

Bibliometric Analysis of Global Research on Leadership Styles in School from 2000 to 2022

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Abstract

Purpose: The purpose of this study is to conduct a comprehensive analysis of global research conducted between 2000 and 2022, specifically focusing on leadership styles in schools. The study aims to identify and emphasize the key journals, authors, and documents that have contributed to the understanding of this topic.

Theoretical framework: In this sense, this paper is going to conduct a comprehensive analysis of global research conducted between 2000 and 2022, specifically focusing on leadership styles in schools.

Design/methodology/approach: This paper analyzed the bibliographic metadata associated with 484 Scopus indexed articles using thematic analyses.

Findings: The findings of the study reveal a significant upward trend in research on leadership styles in schools. Notably, the United States emerged as the leading country in terms of authors, affiliated institutions, and citations in this field. The study also identified several key concepts that have been extensively examined in relation to different leadership styles. These concepts include teacher job satisfaction, student achievement, innovation, organizational culture, and employee well-being. Furthermore, among the various leadership styles investigated, transformational leadership stood out as one of the most favored and commonly utilized styles in schools.

Originality/value:

This paper represents the first bibliometric study conducted on the topic of leadership styles in schools. Through a meta-analysis of the existing literature, the study established the prominence and utilization of transformational leadership style in the school setting. Furthermore, the paper provides valuable insights and implications for future research in this field, opening up avenues for further exploration and investigation.

Keywords: Leadership styles, bibliometric study, school, documents.

1. Introduction

Education is a fundamental aspect of society, and it plays a crucial role in shaping our future (Kingdon, 2017). It is the foundation of our society, and it helps us to develop our skills, knowledge, and abilities. Education is not only about learning academic subjects, but it also teaches us life skills, social skills, and values that are necessary for our

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personal and professional growth (Jalan and Glinkysya, 2013). Education has numerous benefits and is essential for personal and societal development. It helps us to develop and nurture various skills (Jain and Prasad, 2018). Education also teaches us how to communicate effectively, work in teams, and collaborate with others. It provides us with the knowledge and skills necessary to pursue our dreams and achieve our goals (Sharma and Deppeler, 2005). Moreover, education is essential for economic growth and development. It helps to create a skilled workforce that can contribute to the growth of industries and businesses (Singal, 2006). By providing individuals with the skills and knowledge necessary to secure better-paying jobs, education can pave the way for financial stability and upward mobility. Furthermore, education can empower individuals to make informed decisions about their health, their communities, and their futures (Rajput and Walia, 2001).

India is a country that has always placed a high value on education (Kumar and Azad, 2016). The education sector in India has undergone significant changes over the years, and it has become a crucial aspect of the country's growth and development. Education is essential for the economic growth of any country (Sahni, 2015). In India, the education sector is a crucial component of the country's economic development, serving as a foundation for progress and prosperity. Education along with educational leaders is instrumental in determining our children will develop in future (Murphy et al., 2017). These leaders are responsible for creating a positive learning environment, developing effective teaching strategies, and ensuring that students receive the best possible education (Leithwood, 2005). Educational leaders are responsible for setting the tone for the school and creating a positive learning environment (Gronn, 2003). They are responsible for developing policies and procedures that promote student success and ensure that teachers have the resources they need to provide quality education (Brauckmann et al. 2023). Additionally, educational leaders are responsible for developing and implementing strategies that promote student engagement and success. Effective leadership style is essential for the performance of students and school (Ahmed, 2023). Educational leaders who are effective in their roles have a significant impact on student achievement (Karadag, 2020). Effective leaders also have the ability to develop and implement strategies that promote student success and ensure that teachers have the resources they need to provide quality education (Chen et al. 2022).

Effective educational leaders possess several key characteristics that enable them to be successful in their roles (Adangabe and Boateng, 2022). These characteristics include strong communication skills, the ability to inspire and motivate others, a commitment to continuous improvement, and the ability to make difficult decisions (Britwum et al. 2022). Additionally, effective leaders-built learning environment by establishing a relationship with students.

