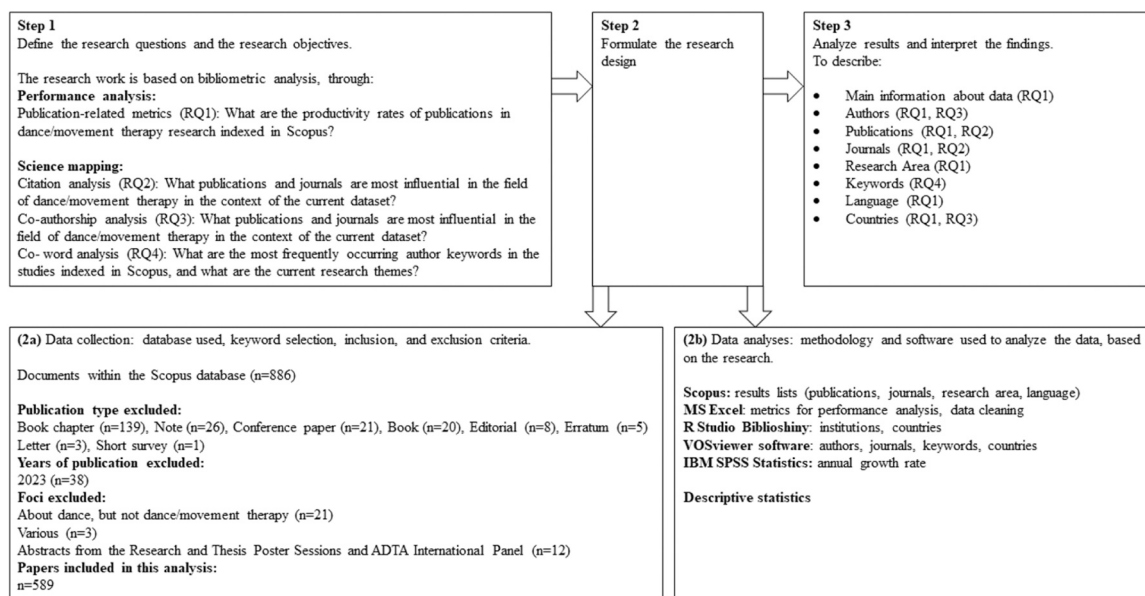


Fig. 1. Methodological approach. *Category "Various" refers to articles that were book reviews (n = 1), editorial lists (n = 1), about authors (n = 1). Note: data selection was done in July 2023.

The most appropriate basic units for bibliometric studies were articles and reviews published in peer-reviewed journals (Glänzel, 2003; Okubo, 1997) and the year criterion (until 2022). To obtain more objective analysis results for each year, the authors excluded studies from 2023 onwards, as partial years may affect the results of the bibliometric analysis components. The search closure date was 29 June 2023.

The selected publications and reviews list was exported from the Scopus csv database format. All data were checked to ensure that the datasets contained data relevant to the topic. Inappropriate documents were removed from the list of datasets by applying inclusion and exclusion criteria.

Data extraction

Bibliographic data for the dataset was extracted from the Scopus database and included: citation information, bibliographic information, abstract and keywords, funding information, and references. The files are downloaded in csv format. The initial list was exported to the web tool Rayyan (www.rayyan.ai), where it was triangulated and assessed against the inclusion and exclusion criteria.

Selection criteria

The aim was to obtain publications on the use of dance/movement therapy, in combination with other therapies, in health, education, or community settings, in any age group, without country or language restrictions, as this is an analysis aiming to describe the state of research in the field of dance/movement therapy. Considering the historical development of dance/movement therapy, its integrative nature, its integrity with other therapies, and its different status in different countries, less restrictive inclusion criteria were developed.

Document type: article, review, and publication status: indexed, published. Journals were the only source for the included research papers. Excluded were publications that did not mention dance/movement therapy as a treatment modality and research papers after 2022.

Overall, 18 duplicates were found with a 67–99 % content match using the Rayyan web tool. All duplicates were included in the analysis. Inclusion and exclusion criteria were applied by independent triangulation with two researchers, assessing the relevance of publications by reviewing titles, author keywords, and abstracts. Following the

triangulation process, discrepancies were identified, and the review was repeated together again, reading the full text of the publication if available. If consensus was not reached in the discussion, a third expert in the field of dance/movement therapy helped to decide on a consensus.

Inclusion criteria for triangulation:

1. The article is about the specialization of dance/movement therapy.
2. The article mentions dance/movement therapy.
3. The article mentions the use of interventions in dance/movement therapy.
4. The title of the article mentions 'dance/movement therapy'.
5. The article does not mention dance/movement therapy, but the topic is dance/movement therapy in context (annotation). For example, Laban's movement analysis, embodiment, Kestenberg's movement analysis, mirror image, interviews with persons discussing dance/movement therapy, etc.
6. Whether the abstract or title mentions creative art therapy and dance/movement therapy.
7. Whether the article mentions dance/movement therapy students or practitioners.
8. Whether the article refers to dance movement therapists (Pioneers).
9. Whether "Dance/movement Psychotherapy/psychotherapists" is mentioned.

Exclusion criteria:

1. The article mentions dance but does not mention that it is used in the context of dance/movement therapy.
2. Conference papers that do not have an abstract.

Data analysis

Data analysis was performed using Scopus database search results analysis, Microsoft Excel (MS Excel), Biblioshiny (RStudio) (Aria & Cuccurullo, 2017), VOSviewer software (version 1.6.19) (Van Eck & Waltman, 2010), IBM SPSS Statistics (version 29.0). The indicators that could not be retrieved from the Scopus database were processed and analyzed using the above-mentioned software. The lists of results available for analysis in the Scopus database included journal fields and languages.

Manual data sorting and visualization were performed in Microsoft

Table 1
Main results of the performance analysis.

Description	Abbreviations and Formulas	Results
1.1. Publication-related metrics		
Total publications	TP	589
Article		543
Review		46
Number of contributing authors	NCA	941
Sole-authored publications	SA	303
Co-authored publications	CA	286
Number of active years of publication	NAY	44
Productivity per active year of publication	$PAY=TP/NAY$	13.39
1.2. Citation-related metrics		
Total citations	TC	8506
Average citations	$AC=TC/TP$	14.44
1.3. Citation and publication-related metrics		
Number of cited publications	NCP	531
Collaboration coefficient	$CC=1-(TP/NCA)$	0.37
Proportion of cited publications	$PCP=NCP/TP$	1.07
Citations per cited publication	$CCP=TC/NCP$	16.01
h-index	H	43

Excel. Before the analytical tools were utilized, the data underwent cleansing and error correction. This entailed instances where authors' names differed, initials were erroneously attributed to the same author, and names of journals and institutions were merged. The corrected datasets were employed in the data analysis process.

The RStudio Bibliometrix is a statistical analysis software that manages large datasets, including various analysis packages (Firdaus et al., 2019). Bibliometrix provides descriptive analysis and data visualization, making it suitable for bibliometric data analysis (Aria & Cuccurullo, 2017). To facilitate the use of Bibliometrix's main features by researchers lacking programming skills, the Biblioshiny application was employed. This application was used to identify critical bibliometric performance indicators and to visualize scientific activity.

The data was also processed using VOSviewer, a bibliometric data analysis software tool developed by researchers at Leiden University in the Netherlands, which was used to build and visualize bibliometric networks. VOSviewer allows the generation of visualization maps with different options, where each element can be identified as a country, organization, journal, document, author, or keyword. The dimensions of the visualization elements can be modified according to several variables. In network visualizations, circular shapes represent individual elements, with the size of these elements determined by their weight, which in this study is dependent on the number of elements (authors, publications) (Van Eck & Waltman, 2010).

The annual growth rate was calculated using IBM SPSS Statistics (Statistical Package for the Social Sciences, version 29.0).

