

# Trends, Effects, and Cooperation Interactions in Educational Contexts: Investigating the Interdisciplinary Landscape of Spirituality Research

Noor - Anidaisma, Salleh Amat, Mohd Mahzan Awang, Mazita Ahmad

Universiti Kebangsaan Malaysia, Malaysia

Received: October 30, 2023   Accepted: December 1, 2023   Published: December 5, 2023

doi:10.5296/bms.v14i2.21423   URL: <https://doi.org/10.5296/bms.v14i2.21423>

## **Abstract:**

This study summarises the profound insights from the bibliometric analysis of educational spirituality research. The study examines spiritual research from 2005 to 2023 to understand its complex dynamics and patterns. This research quantifies and reveals trends to illuminate the multifaceted growth of spirituality across disciplines and the collaborative efforts, influential authors, and publishing entities that have advanced it. This study uses bibliometric analysis to provide a nuanced view of the field's current state, its relationships with related concepts, and future directions. The study highlights the rise in spirituality research, especially in education, during COVID-19. This trajectory shows the field's evolution and relevance to modern challenges. Citations show the research's scholarly impact in distinct patterns of acknowledgment. Visualizing complex co-authorship networks with VOSviewer software reveals collaborative dynamics and diverse research directions. Spirituality research is interdisciplinary, as evidenced by its publication in various journals and publishers. This research engages 116 nations, demonstrating its global and interconnected nature. Citation analysis shows scholarly recognition across the study's findings. The collaborative nature of academic research is reflected in Web of Science data's panoramic view of research institutions' contributions. Additionally, citation analysis reveals seminal references that have shaped spirituality research discourse. The Web of Science framework's subject categories show spirituality research's adaptability and interdisciplinary nature. The study concludes with a deep understanding of the research landscape, defined by an intricate interplay of clusters that vividly depict spirituality research's reach across diverse human dimensions. These clusters demonstrate spirituality's impact on personal development, environmental awareness, emotional well-being, healthcare, and more, weaving a tapestry of spirituality research's importance across fields.

**Keywords:** bibliometric analysis, spiritual approach, interdisciplinary research

## 1. Introduction

The "spiritual approach" notion has gathered growing acknowledgment and significance within diverse academic disciplines, encompassing psychology, healthcare, education, and management (Amerongen-Meeuse et al., 2023; Bhattacharya & Gaur, 2023). This approach places significant emphasis on incorporating spirituality and holistic well-being into diverse facets of human existence, presenting an alternative viewpoint to conventional methodologies (Eren et al., 2023). The increasing interest in the spiritual approach has prompted the use of bibliometric analysis to gain valuable insights into the progression, influence, and interdisciplinary characteristics of research in this domain (Vedula & Agrawal, 2023).

The incorporation of spirituality into the field of education has garnered significant interest from educators, researchers, and policymakers due to the recognition of its potential to augment students' comprehensive growth and overall welfare (Eisl et al., 2023; Stumpf & de Menezes, 2022). Schools strive to cultivate a well-rounded and holistic education by placing equal emphasis on the spiritual dimension in conjunction with academic pursuits (Heredia et al., 2020). Implementing a bibliometric analysis within this field of study can shed light on the prevailing patterns, influences, and consequences of scholarly investigations on the spiritual approach within educational institutions.

Recognizing the significance of attending to student's holistic needs, which encompasses their spiritual well-being, is becoming more prevalent in educational institutions (Mirhosseini et al., 2023). A bibliometric analysis offers valuable insights into exploring and integrating the spiritual approach within academic research to promote emotional, ethical, and social development among students. The spiritual practice surpasses the confines of specific disciplines, rendering it a multifaceted and dynamic field of study (Vedula & Agrawal, 2023). Bibliometric analysis has the potential to elucidate the temporal evolution of this concept, thereby highlighting significant changes and trends in research emphasis, methodologies employed, and practical applications (Wang et al., 2014). The spiritual perspective frequently converges with multiple academic disciplines, such as general or positive psychology (Saleem, Isha, Awan, et al., 2022; Saleem, Isha, Yusop, et al., 2022; Saleem, Isha, Benson, et al., 2022; Scioli, 2023), medicine (Antunes & Reis-Pina, 2022), education (Eisl et al., 2023), sociology (Hayward & Pearce, 2021), and philosophy (Garrett, 2021). Bibliometric analysis can delineate the interdisciplinary linkages and collaborative endeavors among researchers, thereby shedding light on how scholars from various fields contribute to the comprehension and advancement of the spiritual paradigm.

In doing so, academics can gain a comprehensive, systemic understanding of a topic by employing various methods for sifting through the plethora of published research. Due to the vast amount of literature on any given topic or field, researchers often find it challenging to acquire a thorough and organized understanding of the necessary materials and context. (Rodrigues et al., 2014; Zhou et al., 2015). This massive, difficult, and time-consuming

information-processing task can be aided by quantitative data on the publication's historical overview, prominent elements/characteristics, contributing authors, and findings in various sectors (Jia et al., 2014; J. Li & Hale, 2016). The bibliometric analysis aids scholars in monitoring emerging and established research paradigms across various global publication bodies, organizations, and regions. According to Li and Zhao (2015), this enables individuals to understand the interrelationships between ideas, communities, and individuals.

The Bibliometric Key Researchers method identifies the field's most cited authors and publications. This research provides a complete overview of the many publications that publish scholarly content on a particular topic, benefiting scholars in many professions. This dataset may also reveal similarities and overlaps between research fields. Researchers in many domains benefit from this analysis. Bibliometric analysis can reveal field-specific advances and essential inquiries. The bibliometric technique might also highlight understudied knowledge and research fields. According to Wang et al. (2014), the utilization of the bibliometric approach can also aid in the determination of project funding allocation. Based on citation patterns and authorship networks, bibliometric analysis can uncover influential personalities, prolific writers, and pivotal publications affecting the spirituality debate. The data may help researchers, practitioners, and educators acknowledge important works and substantial contributions to respective professions. Citation counts, h-indices, and journal impact factors help quantify spiritual approach research's impact. These indicators let stakeholders assess this field's research breadth and depth (Dabi et al., 2016). That is why they help gain perspective on research funding, publication methods, and potential partnerships. Also, bibliometrics is quantitative and does not regulate or monitor study content quality. Second, while the Web of Science is one of the most significant global data sources, it does not encompass all international literature, limiting our research. We did not include data from Scopus, PubMed, etc., because the Web of Science data covered every entry. Multiple data sources and missing data increase the risk of analysis errors. Also, Web of Science data was limited to 2005–2023. Similar work may have been neglected before this research.

Using bibliometrics to study spirituality in education helps explain its multidisciplinary roots. It helps identify significant scientists and publications and assess the spiritual research approach's impact on various fields. This study explains research patterns and dynamics to increase understanding of the spiritual approach and its relevance in many circumstances. Summarising the existing level of knowledge from 2005 to 2023 can help us quantify research growth in this topic. We may thus better comprehend the trends in the vast research and the future of the spiritual approach to diverse study. Such an analysis would also reveal the spiritual approach's expansion into other academic and non-academic fields. Over the past two decades, spiritual approach research has had substantial publishing bodies, authors, institutions, and geographical partnerships.

Our research intends to present a mesoscopic picture of spiritual approach research by doing a bibliometric analysis to assess its current standing, association with other related research

constructs, and potential future possibilities. We expect that this will allow us to answer the questions posed above. The following is a list of some of the pertinent questions that our research will attempt to answer:

- What is the academic advancement of spiritual approach research in education?
- What current research variables/fields relate to spiritual approach research?
- What is the current global cooperation pattern for spiritual research?
- Identify notable writers, organizations, and institutions in spiritual study.
- What influential works have affected spiritual approach research currently?

## 2. Data and Research Methods

Data was acquired in July 2023 using Web of Science. Bibliometric analysis is most commonly done using the Web of Science, the best database for evaluating academic publications in many categories (Yang et al., 2013). The Web of Science database was searched for "Spiritual Approach" and "School" to extract the data. A thorough title, abstract, and keyword search was also undertaken to find related papers. Web of Science users can refine search results by entering keywords and phrases in quotation marks. Liu et al. (2013) provide a higher reliability and believability search process. Figure 1 shows the search technique, which included 2005–2023 because Web of Science could only create complete data and cited references then. After searching the Web of Science, the database was obtained. This database included the research article's title, abstract, DOI, referenced references, and other important information.

