BREAKING THE SILENCE: A SCIENTIFIC MAP OF THE GLOBAL ACADEMIC LITERATURE ON WHISTLEBLOWING IN HEALTHCARE FACILITIES

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Abstract

"Whistleblowing," which can be defined as the exposure of unethical/illegal behaviors in businesses through various events, has become a current topic related to ethics in businesses. Whistleblowing can be seen in various studies in fields such as "healthcare management," "business," and "education." Information on studies examining articles published in peer-reviewed journals in the social sciences and health literature provides important information to researchers. For this purpose, the method used in this study is bibliometric network analysis. This method was chosen to reveal the current, past, and future trends of the field by examining publication trends, keyword analyses, most cited fields, countries/institutions with the most publications through collaboration networks, and so on, in global whistleblowing studies in this field in healthcare organizations. To answer the research questions, a search was conducted in the Scopus database on June 23, 2025, using four keywords. Bibliographic data (6412 publications: 4251 of which were articles, totaling 1097 articles with inclusion criteria) obtained from the relevant database as a result of the search were analyzed using the VOSviewer program. Consequently, this research will guide future studies on whistleblowing in the healthcare field.

Keywords: Whistleblowing, Ethic, Business, Health, Healthcare Facilities, Bibliometric Analysis.

Introduction

Whistleblowing is the act of informing someone who has access to information within the organization, even though it is not mandatory, to a person or institution outside the organization with the authority to correct the injustice, to disclose information about a real or suspected injustice or a significant illegality within the organization (Jubb, 1999; Cemaloglu & Akyurek, 2017). This act of disclosure, undertaken to eliminate or minimize the injustice, can be described as a conscientious action (Saygan & Beduk, 2013).

Whistleblowing is not merely a narrow ethical concern. On the contrary, it is a multifaceted research area that intersects with organizational behavior, psychology, leadership, and public administration studies at many points (Judijanto & Wifasari, 2025). Whistleblowing, which has gained momentum in public and private institutions and organizations over the last decade (Bora & Gherghina, 2025), is also referred to in the literature as "Organizational Misconduct/Wrongdoings" or "Principled Organizational Dissent" (Aktan, 2015).

The individuals who best understand unethical behaviors and activities occurring within a company (incidents that threaten patient safety, psychological harassment, and the production of products that are harmful to health) are the employees within the organization (Saygan & Beduk, 2013). In healthcare institutions and organizations, many experts from a wide range of professions work together.Whistleblowing kurumu ve toplumu tehdit eden her türlü durumda

yapılabilir. Bununla birlikte sağlık sektörü hatanın tolere edilemediği ve derhal düzeltici faaliyetlerin yapılması gereken kritik bir alandır (Ozer, 2021, p. 18).

This study was conducted using bibliometric analysis to examine studies on whistleblowing in healthcare organizations. In this context, the aim is to provide a general perspective on the subject by conducting a bibliometric analysis of academic publications on organizational toxicity in the Scopus database. The results on the researched topic are expected to create potential research opportunities for future researchers and are intended to guide future research. This study seeks answers to the following questions using the four keywords specified in the methodology section of the study in the Scopus database:

• a. What is the distribution of academic publications on whistleblowing in healthcare organizations by year?

• b. What is the distribution of academic publications on whistleblowing in healthcare organizations by publication type?

• c. What are the co-authorship relationships that demonstrate collaboration among authors in articles on whistleblowing in healthcare organizations?

• d. What are the most cited authors and their citation relationships in articles on whistleblowing in healthcare organizations? • e. What are the most cited countries and their citation links in articles on whistleblowing in healthcare settings?

• f. What are the most cited institutions and their citation links in articles on whistleblowing in healthcare settings?

• g. What are the most frequently used keywords in articles on whistleblowing in healthcare settings?

• h. What is the bibliographic matching analysis of articles on whistleblowing in healthcare settings?

• i. What are the bibliographic matching links of authors in articles on whistleblowing in healthcare settings?

• i. What is the co-citation analysis of authors in articles on whistleblowing in healthcare settings?

This research also aims to provide a guiding framework for future research by revealing the development process of academic studies on whistleblowing in healthcare facilities through a bibliometric analysis conducted in line with these research questions.