Also, education is the backbone of any society, and the role of educational leaders cannot be overstated. Since, educational leaders are responsible for shaping the future of our society by providing quality education to students (McNair, et al. 2022). However, not all educational leaders with different styles have influence on students' performance (Harrington, 2022). There are several leadership styles that educational leaders can adopt, including autocratic, democratic, transformational, and laissez-faire. Autocratic leaders, who wield absolute power and authority, often make decisions without consulting their team members or taking their opinions into account. This style of leadership is characterized by a top-down approach, where the leader dictates what needs to be done and expects their team to follow their every command without question while democratic leaders are opposite to autocratic leaders (Masto, 2022). Transformational leaders motivate their team members to achieve the desired goal. On the other hand, laissez-faire leaders, their team member play their role and take decision independently. While both styles of leadership can be effective in different contexts, transformational leaders have well empowered and engage team and tackle the challenges effectively to accomplish the

goal (Ferdinandi and Kiwonde, 2023; Britwum et al. 2022). The leadership style that an educational leader adopts can have a significant impact on their institution (Sakiru et al. 2022). Autocratic leaders may be effective in situations where quick decisions need to be made, but their team members feel unappreciated and undervalued because of negative work environment created by autocratic leaders (Maryam et al. 2022; Adangabe and Boateng, 2022).

Choosing the right leadership style is essential for educational leaders who want to create a positive work environment and achieve success for their institutions. It is important for leaders to understand their own strengths and weaknesses and to choose a leadership style that aligns with their values and goals. Educational leaders should also consider the needs of their team members and the institution when choosing a leadership style. They should strive to create a work environment that is supportive, collaborative, and focused on achieving shared goals. Thus, based on the above discussion, a systematic review has been conducted on the different leadership styles used by educational leaders in school. Further, no bibliometric research has been conducted on the leadership styles used by educational leaders in schools. This research gap is fulfilled by bibliometric review which was used in this study by means of VOS viewer software.

Furthermore, Scopus database was used in this paper for bibliometric review and the research documents are included from 2000 to 2022. One of the main reasons for selecting Scopus database is that the availability of wide range of documents across different disciplines and citation database. Also, Mongeon and Paul-Hus (2016) indicated that it has the complete databases in the social sciences. Even though the Web of Science (WoS) is another alternative and it is used traditionally. However, many studies favored the use of Scopus database instead of Web of Science (WoS) because Scopus database is well articulated for citation analysis and literature search (Meho & Yang, 2007; Vieira & Gomes, 2009). Moreover, as Mongeon and Paul-Hus (2016) noted that Scopus database has already included those journals which are indexed in WoS with higher number of journals than WoS.

Bibliometrics involves the quantitative analysis of research publications, citations, and collaborations. It serves as a valuable tool for researchers, institutions, and funding agencies to assess the impact and productivity of research in a quantitative manner. Bibliometrics mapping is a graphical representation of bibliometric data that helps to visualize the relationships between authors, journals, and research topics (Peters & VanRaen, 1991; Small, 1973; Kessler, 1963; Callon et al., 1983). VOS Viewer is a popular bibliometrics mapping software that provides a user-friendly interface and advanced features for bibliometric analysis (van Eck & Waltman, 2010).

2. Methods

The objective of this comprehensive study is to provide a much-needed structure and clarity to the scattered and extensive body of literature on different leadership styles that has been published from 2000 to 2022. In this study, the researchers have decided to use bibliometric analysis to analyse the trends on leadership styles. With bibliometric analysis, data is collected and analyzed on the content, structure and use of literature, including the amount of research that has been conducted in a particular field or subject area (Rey-Martínez et al., 2016). By examining this data, researchers can identify patterns and trends in the literature, which can help them to better understand the current state of research in their field and to identify areas where further research is needed.