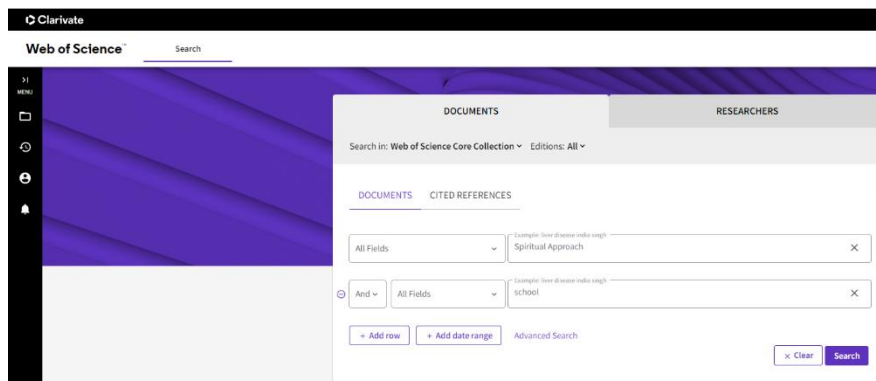


Figure 1. Data search method in Web of Science, Source: (Web of Science)

The database of the Web of Science undergoes regular updates irrespective of the publication status of new articles. It is conceivable that the results could have varied had the identical study been conducted later. This phenomenon is attributed to the ongoing updates made to the database, leading to variations in the displayed outcomes as time progresses. Alternative results could have been obtained if the investigation had been carried out at a subsequent time (Liu et al., 2013).

One thousand nine hundred thirty-nine scholarly articles in the Web of Science database discussed implementing "spiritual approaches" in an "educational school context." Research articles comprised the most significant proportion of the publications (1629), with review papers accounting for 177, an editorial issue comprising 35, and proceeding documents comprising 98. Authors can access many publication-related details through the Web of Science platform. These details comprise the publication year, pertinent references, information regarding the author and co-authors, the complete title, abstracts, the Journal in which the publication was published, and the research category or domain in which it is situated. A comprehensive set of 5,150 articles was obtained from the Web of Science database and subsequently analyzed utilizing Visual Object Viewer (VOS) and Microsoft Excel. The study aimed to investigate seven key areas: (1) publication trends and growth; (2) the most prestigious journals in the field; (3) the author network and its publications; (4) the distribution of publications in terms of geography and organization; (5) an examination of article citations; (6) an analysis of citing and co-citation patterns; and (7) an investigation into the network of publications. The relationship among authors, countries, citations, and co-citations was visually examined using VOSviewer (<https://www.vosviewer.com>) (van Eck & Waltman, 2010). The analysis of mapping was conducted utilizing the VOSviewer application.

During this analysis, each topic was examined from a two-dimensional map to determine the degree to which the objects within each subject are related or comparable to one another to the most significant degree feasible. In addition, cluster analysis was carried out with the help of this program, which assigned each category of research subject a unique hue (van Eck & Waltman, 2010). In the section on the outcomes, in-depth descriptions of the various graphical representations are provided. The following information is necessary to get a proper appreciation for the visualizations: There is no significance to the movement along either the x-axis or the y-axis of the visual content; instead, (1) the size of the circle and the size of the font reflect the total number of occurrences, (2) the color of the circle depicts a different research cluster, and (3) the distance in between the circles represents the coherence and relatedness between them (Saleem et al., 2023; Saleem et al., 2021).

### **3. Results and Discussion**

#### *3.1 Publication and Output Growth Trend*

The number of publications subjected to peer review throughout time might provide one of the most efficient ways of gaining insight into the development of scientific research and the associated field. The rising number of articles published on spirituality research is depicted rather clearly in Figure 2. According to the database maintained by Web of Science, there were just nineteen publications in 2005. Before 2017, the number of publications on spiritual approach in an educational context was deficient (less than 500), but after that year, it began to increase steadily, as seen in Figure 2. Since 2016, an upward trend in the total number of publications has been observable. With 2019 and continuing through 2021, there has been an exponential increase in the number of publications, reaching a total of 1939 in only these

three short years, and significant growth is anticipated for the future.

The preliminary lack of forward momentum in the publication of this research domain raises certain doubts. One of the possible explanations for the low number of publications could be a more inadequate understanding of this variable and its novel nature. To our surprise, the volume of material published on spiritual approach in an educational context increased exponentially, particularly during the coronavirus (COVID-19) era beginning in 2020 and continuing through 2022. Because COVID-19 is so prevalent in people's lives, there may be a correlation between the virus and various mental and physical health issues, which could be one of the reasons for the dramatic rise in cases. Spirituality is known for its positive outcomes in the past (Shoshi Keisari et al., 2022). Therefore, the scholarly work increase makes sense to combat the effect of COVID-related distress in society.

Price's law enables one to comprehend scientific publications' development, maturation, and eventual decline, all essential aspects of the research process (Price & Tukey, 1963). According to this law, the evolution of the research domain can be divided into four stages: (1) a pioneering phase, in which a group of the researcher(s) or individuals initiates to publish on a new field; (2) an exponential growth phase, in which the concentration of researchers to work upon such ideas grows to a higher number to explore more aspects of the subject; and (3) a consolidation phase, in which the research domain consolidates its finite set of core concepts. There is consolidation, which is reviewing earlier taught content and seeing how it is put to use. (4) a decline in interest among researchers because all fields have been explored to their limits (Dabi et al., 2016). From the analysis, the use of spirituality in the educational context is a relatively new concept (Song, 2022).

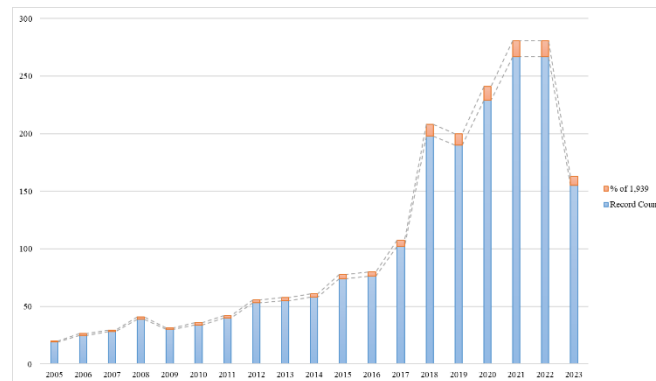


Figure 2. Articles published on the spirituality approach since 2005, Source: (Author's creation)

The data in this section shows that the research community's interest in spirituality in education has increased significantly during the past seven years. Global pandemics and diseases, socioeconomic challenges, increased funding and research grants for psychology-related research, and other factors that cause distress at global, regional, and national levels may explain this upward trend. The findings may be only numerical data from public sources, but they are valuable when analyzed and contextualized within our worldview. The global interest of researchers in this topic will help humanity.

### 3.2 Citation Analysis

In any area of science, the impact of scholarly work, whether qualitative or quantitative, can be quantified or gauged through the work's acknowledgment of other authors and its citation. The Web of Science core database incorporated one thousand nine hundred thirty-nine publications into this investigation. These articles were contributed to by 7,286 writers (multiple authors working on a single article). Each manuscript's total number of citations was divided into several subcategories for the citation analysis. For example, the first category consisted of articles that received either zero or less than one citation, the second category was for articles that received between one to one hundred citations, and so on. It was done to determine the percentage of cited documents out of the 1939 records.

It was discovered that the most significant number of research articles, equal to 72% (n=1400/1939), have been cited between one and one hundred times. On the other hand, 26% of the articles (n=503/1939) received zero or no citations. Similarly, 1.5% (n=29/1939) authors were cited between 100 and 200 times, whereas 0.21% (n=4/1939) authors were cited between 200 and 400 times. It was unexpected to find out that just 0.15% (n=3/1939) of the publications had received citations of 500 or more, which was interesting to learn and is shown in Figure 3. This analysis reveals an apparent saturation of citations associated with a small group of authors and individual researchers whose work was more productive or influential in this research field, which is in harmony with other research fields (Liu et al., 2012).