To answer the first research question (RQ1), data were obtained from the Scopus database results lists and VOSviewer. VOSviewer was used to identify the most productive authors, journal lists, and instances of international collaboration, while MS Excel was used to review authors' bibliometric data. The data from Scopus was used to extract information on the research area and language. The Biblioshiny application was employed to identify the most productive institutions.

The second research question (RQ2) addressed the most influential publications and journals in data from the Scopus results list.

Several tools were employed to address the research question (RQ3) regarding the current state of the co-occurrence networks of authors in the field of dance/movement therapy. These included Biblioshiny, which was used to identify countries and create a map of countries where researchers collaborated, and VOSviewer, which was employed to identify networks of authors and keywords.

The VOSviewer software addressed the fourth research question (RQ4).

Results

Key data information

To answer the first research question (RQ1) on the productivity of publications in dance/movement therapy research indexed in Scopus, we followed the guidelines for bibliometric analysis (Donthu et al., 2021). The main results of the performance analysis concern three main indicators related to publications, citations, and their correlation, which are presented in Table 1. It should be noted that citation rates change daily.

The number of publications and the Hirsch index value of the publication set were obtained from the Scopus database results lists. The data was processed using MS Excel to determine the number of contributing authors, the number of sole-authored publications, the number of co-authored publications, the number of active years of publication, and the productivity per active year of publication.

Authors

Biblioshiny and MS Excel were used to answer the research question (RQ1) on key performance indicators. MS Excel was used to review authors' bibliometric data, including names and initials. The VOSviewer software was employed to ascertain the number of publications authored by each individual author. Each author's name and surname had to be carefully researched, including in the Scopus database, by obtaining the full publication and searching for authors' names by affiliation in Google search or by contacting the authors.

During the data cleaning, it was noticed that authors' names were repeated in the data, and it was necessary to combine the number of publications by researchers to bring them under one author unit. Authors with duplicate surnames due to extra spelling characters or a different first name were combined under one surname ($n = 19$). Publications from 1974 to 2022 were available for analysis, with 938 authors, ranging from one to 22 authors per article.

According to VOSviewer, at least 26 authors have five publications. The authors with at least five publications are listed in the table below (see Table 2). The authors' research productivity is ranked by the total number of publications. A summary of the results indicates that the most productive authors are Sabine Koch, Professor of dance/movement therapy at Heidelberg SRH University of Applied Sciences, with 28 publications in the selected dataset, followed by Sherry W. Goodill, Emeritus Clinical Professor and former Head of the Department of

Table 2

The 25 most productive authors in the field of dance/movement therapy.

Author	Affiliation*	TP	TC	Publication year start
Sabine Koch (Dance/Movement Therapy)	Alanus University of Arts and Social Science (Germany)	28	866	2001
Sherry W. Goodill (Dance/Movement Therapy)	Drexel University (United States)	18	280	1987
Vassiliki Karkou (Dance Movement Psychotherapy)	Edge Hill University (Great Britain)	16	514	2001
Bonnie Meekums (Dance/Movement Therapy)	Independent Researcher (Spain)	14	461	1991
Iris Bräuninger (Dance/Movement Therapy)	University of Teacher Education in Special Needs (Switzerland)	13	273	2005
Einat Shuper Engelhard (Dance/Movement Therapy)	Kibbutzim Seminary (Israel)	12	53	1987
Cynthia F. Berrol (Dance/Movement Therapy)	California State University (United States)	11	317	2007
Christina Devereaux (Dance/Movement Therapy)	Drexel University (United States)	9	53	2018
Ho Tin Hung Rainbow (Credentials in Dance/Movement Therapy)	The University of Hong Kong (Hong Kong)	8	349	2008
Joke Bradt (Music Therapy)	Drexel University (United States)	7	225	2001
Thomas Fuchs (Psychiatry and Philosophy)	University of Heidelberg (Germany)	7	366	2007
Suzi Tortora (Dance/Movement Therapy)	Memorial Sloan-Kettering Cancer Center (United States)	7	87	2005
Robyn Flaum Cruz (Dance/Movement Therapy)	Berklee College of Music (United States)	6	52	2007
Jacelyn Biondo (Dance/Movement Therapy)	Sidney Kimmel Medical College (United States)	6	169	2017
Patricia Capello (Dance/Movement Therapy)	Harkness Dance Center (United States)	6	16	2007
Kyung Soon Ko (Dance/Movement Therapy)	Jeonju University (South Korea)	6	32	2014
Heidrun Panhofer (Dance/Movement Therapy)	Autonomous University of Barcelona (Spain)	6	48	2018
Päivi M. Pylvänäinen (Dance/Movement Therapy)	Tampere University Hospital Psychiatric Unit (Finland)	6	49	2016
Valeria Blanc (Dance/Movement Therapy)	Lesley University (United States)	5	28	2017
Rebekka Dieterich-Hartwell (Dance/Movement Therapy)	Drexel University (United States)	5	64	2014
Kim Dunphy (Dance/Movement Therapy)	University of Melbourne (Australia)	5	108	2007
David Alan Harris (Dance/Movement Therapy)	n/a (United States)	5	162	2017
Tomoyo Kawano (Dance/Movement Therapy)	Antioch University New England (United States)	5	40	2010
Hod Orkibi (Psychodrama)	University of Haifa (Israel)	5	127	2008
Rosa María Rodríguez Jiménez (Dance/Movement Therapy)	Info Universitat Autònoma de Barcelona (Spain)	5	28	2020

* Affiliation (last available in Scopus June 2024 or last Publication in Scopus). Note: n/a –no author affiliation on the Scopus database. Only authors with five or more publications. TP – Total Publications, TC – Total Citations

Creative Arts Therapy at Drexel University, with 18 publications, and Professor Vassiliki Karkou, holding the chair of Arts and Wellbeing at Edge Hill University, with 16 publications.

VOSviewer and MS Excel were used to answer the third research question (RQ3) about the current state of authors' co-occurrence networks in the dance/movement therapy field. The data obtained from MS Excel indicated that most articles included in this analysis ($n = 303$) are single-author publications. In contrast, 48.5 % of the articles ($n = 286$) have two or more authors. VOSviewer was used to determine the total link strength using full counting, which means that each co-author was given an equal distribution (weight). The study revealed that authors with a higher overall strength of ties tend to demonstrate a higher frequency of collaboration with other authors. The dataset comprises 644 authors, with a total link strength above two. Of these authors, 327 have an overall link strength above five. The authors with at least 23 collaborations with other authors were selected from the authors' dataset (see Table 3).

The figure below (see Fig. 2) shows the trends in author collaboration over time for authors who have more than five publications. The timeline visualization has two dimensions: time and the interrelation of nodes. A node's location in the time dimension is determined by the specific period (year) it is associated with, while the interconnection

dimension is determined by the co-occurrence of nodes in the publication.

The closer two nodes are located to each other, the stronger their relatedness (Van Eck & Waltman, 2010). The most significant number of nodes for authors with five publications is thirteen links between authors. Dimensions of the elements (circles) are contingent upon the number of publications. Consequently, the greater the number of publications an author has, the larger the element (circle) representing the author's collaboration. This representation will be in chronological order. The closer the authors are positioned to each other in the graph, the more often they appear in the same publication. Authors Bonnie Meekums and Iris Bräuninger have collaborated closer to 2012. Recent collaborations with other authors (see Fig. 3) include authors Jackelyn Biondo, Rebekka Dieterich-Hartwell, and Tomoyo Kawano.

Institutions

To address the research question (RQ1) regarding scientific performance, the affiliation of the institutions from which data were extracted from Scopus was analyzed, refined, and visualized. This was done based on the affiliations provided by the authors of the scientific articles, utilizing Biblioshiny for aggregation and MS Excel for cleaning and

Table 3

Authors with at least 23 collaborations with other authors in the selected Dataset.