Bjork et al. (2014) argued that one of the major benefits of bibliometric analysis is its ability to provide a comprehensive and high-level understanding of a particular research field. By analyzing patterns and trends in publication output, citation patterns, and collaboration networks, bibliometric analysis can reveal important insights into the

development and direction of a research field over time. With this information, researchers can make informed decisions about where to focus their efforts and how to best contribute to ongoing discussions and debates within their field. The use of bibliometric studies, a popular method of research analysis in the natural sciences, is gaining traction in the social sciences as well. By analyzing data such as publication and citation records, bibliometric studies allow researchers to gain insights into the impact and influence of specific publications, authors, and research fields. As research becomes increasingly interdisciplinary, the use of bibliometric studies in social sciences can help to identify emerging trends and collaborations, as well as inform policy decisions. There are numerous studies conducted in past which have used VOS viewer for performing bibliometric analysis (Diem & Wolter, 2013; Zou et al., 2015). In addition to the Social Sciences, bibliometric methods have been employed in various other disciplines, as highlighted by Nederhof (2006) and Schui and Krampen (2010). These methods have found applications in fields such as Management, as demonstrated by Fernandez-Alles and Ramos-Rodríguez (2009), as well as in the domain of Industrial/Organizational Psychology, as explored by Piotrowski (2012) and Carlson and Millard (1984).

As per the guidance of Moher et al., (2009), PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) has been used in this study. Using Scopus database, the researcher extracted the documents from 2000 to 2020 to examine the research and trends on leadership styles used in school. After conducting a thorough search process and screening the data, all eligible records were carefully selected and subjected to a detailed bibliometric analysis. This involved examining the publication patterns, citation rates, and impact of each record to gain a deeper understanding of their significance in the field. Bibliometric analysis analyse publication data quantitatively using descriptive approaches. This method involves using bibliographic data to generate statistical measures that can provide insights into various aspects of research, such as the productivity of authors, the impact of publications, and the trends in a particular field (McBurney & Novak, 2002). The main variables which are associated with bibliometric analysis are authors, journals, countries, institutions, keywords, trends and references (Abramo et al., 2011).

Therefore, for this paper use bibliometric analysis to analyse research trend on leadership styles using Scopus database to search the document from 2000 to 2022. Since Scopus has built-in analyzer features, it was decided to use them for the majority of the descriptive analysis. These features were extremely helpful in providing in-depth insights and useful statistics. Moreover, they made the task at hand easier and more efficient, allowing for a more thorough analysis (Choudhriet al., 2015). To gain a more comprehensive understanding of leadership styles, the study utilized VOS Viewer software to analyse the publication data quantitatively. This included a detailed analysis of citations, co-occurrences, and countries of origin. The software allowed for a more in-depth exploration of the trends and patterns present in the research, highlighting key themes and areas of interest. By utilizing this powerful tool, the study was able to provide a nuanced and detailed analysis of leadership styles (Costa et al., 2019; Ferreira et al., 2015).

3. Literature research

The duration of search associated in Scopus database with leadership styles were taken from 2000 to 2022. The search terms used the keywords like : “leadership style,” “educational leader,” “school leader,” and “school,” which were used in the study.

The primary focus of the search was to conduct a thorough analysis and mapping of existing leadership style literature in schools only. Further only research articles were included in the study which was extracted from Scopus database.

Figure 1 illustrates how the PRISMA guidelines provide explicit instructions on the necessary procedures for reporting the identification of documents in a systematic review of the study. These guidelines offer clear and standardized guidance to ensure transparency and accuracy in the reporting process.. These guidelines have been developed to ensure that the process of conducting a systematic review is meticulously documented, and that the results of the study are transparent and replicable. By following these guidelines, researchers can report their findings with confidence, knowing that they have adhered to the highest standards of scientific rigor(shown in Figure 1). This study aimed to analyze the leadership literature in the context of school. The parameters which was used during Scopus database search are listed as follows:

- Inclusion: 2000 to 2022
- Inclusion: Searching keywords: “leadership styles”OR “transformational styles”OR "situational leadership" OR "democratic leadership" OR"authoritarian leadership") AND TITLE-ABS-KEY ("school" OR "higher secondary schools")
- Inclusion: Domain type: "social sciences",
- Inclusion: Document type: Articles
- Exclusion: Language type: Other than English

Figure 1 depicts the selection process conducted using Scopus database for leadership style titles, abstracts, and author keywords. Initially, a total of 915 entries were identified. Following the application of inclusion criteria via Scopus filters, 484 records met the eligibility criteria and were retained for the subsequent bibliometric analysis.

4. Analysis of Results

Figure 2 displays the publication growth of leadership style articles from 2000 to 2022. Throughout this timeframe, the annual number of published articles varied, with the lowest being 10 articles in 2001 and the highest being 56 articles in 2022. This indicates an overall upward trend in the number of publications on leadership styles during this period.