Table 1 lists the most influential authors. The ranking is based on the author's WOS-extracted publication count, not authorship order. Based on the last column, overall link strength, these two writers have high scores, indicating their works are pivotal and cited by many academics in various fields. Such findings demonstrate the effect and fruitfulness of critical research efforts that any author can have with fresh and inventive ideas.

Table 1. Prominent Author's Work on Spirituality Research

No.	Authors	Documents As per WOS	Citation	Network Strength
1	Balboni, Tracy A.	7	445	45
2	Koenig, Harold G.	15	409	22
3	Balboni, Michael J.	5	407	35
4	Vanderweele, Tyler J.	5	404	36
5	Fitchett, George	8	384	27
6	Park, Crystal L.	5	234	11
7	Peteet, John R.	5	228	14
8	Lucchetti, Giancarlo	11	201	2

9	Rassouli, Maryam	8	139	0
10	Taylor, Elizabeth Johnston	6	114	4
11	Kreitzer, Mary Jo	16	106	5
12	Cadge, Wendy	5	89	14
13	Anandarajah, Gowri	5	85	15
14	Caldeira, Silvia	5	73	5
15	Harding, Richard	5	65	3
16	Ozdemir, Semra	6	54	6
17	Teo, Irene	6	54	6
18	Finkelstein, Eric	5	54	3
19	Malhotra, Chetna	5	52	6
20	Sierpina, Victor S.	7	51	5
21	Palmer, Patricia K.	5	49	4
22	Egan, Richard	6	42	1
23	Hodge, David R.	5	41	0
24	Ebadi, Abbas	7	36	0
25	Sierpina, Victor	8	35	4
26	Evans, Roni	7	31	2
27	Cheraghi, Mohammad Ali	5	27	5
28	Bahramnezhad, Fatemeh	9	9	4

Source: (Author's creation)

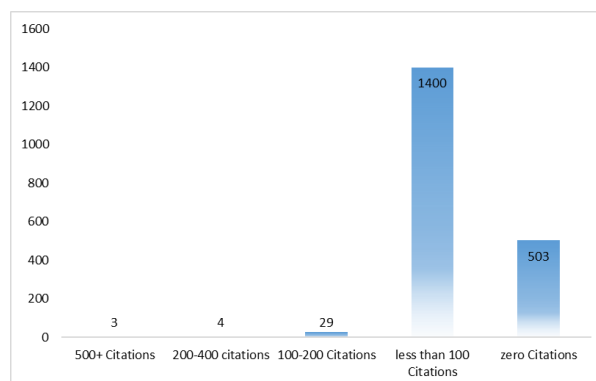


Figure 3. Distribution of citations per document, Source: (Author's creation)



### 3.3 The Cooperation Pattern

The VOSviewer software was employed to investigate the co-authorship patterns among authors who have contributed to the scholarly literature on the spiritual approach within the context of schools. Each of the authors involved in the network research has previously contributed to a minimum of five distinct studies within the same research domain. The findings about the collaborative network are depicted in Figure 4. A positive correlation exists between the diameter of a circle and the quantity of published work attributed to a solitary author. Conversely, a negative correlation is observed between the thickness of a circle and the level of collaboration among authors.

The proximity of circles suggests the authors' comparable work. Clusters of Cooperation with different hues suggest researchers working on similar topics. Figure 4 shows four-color clusters. Influential authors like Balboni, Tracy A., Koenig, Harold G., Balboni, Michael J., Vanderweele, Tyler J., Fitchett, George, Park, Crystal L., Peteet, John R., Lucchetti, Giancarlo may have affiliations with other nodes in their networks. Multiple clusters, each colored differently, show collaborative efforts and unique studies on this topic. Monitoring prominent scholars' advances may also be intellectually engaging for prospective scholars. Figure 05 shows the association between yellow color density and the author's effect on literature.

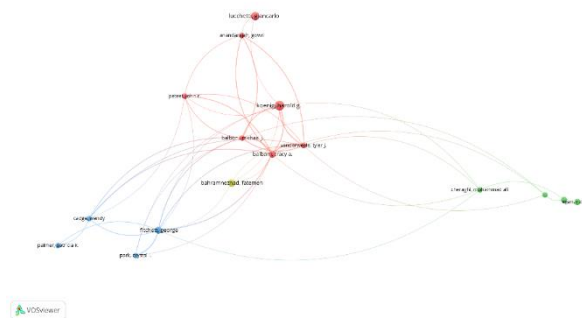


Figure 4. Authors' Cooperation/co-authorship network, Source: (Author's creation)

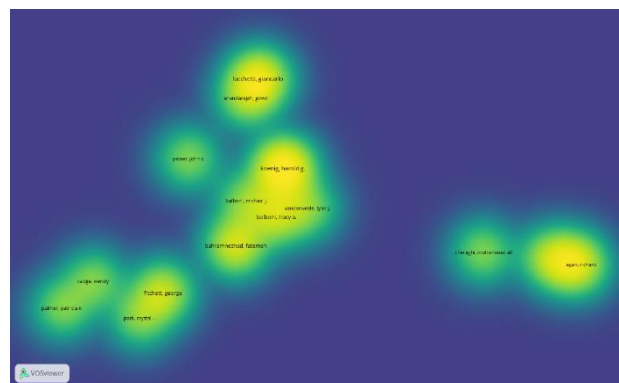


Figure 5. Authors' Cooperation (density visualization), Source: (Author's creation)

### 3.4 Prominent Journals and Publishers

The study found that 276 publishers helped distribute 1939 papers to over 1000 journals. The presence of different publishing organizations suggests that this topic has been studied in many fields and capacities. Figure 6 shows the top 10 academic journals for spirituality research. Many management and scientific magazines publish spirituality research articles. Figure 7 shows major spirituality-related publishers. Such an analysis helps future scholars quickly understand and investigate respected things in this research subject. Future researchers can better identify their research literature discoveries and track progress.



Figure 6. Top Journals Publishing Spirituality Approach, Source: (Author's creation)

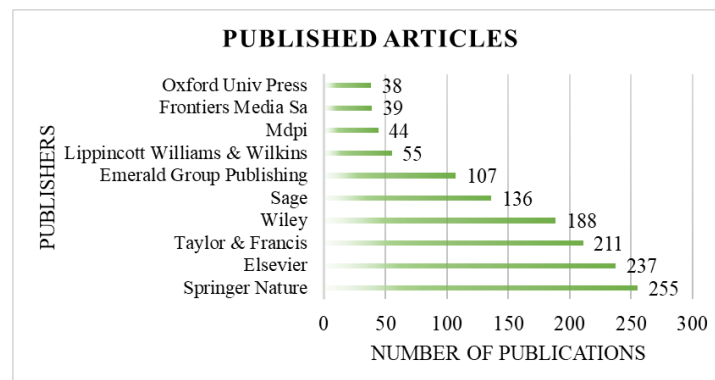


Figure 7. Publishers Publishing on Spirituality Approach, Source: (Author's creation)

### 3.5 Geographical Distribution of Research on Spirituality Approach

#### 3.5.1 Countries and Territories Publishing on the Spirituality Approach

A comprehensive investigation was conducted on the spirituality approach across 116 nations. Numerous countries across various regions, such as Europe, America, Canada, the Middle East, Asia, Oceania, and the Far East, have contributed to the body of research in this particular field. The primary contributors to this research are the United States of America, the United Kingdom, Australia, Canada, and the People's Republic of China. Additional nations that have made significant research contributions, with a substantial number of 100 or more research documents, include Iran, Russia, India, Brazil, Malaysia, and Indonesia. Figure 8 visually represents individual nations' worldwide participation in spirituality research to facilitate understanding. The magnitude of the circle denotes the

number of publications originating from a particular country.



Figure 8. Global contribution of research on the Spirituality Approach (irrespective of authorship ranking), Source: (Author's creation)

The data mentioned above strongly indicates a positive correlation between higher levels of economic development and greater scientific and academic research output in countries. According to our analysis, American, Canadian, and several European G-7 nations contribute to research. Publications from industrialized nations demonstrate the link between sophisticated scientific and academic endeavors and scholarly outputs, placing these nations at the forefront of research. Interestingly, Africa has the fewest articles. Figure 8 shows the cumulative contributions from each continent, showing a slight difference. That emphasizes the importance of expanding research to more countries and continents while acknowledging that geographical locations may limit the generalizability and dependability of study findings.