There are many studies on whistleblowing in the literature (e.g.: Atay, Gonul & Yasar, 2025; Zimmermann, 2025; Schmolke & Utikal, 2025; Lafleur, Hasso & Barbera, 2025 etc.). The number of studies on whistleblowing in the field of healthcare is more limited. It can be said that studies on whistleblowing in healthcare are generally prepared in the form of review articles that aim to provide information on the subject and do not include any research or in the form of research articles using the survey method (e.g.: Bora & Gherghina, 2025; El-Gazar et al., 2024; Filiz & Blenkinsopp, 2025; Abdelrahman, Nashwan & El-Boudy, 2025). The number of studies investigating the subject of whistleblowing in businesses through bibliometric analysis is quite limited (e.g.: Judijanto & Wifasari, 2025); Research involving bibliometric analysis on whistleblowing in healthcare settings was relatively scarce at the time of this study. This study is unique in that it uses a bibliometric analysis method to examine publications on

whistleblowing in healthcare available in the Scopus database at the time of the study, using four keywords in the method section.

METHOD

This study aimed to conduct an in-depth examination of studies on whistleblowing in healthcare using bibliometric analysis. This study first included relevant literature, followed by the study's methodology, findings, discussion, and conclusion sections. The study followed three stages: planning, implementation, and results analysis for the review of relevant publications (Park and McKilligan, 2018; cited in: Yılmaz, 2024).

The research methodology employed bibliometric analysis. According to Donthu (2021), bibliometric analysis is a highly popular method for analyzing large volumes of scientific data and is also a definitive method (Donthu et al., 2021). Many tools are available for bibliometric analysis, including CiteSpace, HistCite, and the R Bibliometrix package. Among these, Visualization of Similarities Viewer (VOSviewer) is becoming popular in bibliometric studies with its visualization capabilities and usability in loading and exporting information from many sources to create and visualize maps based on network data (Cited by: Konu Kadirhanogulları and Kose, 2023).

The Scopus database was used within the scope of the research. The reason for retrieving the academic publications in the study solely from the Scopus database is to prevent re-evaluation of the same studies that exist in different databases alongside the Scopus database. Furthermore, Alsharif, Salleh, and Baharun (2020) stated that Scopus is considered the largest abstract and citation database covering a wide range of topics. Therefore, the Scopus database perhaps covers more topics than those found in the Web of Science (WOS) (Alsharif, Salleh, and Baharun, 2020). The choice of the Scopus database for this study is also an important factor in terms of the reliability of this research. The past, present, and future of the studies in the literature on the subject were visualized from a holistic perspective. Academic publications prepared on the relevant topic but not openly accessible constitute a limitation of the study. In this context, a search was conducted in the Scopus database on 23.06.2025 with the keywords "whistleblowing", "whistle-blowing", "health" and "hospital".

In the Scopus database, a search was conducted by selecting the "all fields" section on the relevant date on the subject (ALL ("whistleblowing") OR ALL ("whistle-blowing") AND ALL("health") OR ALL ("hospital")), 6412 documents were obtained. When limiting the document type, "research article" content was selected, and a total of 4251 articles were reached. The articles obtained as a result of the search were limited by subject area. In this context, the subject limitation was only made with Social Sciences (1812 articles), Business, Management & Accounting (1463 articles), Medicine (913 articles), Nursing 520 and Health Professions (60 articles). The reason for including the fields of Social Sciences and Business, Management & Accounting in the study on whistleblowing in healthcare institutions or in healthcare is that the subject of whistleblowing is also frequently studied in the social sciences (including in the field of "health management"). This resulted in a total of 3676 articles (not 4768, as studies were marked as belonging to more than one field). Of these 3676 articles, 3597 (97.8%) were written in English, 22 in Spanish, 15 in German, and the remainder in other languages. Therefore, the search was limited to English, yielding 3597 articles. The search was then limited to 1097 articles with "all open access" access.