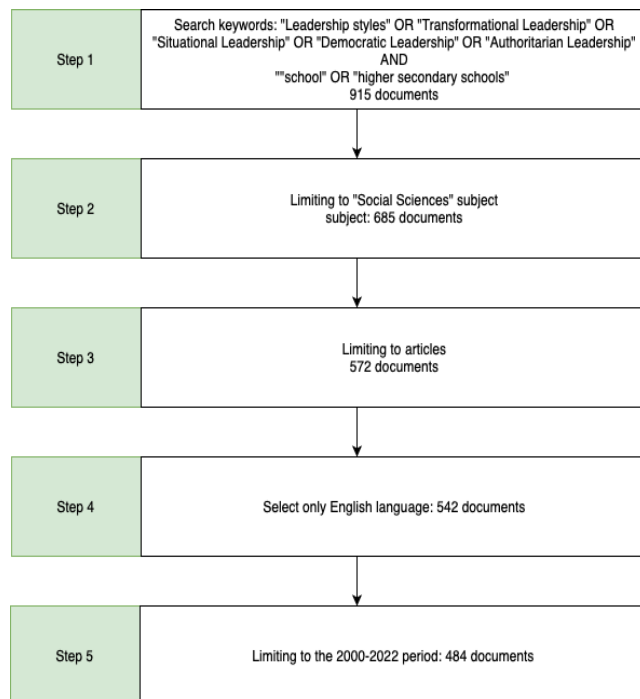


Figure 1. PRISMA flow diagram

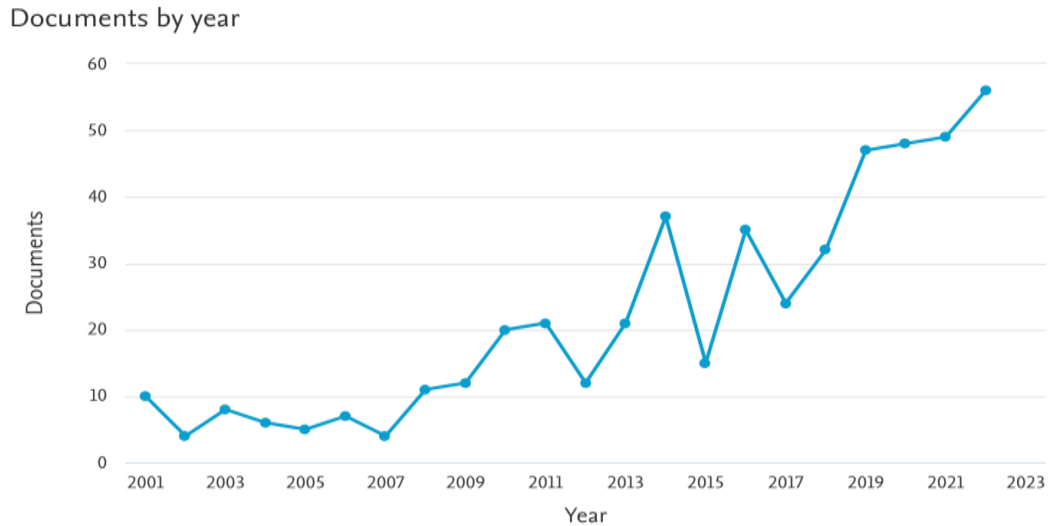


Figure 2. Publication on leadership style literature in the context of school from 2000 to 2022

After a decline in the number of papers published in 2016(35), compared to the previous year (15), the number of articles on these subjects increased continuously to 2022(56). A fall in article publications was observed from 2006-2007, 2011-2012, 2014-2015 and 2016-2017. Also, from 2017 to 2022 a continuous increase in publication was noted from 24 to 56. Based on the increasing trend observed in the publication of leadership style articles from 2000 to 2022, it is reasonable to anticipate that the interest in this field will continue to rise in the future. As research in leadership styles evolves and new developments emerge, it is likely that scholars, practitioners, and stakeholders will continue to explore and investigate this topic, leading to a sustained growth of interest and research output in the coming years.