Internationally known as co-authorship, multi-author collaboration improves the applicability and generalizability of research in a particular field. The cooperation network was analyzed using VOSviewer for spirituality study. The nation with five newspapers would receive the most collaboration. By utilizing VOSviewer, you can remove pieces of the collaborative network that have no connections to other nations, focusing on the most active areas of cooperation. Figure 9 shows the study's results. The circle size denotes the amount of published works, whereas the link thickness shows network collaboration.

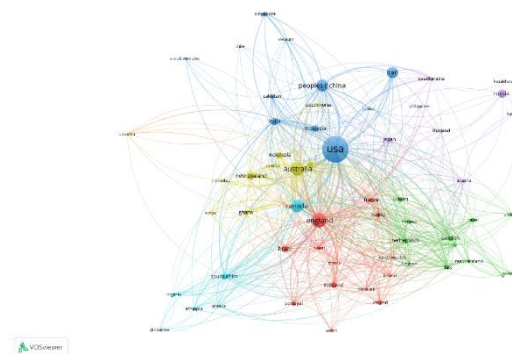


Figure 9. Global Cooperation Network on the Spirituality Approach, Source: (Author's creation)

The above data discloses nine principal clusters: the United States of America, the United Kingdom (specifically England), Canada, Australia, the People's Republic of China, Russia, and Europe. A research cluster characterized by a shared or homogeneous nature is visually depicted using a consistent color scheme across the figure. Countries engaged in collaborative research exhibit a higher degree of geographical proximity and tend to occupy positions closely aligned with the most productive countries regarding publication output. This observation aligns with the conclusions drawn in other research areas (Vedula & Agrawal, 2023). The above figure offers an optimistic outlook for future researchers, highlighting the potential for enhanced global collaborations in investigating various possibilities. That aims to ensure forthcoming researchers can ascertain the research's significance and practicality. This analysis will significantly assist future researchers in identifying the nations currently occupying leading positions.

The cooperative analysis in Figure 10 includes an overlay visualization depicting the nations engaged in recent research activities. Countries that are displayed with yellow coloring in scholarly works of the present era are acknowledged, while nations colored blue are associated with a more significant number of seminal or historical works in comparison to those marked with yellow coloring. This analysis additionally illustrates a transition in the geographical emphasis of scholarly investigations, moving away from Western nations towards Asian and Far Eastern countries.

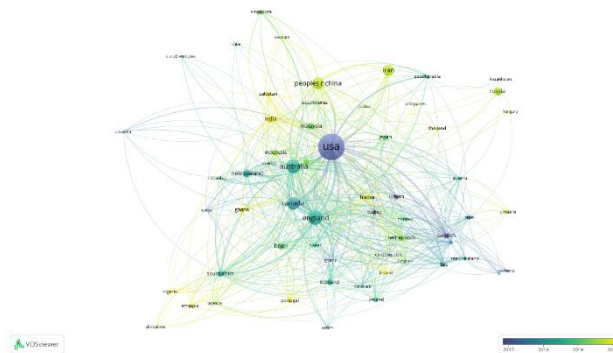


Figure 10. Timeline of Global Cooperation Network on the Spirituality Approach, Source: (Author's creation)

### 3.6 Organizations Publishing on Spirituality Approach

The data analysis from the Web of Science reveals that more than 1000 distinct research institutions generated 1939 publications. However, it is essential to note that in academic journals, it is not uncommon for an author to have affiliations with multiple universities or for a manuscript to result from collaborative efforts among several authors. Most institutes (86.2%) contributed to a range of 1-5 publications. A smaller proportion (7.7%) published between 6-10 works, while 4.7% published between 10-20. A further 1.1% of institutes published 20-30 works, and a mere 0.30% published 30 or more research articles. Table 02 presents a concise overview of the academic institutions that have conducted research and published scholarly works about the spiritual approach. While it is not feasible to provide an

exhaustive list of all the research groups involved in this particular domain, the key findings of this study have been conveniently summarised in Figure 11.

Table 2. Top Universities Publishing on Spiritual Approach

No.	Organization Name	Country	Number of Publications
1	Univ Tehran Med Sci	Iran	39
2	Univ Minnesota	USA	35
3	Duke Univ	USA	34
4	Kings Coll London	UK	30
5	Shahid Beheshti Univ Med Sci	Iran	30
6	Harvard Med Sch	USA	30
7	Univ Washington	USA	27
8	Univ British Columbia	Canada	24
9	Univ Queensland	Australia	24

Note: Source Web of Science (Core Database)

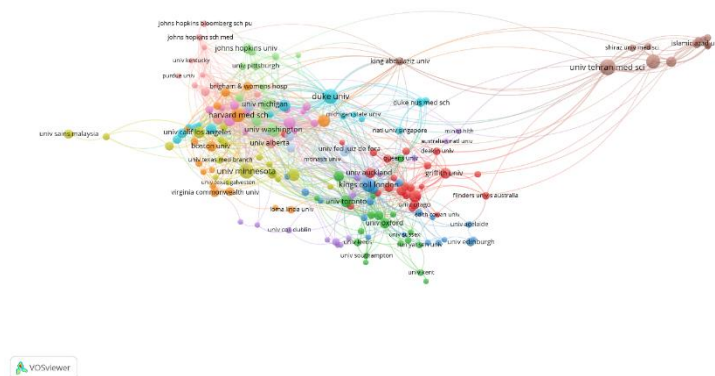


Figure 11. Organisational Co-authorship Network on Spiritual Approach, Source: (Author's creation)

### 3.7 Cited Analysis

Within scientific inquiry, citations serve as a fundamental mechanism for quantifying the flow of knowledge, both in terms of its acquisition and dissemination, within distinct areas of study or individual scholarly endeavors. The influencing of behavior is determined by two primary inputs: the number of references researchers utilize in their respective studies. In addition to serving as a means of generating knowledge, citation analysis encompasses acknowledging and attributing the contributions made by other authors, as exemplified by

including a cited text within a scholarly publication (Jia et al., 2014). In this discourse, we shall initially address the imperative of referencing literary sources when studying spiritual methodologies. The Web of Science database was utilized to identify scholarly works about the spiritual approach.

All in all, other studies 26125 times cited spiritual approach with an average citation of 13.47 (n=21125/1939) per publication. Notably, 26 % (n=501/1939) of publications got 0 citations (at the time of data extraction), a notable portion of the total publications. While looking at the situation from a more in-depth perspective, it was discovered that 69% (n=1342/1939) of the papers had been cited one to fifty times. Only 5% of articles (n=96/1939) were cited for under or more than that time. Last but not least, only three publications were cited more than 500 times, which is less than a fraction of a proportion of the total citation, demonstrating the importance and prominence of that research document. Table 03 is provided for the reader's comprehension to understand some of the most influential research better.

Several authors have contended that the quantity of citations a specific article receives indicates its impact, irrespective of the publication's reputation (Smith et al., 2007; Ugolini et al., 2014). Subsequently, numerous researchers believe that the quality and content of published work cannot be measured by its citation score (Chiu & Ho, 2007; Walter et al., 2003). This belief is held due to the contention that the citation score fails to accurately gauge the articles' quality, instead primarily reflecting their level of visibility. The dissemination of research through open-access journals facilitates broader accessibility to published work, thereby potentially increasing its citation count.

Table 3. Top most frequently cited publications on Spirituality research

<b>Title of Research</b>	<b>Authors</b>	<b>Year</b>	<b>Publishing Journal</b>	<b>Total Citations</b>
Contributions of cultural services to the ecosystem services agenda	Daniel, Terry C. et al.	2012	Proceedings Of The National Academy Of Sciences Of The United States Of America	876
The Psychobiology Of Depression And Resilience To Stress: Implications For Prevention And Treatment	Southwick, Steven M.; Vythilingam, Meena; Charney, Dennis S.	2005	Annual Review Of Clinical Psychology	699
Church-Based Health Promotion Interventions: Evidence And Lessons	Campbell, Marci Kramish; Hudson, Marlyn Allicock;	2007	Annual Review Of Public Health	568

Learned	Resnicow, Ken; Blakeney, Natasha; Paxton, Amy; Baskin, Monica			
The Relationship Between Place Attachment And Landscape Values: Toward Mapping Place Attachment	Brown, Gregory; Raymond, Christopher	2007	Applied Geography	474
American Society of Clinical Oncology Statement: Toward Individualised Care for Patients With Advanced Cancer	Peppercorn, Jeffrey M. et al.	2011	Journal Of Clinical Oncology	374

Source: (Author's creation)

Figure 12 also displays the results of the comprehensive citation analysis carried out by VOSviewer. At this scale, the circle indicates the total number of citations the author achieved. The line illustrates the connection between the author's publication and other works in the same field. It is also possible to deduce from Table 03 that most of the referenced writers are from the United States, making this country the leader in terms of the first author. It is also interesting to see the correlation between the time that has passed since a specific publication and its citation score. It should come as no surprise that there should be more citations for earlier published work.

