



A Bibliometric Analysis of Leadership Styles in Healthcare: Trends, Impact, and Research Networks

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Abstract: Leadership within the healthcare sector plays a pivotal role in shaping institutional performance, employee engagement, and patient satisfaction. Over time, leadership paradigms have evolved from traditional to contemporary models, incorporating diverse styles such as transformational, transactional, authentic, democratic, and charismatic leadership. This study conducts a comprehensive bibliometric analysis of scholarly research on leadership styles in healthcare, employing VOSviewer for visualizing research networks and mapping key relationships. A total of 889 journal articles published between 1957 and 2024 were retrieved from the Scopus database and analyzed. A notable upward trend in publication volume has been observed, particularly post-2008, highlighting the growing academic interest in this domain. Citation analysis has identified the most frequently cited studies, prolific authors, and leading countries contributing to this field, alongside the academic disciplines exerting significant influence. Furthermore, bibliometric maps have been generated to elucidate co-citation relationships, source distributions, and national research productivity, as well as author collaboration networks and text-based thematic clusters. The findings provide a structured overview of scholarly discourse on leadership in healthcare, offering valuable insights into prevailing research trajectories and identifying potential directions for future investigations. By synthesizing the bibliometric landscape, this study aims to enhance the theoretical and empirical understanding of leadership within healthcare services.

Keywords: Leadership; Leadership styles; Healthcare management; Bibliometric analysis; VOSviewer; Research trends

1. Introduction

Health services, goods and services, supply and demand systems, their sub-systems and the binding conditions / determinants / statuses that cannot be changed, at least in the short term, are expressed in three main sections: distant/indirect to health, close/direct to health and main health service areas (Sargutan, 2005). Health services have strong and complex structures in terms of their scope and the areas in which they provide services. Human health, which is provided by these structures, should contain the least number of errors compared to other sectors, require effective resource management and provide high satisfaction in the outcomes of the service provided. In this context, there is a need for leaders who can make the right decisions, ensure cooperation and harmony among employees, manage crises, and fulfill efficient and sustainable strategic management functions.

Leadership generally plays an important role in increasing organizational innovation and creativity, shaping employees' readiness for change, and improving employees' positive attitudes and behaviors in the workplace (Udin, 2023). Leaders are the primary source of influence on organizational variables and productivity. Therefore, leadership still requires a comprehensive review of existing studies (Daswati et al., 2023). The quality of the relationship between a leader and a subordinate is crucial to achieving desired performance in many ways. A leader must be able to rely on a subordinate to achieve goals, ensure quality work, and cooperate with others in the organization. The subordinate must look to the leader to provide direction or remove obstacles to accomplish the work (Murphy & Ensher, 1999). Leadership is not limited to the behaviors of people in leadership positions or leader-follower interactions; it is also closely related to how employees perceive the leader. Understanding the

factors that affect followers' perceptions of leadership will contribute to developing feedback mechanisms for leaders and evaluating the effectiveness of leadership practices in a more holistic way (Schyns et al., 2008).

Leadership styles: Leader and employee harmony, the effects of leaders on employee performance, and leadership styles that are of interest as a study topic in the field of organizational behavior or management, have been studied in the health field to a limited extent. To create an effective and efficient working system in the health sector, where sufficient manpower is still not available, it would be useful to focus on the approaches of leaders. An effective leader and member relationship will positively affect the organizational climate and create positive outcomes on work performance. For these reasons, in this study, it is aimed to reveal the authors, countries, and years that are at the forefront in the field of leadership in health services, the intellectual structure of this field, development trends, basic theoretical approaches, which issues are lacking or weak, and, in short, how the literature has evolved. In this way, undiscovered or less-studied topics will emerge for future studies, and it will shed light on what should be studied in the field and from which perspective.

2. The Concept of Leadership in Healthcare

In relation to health and leadership, the National Health Service Leadership Academy (NHS Leadership Academy) of England has prepared a leadership model proposal. This model, called the “Health Leadership Model”, aims to enable those working in health and care services to become better leaders (Gün & Aslan, 2018; Nicol, 2012). The health leadership model is designed to enable health workers from all backgrounds to become better leaders and consists of nine dimensions (Kumar & Khiljee, 2016).

- Recognizing the team's needs and behaviors through mutual support, ensuring that a compassionate environment spreads beyond the team's domain.
- To establish a reliable and self-confident communication that gives confidence for the future, has long-term goals and instills all these.
- Trusting the team and supporting creative participation.
- Interacting and adapting with others, developing a collaborative approach to work and creating sustainable commitments.
- Gathering information from a wide range of areas and thinking creatively to develop new concepts.
- Inspiring shared purpose.
- To adopt well-functioning external approaches by correlating all dynamics of the organization in line with the establishment policies.
- Providing opportunities for individuals and teams to develop, ensuring long-term talent improvement.
- Creating processes that embrace continuous improvement, progress, challenge and include effective change.

Leadership is the process of influencing and directing the behavior of others to ensure that individuals or groups achieve set goals. Today, with the increase in life expectancy and quality, maintaining a healthy life and the effective functioning of health institutions have become more important than ever. These institutions, which develop qualitatively, have the power to affect the economic and social structure quantitatively in today's world. Considering the competitive environment, healthcare institutions, like other businesses, need a leader who is aware of their mission to keep themselves superior to their competitors and to keep them standing without being shaken in market conditions and to carry them to the future, who has a strong vision (Uysal et al., 2012), and who exemplifies the balance between autonomy and accountability, emphasizes teamwork and focuses on improving patient outcomes in order to meet the needs of healthcare services (van Diggele et al., 2020).