Table 1 and Table 2 present an analysis of the top 10 authors, institutions, and countries that have published papers on leadership styles (demand side) outcomes from 2000 to 2022 in Scopus-indexed journals. The analysis is based on the number of publications and citations as key metrics for evaluation.

Table 1. The Top 10 authors, institutions, and countries for published articles

Author	PA	Institution	PA	Country	PA
Arar, K.	7	The Education University of Hong Kong	10	United states	79
Pashiardis, P.	7	Open University of Cyprus	10	United Kingdom	42
Brinia, V.	4	North-West University	9	Turkey	37
Woods, P.A.	4	Hebrew University of Jerusalem	8	South Africa	35
Adams, D.	3	University of Johannesburg	7	Indonesia	30
Afshari, M.	3	YakınDoğuÜniversitesi	7	Malaysia	30
Bakar, K.A.	3	Universiti Putra Malaysia	7	Israel	28
Bush, T.	3	University of Nottingham	6	Cyprus	19

Fooi, F.S.	3	Universiti Malaya	6	Australia	17
Iasonos, S.	3	University of South Africa	5	Canada	13

PA: Published articles

Table 2. The Top 10 authors, affiliated institutions, and countries for total citation

Author	TC	Institution	TC	Country	TC
Bogler, R.	286	University of Nottingham, Nottingham, United Kingdom	301	United states	1319
Zembylas,M.; Iasonos,S.	74	University of Cyprus, Nicosia, Cyprus	122	United kingdom	1035
Urlick A.	65	open university of Cyprus, Nicosia, Cyprus	102	Israel	709
Afshari,M.; Bakar,K.A.; Luan,W.S.; Samah,B.A.; Fooi,F.S.	54	ISM university of management and economics, Vilnius, Lithuania	86	Turkey	317
Begley P. T.; Zaretsky I.	30	Department of educational leadership and policy studies, university of Oklahoma, Norman, ok, united states	65	Australia	292
Woods,P.A.	23	Faculty of educational studies, UniversitiPutra Malaysia, Malaysia	54	Cyprus	281
Wong,E.O.W.	19	school of education, the Hebrew university of Jerusalem, Jerusalem, Israel	51	South Africa	273
Crippen,C.; Wallin,D.	13	Zefat academic college, Zefat, Israel	49	Malaysia	189
Sibanda, I.	10	University of Nottingham, United Kingdom	44	Germany	172
Brinia, V.	9	AbuDhabi university, AbuDhabi, united Arab emirates	39	HongKong	142

TC: Total citation

As per the Table 1, Arar, K. and Pashiardis, P. have published seven articles. Among the authors included in Table 2, Bogler, R. emerges as the most prolific author in terms of total citations, boasting an impressive 286 citations for their work on leadership styles, Bogler's work has clearly resonated with the academic community and has made a significant impact in the field. It's worth noting that while citation count isn't the only measure of an author's success, it is one important indicator of the reach and influence of their research. Brinia, V. emerged as the second most prolific author based on the total number of published articles (Table 1). Table 2 highlights Zembylas, M. and Iasonos, S. as the second most prolific authors based on total citations, with a notable count of 74 citations for their contributions in the field of leadership styles. Out of all the institutions that have conducted research on leadership styles is shown in Table 2. "The Education University of Hong Kong and University of Cyprus, Nicosia, Cyprus" with 10 published articles each, followed by the North-West University with University of Nottingham, Nottingham, United Kingdom is the most prolific institution, based on total citations (301 citations). When it comes to scientific research, the United Kingdom and Israel have consistently proven to be among the top performers. In fact, in a recent study, it was

found that the United Kingdom had a total of 1035 citations, while Israel came in a close second with 709 citations. These citations reflect the number of times that research from these countries has been referenced in other scientific studies, highlighting their contributions to the field.

Table 3 indicates that the journal "Educational Administration Quarterly" has been the most productive and influential in the context of leadership styles in schools, with a total of 930 published articles. On the other hand, the "Mediterranean Journal of Social Sciences" is identified as the least productive and influential journal in this area, with only 33 published articles on leadership styles in schools.