Author	Country	Affiliation*	Total link strength
1 Sabine Koch (Dance/Movement Therapy)	Germany	Alanus University of Arts and Social Science	101
2 Vassiliki Karkou (Dance Movement Psychotherapy)	United Kingdom	Edge Hill University	62
3 Sherry W. Goodill (Dance/Movement Therapy)	United States	Drexel University	44
4 Girija Kaimal	United States	Drexel University	29
5 Thomas Fuchs (Psychiatry and Philosophy)	Germany	University of Heidelberg	29
6 Supriitha Aithal (Dance Movement Psychotherapy)	United Kingdom	Edge Hill University	27
7 Suzi Tortora (Dance/Movement Therapy)	United States	Memorial Sloan-Kettering Cancer Center	26
8 Ho Tin Hung Rainbow (Credentials in Dance/Movement Therapy)	China, Hong Kong	The University of Hong Kong	23
9 Felicity A. Baker (Music Therapy)	Norway	Norwegian Academy of Music	22

* Affiliation (last available in Scopus June 2024 or last Publication in Scopus).

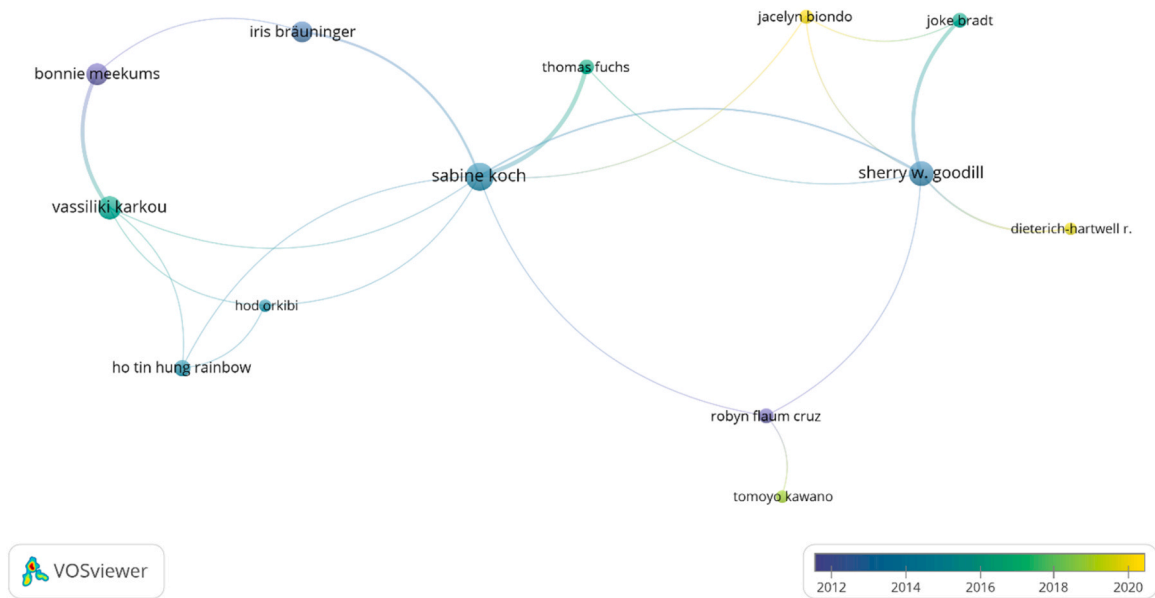


Fig. 2. Authors with at least five publications collaborate across time and space (VOSviewer Overlay Visualization).

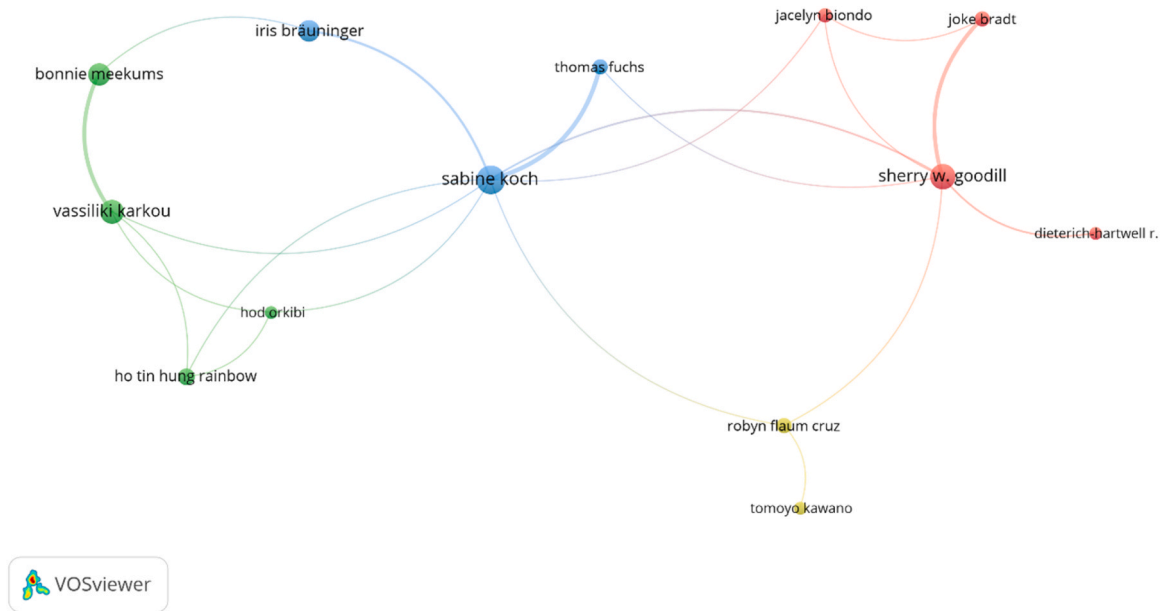


Fig. 3. Clusters of authors (n = 13) repeated five times (VOSviewer Network Visualization).

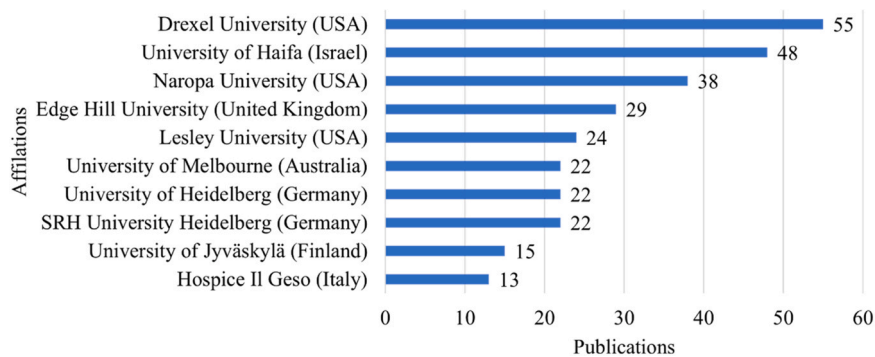


Fig. 4. Institutions where most publications originate from.

visualization. Institutions were identified based on the institutional affiliation indicated by the authors of the scientific articles. The data extraction process was conducted using Biblioshiny software. Overall, 1038 articles with institutions were counted - the counting was done using the full counting method, which means that the affiliation is counted once for each publication as it was cited. Scopus creates institutional profiles based on the affiliation text in the indexed articles. Affiliations are reflected in scientific publications in different ways. Scopus can identify and merge name variations into a single profile. However, manual merging has also been performed by adding data on institutions within an institution hierarchy or institutions with the same hierarchical status but a broader name. The dataset was checked manually by merging the number of repeated affiliation publications in MS Excel. Total number of institutions $n = 363$. In response to the research question on productivity indicators (RQ1) for organizations in the field of dance/movement therapy, using data from the study, it can be concluded that Drexel University was the most frequently cited institution, listed as an affiliation of the authors 55 times (corresponding to 5.28 % of the total number of organizations cited in the study). The Further University of Haifa was mentioned 48 times (4.6 %). It is followed by Naropa University with 38 mentions (3.65 %), Edge Hill University with 29 mentions (2.79 %), and Lesley University with 24 mentions (2.3 %). The graph below shows those institutions that were mentioned at least 13 times (see Fig. 4).