According to Lindsey & Mitchell (2012), there are many different characteristics that a future healthcare leader must possess. These five characteristics that will help define dynamic healthcare leadership in the future are as follows (Gün & Aslan, 2018):

- Future healthcare leaders must be independent thinkers who understand the emerging healthcare market.
- The future healthcare leader must be passionate about serving the needs of the customer.
- Future healthcare leaders need to be change agents for their organizations.
- The future healthcare leader must have the ability to motivate and inspire.
- The healthcare leader of the future must have the ability to run a lean, high-quality organization.

3. Common Leadership Types in Healthcare

It is extremely important for healthcare businesses to be team-based, labor-intensive and vital service-providing businesses to develop a quality leadership approach that is appropriate to their structure (Kılınç, 2018). Conducting scientific studies on leadership styles in health services will ensure that this sector, which directly affects human

life by its nature, creates stronger policies and develops strategies that will increase the motivation and participation of health workers. For this reason, the types of leadership in the literature are examined and briefly defined, and studies related to these leadership types in the field of health are examined bibliometrically.

3.1 Transformational Leadership

Transformational leadership can be defined as a leader who can determine the need for change, create the vision necessary for this need to be accepted and for the change to take place, and ensure that it is adopted and institutionalized by the organization (Bolat, 2008). Transformational leadership is defined as leadership behavior that focuses on the participation of members who follow her in organizational goals, transforms the norms and values of employees, and motivates them to perform beyond their expectations (Tims et al., 2011). Transformational leadership is expected to be more effective for organizational success by increasing follower participation because studies show that transformational leadership is positively associated with higher psychological meaningfulness, psychological safety and psychological availability of followers (Zhu et al., 2009). This is supported by the experimental studies of Barling et al. (1996) and Bass (1999). According to the results, a work environment created by a transformational leader significantly increases employee participation and optimism, while employees perceive their leaders as more intellectual, charismatic and more successful in terms of individual attention (Barling et al., 1996; Bass, 1999). Finally, transformational leadership, according to Bass, is summarized as follows (Bass & Steidlmeier, 1999; Eraslan, 2011):

- Being an example to others: Arouses respect in others with its vision and mission and earns their trust with its actions.
- Creates Inspirational Motivation: Internalizes high goals and expectations and uses a common language to achieve them.
- Intellectual Stimulation: Enables problems to be solved analytically.
- Provides Individual Support: Looks after his employees individually and gives them direction.

3.2 Transactional Leadership

The leadership style in which the relationships between employees and leaders are basically based on work is perceived as transactional leadership. This leadership consists of the interaction between the leader and the follower and is based on bureaucracy, authority, standards and legitimate power in the organization (Bolat, 2008). Transactional leadership refers to the leader clearly and explicitly expressing to the followers their responsibilities, what they need to do and exactly what is expected of them, and in return, ensuring that the followers reach the goals of the organization by agreeing with the leader, accepting or complying with the leader on the gains they will receive (such as praise, rewards and resources or avoiding disciplinary punishment) (Pillai et al., 1999). In this context, while trying to ensure that the followers reach the performance level determined by him, the followers are also informed about what kind of rewards they will encounter. Recognizing performances that meet clearly stated goals and objectives will further motivate employees and result in them achieving the performance levels expected of them (Bass et al., 2003; Doğan et al., 2021).

3.3 Servant Leadership

The most famous and well-known study in the field of servant leadership was conducted by Greenleaf. Leaders with this trait want their employees to develop beyond their own interests, the organization to progress and the business to achieve its goals. They create opportunities for this and are truly interested in serving the members who follow them (van Dierendonck, 2011). A servant leader is someone who closely follows and adapts to the needs of employees, empowers them to succeed in their work and personal lives, and encourages employees to set proactive goals and supports their efforts to achieve these goals (Luo & Zheng, 2018). For these reasons, such leaders do not expect any power and position (Doğan et al., 2021).

3.4 Authentic Leadership

Authenticity is defined as the process of an individual realizing their thoughts, feelings, needs, preferences and beliefs that are shaped because of self-knowledge and acting by remaining loyalists to them. In this context, authentic leadership is considered a leadership approach in which the leader acts consistently with their internal values, is guided by high ethical standards and brings a moral perspective to decision-making processes (Walumbwa et al., 2008). Authentic leaders are defined as individuals who are self-confident, hopeful, optimistic, and of high moral character, while having a deep awareness of their thoughts and behaviors, who can perceive the knowledge, power, and value of others, and who are aware of how they are perceived by others (Avolio & Gardner,

2005).

3.5 Charismatic Leadership

Günçavdı (2017), quoting from House, explained charismatic leaders as “individuals who have the ability to create a profound and extraordinary impact on their followers through the power of their own personality” (Günçavdı, 2017). Charismatic leadership is based on the perceptual evaluations’ followers attribute to the leader rather than on the objective characteristics of the leader. When the behaviors exhibited by the leader are interpreted by the followers as representations of charismatic characteristics, this perception becomes decisive for the leader's charismatic leadership status (Conger, 2015). A leader who sets an ideal example for the goals and values of an organization or social movement and is highly respected by his/her followers and whose orders are awaited with great care. In short, he/she has charismatic power and authority (Güney, 2004).