In short, a total of 1097 articles retrieved from the Scopus database using relevant keywords were analyzed using VOSviewer software, and the findings from this analysis are presented below. Figure 1 shows the distribution of 6412 publications on the topic, and Figure 2 shows the distribution of 1097 research articles on the topic by year.
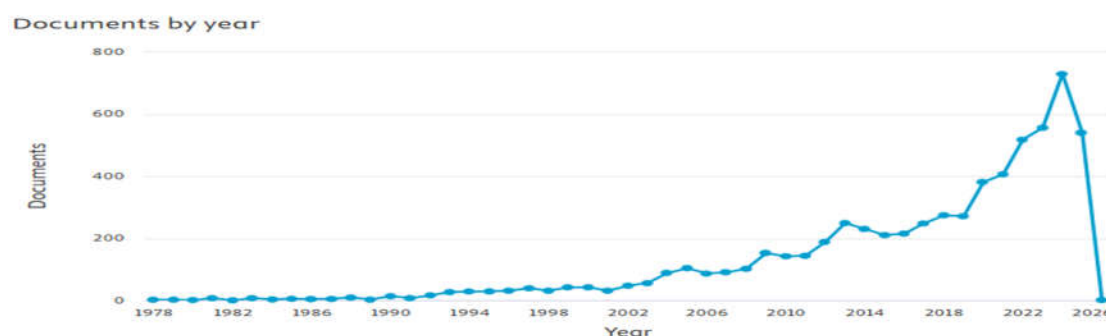
Figure 1. Distribution of All Documents (N=6412) Related to the Topic by Year

Figure 1 shows that the years with the highest number of publications on the topic were, in order, 2024 (729), 2023 (556), 2025 (540), 2022 (518), 2021 (406), 2020 (381), 2018 (274), 2019 (271), 2013 (249), 2017 (248), 2014 (230), 2016 (215), 2015 (210), 2012 (188), and 2009 (152).
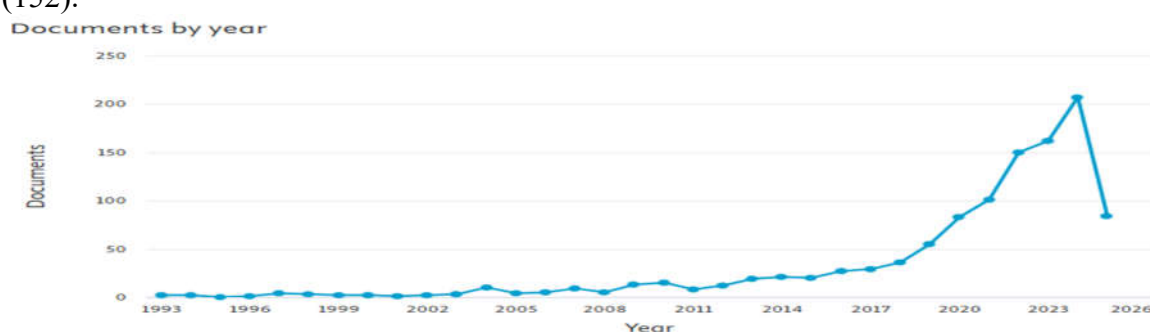

Figure 2. Distribution of Research Articles on the Subject (N=1097) by Year

In Figure 2, the years with the highest number of research articles on the topic are, in order, 2024 (207), 2023 (162), 2022 (150), 2021 (101), and even though the year is not yet over, 2025 (84), 2020 (83), 2019 (55), 2018 (36), 2017 (29), 2016 (27), 2014 (21), 2015 (20), 2013 (19), 2010 (15), and 2009 (13).

Analyzing Figures 1 and 2, it can be observed that the number of publications on whistleblowing in healthcare in the Scopus database and the number of research articles among these publications increased in 2021 and beyond. Table 1 shows the distribution of 6,412 publications on the topic by type.

Table 1. Distribution of Documents on the Topic (N=6412) by Type

Document Type	N	(%)
Article	4251	**66,3**
Book	608	9,5
Book Chapter	502	7,8
Review	426	6,6
Note	222	3,5
Editorial	140	2,2
Conference Paper	122	1,9
Letter	90	1,4
Short survey	43	0,7
Erratum	5	0,1
Retracted	2	0
Conference Review	1	0
Total	**6412**	**100**

Table 1 shows a total of 6412 documents in the Scopus database on whistleblowing in healthcare facilities. 66.3% are research articles, 9.5% are books, 7.8% are book chapters, 6.6% are review articles, and the remaining 9.8% are other types of publications (conference proceedings, notes, editorials, short surveys, erratums, and retractions).