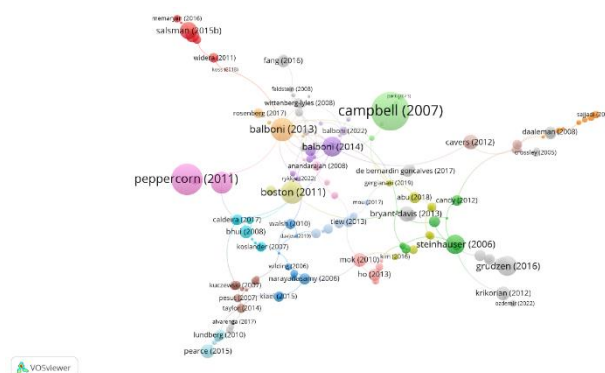


Figure 12. Cited Analysis Results, Source: (Author's creation)

### 3.8 Citing and Co-citation/Bibliometric Coupling Analysis

Citation analysis can reveal the total number of references in 9139 spiritual approach scholarly articles. In 9,169 papers, 82,727 references were used. Only papers with at least

twenty citations were included in this investigation. Therefore, 28 references matched this criterion and were used in the investigation. Similar analytical methods were used with VOSViewer to identify the most prevalent references. The most referenced Source among the 9139 papers was "Using thematic analysis in psychology," which appeared 80 times in the bibliography or reference sections. We determined that 86% of the 28 references were quoted at least 20 times and 11% 40 times or more. Only 4% of sources were quoted 50 times.

Furthermore, examining citations allows for identifying and analyzing the connections and interactions among different publications. By conducting a thorough analysis of citing patterns, it becomes possible to gain a comprehensive understanding of the citing behavior exhibited by authors. According to Li and Hale (2015), the magnitude of citing between two publications reflects their similarity and association. The citation analysis results are shown in Figure 13.

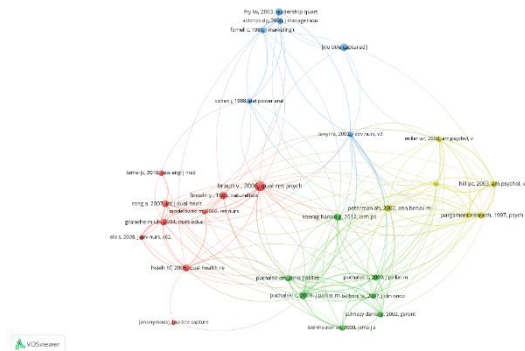


Figure 13. Co-Citation and Cited Reference Analysis, Source: (Author's creation)

VOSviewer also offers bibliographic coupling outcomes. Based on the present analysis, it is possible to ascertain the references being cited more frequently in the bibliography sections of other research works. For example, if Article A contains a bibliography with 20 references, and Article B contains a bibliography with 30 references, with five references being shared between the two articles, these five references will determine the bibliometric coupling between these research works. According to the observations depicted in Figure 14, it is evident that the research community tends to rely more on seminal works that were published earlier. That is indicated by the larger circles representing these articles, which are positioned more centrally, exhibit greater connectivity, and are associated with more research works. Upon examining the results of this analysis, researchers within this field can identify the scholarly works that are highly relevant and have significantly influenced the advancement of research. That enables them to optimize their time and resources.



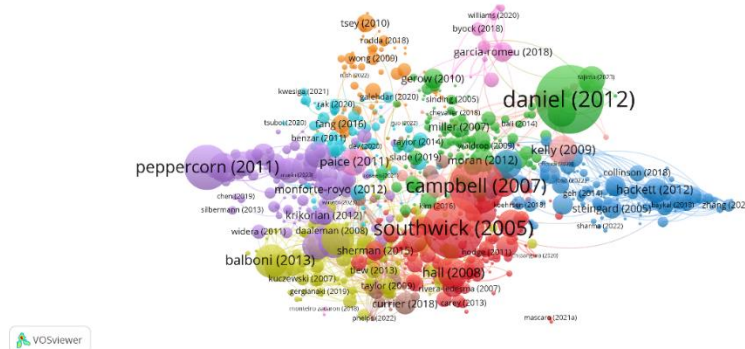


Figure 14. Bibliographic Coupling Analysis, Source: (Author's creation)

### 3.9 Research Domain and Categories

Every article added to the Web of Science is tagged with at least one subject category when entered. More than 250 subject categories have been added to the Web of Science to cover every conceivable scientific effort. Referring to the published Journal is usually the best way to find this info. There were 9139 publications at the time of the study that fell into one of 113 researchable subject domains. That shows how flexible and varied the analysis of the spiritual research domain can be. Due to the high volume of previously published material, several of the original 195 categories had to be scrapped. In the end, only 15 types were considered, as they were the only ones to include published material. Psychology is the dominant domain for spirituality research, followed by healthcare, public OHS, Religion, education, business economics, psychiatry, medicine, social sciences, etc. Research domains such as social work, science, and technology observed minimal research in this regard. Figure 15 shows the contributing subject categories assigned by Web of Science.

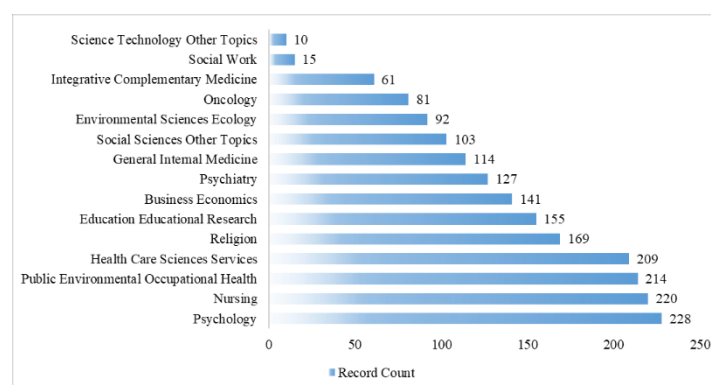


Figure 15. Overall Subject Category Contribution to Spirituality Research, Source: (Author's creation)

### 3.10 Term(s) Analysis

This term analysis aimed to evaluate the current state of academic research on spirituality and its related fields. The present analysis entails the extraction of significant phrases and words from the abstracts and titles of the research articles. That enables researchers in the present or

future to gain a deeper and more comprehensive understanding of the current state, trends, relationships, and associations of relevant research variables, terms, or domains. The VOSviewer software analyzed the visual outputs to accomplish this objective. The applicable data from the titles of the articles published in 1939, along with their abstracts and other readily available information, were extracted using VOSViewer. We only included terms that appeared at least five times for the analysis. A corpus of 7726 keywords was identified concerning research on spirituality. However, for the final analysis, only those keywords that occurred at least five times were included, i.e., 556 key terms.

The analysis of the phrases is presented in Figure 16, illustrating the clustering approach. The magnitude of the individual circle symbolizes the frequency at which a particular term occurs. This phenomenon is more probable in the titles and abstracts of scholarly articles that pertain to spirituality. Furthermore, the spatial distance between the two circles represents the extent to which the two concepts are interconnected. The degree of proximity between two entities correlates with the strength of their interconnectedness and the importance of their opposition compared to more distant entities. The ultimate hue of the circular shape signifies its unique cluster within the realm of publications. The determination of this cluster is contingent upon the degree of relatedness among other terms within the broader group.