Publications

Biblioshiny and an MS Excel table were used to obtain results on trends in scientific research over time and to answer the first research question (RQ1). According to the inclusion criteria, the publication date of the articles included in this analysis starts with the earliest available. The study covers 48 years since the first publication in dance/movement therapy indexed in the Scopus database, with the first article published in 1974: *Dance/movement therapy: a complementary treatment in psychotherapy* (Greenfield Roberts, 1974). The period between 2020 and 2021 had the highest number of publications ($n = 46$). The year 2021 was the most productive in terms of publications. Overall, an upward trend is observed in the number of articles on research in dance/movement therapy published in the Scopus database each year. The number of publications per year is presented in visual form in Fig. 5.

A review of the data revealed that, between the first publication available in the database in 1974 and 2004, the coefficient of 0.13 indicates that the number of publications increased by an average of 0.13 per year. For the period 2005–2022, the increase in the number of publications is, on average 2.46 per year (see Fig. 6). These data show a significant increase in the number of publications between 2005 and 2022 compared to the previous period between 1974 and 2004.

A citation analysis was conducted to answer the second research question (RQ2) on the most influential publications on dance/movement therapy research. Citation analysis relies on the assumption that the impact of a publication can be assessed by analyzing how often it is

cited. Although there are various methods, such as network metrics, to determine the importance of publications in a research area, the most objective and simplest indicator of impact is citation rate, as outlined by Donthu et.al. in their article on conducting bibliometric analysis (Donthu et al., 2021). Biblioshiny and MS Excel were used for the citation analysis. The most cited publication is "An event of geographical ethics in spaces of affect" by Derek P. McCormack (see Table 4). This publication aimed to provide an ethos or way of thinking and moving that extends the status of an event of geographical ethics to those relations of affect and movement that do not necessarily cross the threshold of meaningful significance (McCormack, 2003). The second most cited meta-analysis, and the one more directly related to dance/movement therapy practice, is "Effects of dance/movement therapy and dance on health-related psychological outcomes: A meta-analysis", which aimed to shed light on a) the extent to which dance/movement therapy and dance interventions initiate desired changes in health-related psychological outcomes, b) moderators or study characteristics that contribute to variations in effect sizes, and c) the duration of these changes (Koch et al., 2014).

Journals

To answer the research question (RQ1) on scientific performance indicators, the distribution of journal publications was analyzed using the VOSviewer software data. To answer the research question (RQ2) on the most influential journals in research on dance/movement therapy, in addition to the volume of publications, the citation rate of journals was also assessed, for which data were retrieved from the Scopus database. Journal titles, number of publications, and citations were compared and updated in MS Excel. The articles included in this analysis were published by 131 individual journals, of which 16.79 % ($n = 22$) published two or more articles. More than 83 % ($n = 109$) of the journals included in this analysis published only one article. Most articles were published in the *American Journal of dance therapy* ($n = 212$), which aims to inform the international mental health community about the latest developments in theory, research, and clinical practice in dance/movement therapy and is a journal of the American Dance Therapy Association. Next is *Arts of psychotherapy* ($n = 122$), a journal that connects mental health and creative arts therapies around the world. It should be noted that this journal appeared in the dataset under two titles *Arts in Psychotherapy* ($n = 109$) and *The Arts of Psychotherapy* ($n = 13$). In this analysis, the quantitative data for both journals were combined (number of publications and number of citations per journal) under the title *Arts in Psychotherapy*. The third journal is *Body, movement, and dance in psychotherapy*, which focuses on expanding the fields of body psychotherapy, somatic psychology, and dance movement psychotherapy. The above three journals account for 68.76 % of all articles included in this analysis.

To answer the research question (RQ2): which are the most influential journals in the field of dance/movement therapy, several citation metrics from the Scopus database CiteScore (CS), SCImago Journal Rank

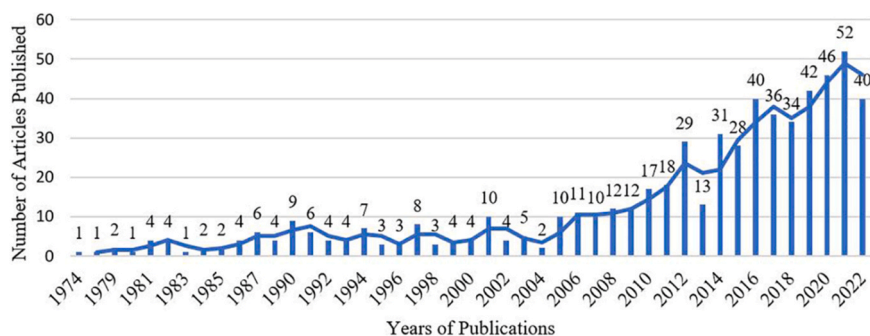


Fig. 5. The number of published articles per year ($n = 589$).

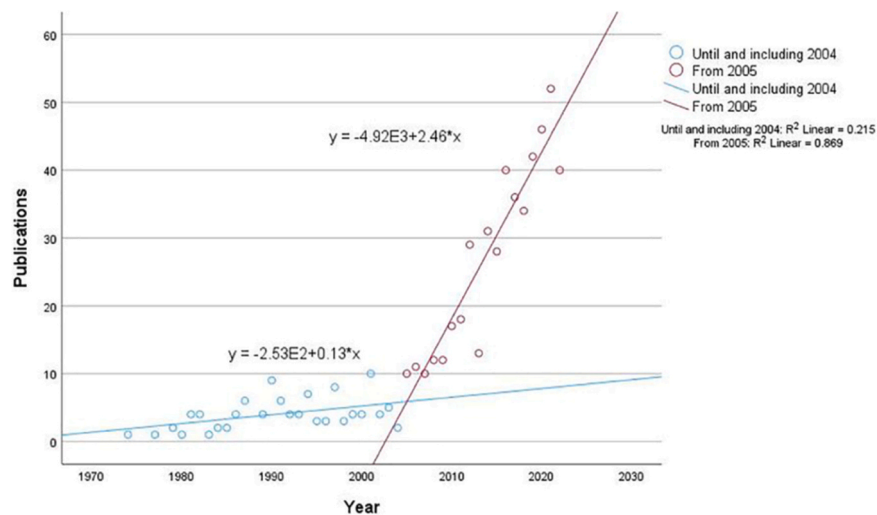


Fig. 6. Linear regression models.

Table 4

The most influential publications in dance/movement therapy, citation metrics in Scopus database in 2022.