Working with a charismatic leader and being authorized by him creates various effects on the members of the organization and the followers. These are (Gül & Aykanat, 2012):

- A charismatic leader instills a sense of responsibility in her employees.
- Employees internalize the leader's vision and, in this case, integrate their own mission with the organization's mission.
- Organization members trust and believe in leaders they find charismatic.
- Working with a charismatic leader creates important opinions in employees or followers about their determined appearance and timing.

3.6 Clinical Leadership

Healthcare operates as a complex system in which many different individuals and institutions work together. To be effective in these systems, clinicians must have not only medical knowledge but also an understanding of how healthcare systems work. In today’s complex healthcare environment, it is a professional imperative for clinicians to work in harmony with these systems and assume management responsibility to make effective decisions for the benefit of patients (Swanwick & McKimm, 2011). Clinical leadership is an approach that focuses on the individual, not the disease, in the provision of health services and is implemented by clinicians who assume the leadership role. This understanding is based on the principle of seeing each patient as a unique being. Clinical leadership ensures that the quality-oriented culture in the health system is reflected in clinical practices. The National Health Board defines this leadership as a behavioral pattern in which clinical and administrative leaders act together for the benefit of the patient (Özer et al., 2018) and has two main sources of influence. These are teamwork and personal clinical expertise. When recent literature studies on clinical leadership are examined, it is seen that clinicians assume the primary leadership role in the provision of health services and that this individual and collective leadership among physicians is important (Budak, 2018). In summary, clinical leadership is the effort of clinicians working in a department, unit or institution within a healthcare institution to provide one-on-one service to patients and to improve this service delivery, and the power and ability to change policies, procedures and systems with this effort (Budak, 2017; Ogrin & Barrett, 2015).

3.7 Participatory Leadership

This is a type of leader who partially trusts his subordinates, takes their ideas and uses them, but does not give up control over decisions (Güney, 2004). Participative leaders must demonstrate their trust in their employees by encouraging them to be included in the decision-making process when determining the organization's goals, policies and plans. It can be stated that the strongest aspect of the participative leadership style is that it increases employees' motivation and gives them self-confidence and power (Altan & Özpehlivan, 2019; Şafaklı, 2005). Participative leaders assume responsibility for the members of the work group to fulfill their functions and achieve their jobs. As businesses grow, become more complex, and the level of specialization and professionalization of employees improves, managers have begun to abandon authoritarian behaviors and allow their subordinates to participate more in business decisions (Tengilimoğlu & Yiğit, 2005).

3.8 Paternalistic Leadership

A leadership style that is common in Asian, Middle Eastern, and Latin American cultures is paternalistic leadership. Paternalistic leadership has three important leadership dynamics: authoritarianism, benevolence, and moral leadership. These leaders are disciplined and authoritarian, as well as benevolent and moral individuals. They consider the well-being of their followers and show personal interest while ensuring that they comply with their decisions (Bedi, 2019; Pellegrini & Scandura, 2006). Paternalistic leadership involves the assumption that

managers are a copy of the "father" in the workplace, who is a symbol of authority for individuals. In cultures where paternalistic leadership is dominant, there is a tendency to be concerned with the protection of those under their responsibility and to expect loyalty in return. Paternalistic leadership is seen as a system, principle or management practice in which the manager intervenes with his children with charity, like a parent (Gerçek, 2018; Aycan, 2001).

3.9 Autocratic Leadership

It is a type of leadership characterized by issuing orders unilaterally or giving directives independently of other people (Güney, 2004). Its most important disadvantage is seen in the leader's excessive selfish behavior and not considering the followers' beliefs and feelings, even if they are verbal. In such cases, the desire to work is negatively affected and psychological dissatisfaction occurs in employees (Eren, 2015). In cultures where the autocratic leader is dominant, it is seen that policies are determined by the leader, technical steps are dictated by the authority and therefore future steps are always largely uncertain and employees are evaluated personally (Lewin et al., 2010).

4. Methodology

4.1 Purpose and Method of the Research

The purpose of this study is to identify patterns in academic research on leadership styles in healthcare settings over time, to illustrate the results, and to expose the development of leadership styles within the academic community. In this context:

- How have articles on leadership types in healthcare institutions changed over time?
- Which authors have the most publications and citations on leadership types in healthcare?
- Which countries lead in publishing and citing articles on leadership types in healthcare?
- What are the main keywords in articles about leadership types in healthcare?
- Which authors studying healthcare leadership types have the strongest collaborations?
- What theoretical and methodological patterns do authors studying healthcare leadership types share?
- Which authors and works on healthcare leadership types have the most bibliographic overlap?

Two effective techniques were used to address the research questions: performance analysis and scientific mapping (Noyons et al., 1999). Performance analysis is utilized to evaluate the publication output across various levels, such as authors, institutions, universities, or countries, by employing methods like publication counting to assess productivity (Thelwall, 2008). Bibliometric or scientific mapping analysis, on the other hand, is applied to identify relationships among publications and authors, thereby analyzing the structure and evolution of the research field (Guleria & Kaur, 2021). The VOSviewer software has been selected as a tool for bibliometric analysis (Ding & Yang, 2022) and the subsequent visualization of the intellectual structure due to its recognized strengths in functionality (Dirik et al., 2023). VOSviewer is widely regarded as an effective tool for analyzing and presenting bibliometric data in the form of visual maps (Cobo et al., 2011). In addition to its function as a data visualization tool, it also reveals findings such as the total connection strength that can represent the importance of analysis units such as articles, authors or countries in the literature (Wang et al., 2024).