FINDINGS

The research findings are as follows:

Co-authorship Authors

According to the co-authorship analysis of the authors, a network map was created by determining the criteria of at least one publication and at least one citation to identify the most connected and collaborating authors. According to the analysis conducted among the authors with the highest connections, a total of 757 clusters, 5491 connections, and a total connection strength of 5911 were identified (based on the analysis conducted with 2861 individuals). The authors with the most documents (articles) are, respectively, Ngah, A. H. (9) and Yang, W. (9); Mannion, R. (7) and Dixon-woods, M. (7); Jackson, D. E. (7); Reader, K. M. (7), and Kenny, K. M. (7). It is also observed that the most cited authors (Pappas, I. O. and Woodside, A. G., each with 1404 citations; Omar, B. with 604 citations; and Apuke, O. D. with 603 citations) are not the most connected authors. The most connected authors are, in order, Mannion, R. (total link strength 39), Liu, J. (total link strength 36), Shi, Q. (total link strength 36), Wu, Q. (total link strength 36), Xu, J. (total link strength 36), Zhang, H. (total link strength 36), and Zhang, T. (total link strength 36). The second-highest author with the most documents on the topic was found to have the highest link strength. Figure 3 shows the international network of co-author ties on whistleblowing in healthcare settings.
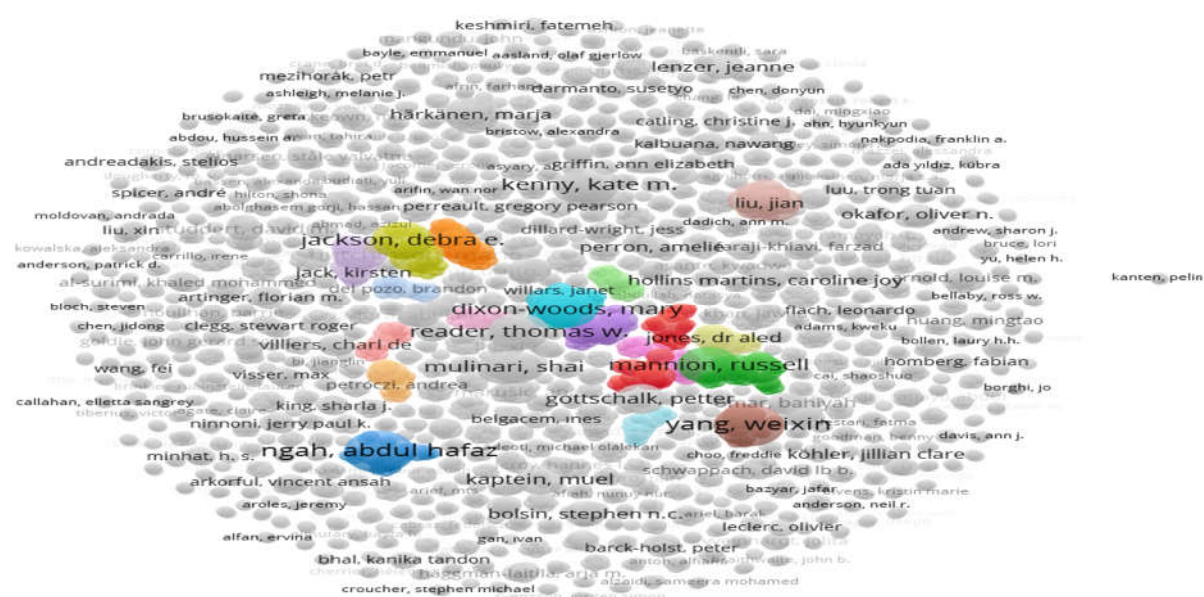

Figure 3. Co-Author Ties Showing Collaboration Between AuthorsCitation of Authors