PY	Paper	Author	Journal	Total Citations	TC per Year	Normalized TC	DOI
2003	An event of geographical ethics in spaces of affect (McCormack, 2003)	Derek P. McCormack	Transactions of the Institute of British Geographers	431	20.52	4.22	https://doi.org/10.1111/j.0020-2754.2003.00106.x
2014	Effects of dance/movement therapy and dance on health-related psychological outcomes: A meta-analysis (Koch et al., 2014)	Sabine C. Koch Roxana F F. Riege Katharina Tisborn Jacelyn Biondo Lily Martin Andreas Beelmann	Frontiers in Psychology	195	19.50	8.27	https://doi.org/10.3389/fpsyg.2019.01806
2005	Dance/movement therapy improves emotional responses and modulates neurohormones in adolescents with mild depression (Jeong et al., 2005)	Young-Ja Jeong Sung-Chan Hong Myeong Soo Lee Min-Cheol Park Yong-Kyu Kim Chae-Moon Suh	International Journal of Neuroscience	160	8.42	5.32	https://doi.org/10.1080/00207450590958574
2012	Art therapies and dementia care: A systematic review (Beard, 2012)	Renée L. Beard	Dementia	146	12.17	5.60	https://doi.org/10.1177/1471301211421090
2007	The joy dance: Specific effects of a single dance intervention on psychiatric patients with depression (Koch et al., 2007)	Sabine C. Koch Katharina Morlinghaus Thomas Fuchs	The Arts in Psychotherapy	135	7.94	4.66	https://doi.org/10.1016/j.aip.2007.07.001
2006	Neuroscience meets dance/movement therapy: Mirror neurons, the therapeutic process, and empathy (Berrol, 2006)	Cynthia F. Berrol	The Arts in Psychotherapy	129	7.17	4.62	https://doi.org/10.1016/j.aip.2006.04.001
1996	Effects of dance/movement therapy: A meta-analysis (Ritter & Low, 1996)	Sandy Dibbell-Hope	The Arts of Psychotherapy	123	4.39	2.41	https://doi.org/10.1016/0197-4556(96)00027-5
2012	Moving in and out of synchrony: A concept for a new intervention fostering empathy through interactional movement and dance (Behrends et al., 2012)	Andrea Behrends Sybille Müller Isabel Dziobek	The Arts in Psychotherapy	116	9.67	4.45	https://doi.org/10.1016/j.aip.2012.02.003
2019	Effects of Dance/Movement Therapy and Dance on Health-Related Psychological Outcomes. A Meta-Analysis Update (Koch et al., 2019)	Sabine C. Koch Roxana F. F. Riege Katharina Tisborn Jacelyn Biondo Lily Martin Andreas Beelmann	Frontiers in Psychology	113	22.60	10.01	https://doi.org/10.3389/fpsyg.2019.01806
2011	Mirroring in Dance/Movement Therapy: Potential mechanisms behind empathy enhancement (McGarry & Russo, 2011)	Lucy M. McGarry Frank A. Russo	The Arts in Psychotherapy	111	8.54	4.90	https://doi.org/10.1016/j.aip.2011.04.005
2015	Dance/movement therapy for depression (Meeckums et al., 2015)	Bonnie Meekums Vassiliki Karkou E Andrea Nelson	Cochrane Database of Systematic Reviews	97	10.78	4.55	https://doi.org/10.1002/14651858.CD009895.pub2
2015	Fixing the mirrors: a feasibility study of the effects of dance/movement therapy on young adults with autism spectrum disorder (Koch et al., 2015)	Sabine C Koch Laura Mehl Esther Sobanski Maik Sieber Thomas Fuchs	Autism	87	9.67	4.08	https://doi.org/10.1177/1362361314522353
2000	The use of dance/movement therapy in psychological adaptation to breast cancer (Dibbell-Hope, 2000)	Dibbell Hope	Arts in psychotherapy	85	3.54	2.88	https://doi.org/10.1016/S0197-4556(99)00032-5

Table 5

The most influential journals in dance/movement therapy, citation metrics in Scopus database in 2022.

Journal	Year	NP	TC	CiteScore	SJR 2022	SNIP 2022
<i>American Journal of Dance Therapy</i>	1977	212	1879	2.2	0.295	0.869
<i>Arts in Psychotherapy</i>	1982	122	2671	2,9	0.462	0.826
<i>Body, Movement, and Dance in Psychotherapy</i>	2009	71	392	1.5	0.306	0.752
<i>Frontiers in Psychology</i>	2018	26	526	4.5	0.891	1.422
<i>Cochrane Database of Systematic reviews</i>	1993	9	432	8.9	1.476	1.825
<i>Behavioral Sciences</i>	2011	4	76	3.0	0.597	0.965
<i>Children</i>	2014	4	18	2.0	0.504	0.796
<i>The Croatian Review of Rehabilitation Research</i>	1996	3	1	0.3	0.141	0.141
<i>Zeitschrift fur sportpsychologie</i>	1977	212	1879	2.2	0.295	0.869

Note. FP=First publication; TP=Total publications; TC=Total citations; CS=CiteScore 2022; SJR=SCImago Journal Rank 2022; SNIP=Source Normalized Impact per Paper 2022.

(SJR), and Source Normalized Impact per Paper (SNIP) were used for the analysis. The number of publications, total citations (TC), CiteScore metrics, SCImago Journal Rank (SJR), and Source Normalized Impact per Paper (SNIP) for journals with at least three articles in dance/movement therapy are shown in Table 5. The highest citation metrics in Scopus in 2022 were for the *Cochrane database of systematic reviews* with a CiteScore of 8.9, SCImago Journal Rank (SJR) of 1.476, and Source Normalized Impact per Paper (SNIP) of 1.825. In terms of citations, *Arts*

in Psychotherapy (TC=2671) is the most cited journal among the studies included in the dataset, indicating the wide impact and importance of this journal in terms of citations and references in other scientific articles.

Distribution by research area

To answer the research question (RQ1) related to research performance, an analysis was made to find out in which research areas research on dance/movement therapy is conducted (see Table 6). Information on research areas was extracted from the results lists available in the Scopus database in the data analysis section. The data analysis shows that most dance/movement therapy research has been published in medical journals, n = 495 (84.04 %), and the psychological field, n = 267 (45.33 %). The third and fourth leading fields were health, n = 139 (23.59 %), and social sciences, n = 40 (6.79 %).

Table 6

Publications in dance/movement therapy by research area.

Rank	Research area	Publications *	% of 589
1	Medicine	495	84.04 %
2	Psychology	267	45.33 %
3	Health Professions	139	23.59 %
4	Social Sciences	40	6.79 %
5	Nursing	18	3.05 %
6	Arts and Humanities	18	3.05 %
7	Neuroscience	15	2.55 %
8	Biochemistry, Genetics and Molecular Biology	9	1.53 %
9	Computer Science	5	0.85 %
10	Agricultural and Biological Sciences	4	0.68 %
11	Engineering	3	0.51 %

* The same document may correspond to several research areas.

Keywords

To answer the research question (RQ4) about the most frequent keywords in Scopus-indexed research, and whether there are current research themes, VOSviewer software was used to extract keywords from author keywords, where author keywords were selected (n = 1360). The analysis was conducted using the author keywords as

Table 7

Keywords mentioned at least 10 times (n = 24), number of publications and strength of links after keyword merging (data cleaning).

	Keyword	Number of publications	Total link strengths
1	“dance/movement therapy”	334	287
2	“embodiment”	38	59
3	“creative art therapy”	31	62
4	“dance”	25	35
5	“dance therapy”	25	26
6	“autism spectrum disorder”	24	42
7	“dance and movement psychotherapy”	24	39
8	“depression”	21	32
9	“trauma”	21	22
10	“child”	17	27
11	“randomized control trial”	16	39
12	“empathy”	15	28
13	“music therapy”	15	41
14	“body image”	14	17
15	“movement”	14	25
16	“arts therapies”	13	26
17	“drama therapy”	13	40
18	“Laban movement analysis”	13	24
19	“authentic movement”	12	10
20	“emotion”	12	22
21	“psychotherapy”	12	19
22	“mirroring”	10	21
23	“training”	10	16
24	“wellbeing”	10	29