4.2 Data

The study utilized content indexed in the Scopus database as its secondary data source. Scopus was selected due to its recognition as a prestigious international journal database that ensures article quality (Napitupulu & Yakub, 2021) and its status as the largest citation and abstract database of peer-reviewed literature, encompassing a wide range of disciplines (Md Khudzari et al., 2018). The data were retrieved from the Scopus database on August 27, 2024. The search strategy was designed to focus primarily on the topic of leadership types in healthcare institutions. The search string consisted of two main components: the first line included the terms "healthcare" OR "health services" OR "hospital," while the second line comprised "leadership style" OR "leadership type" OR "style of leadership" OR "type of leadership." These two lines were combined using the AND operator. The temporal scope of the search spanned from 1957, the earliest year available in Scopus, to 2023, the most recent year included. The search criteria were restricted to documents classified as articles only. Following this process, a total of 889 documents were identified. Subsequently, all retrieved documents were exported for analysis.

Regarding academic fields, most studies seem to be associated with Medicine (460), Nursing (321), Business Management and Accounting (126), Social Sciences (106), Psychology (42), Health Professions (27), Environmental Science (22), Economics, Econometrics and Finance (20), Decision Sciences (18), Engineering

(13) and some other fields.

5. Findings

5.1 Performance Analysis

When the distribution of articles on leadership types in health institutions is examined by year, it could be argued that attention to this topic has grown in recent years. Exponential growth is observed in publications related to the concept every year. Especially in recent years, it is seen that the subject of leadership types has intensified in academic studies that frame health institutions (see Figure 1).

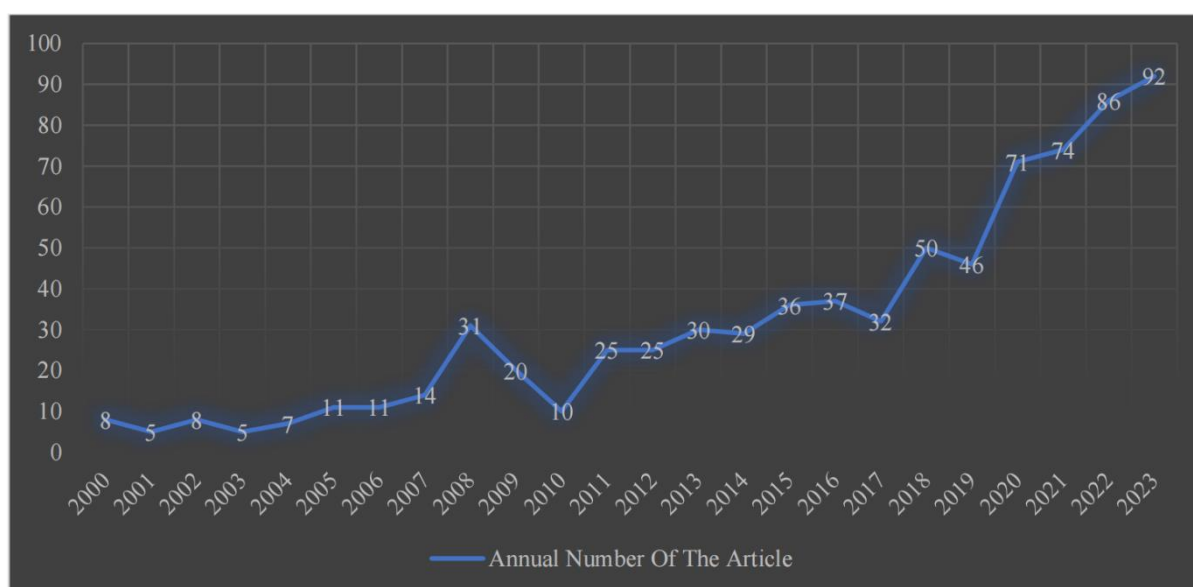


Figure 1. Distribution of publications

To understand the trends related to 889 articles focusing on leadership types in healthcare institutions, it is necessary to examine and analyze the most contributing authors, countries, and their affiliations. In this context, the United States, with 177 published articles on leadership types in healthcare institutions, emerges as the country with the highest number of publications. Additionally, Carol A. Wong, who has authored 7 articles on the same concept, stands out as the author providing the most quantitative contribution to the literature, while also being the most cited author with 1,143 citations to these publications. (see Table 1).

Table 1. Results of performance metrics

Most Published Countries	Most Productive Authors	Most Cited Authors
US (177)	Carol A. Wong (7)	Carol A. Wong (1143)
UK (116)	Karina Nielsen (5)	Karina Nielsen (860)
Australia (40)	Foroozan Atashzadeh-Shoorideh (5)	Raymond Randall (659)
Indonesia (39)	Maasoumeh Barkhordari-Sharifabad (4)	Johanna Yarker (659)
Canada (38)	Leodoro J. Labrague (4)	Greta G. Cummings (458)

When we look at the academic disciplines that approach the subject of leadership types in healthcare institutions differently, the majority of the studies appear to belong to Medicine (460), Nursing (321), Business Management and Accounting (126), Social Sciences (106), Psychology (42), Health Professions (27), Environmental Science (22), Economics, Econometrics and Finance (20), Decision Sciences (18) Engineering (13) and some other fields.