To identify citation networks, a network map was generated for author citation analysis using the criteria of at least one publication and at least one citation. Based on the analysis conducted with 2861 interconnected works, 757 clusters, 5491 connections, and a total connection strength of 5911 were obtained. The most cited authors were Pappas, I. O., and Woodside, A. G. with 1404 citations each; Omar, B. with 604 citations; and Apuke, O. D. with 603 citations. Additionally, the authors with the highest number of citations were Leroy H. I. (590), Spicer, A. (505), and Vadera, A. K. (490), respectively. Figure 4 shows the citation network of authors on whistleblowing in healthcare settings internationally.
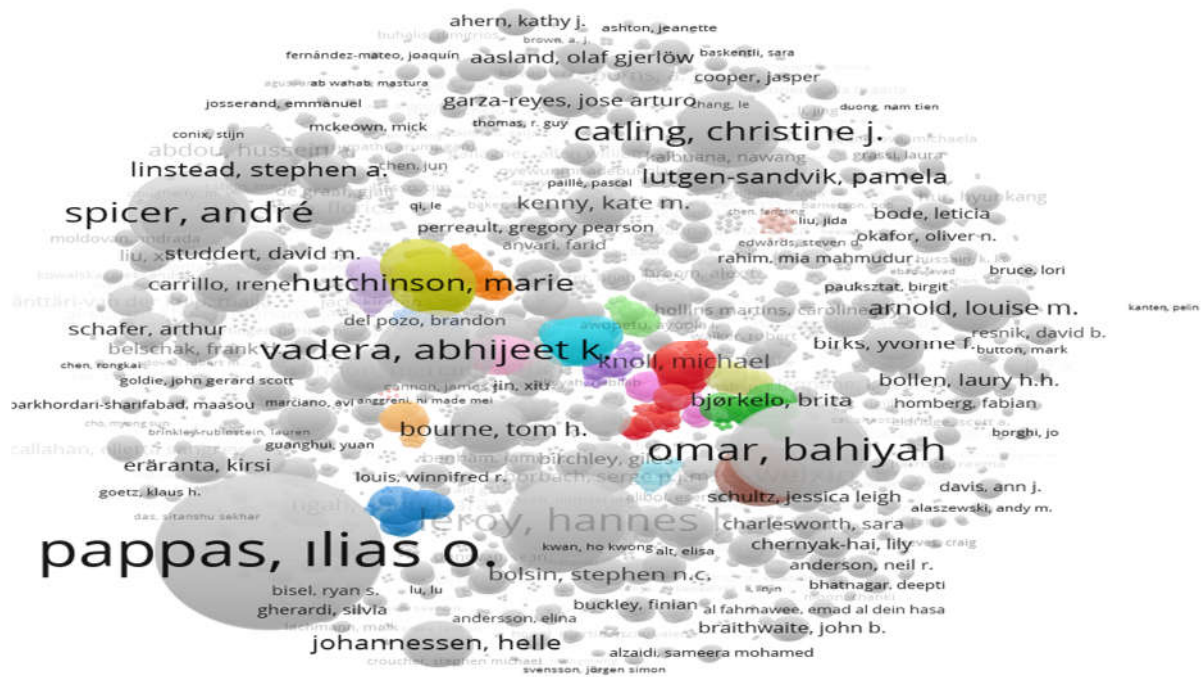