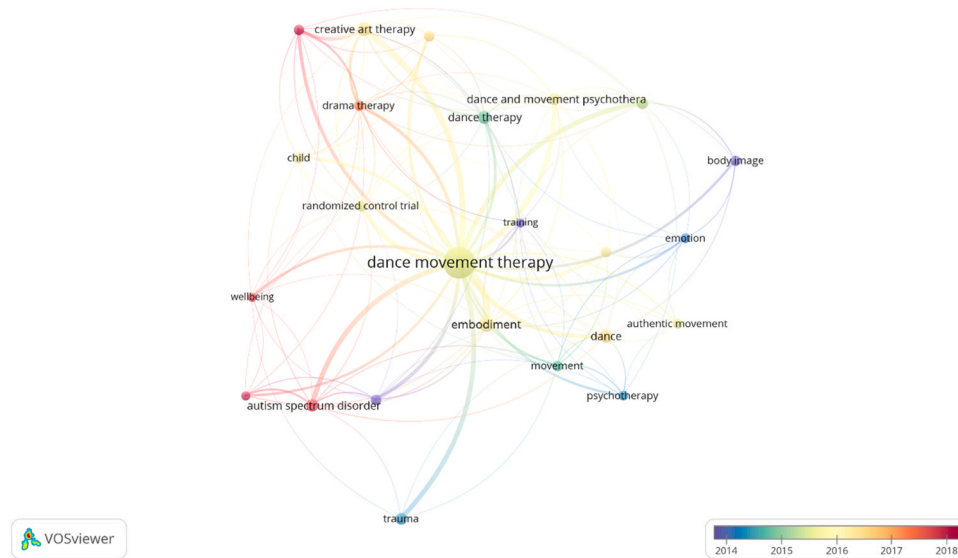


Fig. 7. Keywords (n = 24) co-occurring across time and space repeated ten times (VOSviewer Overlay Visualization).

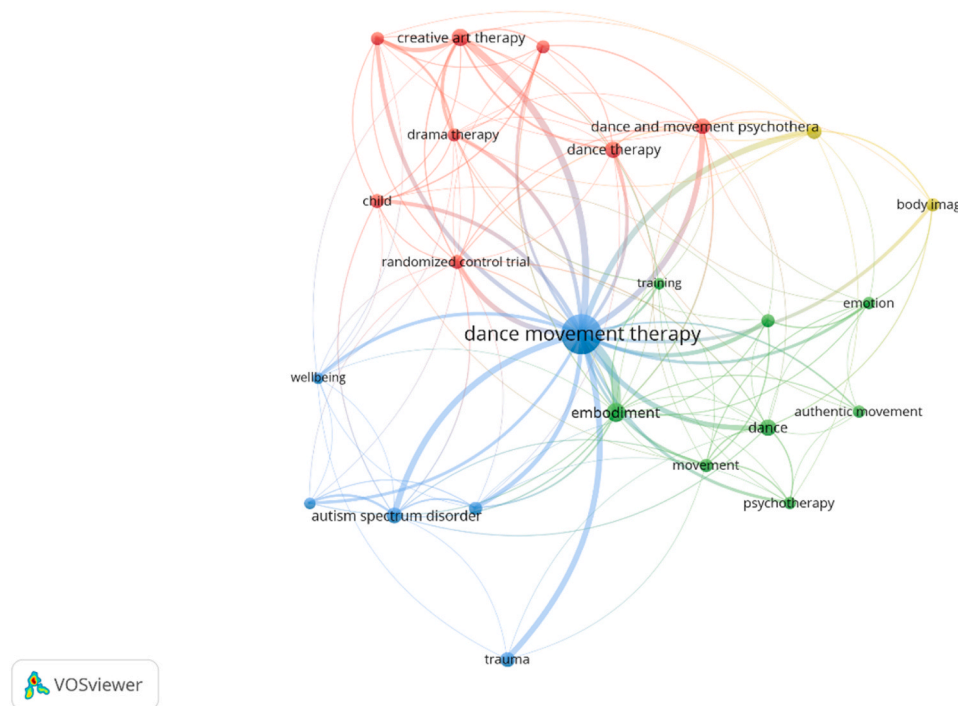


Fig. 8. Clusters of authors' keywords (n = 24) repeated ten times (VOSviewer Network Visualization).

indicated by the review in MS Excel, which indicated that 295 publications lacked the indexed keywords and that 139 publications lacked author keywords. Given that author keywords were extracted only from bibliographic data of publications and VOSviewer software does not automatically merge repeated synonymous keywords, data cleaning was performed for keyword co-occurrence analysis.

Following a data cleansing process involving the merging of keywords, the resulting dataset comprised 1265 keywords. All keywords with different punctuation, singular and plural forms, or abbreviations were merged into one keyword. Of the total number of keywords, 1061 (78 %) appeared only once in the publications. In total, 286 keywords were repeated twice, 140 were repeated three times, 84 were repeated four times, and 65 were repeated five times. The 24 keywords that were repeated ten times, were included in the visualization and dataset (see Table 7).

For each keyword, the overall strength of co-occurrence links with other keywords was calculated using VOSviewer. The cluster shows the co-occurrence time of keywords repeated at least ten times in publications (see Fig. 7). The keywords on the left represent topics studied in the past, such as psychotherapy, movement, emotion, authentic movement, etc. Newer topics are represented on the right, which includes keywords such as autism spectrum disorder, well-being, drama therapy, music therapy, etc. The size of the dots indicates how often the keyword is used; the most frequently used keywords, excluding keywords related to dance/movement therapy, are embodiment, depression, and trauma. The links between the keywords indicate their coexistence, and these keywords form the clusters discussed below. The authors' keywords repeated nine times: mindfulness, Kestenberg moving profile, dementia, attachment, and adolescent.

The minimum number of repetitions of a keyword is 10 (see Fig. 8).

Visualization)

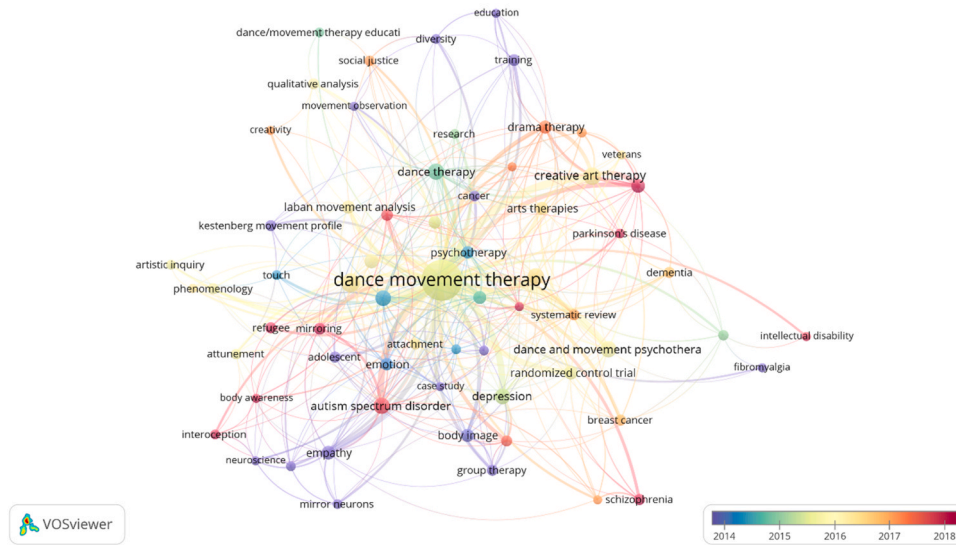


Fig. 9. Keywords (n = 65) co-occurring across time and space repeated five times (VOSviewer Overlay Visualization).