5.2 Co-authorship of Authors

A network map was created by co-authorship analysis of the authors to determine the most connected and collaborating authors by determining the criteria of at least 1 publication and at least 1 citation. According to the analysis conducted among the authors with the highest links, it is seen that 25 names are united in 3 clusters, with a total of 156 connections and a total connection strength of 207. It is understood that the authors with the strongest connection strength are Harald Gündel (35), Florian Junne (35), Monika A. Riegel (35), and Felicitas Stuber (35)

(see Figure 2).

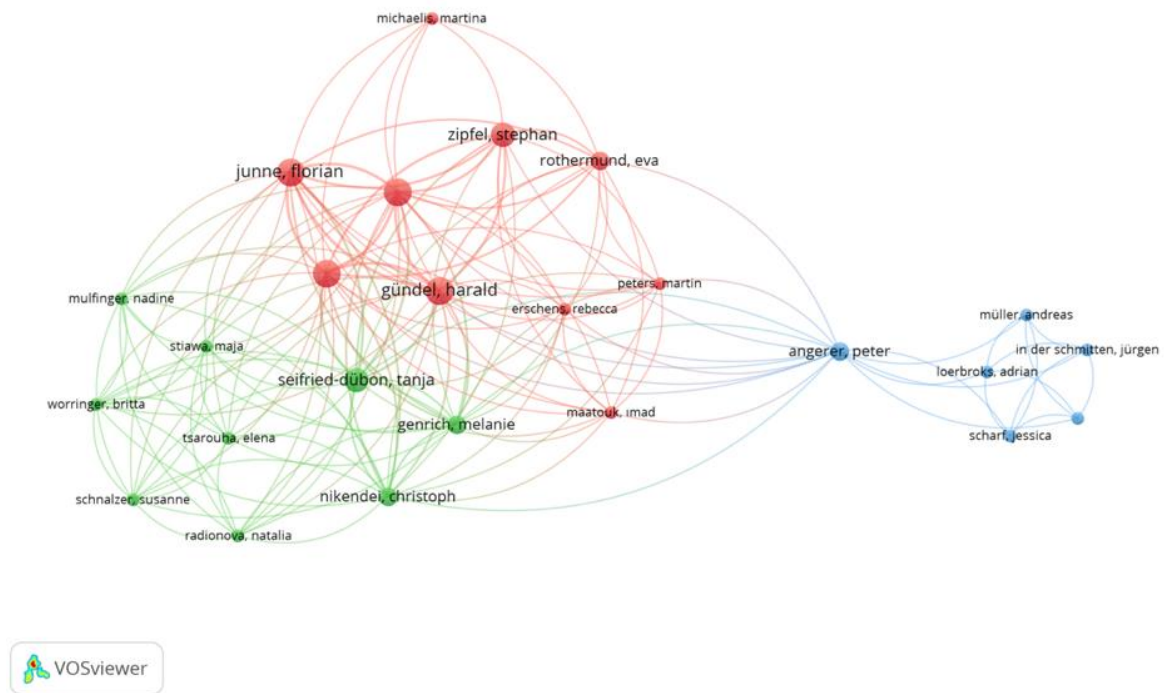


Figure 2. Co-Author network showing collaboration between authors

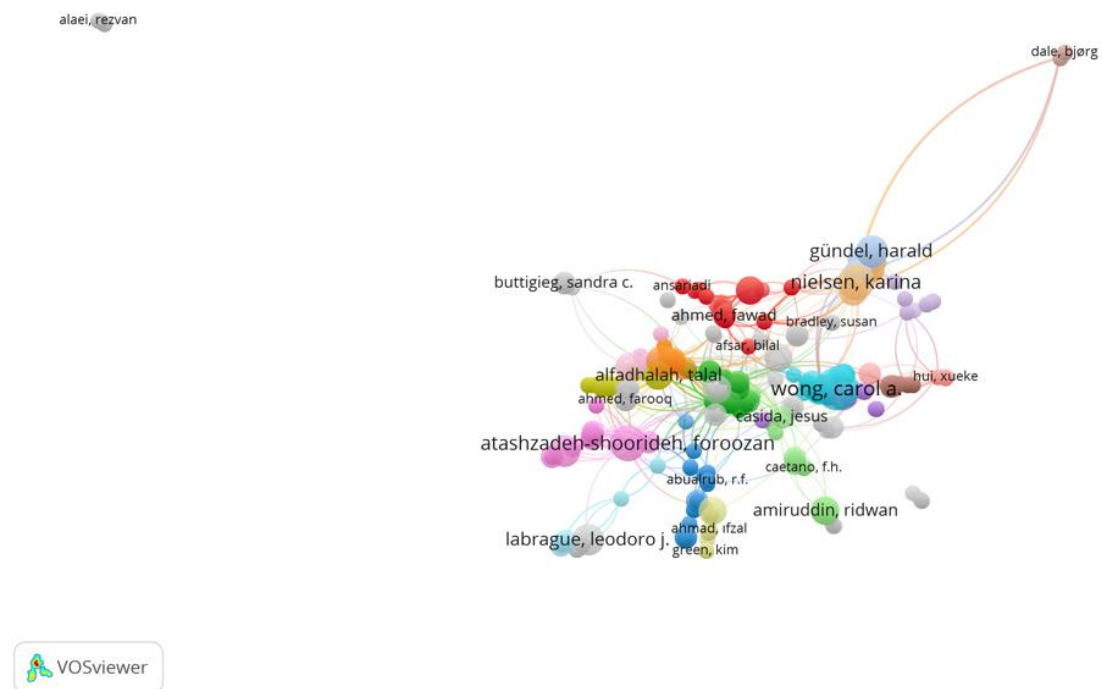


Figure 3. Authors' citation networks

5.3 Citation of Authors

A network map was created for author citation analysis based on at least one publication and at least one citation to determine citation networks. As a result of the analysis conducted on 634 interconnected units, a total of 31 clusters were determined, while 2,853 links and a total link strength of 3,052 were observed. The most cited authors