Table 3. The Top 10 journals and subjects

Order	Journal	Publisher	PA
1	Educational administration quarterly	Sage publications	930
2	Journal of educational administration	Emerald insight	737
3	Educational management administration and leadership	Sage publications	571
4	International journal of educational management	Emerald insight	380
5	International journal of leadership in education	Taylor & Francis	346
6	Teaching and teacher education	Elsevier	235
7	School leadership and management	Taylor & Francis	104
8	South African journal of education	African journals	78
9	Leadership and policy in schools	Taylor & Francis	57
10	Mediterranean journal of social sciences	Mediterranean centre of social and educational research	33

Co-citation is a metric used to measure the relationship between two articles in a database. This metric is determined by the number of times that two articles are co-cited by another article in the database. In other words, if two articles are frequently cited together in other articles, then they have a strong co-citation relationship. This metric is used in many fields, including scientific research and academic publishing, to help identify related research and to assess the impact of specific articles within a field. The number of citations a paper receives is a direct indicator of its popularity and relevance within the academic community. When a paper is cited frequently, it means that its ideas and research have made a significant impact on the field and are being used as a foundation for further study. To assess the level of prestige achieved by a specific paper, the fractional counting method is employed. This method calculates the total link strength by considering the number of times a paper is cited by highly cited works. This measure provides a robust indication of the paper's impact and influence within its respective field, as highly cited works are often considered significant contributions to the literature. By using the fractional counting method, researchers can gain insights into the perceived importance and recognition of a particular paper based on its citations from influential sources. With this approach, we are able to gain a more comprehensive understanding of a paper's significance and its contribution to the advancement of research and knowledge.

Table 4 provides an overview of the co-citation analysis based on the total strength link associated with 10 research articles published between 2000 and 2022. The total link strength is a comprehensive measure that considers both the popularity and prestige of a research article. It takes into account not only the quantity of links pointing to the article but also the quality and authority of those links. This analysis reveals the

interconnectedness and influence of these articles within the research landscape, highlighting their collective impact and contribution to the field.

Table 4. The Top 10 co-cited articles on a data set

Order	Article	Co-citations	Total strength link
1	Leithwood,K.	476	438.72
2	Bass,B.M.	469	402.45
3	Hallinger,P.	360	331.09
4	Avolio,B. J.	341	309.26
5	Harris,A.	272	248.3
6	Jantzi,D.	193	185.73
7	Bush,T.	139	124.63
8	Day,C.	131	125.75
9	Fullan,M.	128	120.36
10	Hoy,W.K.	114	100.51

Table 5 presents the top 10 keywords that have emerged as the most frequently used within the selected 484 articles published between 2000 and 2022, according to the study's methodology. These keywords have been carefully curated and analyzed to provide valuable insights into the predominant topics that have been extensively researched and discussed within the study's scope. This information offers a glimpse into the central themes and areas of focus in the literature on leadership styles in schools during the specified time period. The last column of Table 5 shows the total strength link. According to the observations made, the keyword "Leadership" stands out as the most frequent keyword, with 83 occurrences and a total link strength of 59. Additionally, the terms "Transformational leadership," "Leadership styles," and "Leadership style" are among the most frequently cited keywords, with 54 occurrences (total link strength of 42), 45 occurrences (total link strength of 32), and 43 occurrences (total link strength of 29), respectively.

Figure 3 visualizes the most influential subjects based on the keyword occurrence networks. This figure provides an overview of the interconnections and relationships between different keywords, shedding light on the prominent and influential subjects within the domain of leadership styles in schools. It helps identify key areas of research focus and the associations between different concepts in the field. In Figure 3, one can observe the network of keyword occurrences that has been developed to determine the most influential subjects. By analyzing the interactions between the keywords, the network has highlighted the subjects that have the most impact on the overall topic. These keywords are extracted from the Scopus database (Van Eck and Waltman 2014). To explore the most relevant leadership styles used in school, we utilized VOS viewer software and the fractional counting method, which takes into account the number of keywords (key) used. This allowed us to thoroughly analyze the data and gain insights into the various leadership styles that are most commonly used in schools. By using these sophisticated analytical tools, we were able to identify patterns and trends that would have been difficult to discern otherwise, providing us with a deeper understanding of the topic at hand.