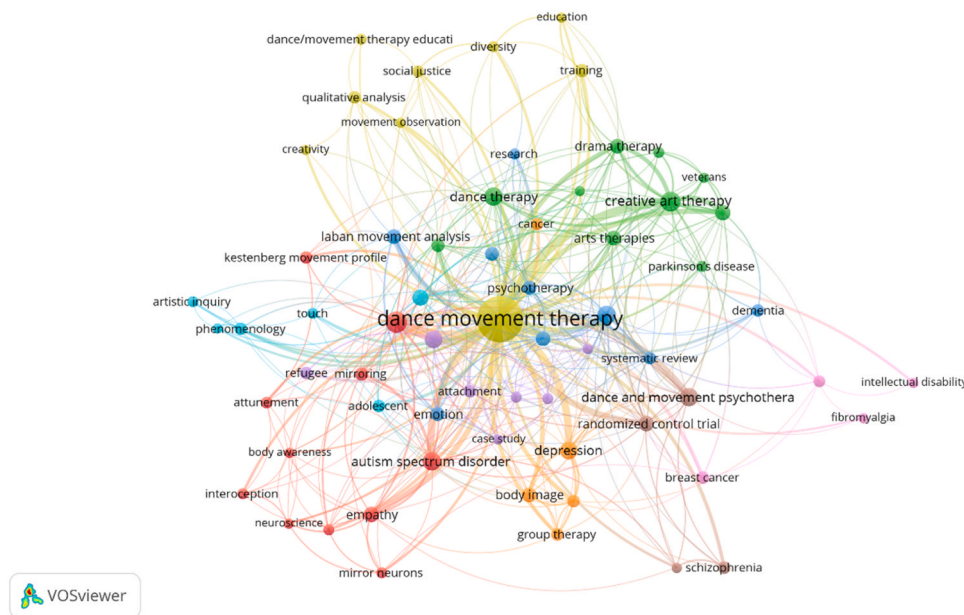


Fig. 10. Clusters of authors' keywords (n = 65) repeated five times (VOSviewer Network Visualization).

The study has been automatically clustered by VOSviewer, where the first cluster (red) (n = 8) includes keywords related to arts therapies, children, and randomized control trials. The second cluster (green) (n = 8) focuses on authentic movement, movement analysis, psychotherapy, training, emotion, and embodiment. The third cluster (blue) (n = 6) explores themes related to autism spectrum disorder, dance/movement therapy, empathy, mirroring, trauma, and welfare. The final fourth cluster (yellow) (n = 2) explored issues related to body perception and depression.

To look at the wider use of keywords, we identified to gain a more comprehensive understanding of the broader utilization of keywords, we identified those repeated at least five times in publications. Current research topics launched around 2018: interception, mirroring, music therapy, well-being, mindfulness, mental health, Parkinson's disease,

schizophrenia, body awareness, autism spectrum disorder, etc. (see Fig. 9).

Keywords that were repeated at least five times via VOSviewer software were automatically subjected to group-related terms into distinct clusters by the software (see Fig. 10). Each of the authors' keywords is linked to at least one other keyword. For example, it can be observed that the author's keywords "autism spectrum disorder- mirroring," "autism spectrum disorder - empathy," and "autism spectrum disorder – embodiment" are the most linked in network visualization with the authors' keyword "autism spectrum disorder." The distance between the two authors' keywords in the visualization indicates the relatedness of the keywords in terms of co-citation links. The closer two keywords are to each other, the stronger their affinity. Lines also represent the most vital co-citation links between keywords.

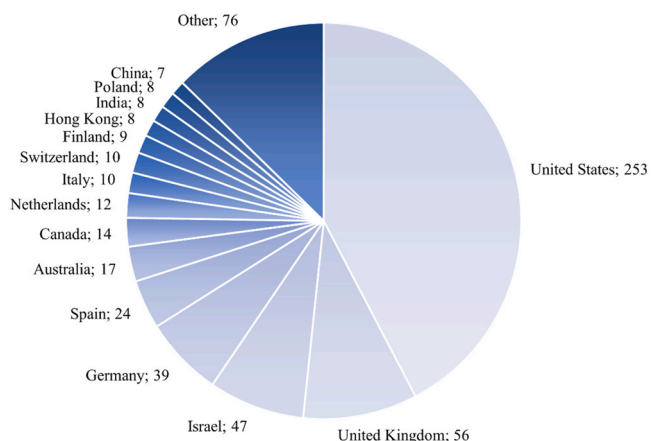


Fig. 11. Pie chart of Distribution by Countries. The chart includes countries with 3 or more publications. Countries with less than 7 publications are not included.

Distribution by languages

To address the research question (RQ1) regarding scientific performance indicators, an analysis was conducted on the languages in which studies in the field of dance/movement therapy are published. The number of languages of published studies was obtained from the search results available in the Scopus database. Ten languages were identified, with English being the most frequent language in the publication sample with 562 publications. The second language in the dataset is German, with six publications, and the third is Croatian, French, and Spanish, with four publications each, with three in Chinese and Russian. One publication is in Lithuanian, Polish, and Portuguese.

Countries

An analysis of the authors' country of affiliation was used to answer the research question (RQ1) on scientific performance indicators. These data were processed, refined, and visualized using the Biblioshiny application, and the results were displayed in MS Excel. Overall, 589 articles from 43 different countries were included in this analysis. The analysis of the results showed that 88.62 % of the publications were produced in 15 countries. The United States had 253 (42.95 %) articles, followed by the United Kingdom with 56 (9.51 %) articles and Israel with 47 (7.98 %) articles. During the data cleaning process, it was noticed that the University of Utah was included in the list of countries, but its scores were manually assigned to the United States. The next most productive countries in terms of the number of publications are Germany, Spain, Australia, and Canada. The Netherlands, Italy, and Switzerland also have at least ten publications (see Fig. 11). Other countries with fewer than 10 publications: Finland (n = 9), Hong Kong (n = 8), India (n = 8), Poland (n = 8), China (n = 7), France, South Korea, Sweden, Japan - six publications. In Lithuania, Norway, and

Table 8
Number of publications and citations in countries with 10 or more publications.

Rank	Country	Documents	Citations
1	United States	252	3208
2	United Kingdom	56	1519
3	Germany	39	1336
4	Israel	47	331
5	Spain	24	268
6	Australia	17	239
7	Canada	14	223
8	Netherlands	12	214
9	Switzerland	10	136
10	Italy	10	68

Taiwan, the results show that four publications per country were identified. Croatia, Czech Republic, Hungary, Greece, Latvia, Russia, South Africa, and Turkey have three publications. Two publications each were identified in Argentina, Hungary, Malaysia, Nigeria, Portugal, Romania, and Andorra. Brazil, Bulgaria, Denmark, Egypt, Indonesia, Slovenia, and Thailand have one publication each.

The VOSviewer software was used to obtain data on the number of publications and citations in countries where the authors have published ten or more articles on dance/movement therapy (see Table 8). The summary of the results shows that the United States was the leading country not only in terms of number of publications but also in terms of citation rates.

To obtain results on country collaboration and to answer the third research question (RQ3), which countries collaborated most frequently in publications on dance/movement therapy indexed in Scopus, Biblioshiny software was used to create a map of countries where researchers collaborated. The results indicate that the most productive international collaborations were between Germany and the United States (n = 10) and between the United States and Australian authors (n = 5). German authors had four collaborations with Australia, as did the US and Australia. There were three collaborations between German and Swiss authors, between UK and Italian authors, and between UK, Dutch, and Spanish authors.

Discussion

This study was the first bibliometric analysis of the scientific articles in dance/movement therapy published in the Scopus database between 1974 and 2022. The analysis included several bibliometric techniques as well as different components to be analyzed, including authors, institutions, publications, journals, keywords, and countries.