were determined to be Carol A. Wong with 1,143 citations, Karina Nielsen with 860 citations, and Raymond Randal and Joanna Yarkel, each with 659 citations. Among these authors, Karina Nielsen, Raymond Randal, and Joanna Yarkel also rank in the top three in terms of total link strength. However, it was observed that Carol A. Wong, the most cited author, does not appear among the top 20 in terms of total link strength (see Figure 3).

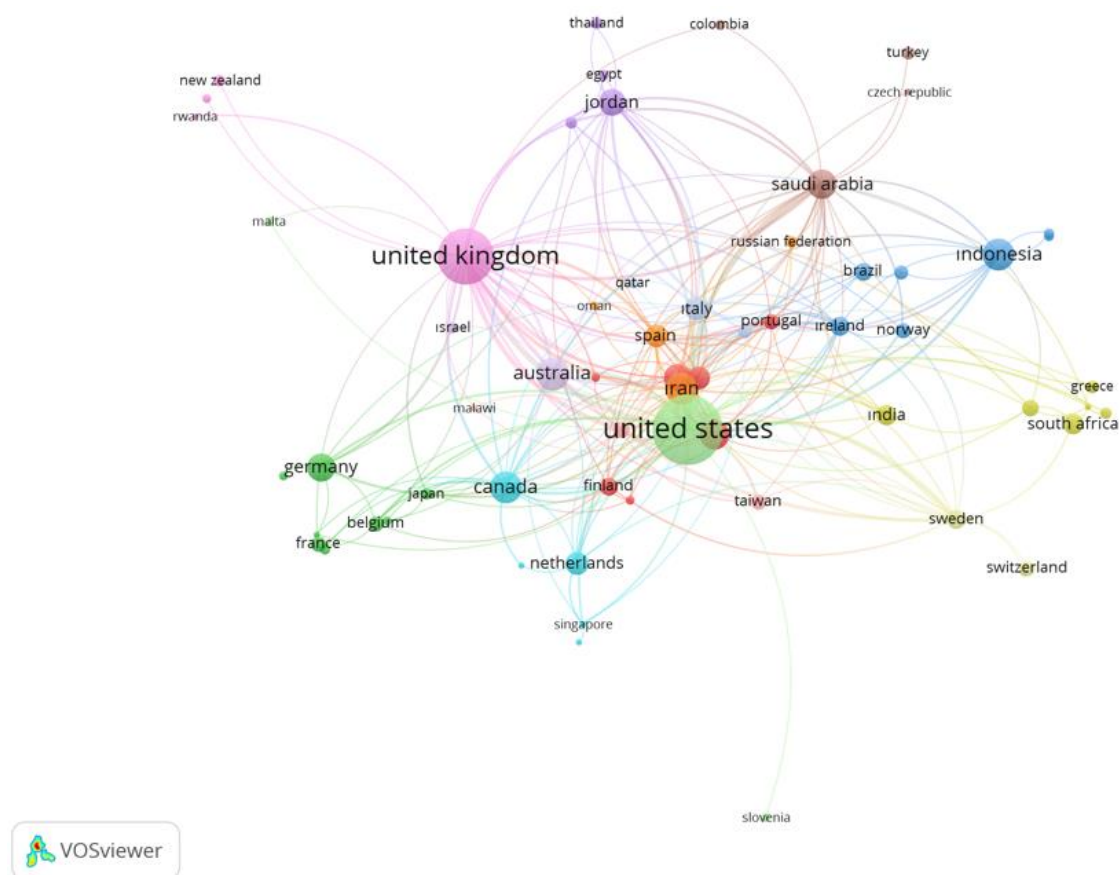


Figure 4. Countries' citation networks

5.4 Citation of Countries

To construct a network map of citations by source country of publications, an analysis was conducted based on the criteria of at least one publication and one citation per country, encompassing 102 interrelated observation units. As a result of the analysis, 14 clusters were identified, 256 links and 523 total link strengths were observed. The countries receiving the highest number of citations were determined as the United States (4,837 citations), the United Kingdom (3,247 citations), and Canada (1,880 citations) (see Figure 4).