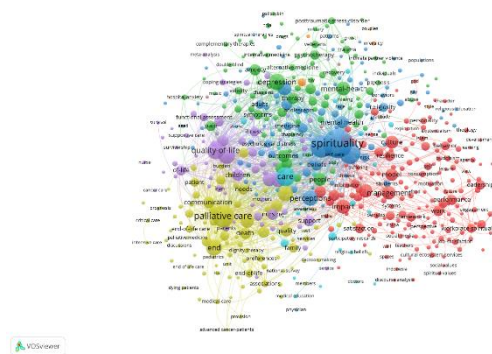


Figure 16. Term Analysis Map for Spirituality Research, Source: (Author's creation)

According to the term map analysis Fig.16, eight primary and different distinct but interrelated clusters were observed: a green cluster (top of the figure), red cluster (right side), blue cluster (center), yellow cluster (left lower side) and purple cluster at (top left). Spirituality research is richly associated with the keywords provided in the Red cluster. Spirituality affects everything from personal well-being to ethics. As shown by keywords like "self," "self-determination," and "emotional intelligence," spirituality promotes inner development and emotional well-being. Terms like "values," "ethics," "forgiveness," and "virtue" show the close relationship between spirituality and morality, ethics, and virtues that guide human behavior.

These keywords illuminate spirituality's psychological and emotional aspects: "emotion," "empathy," "compassion," "positive psychology," and "resilience." These terms suggest that spirituality is linked to emotional intelligence, empathy, positive emotions, and psychological

resilience. In terms like "spiritual leadership," "leadership," and "empowerment," spiritual beliefs may influence leadership qualities, empowerment, and transformational leadership styles. Spirituality is emphasized by keywords like "community," "participation," "cultural heritage," and "social values." These terms suggest that spirituality can shape community engagement, cultural preservation, and social interactions. Spirituality and ecological stewardship are linked by keywords like "ecosystem services," "biodiversity," "environment," and "sustainability," indicating an understanding of spirituality's potential impact on the environment and sustainable practices.

Spirituality research emphasizes education and personal development, as shown by keywords like "education," "learning," "pedagogy," and "higher education." Spirituality influences education, personal growth, and lifelong learning. Cultural and indigenous perspectives, such as "indigenous knowledge" and "cultural diversity," emphasize the connection between spirituality, indigenous wisdom, and diverse value systems. In conclusion, the keywords show a varied and interconnected spirituality research landscape. It includes personal growth, ethics, emotions, leadership, community engagement, environmental awareness, education, and cultural diversity. The associations in this cluster show how spirituality affects every aspect of human life and society.

The keywords in the green research cluster show how spirituality research intersects with health topics. This cluster shows how spirituality affects healing, growth, and mental and physical health recovery. The terms "meditation," "mindfulness," and "spiritual practices" suggest a link between spirituality and well-being. Spirituality is emphasized in "pain management," "stress reduction," and "holistic care," which reinforce this. Spirituality is essential in healthcare and therapy, as shown by "patient-centered care," "rehabilitation," and "integrative medicine." The terms "psychotherapy," "psychotherapy," and "self-help" indicate that spirituality research includes psychological methods for personal growth and recovery. Spiritual practices and interventions can help people cope and heal from "trauma," "moral injury," and "posttraumatic stress disorder," according to the keywords.

The cluster also emphasizes spirituality's impact on "addiction," "major depression," "Parkinson's disease," and "HIV/AIDS." The terms "recovery," "intervention," and "treatment" emphasize spirituality's role in medical resilience and success. The keywords "cost-effectiveness counseling," "program outcomes," and "validation validity." reinforce this connection. Finally, the green research cluster shows how spirituality and health research coexist. The interplay between spiritual practices, psychological well-being, physical health, and recovery shows how spirituality affects all aspects of human health.

Spirituality research on diverse populations and their health and well-being is compelling in the Blue research cluster. The keywords cover various demographic groups, cultural contexts, and health topics, emphasizing the complex relationship between spirituality and human experiences. With terms like "adolescents," "older adults," "elderly," "gay men," and "students," the cluster emphasizes spirituality's relevance across age groups and its potential impact on mental health and coping strategies. Keywords like "African American," "African

Americans," "Chinese," and "Ethiopia" show that spirituality research acknowledges and examines how cultural backgrounds affect beliefs, practices, and health outcomes. Spirituality shapes identity and perceptions in various social contexts, as "race," "ethnicity," and "gender" demonstrate.

The cluster emphasizes health and well-being with keywords like "mental health," "cancer survivors," "cardiovascular disease," and "psychological distress." These terms suggest that spiritual research examines spiritual practices, health promotion, and coping mechanisms. The cluster explores spiritual health disparities and public health issues, as shown by keywords like "health disparities," "COVID-19," and "substance use." The terms "religiosity," "religious coping," and "spiritual therapies" indicate the study of spiritual interventions for well-being and healing. The blue research cluster shows spirituality research as a dynamic field that studies the complex relationship between spirituality, diverse populations, health, and culture. The keywords highlight spirituality's role in promoting resilience, coping strategies, well-being across demographic groups, health disparities, and holistic health outcomes.

The yellow research cluster deeply explores spirituality in end-of-life care and palliative medicine. The keywords show how spirituality research intersects with death, dying, and compassionate care. Terms like "hospice care," "advanced cancer," "end-of-life care," and "palliative medicine" highlight spirituality's role in meeting the complex needs of patients with serious illnesses, including advanced cancer and critical care. The cluster explores spirituality and end-of-life experiences. Keywords like "bereavement," "grief," "dying patients," and "terminal care" show how spirituality affects end-of-life emotional and psychological issues. The terms "dignity therapy," "quality of care," and "good death" suggest that spirituality research examines dignity, quality of life, and the existential aspects of dying.

Keywords like "nurses," "physicians," "staff," and "psychological distress" show how spirituality affects healthcare professionals. The cluster investigates how healthcare providers' spiritual well-being and moral distress affect end-of-life care. According to the cluster, spirituality helps care teams, patients, and families communicate and collaborate. Spirituality can promote meaningful dialogues and shared decision-making in serious illness and end-of-life care through "communication," "consultation," and "collaboration." In conclusion, the yellow research cluster shows how spirituality and end-of-life care are intertwined. The keywords show how spirituality research addresses the emotional, psychological, and existential aspects of dying, quality care, and patient, family, and healthcare professional well-being. Spirituality enhances the end-of-life experience and promotes compassionate, holistic care for terminally ill patients.

The purple research cluster emphasizes spirituality's importance in health and well-being in various health contexts. The keywords show how spirituality fits into different life stages, illnesses, and caregiving roles. While "birth," "pregnancy," and "infant" emphasize spirituality's importance at the beginning of life, "cancer care," "chronic illness," and "lung cancer" emphasize it during illness and adversity. The cluster emphasizes how spirituality affects coping, decision-making, and support. "Coping strategies," "decision-making," and

"support" show how spirituality affects psychosocial and emotional well-being and how people make meaningful choices. The terms "hope," "survivorship," and "quality of life" indicate that spirituality research examines how faith and hope help people cope with illness and its aftermath.

Spirituality is evident in healthcare services like "nursing care," "oncology nursing," "palliative care," and "transplantation." These terms emphasize integrating spiritual care and support into healthcare, suggesting that spirituality research improves patient and family well-being. In addition, the cluster keywords emphasize cultural competence and sensitivity to spiritual needs. Terms like "cultural competence," "cultural competency," and "cultural experiences" emphasize spirituality's influence on diverse cultural backgrounds and healthcare practices that respect individual and collective beliefs. The purple research cluster shows that spirituality research and health experiences span birth to survivorship and beyond. The cluster emphasizes spirituality's impact on coping, support, decision-making, and well-being during illness, focusing on holistic healthcare and spirituality in diverse cultural contexts.

The Aqua Blue research cluster examines spirituality, health, and well-being. The keywords explore spirituality's effects on aging, health care, and personal well-being. Terms like "aging," "family carer," "physician," and "medical education" suggest that spirituality research examines how spiritual beliefs and practices affect healthcare providers and patients. The cluster emphasizes holistic well-being and self-care with keywords like "holistic," "self-care," and "wellness." That suggests that spirituality research examines how spiritual practices affect physical, emotional, and psychological health.