Table 5. The Top 10 keywords occurrence on a data set using fractional counting method

Order	Article	Occurrence	Total strength link
1	Leadership	83	59
2	Transformational leadership	54	42
3	Leadership styles	45	32
4	Leadership style	43	29
5	School leadership	32	22
6	Principals	27	24
7	Teachers	18	16
8	Schools	17	16
9	Instructional leadership	16	14
10	Distributed leadership	15	11

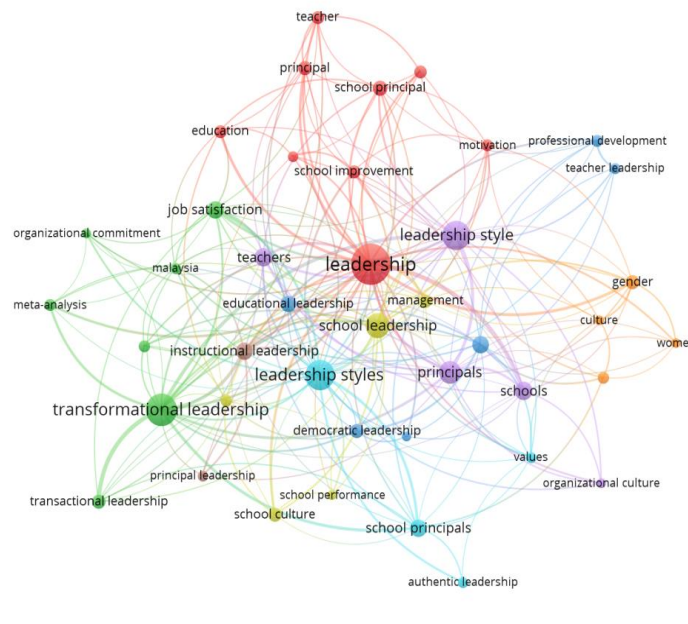


Figure 3. Network of keyword occurrences in the data set based on fractional counting method.

From Figure 3, it is shown that keywords such as leadership (occurrences: 83, Links: 103), transformational leadership (occurrences: 54, Links: 72), leadership styles (occurrences: 45, Links: 53), principals (occurrences: 27, Links: 47), leadership style (occurrences: 43, Links: 42), school leadership (occurrences: 32, Links: 37), schools (occurrences: 17, Links: 37), teachers (occurrences: 18, Links: 33), job satisfaction (occurrences: 15, Links: 27) and school principals (occurrences: 15, Links: 27) appeared strongly connected to leadership styles and explains that leadership style are generally used in the context of school and principals along with job satisfaction. Furthermore, the implication of those keywords is that they play a crucial and central role in the field of research on leadership styles. This idea has been emphasized by research leadership styles since the very beginning, highlighting the importance of understanding and recognizing

5. Discussion

The main objective of this paper was to conduct a comprehensive search and examination of publications focusing on leadership styles. To accomplish this objective, a bibliometric analysis was employed, utilizing the Scopus database as the primary source for articles published between 2000 and 2022. A global perspective on the literature related to leadership styles was established through a systematic review and analysis of 484 publications within the specified time frame.

To analyze and visualize various aspects of these publications, such as influential authors, journals, countries, institutions, and co-occurring authors and keywords, the research team utilized VOS Viewer software. This software facilitated the exploration of relationships among the publications, as well as the authors, institutions, and countries involved in their publication. The findings derived from this analysis have been presented in the tables and figures mentioned earlier, providing valuable insights into the landscape of leadership style research.

The findings of the study indicate a significant and consistent growth in research interest and publication outputs concerning leadership styles between 2000 and 2022. This upward trend suggests that the field of leadership styles is gaining increasing attention and importance among researchers. Moreover, based on this trend, it can be inferred that the interest in leadership styles is likely to continue expanding in the future.

These results are in line with a previous bibliometric analysis conducted by Samul (2020), which examined research topics from 2000 to 2015. It is noteworthy that Joanna (2020) also reported a similar observation of a growing number of leadership publications, with research topics focusing on areas such as leadership management, leadership performance, leadership models, leaders' behaviors, leaders' personalities, and team leadership. These interconnected research topics further emphasize the significance and relevance of leadership styles within the broader field of leadership studies.