5.5 Co-occurrence of All Keywords

An examination of the most frequently used keywords in publications related to leadership types in healthcare institutions reveals that the terms "leadership" (191 occurrences), "nurses" (137 occurrences), "leadership style" (116 occurrences), "transformational leadership" (85 occurrences), and "job satisfaction" (43 occurrences) are the most prominent. In terms of the total strength of links, the most prominent terms identified are 'leadership,' 'nurses,' and 'leadership style.' An analysis of observation units with a minimum of three occurrences and established interrelations revealed a total of 14 clusters, 1301 links, and a total link strength of 1950. It can also be observed that the usage density of author keywords published regarding the concept has changed (Figure 5) in the last 20 years.

5.6 Bibliometric Coupling of Articles

Bibliographic coupling pertains to the instance in which two separate sources reference a shared publication. As a result of the analysis conducted with 670 units of works selected according to the criteria of receiving at least one citation and being connected to each other through citations, 15 clusters were determined, while 12,521 links

and 17,876 total link strengths were observed. The publications with the highest bibliographic coupling were Wong (2013) with 387 citations, Larrabee (2003) with 349 citations, and Salanova (2011) with 322 citations. The publications exhibiting the highest link strength were Hussain & Khayat (2021), Pahi et al., (2020), Nielsen et al., (2008) (see Figure 6).