According to terms like "depressive symptoms," "burnout," and "suicide," spirituality research examines the relationship between spiritual beliefs and mental health outcomes. Terms like "health promotion" and "biopsychosocial" indicate spirituality research's focus on physical, psychological, and social well-being. The cluster acknowledges the intersection of spirituality and culture, as shown by "Maori" and "New Zealand." These keywords explore spirituality from specific cultural perspectives, showing how spiritual practices tie into cultural beliefs. The Aqua Blue research cluster shows how spirituality research affects health, well-being, and healthcare. The keywords explore spirituality's impact on aging, healthcare providers, mental health, cultural contexts, and holistic well-being. This cluster shows how spirituality research helps us understand how spirituality promotes health, wellness, and purpose throughout life.

The orange research cluster emphasizes spirituality research's importance in emotional well-being and interpersonal dynamics. The keywords emphasize the complex ways spirituality affects human experiences, particularly in the context of changes, couples, and infertility. Spirituality research examines how spiritual beliefs and practices affect people's coping mechanisms and emotional adjustments to life's challenges. Terms like "adjustments" and "counseling" suggest this. The cluster emphasizes spirituality in intimate relationships, as indicated by "couples." Spirituality research examines how shared spiritual beliefs and practices affect romantic relationships' dynamics and resilience.

The keyword "infertility" suggests spiritual research explores emotional and psychological aspects of fertility struggles. The cluster suggests that spirituality affects infertile people and their well-being through spiritual coping strategies. The orange research cluster shows that spirituality research examines emotional adjustments, couples' relationships, and infertility. The cluster's keywords emphasize how spirituality helps individuals and couples overcome these challenges and navigate their emotional journeys through spiritual coping mechanisms and support.

Lastly, the Brown research cluster emphasizes spiritual research's importance in studying human experience and well-being. The keywords in this cluster emphasize gratitude, nursing students, and tools as spirituality's effects. The keyword "dimensions" suggests that spirituality research examines how human spirituality shapes perspectives, attitudes, and behaviors. Spirituality research may examine how gratitude affects mental health, emotional well-being, and life satisfaction due to the cluster's focus on "gratitude."

The cluster's "nursing students" suggest spirituality research explores nursing students' unique spirituality and well-being experiences. That means studying how spiritual beliefs and practices affect nursing students' perspectives, coping strategies, and interactions. The keyword "tools" suggests spirituality research's practical applications and methods. That may include creating and testing tools to measure spiritual beliefs, practices, and well-being. Spirituality research explores gratitude, nursing student experiences, and assessment tools, as shown in the brown research cluster. This cluster shows how spirituality affects well-being, from personal attitudes and coping mechanisms to professional perspectives and research methods.

Additionally, it would be intriguing to observe the most recent use of terminology and the current trajectory of study in the field of spirituality. VOSviewer developed an overlay visualization term map that displays timeline-related information. Figure 17 displays terms that include temporal information, with each term's color representing its typical usage concerning the publication year. Terms employed in 2022, 2023, or within the past three to four years are displayed in yellow on the right side of Figure 15. On the other hand, terms utilized before 2016 are depicted in teal and purple colors.

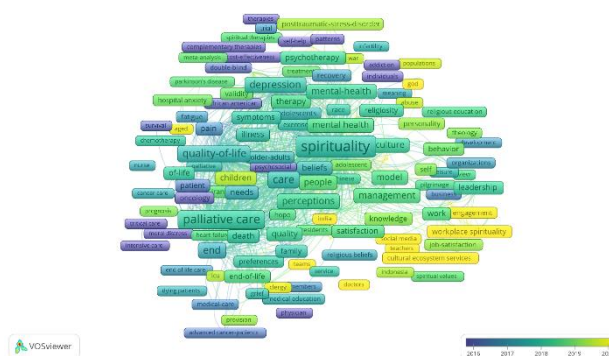


Figure 17. Term Analysis with the Timeline, Source: (Author's creation)

#### 4. Conclusions

The application of bibliometric analysis in the study of spirituality within educational settings offers a thorough understanding of the interdisciplinary elements, noteworthy contributions, and influential scholars that shape this field's academic and practical aspects. This study aims to shed light on the patterns and dynamics of spiritual research, enhancing our comprehension and appreciation of its importance in various contexts spanning 2005 to 2023. Through quantification and trend identification, this research provides valuable insights into the multifaceted expansion of the spiritual approach across multiple disciplines. It sheds light on the collaborative efforts, publishing entities, and authors that have significantly influenced its advancement. By employing bibliometric analysis, we aim to offer a mesoscopic perspective on the present condition of the field, its connections with associated concepts, and potential directions for future development. The objective of our study is to examine several essential inquiries, such as the development of academic knowledge, the intersections between different research fields, patterns of global collaboration, notable individuals who have made significant contributions, and influential works that have influenced the course of spiritual research.

In conclusion, peer-reviewed publications reveal scientific research trends. The rise in spirituality research and spiritual approaches in education, especially during COVID-19, shows how these fields are evolving. The rising trend shows that spirituality's historical positive impact on well-being is being recognized as necessary in addressing pandemic challenges. This increase in scholarly output is a proactive response to COVID-19 and shows how research and society are interconnected.

Finally, citations quantify the scholarly impact, emphasizing research contributions. The majority (72%) of 1,939 publications received one to 100 citations, while 26% received none. A small percentage of articles had higher citation counts, indicating the influence of a select group of authors, a phenomenon similar to other research domains (Liu et al., 2012). VOSviewer software revealed complex co-authorship patterns in spiritual approaches in education research. Figure 4 shows author affiliations and collaborations, with circle size and proximity indicating productivity and shared interests. The color clusters represent subject-specific collaborative groups. The visual representation shows renowned scholars' affiliations, collaborative efforts, and research diversity, which may inspire future scholars to join this vibrant field.

In conclusion, the study found 1939 papers in 1000 journals from 276 publishers. The diverse publishing landscape shows that this research is interdisciplinary and multifaceted. Figures 6 and 7 show the top spirituality research and spirituality academic journals and publishing entities, respectively, helping future researchers navigate the scholarly landscape. Further, this comprehensive study shows that spirituality research spans 116 nations in diverse regions. The USA, UK, Australia, Canada, and China contributed heavily, as did Iran, Russia, India, Brazil, Malaysia, and Indonesia. Figure 8 elegantly shows global engagement, with the circle

size reflecting publication volume by country, emphasizing the extensive and collaborative nature of this field's research.

Also, the Web of Science data shows that over 1000 research institutions produced 1939 publications. This study shows that academic research is collaborative because authors work across universities. Most institutes (86.2%) contributed modestly with 1-5 publications, while Figure 11 and Table 02 provide a valuable snapshot of spiritual approach research. Moreover, 26125 citations from 1939 publications show that the spiritual approach has received significant scholarly attention. Significantly, 26% of articles received no citations, while 69% received one to fifty citations. Only 5% had citation counts below or above this range, and only three had over 500, emphasizing their importance. Table 03 helps readers understand this domain's most influential research findings.

Further, citation analysis on 9,139 spiritual approach scholarly publications yielded 82,727 references in 9,169 publications. This study found 28 core references with at least 20 citations, with "Using thematic analysis in psychology" cited 80 times. Notably, 86% of these references received at least 20 citations, demonstrating their scholarly significance, and 4% received over 50, showing their impact. Similarly, the Web of Science categorization covers over 250 subject categories of scientific research. Spiritual research is adaptable and multifaceted, as 113 researchable subject domains were found in 9,139 publications. The distribution of research categories shows that this domain is interdisciplinary, and Fig.15 shows the Web of Science's subject category distribution. Psychology, healthcare, religion, education, and other fields dominate.

Finally, term map analysis of the clusters shows a complex and interconnected spirituality research landscape. In these clusters, spirituality affects human experiences, health, well-being, and society. The green cluster emphasizes spirituality's role in ethics, well-being, and emotional development. Red clusters affect leadership, cultural diversity, education, and environmental awareness. The blue cluster shows its relationship to diverse populations' health and well-being. The yellow cluster discusses its role in palliative care and end-of-life care. The purple cluster shows its role in various life stages, illnesses, and caregiving. The aqua blue cluster emphasizes its effects on aging, health, and well-being. Emotional well-being, interpersonal dynamics, couples, and infertility are examined in the orange cluster. Finally, the brown cluster emphasizes its importance in gratitude, nursing student experiences, and research tools. These clusters show how spirituality research affects every aspect of human life, from birth to end-of-life care, across cultures, disciplines, and well-being dimensions.