Figure 4. Authors' Citation Links

Citation of Countries

To create a network map of publication citations based on their country of origin, an analysis was conducted on 88 interconnected observation units, using the criteria that a country must publish at least one work and receive one citation. 88 clusters and zero connections were identified. The most cited countries were the United Kingdom (6,480 citations), the United States (USA, 6,456 citations), Australia (2,578 citations), and Norway (2,513 citations). The rankings for number of publications were the United Kingdom (297 publications), the USA (169 publications), Australia (104 publications), and China (99 publications). Figure 5 shows the international research network on whistleblowing in healthcare settings.
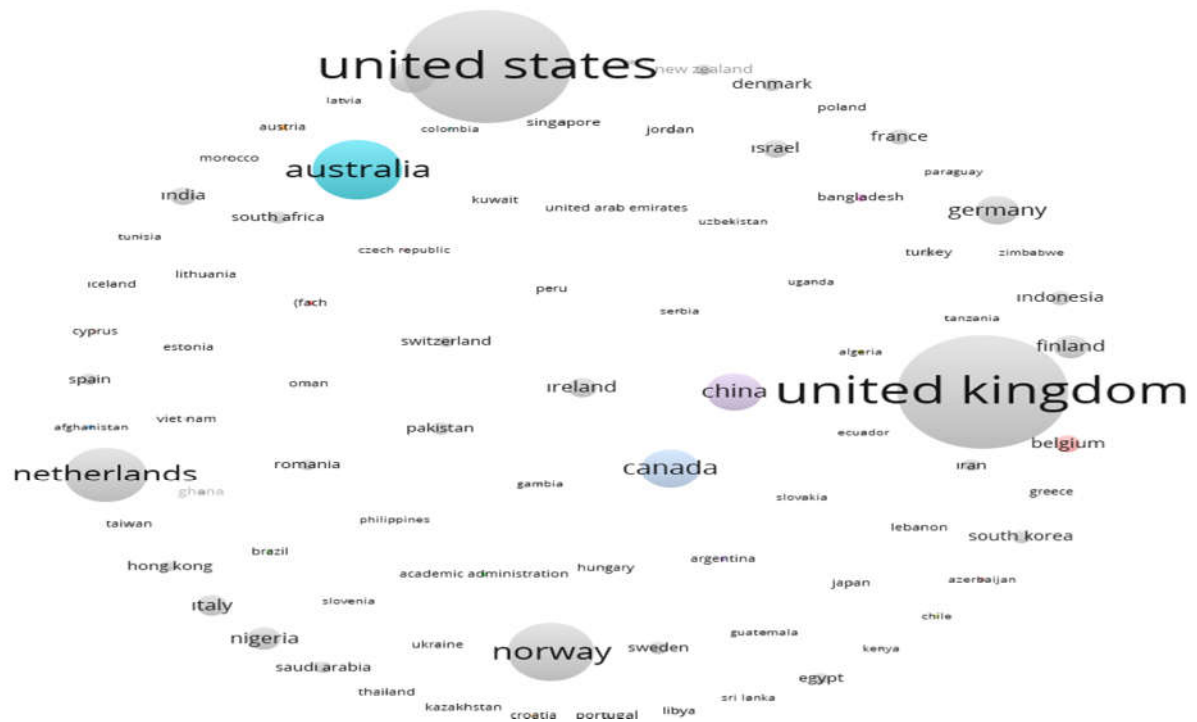
Figure 5. Citation Links of Countries

Citation of Organizations

To create a network map of inter-institutional citations, an analysis was conducted on 193 observation units with inter-related relationships, based on the criteria that an institution must have published at least three publications and receive three citations. 193 clusters and zero connections were identified. The University of Manchester, United Kingdom, and the University of Birmingham, United Kingdom, were each represented with 15 publications; the University of Leicester, United Kingdom, with 14 publications; and the University of Technology Sydney, Australia, with 13 publications. Furthermore, the institutions with the most cited publications were Boston College (USA) with 1,723 citations, Norges Teknisk-Naturvitentenskapeligee Universitet (Norway) with 1,512 citations, Erasmus University Rotterdam School of Management (Netherland) with 985 citations, and the University of Technology Sydney (Australia) with 675 citations. Figure 3 shows the international citation network of institutions on whistleblowing in healthcare settings.

Figure 6. Citation Links of Institutions

Co-occurence of All Keywords

When examining the most frequently used keywords in publications about whistleblowing in healthcare facilities, the most common terms were "human" (358 occurrences), "humans" (263), "article" (246), "female" (146), "male" (144), "whistleblowing" (141), "adult" (139), and "ethic" (86 occurrences). In terms of total link strength, the strongest terms included "human" (6094 occurrences), "humans" (4840), "article" (4425), "female" (3137), "male" (3077), "adult" (2973), and "whistleblowing" (1709 occurrences). The analysis, conducted with 849 observation units that appeared at least three times and were related to each other, yielded a total of 10 clusters, 35511 connections, and 68929 total link strengths. Figure 7 shows the most frequently used keyword network internationally on whistleblowing in healthcare businesses; Figure 8 shows the most frequently used keywords on the subject by year.

Figure 7. Most Frequently Used Keyword Links

Figure 8. Most Frequently Used Keywords by Year

Figure 8 shows the keywords frequently used in healthcare businesses regarding whistleblowing in recent years (2022 and later) in yellow. Accordingly, the most frequently used keywords related to the topic after 2022 are "Covid-19" (53), "China" (48), "sustainability" (27), ethical leadership (20), "healthcare" (19), "ethical climate" and "social media" (12); and "artificial ıntelligence" (8).