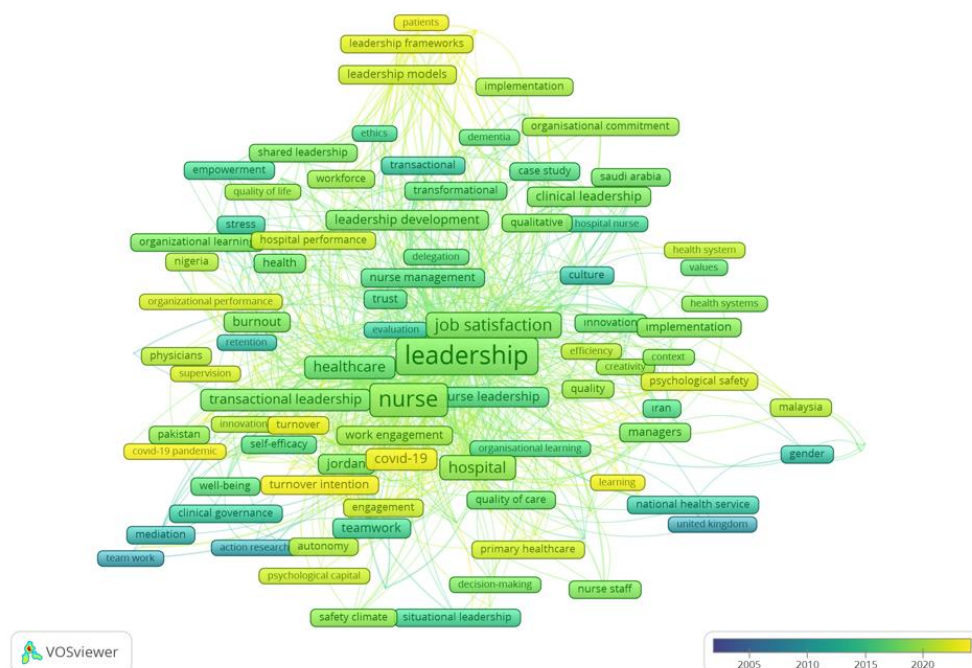


Figure 5. Most common keyword links

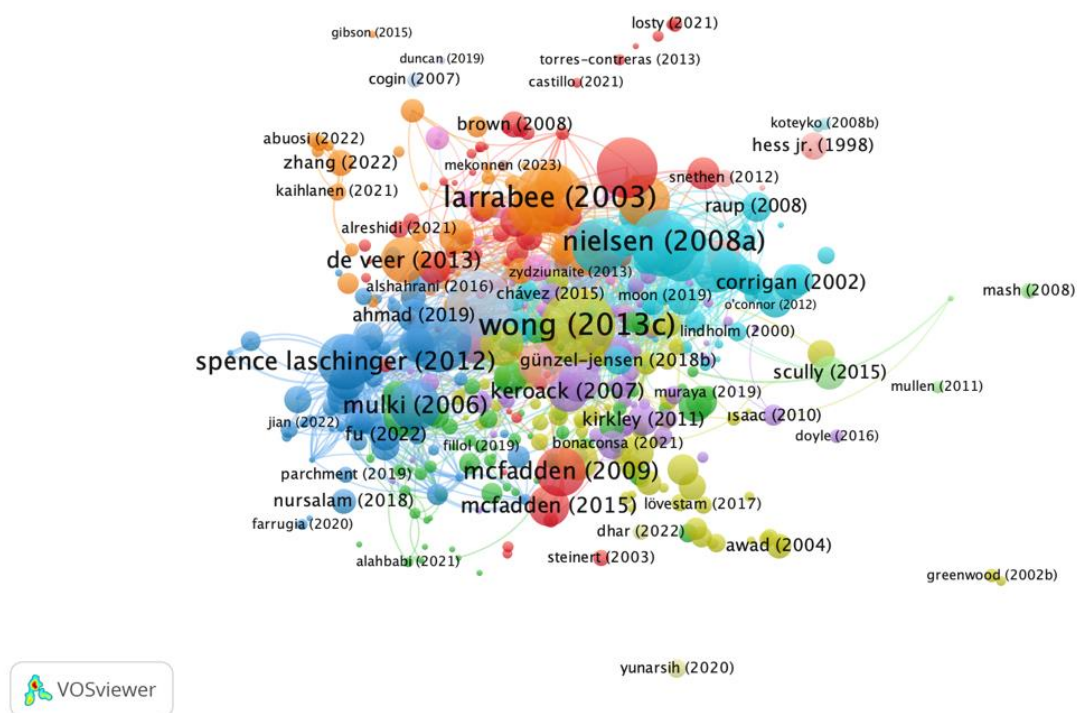


Figure 6. Bibliographic matching links of articles

least one work, receiving at least one citation, and being connected to each other through citations, 42 clusters were obtained, while 147,523 links and a total link strength of 429,104 were observed. The authors with the highest bibliographic coupling were Carol A. Wong with 1,143 citations (5,249 link strength), Karina Nielsen with 860 citations (5,267 link strength), and Raymond Randall and Joanna Yarker, each with 659 citations (3,672 link strength) (see Figure 7).

5.8 Co-citation of Co-authors

In a publication, different sources cited together are referred to as co-citation. According to the analysis conducted with 758 units selected according to a minimum of 10 citations, a total of 8 clusters were determined, while 90,177 links and a total link strength of 356,638 were observed. The authors with the highest co-citation were identified as B. M. Bass (467), B. J. (440), and C. A. Wong (192) (see Figure 8).

6. Results and Conclusion

This study examined academic publications focusing on leadership types in healthcare from a bibliometric perspective, revealing the general trends of the field, and its most productive authors and countries. The analysis, which was conducted based on 889 articles published between 1957 and 2023 in the Scopus database, showed that academic interest in the subject has increased significantly, especially in recent years.

It is understood that most publications are concentrated in the fields of medicine, nursing and business management and accounting, and the subject of leadership types has an interdisciplinary structure. While the USA, England and Australia are the countries with the most publications; Carol A. Wong, Karina Nielsen and Maasoumeh Barkhordari-Sharifabad stand out as the most productive authors. In this context, it is expected that the literature on leadership types in health services will deepen with more interdisciplinary collaborations in the future and will be enriched using different methodological approaches.

The co-author, citation and bibliographic matching analyses showed that the most cited authors are not always the most connected authors, and that productivity alone does not determine network connectivity. The countries with the most citations were the USA, the UK and Canada, respectively. The analysis results show that academic interest in this field has increased significantly, especially since 2007, and leadership types are increasingly discussed in the field of health care.

The results obtained reveal that academic studies on leadership types in healthcare services are increasingly gaining importance and provide an important roadmap for future research in this area. In addition, it is understood that this area, which has a high potential for interdisciplinary work, is open to enrichment with different perspectives. For future research, a more in-depth examination of how leadership types in healthcare services change in different cultural, managerial and organizational contexts offers an important opportunity area. More attention to practices and leadership approaches in developing countries will reduce the geographical imbalance in the literature. In addition, conducting multi-center, comparative studies that address the effects of leadership types on patient outcomes, employee satisfaction and organizational efficiency from a holistic perspective will provide significant contributions to the literature. From the perspective of healthcare practitioners, adopting flexible leadership approaches that can adapt to different situations for effective leadership, encouraging interdisciplinary collaboration and strengthening communication and coordination within the team will increase both employee satisfaction and the quality of patient care.

In the preliminary analysis conducted in this research, Scopus was selected because it provided the highest quality and broadest coverage of the concept among the various databases. However, this choice represents a limitation of the study. Using multiple databases in bibliometric analysis can increase the comprehensiveness and accuracy of the results by providing broader coverage, complementary data sources, and interdisciplinary perspectives. Future research in this area may benefit from including other databases (such as Web of Science, PubMed, etc.) while carefully addressing the challenges associated with data integration to fully exploit the advantages of this approach. In addition, the use of methods such as systematic review or meta-synthesis in addition to bibliometric analysis will contribute to a more in-depth understanding of leadership types in healthcare services. Addressing the effects of leadership types on healthcare professional performance, patient satisfaction and service quality with qualitative and comparative methods will increase the knowledge in the field. In addition, new leadership styles that emerged after the pandemic were not included in this study. In future studies, their inclusion in the theoretical framework will be of great importance to reflect the evolution of the healthcare management approach in a more holistic way. In addition, the bibliometric analysis highlights that developing countries contribute fewer articles on types of leadership in healthcare institutions, which can be explained by several key factors. Limited financial resources and research infrastructure in these countries often limit the capacity to conduct specialized studies in this area. For these reasons, more studies on leadership approaches in developing countries are needed, and in this context, comparative studies investigating the effects of cultural, economic and organizational differences are recommended. Such studies will make significant contributions to

filling gaps in the literature and to more effectively managing healthcare services on a global scale. Finally, studies published in local languages or in journals not indexed in major databases such as Scopus, Web of Science or PubMed are often excluded from global bibliometric analyses, reducing their visibility. These findings suggest that future research is needed to address these gaps through targeted capacity building and increased global collaboration.

Author Contributions

Conceptualization, F.G.; methodology, E.Y.; formal analysis, E.Y.; resources, F.G.; writing—original draft preparation, E.Y. All authors have read and agreed to the published version of the manuscript.

Data Availability

The data used to support the research findings are available from the corresponding author upon request.

Conflicts of Interest

The authors declare no conflict of interest.

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