## References

Amerongen-Meeuse, J. C. V., Braam, A. W., Westerbroek, G., Ouwehand, E., Anbeek, C., & Schaap-Jonker, H. (2023). Varieties of Religious and Spiritual Struggles by Type of Mental Disorder: A Qualitative Approach. *Psychopathology*. <https://doi.org/10.1159/000531027>

Antunes, M. L., & Reis-Pina, P. (2022). The Physician and End-of-Life Spiritual Care: The



PALliatiVE Approach. *American Journal of Hospice & Palliative Medicine*, 39(10), 1215-1226, Article 10499091211068819. <https://doi.org/10.1177/10499091211068819>

Bhattacharya, M., & Gaur, K. (2023). Transcendental meditation, education, health and wellbeing: a spiritual approach. *Journal of Spirituality in Mental Health*. <https://doi.org/10.1080/19349637.2022.2153098>

Chiu, W. T., & Ho, Y. S. (2007). Bibliometric analysis of tsunami research. *Scientometrics*, 73(1), 3-17. <https://doi.org/10.1007/s11192-005-1523-1>

Dabi, Y., Darrigues, L., Katsahian, S., Azoulay, D., De Antonio, M., & Lazzati, A. (2016). Publication Trends in Bariatric Surgery: a Bibliometric Study. *Obesity Surgery*, 26(11), 2691-2699. <https://doi.org/10.1007/s11695-016-2160-x>

Eisl, U., Woolley, M., Hulbert, S., Casson, A., & Bowie, R. A. (2023). Pupil-centred spiritual leadership: an empirical study of thirteen church primary school headteachers in England. *International Studies in Catholic Education*. <https://doi.org/10.1080/19422539.2023.2171622>

Eren, M. G., Celik, S., Celik, M., Yon, B., & Ozturk, F. C. (2023). Spiritual Well-being, Diabetes Burden, Self-management, and Glycemic Control Among Patients with Type 2 Diabetes in Turkey: A Descriptive and Correlational Study. *Journal of Religion & Health*. <https://doi.org/10.1007/s10943-023-01783-x>

Garrett, B. (2021). Divinity in nursing: The complexities of adopting a spiritual basis for care. *Nursing Philosophy*, 22(3), Article e12355. <https://doi.org/10.1111/nup.12355>

Hayward, G. M., & Pearce, L. D. (2021). The Sociology of Adolescent Religious and Spiritual Development. *Adolescent Research Review*, 6(3), 265-276. <https://doi.org/10.1007/s40894-021-00157-2>

Heredia, L., Torrente, M., & Vicens, P. (2020). Spiritual competence, contemplative education and mindfulness in schools (Competencia espiritual, educacion contemplativa y atencion plena en la escuela). *Studies in Psychology*, 41(3), 467-489. <https://doi.org/10.1080/02109395.2020.1794716>

Jia, X., Dai, T., & Guo, X. (2014). Comprehensive exploration of urban health by bibliometric analysis: 35 years and 11,299 articles. *Scientometrics*, 99(3), 881-894. <https://doi.org/10.1007/s11192-013-1220-4>

Mirhosseini, S., Montazeri, A., Khanmohammadi, M., Haddad, A. Q., Nadali, J., Basirinezhad, M. H., ... & Ebrahimi, H. (2023). Spiritual Well-Being and Death Anxiety: A Cross-Sectional Study Among Iranian Patients With Acute Coronary Syndrome. *Omega-Journal of Death and Dying*. <https://doi.org/10.1177/00302228231195103>

Price, D. J. d. S., & Tukey, J. W. (1963). *Little science, big science*. Columbia Univ. Press.

Saleem, M. S., Isha, A. S. N. B., Benson, C., Awan, M. I., Naji, G. M. A., & Yusop, Y. B. (2022). Analyzing the impact of psychological capital and work pressure on employee job

engagement and safety behavior. *Frontiers in Public Health*, *10*, 1086843. <https://doi.org/10.3389/fpubh.2022.1086843>

Saleem, M. S., Isha, A. S. N., Awan, M. I., Yusop, Y. B., & Naji, G. M. A. (2022). Fostering Academic Engagement in Post-graduate Students: Assessing the Role of Positive Emotions, Positive Psychology, and Stress. *Frontiers in Psychology*, *13*, 920395. <https://doi.org/10.3389/fpsyg.2022.920395>

Saleem, M. S., Isha, A. S. N., Yusop, Y. M., Awan, M. I., & Naji, G. M. A. (2022). The Role of Psychological Capital and Work Engagement in Enhancing Construction Workers' Safety Behavior. *Frontiers in Public Health*, *10*, 810145. <https://doi.org/10.3389/fpubh.2022.810145>

Saleem, M. S., Isha, A. S. N., Yusop, Y. M., Awan, M. I., & Naji, G. M. A. (2023). Mindfulness Research: A Bibliometric Analysis. In B. Alareeni & A. Hamdan (Eds.), *Innovation of Businesses, and Digitalization during Covid-19 Pandemic* (Vol. 488, pp. 611-632). Springer International Publishing. [https://link.springer.com/10.1007/978-3-031-08090-6\\_38](https://link.springer.com/10.1007/978-3-031-08090-6_38)

Saleem, M. S., Isha, A. S. N., Yusop, Y. M., Iqbal, M., & Naji, G. M. A. (2021, 2021). The Whole Nine Yards of Safety Climate Research. 19.

Scioli, A. (2023). Emotional and spiritual hope: Back to the future. *Current Opinion in Psychology*, *49*, Article 101493. <https://doi.org/10.1016/j.copsyc.2022.101493>

Shoshi, K., Silvia, P., Hod, O., Talia, E., Giada, M., & Testoni, A. I. (2022). Spirituality During the COVID-19 Pandemic: An Online Creative Arts Intervention With hotocollages for Older Adults in Italy and Israel. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2022.897158>

Smith, T. B., Bartz, J., & Richards, P. S. (2007). Outcomes of religious and spiritual adaptations to psychotherapy: A meta-analytic review. *Psychotherapy Research*, *17*(6), 643-655. <https://doi.org/10.1080/10503300701250347>

Song, D. (2022). Moving toward a spiritual pedagogy in L2 education: Research, practice, and applications. *Front Psychol*, *13*, 978054. <https://doi.org/10.3389/fpsyg.2022.978054>

Stumpf, B. O., & de Menezes, A. L. T. (2022). Spiritual elements in indigenous undergraduate courses for training teachers: contributions to spirituality in school education. *Plura-Revista De Estudos De Religiao*, *13*(1), 12-29. <https://doi.org/10.29327/256659.13.1-1>

Ugolini, D., Bonassi, S., Cristaudo, A., Leoncini, G., Ratto, G. B., & Neri, M. (2014). Temporal trend, geographic distribution, and publication quality in asbestos research. *Environ Sci Pollut Res*, 11.

van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523-538. <https://doi.org/10.1007/s11192-009-0146-3>

Vedula, S. B., & Agrawal, R. K. (2023). Mapping Spiritual Leadership: A Bibliometric Analysis and Synthesis of Past Milestones and Future Research Agenda. *Journal of Business Ethics*. <https://doi.org/10.1007/s10551-023-05346-8>

Walter, G., Fisher, K., Bloch, S., & Hunt, G. (2003). Counting on citations: a flawed way to measure quality. *Medical Journal of Australia*, 178(6), 280-281. <https://doi.org/10.5694/j.1326-5377.2003.tb05196.x>

Wang, B., Pan, S. Y., Ke, R. Y., Wang, K., & Wei, Y. M. (2014). An overview of climate change vulnerability: a bibliometric analysis based on Web of Science database. *Natural Hazards*, 74(3), 1649-1666. <https://doi.org/10.1007/s11069-014-1260-y>

Yang, L., Chen, Z., Liu, T., Gong, Z., Yu, Y., & Wang, J. (2013). Global trends of solid waste research from 1997 to 2011 by using bibliometric analysis. *Scientometrics*, 96(1), 133-146. <https://doi.org/10.1007/s11192-012-0911-6>

## Copyright

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).