Furthermore, the study identified Arar and Pashiardis, P. as the most prolific authors in the field of leadership styles, hailing from the United States and United Kingdom, respectively. However, when considering the influence of their publications, Bogler, R. emerged as the most influential author, with the highest number of citations for their published works. This finding highlights the significant impact and recognition of Bogler, R.'s contributions to the literature on leadership styles.

In addition, the most critical institution was University of Nottingham, Nottingham, United Kingdom which has employed the most prolific author. Bogler, R. and other ten researchers mostly focused on leadership styles. Jones (2020) covered different leadership styles that have been studied in the context of education, such as transformational, transactional, servant, or instructional leadership. It may also discuss the effectiveness of different leadership styles on various outcomes, such as student achievement, teacher job satisfaction, or school culture. The article by Morris et al. (2020) studied the role of leadership in establishing positive staff culture in a secondary school.

Lihua's (2022) study aimed to explore how different leadership styles impact teacher job satisfaction in schools. The results revealed that a participative leadership style had a positive correlation with teacher job satisfaction, whereas an autocratic leadership style had a negative correlation. In a meta-analysis conducted by Firmansyah et al. (2022), it was found that transformational leadership has an influence on teacher job satisfaction, self-efficacy, and commitment. Harrison (2011) suggested that instructor transformational leadership behaviors are a stronger predictor of cognitive learning, affective learning, perceptions of instructor credibility, and communication satisfaction compared to instructor transactional leadership behaviors. Garcia (2018) examined the connection between distributed leadership and teacher job satisfaction in Singapore, and

the findings indicate that distributed leadership significantly predicts teacher job satisfaction.

6. Conclusion

The comprehensive analysis revealed that the Educational Administration quarterly emerged as the most productive and influential journal when it came to leadership styles. However, the most influential journal in the leadership styles study is Leadership Quarterly. Furthermore, according to the findings, it was evident that the United States emerged as the most productive and the most affiliated country.

The study demonstrated that researchers from various parts of the world collaborated extensively with their counterparts from the United States, thereby reinforcing the country's position as a global leader in research and development. Sadif et al. (2023) also affirmed that the USA exhibited the highest productivity and affiliations, making it the most prominent and affiliated country. These findings were consistent with research conducted in other fields (Samul, 2020; Pan et al., 2023), indicating the United States' overall dominance in scientific research across disciplines. The United States has earned a reputation for being at the forefront of leadership style research, thanks to the presence of influential institutions and renowned researchers in the field. The country's commitment to comprehensive and rigorous research has resulted in numerous groundbreaking discoveries, advancing our understanding of leadership and its various styles.

The study found that the keywords leadership styles, transformational styles, situational leadership, democratic leadership and authoritarian leadership have shed some interesting insights into the field of leadership styles exploration in recent years as these are linked with job satisfaction, student achievement and school improvement. In addition, transformational style is the most inflectional style in school used by teachers and principals.

7. Implications

The study aims to enhance the knowledge of leadership research by presenting a comprehensive review of publications and current characteristics. The findings of the search and bibliometric analysis offer valuable insights that can guide and aid future on leadership research and increase its visibility.

8. Limitation and Future Recommendations

Like other studies, this study has limitations that need to be addressed. Firstly, the information provided in this study is informative and supplementary in nature. Its aim is to offer guidance and support to the most significant and influential studies on leadership styles. Our analysis was conducted using Scopus data, which provides a comprehensive coverage of social science research (Mongeon & Paul-Hus, 2016). However, it is important to note that some significant journal articles may have been missed due to the possibility of "stray citations" and limitations inherent in bibliometric databases (Jacso, 2008). However, despite potential limitations, the comprehensive Scopus database allowed us to gather a broad range of research in the leadership style field, providing valuable insights into the most relevant and impactful studies to date. It is important to acknowledge that the information presented in this study may evolve over time as research priorities and trends shift among scholars. Although our sample accurately represents the leadership field, future research could explore other databases, such as Science Direct, to obtain bibliometric data on leadership styles. Additionally, exploring

master's or doctoral dissertations could provide a broader perspective, as innovative ideas may arise from unexpected sources.

Acknowledgements

Competing Interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Author Contributions

All authors contributed equally to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

Funding

The author(s) received no financial support for the research, and publication of this article from any funding agency in the public, commercial or not-for-profit sectors.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

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