The study reveals a high number of authors who have published only one article. A probable reason could be that the articles are produced as final works of education and the authors do not continue their scientific activity after starting their professional activity. Although there is a growing body of research evidence in this field (Zubala & Karkou, 2018), dance/movement therapy is still largely underfunded and thus under researched (Karkou et al., 2019). In general, the most productive authors in dance/movement therapy are associated with universities. This could demonstrate the importance of scientific infrastructure in this field of research. The USA, the UK, and Germany are the most influential countries in dance/ movement therapy research, actively contributing to the growth and spread of this therapy on a global scale. Furthermore, dance/movement therapy has contributors from other art therapy disciplines, such as music therapy, art management, psychiatry, and psychodrama, demonstrating the close links between these fields and the interdisciplinary nature of dance and movement therapy. There is also a case where dance/movement therapy, music therapy, and drama therapy are represented in joint research. In general, there is a collaboration between researchers, as shown by the average number of authors per article. It would benefit researchers to have more opportunities to interact with one another, share information, gain inspiration, and receive support. For example, the European Association for Dance Movement Therapy (EADMT) offers a research group. The objective of the EADMT research group is to advance and contribute to the growth of knowledge in dance/movement therapy. The EADMT Research Group strives to stimulate research in and for dance/movement therapy. It would be beneficial for support groups to make research available to students in addition to the standard program.

There is a need to capture current themes to improve scholarly communication and help information-seeking in the future. As expressed by The Jameel Arts & Health Lab in collaboration with the World Health Organization - Lancet Global Series, the arts could have a more significant positive impact by building on the growing evidence base, promoting engagement with the arts at individual, local and national levels and fostering intersectoral collaboration (Sajjani & Fietje,

2023).

The results show that dance/movement therapy has developed scientific collaborations through publications in different subject areas, however, most remain within the historical development of the original subject area. This may still reflect the basic language of dance/movement therapy research and the commonality of scientific terms integrated into medicine and psychology.

As in other disciplines and related professions, dance and movement therapy has seen similar trends in literature growth. Research into dance/movement therapy was influenced by research into non-verbal communication in the 1960s and 1970s. During this time, the importance of body movements in psychotherapy was highlighted, which brought renewed attention to earlier research in this area and inspired new research (Levy, 2005). There are several reasons for this growth dynamic. However, the phenomena analyzed cannot always be linked to the formation of significant associations or the emergence of new scientific journals. Qualitative research is needed to identify more precisely which factors contribute to the publication of scientific articles. This added interest in the non-verbal domain could be one of the factors contributing to the increase in publications.

The data show that the most prolific journals, which have published the highest proportion of research in dance/movement therapy, are affiliated with associations, are niche journals, or compile publications from all areas of arts therapy. The journals reflected in the data analysis, *American Journal of Dance Therapy*, *Arts in psychotherapy and Body, Movement and Dance in Psychotherapy*, are those indexed in the classification of medical and psychological disciplines. While the research papers are relevant to the fields of medicine and psychology, they are mostly published in very narrowly specific journals. This could indicate that the fields of medicine and psychology are not as inclusive as they could be and do not publish dance/movement therapy research.

A keyword analysis was conducted to identify key themes that have increased over time. The keyword analysis indicates that the themes covered are not systemic, as most keywords appear only once. This lack of consensus may also be due to the individual development of dance/movement therapists based on different psychological theories and everyday working conditions. Furthermore, this lack of consensus can be attributed to the absence of a unified position on common research topics and the lack of a shared agenda worldwide. It would be useful to use the keywords of the authors of the publications, more specifically and in each study, in relation to patient groups, diagnoses, and methods, to facilitate further research on contemporary topics.

In the analysis of the most frequently used keywords over time, it is noticeable that the most recent keywords (*interception, mirroring, music therapy, wellbeing, mindfulness, mental health*, etc.) are related to world trends in a review published by the World Health Organization exploring the link between arts and wellbeing (Sajjani & Fietje, 2023). More current topics include the core concepts of dance/movement therapy, which form the basis of dance/movement therapy. There are health conditions that have been researched in recent years (*Autism spectrum disorder, depression, Parkinson's disease, schizophrenia*) that have been addressed in the World Health Organization's [Comprehensive Mental Health Action Plan 2013–2030 \(WHO, 2021\)](#). The link between these concepts reveals the importance of dance/movement therapy as a therapeutic intervention potential for improving the lives of certain groups, including veterans and people with Parkinson's disease, their well-being, and self-determination. In the context of world events, there are also trends in keywords to engage and address attachment and trauma in the field of refugee mental health.

The more productive countries are the countries that initially developed dance/movement therapy or have educational institutions with programs that train dance/movement therapists and remain influential today.

Strengths and limitations

The strengths of the first bibliometric analysis in dance/movement therapy are the size of the data sample, which provides a general overview of the current state of scientific performance in dance/movement therapy, the citation analysis, and the science mapping indicators in the Scopus database.

At the same time, the study has several limitations. Firstly, since this study covers only Scopus studies, the analysis results can only be applied to Scopus studies. However, the study includes a rigorous methodology using a database that is recognized as reliable among researchers worldwide for extracting bibliographic data and performing bibliometric analysis.

Second, the analysis was performed using Biblioshiny software and the Scopus database as a data analysis tool, with limited data cleaning. For this reason, the results should be interpreted with caution, but they do provide insight into general trends.

One of the exclusion criteria for articles in the context of the bibliometric dataset guidelines was the exclusion of books and parts of books, so the impact of scholars writing books as measured by these methods cannot be attributed to the overall picture of the development of the research in dance/movement therapy.

The third limitation and a potential avenue for future data selection could be to incorporate the keyword "dance/movement therapy*" into the search expression, utilizing the wildcard symbol. This approach would facilitate the inclusion of all terms related to the field of dance and movement therapy, thereby enabling a more comprehensive and precise data selection.

Collaboration between authors was analyzed using full counting, giving equal weight to each co-author. Performance may vary significantly if publications are broken down by contribution fraction rather than weighted by total number of citations. Such an approach could provide a more accurate assessment of the contribution of individual researchers in the bibliometric analysis (Aksnes & Aagaard, 2021; Pöder, 2021).

Conclusions and recommendations for further research

The results of the first bibliometric analysis in dance/movement therapy reflect a significant increase in the number of publications in recent years, reflecting a growing interest in this field of research. The analysis points to different research trends taking place in the field. There is a tendency to focus on medical, psychological, and healthcare aspects.

The findings point to the dynamism and growth of the dance/movement therapy field, as well as opportunities for further research and collaboration between researchers in the field.

Dance/movement therapy is a specialization that has seen a significant increase in the amount of research in the Scopus database over the last eighteen years. As no bibliometric analysis based on dance/movement therapy bibliographic data has been conducted so far, this could be a first step towards a more objective and comprehensive approach to investigating publication trends. The next step could be to conduct additional research to explore each of the outcome sections in more depth. It might be worth considering that most of the keywords in the studies are repeated once. This could be considered by qualitatively examining the authors' choice of keywords and systematizing the research themes to discover the thematic research gaps. For example, quantitative and qualitative analysis can be used to analyze the induced keyword network formally. It uses keyword popularity and analyzes links and other qualitative relationships between keywords. Future research may consider the potential use of altimetric in dance/movement therapy.

Additionally, the dance/movement therapy field may need to adopt a more expansive data sharing model, encompassing semantic publishing and citable items. In this context, it is worth considering the

widespread practice of self-publishing through various digital platforms that promote transparency and collaboration within the research community (Priem et al., 2012). These future actions could strengthen the development of research in dance/movement therapy and contribute to its future growth.

This research will serve as an educational resource for students, researchers, and dance/movement therapy practitioners. It will offer an overview of existing research and suggest potential avenues for future research.

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CRediT authorship contribution statement

Kristine Zašćirinska: Data curation, Formal analysis, Investigation, Methodology, Resources, Visualization, Writing – original draft. **Sanita Šuriņa:** Conceptualization, Methodology, Resources, Writing – review & editing. **Kristine Mārtinsonē:** Conceptualization, Methodology, Resources, Supervision, Writing – review & editing.

Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the author(s) used a neural machine translation service DeepL to improve readability and language. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

Data availability

Data will be made available on request.

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