Bibliographic Coupling of Documents

Citing a common work cited by two independent sources is called a "bibliographic match" (Ateşçi & Dirik, 2024). Based on the analysis conducted with 962 linked works, selected based on the criterion of having received at least one citation, 342 clusters, 3019 links, and a total link strength of 3424 were obtained. The publications with the highest bibliographic matches were Papas (2021) with 1404 citations, Apuke (2021b) with 531 citations, and Lemoine (2019) with 424 citations. The works with the highest total link strength were Gupta (2020) with a total link strength of 66, Kaptein (2022) with a total link strength of 60, and Antoh (2024) with a total link strength of 59. Figure 9 shows the bibliographic match ties of international studies on whistleblowing in healthcare facilities.

Figure 9. Bibliographic Matching Links of Studies

Based on the analysis conducted with 1925 linked entities, selected based on the criteria of having published at least one work and received one citation, 48 clusters, 34734 links, and a total link strength of 78406 were obtained. The author with the most bibliographic matches was Ngah, A. H., with 9 works, 142 citations, and a total link strength of 472. Figure 10 shows the bibliographic match ties of authors on whistleblowing in healthcare settings internationally.
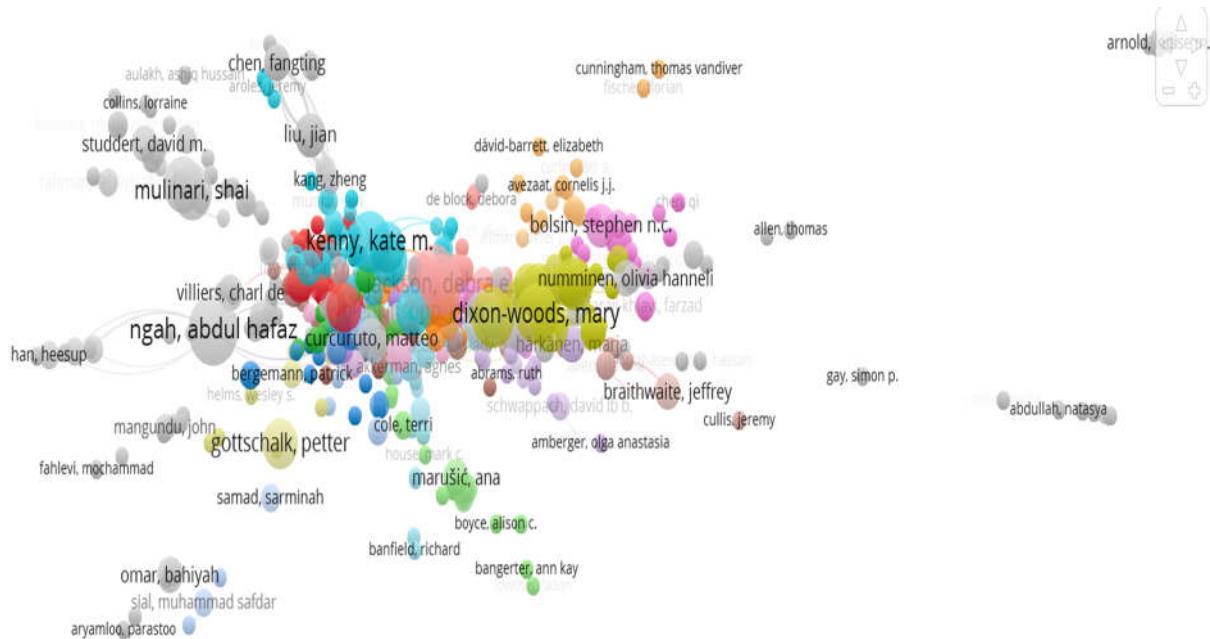

Figure 10. Authors' Bibliographic Matching Links

Co-citation of Co-authors

Different sources cited in a publication are defined as co-citations (Ateşci and Dirik, 2024). Based on the analysis conducted on 71 units with a minimum of 10 citations, a total of 9 clusters, 460 connections, and a total connection strength of 1465 were identified. The most co-cited authors were Anderson (66), Bmj (52), Aquino (42), and Karl, F. (42). Figure 11 shows the links between internationally co-cited authors on whistleblowing in healthcare settings.
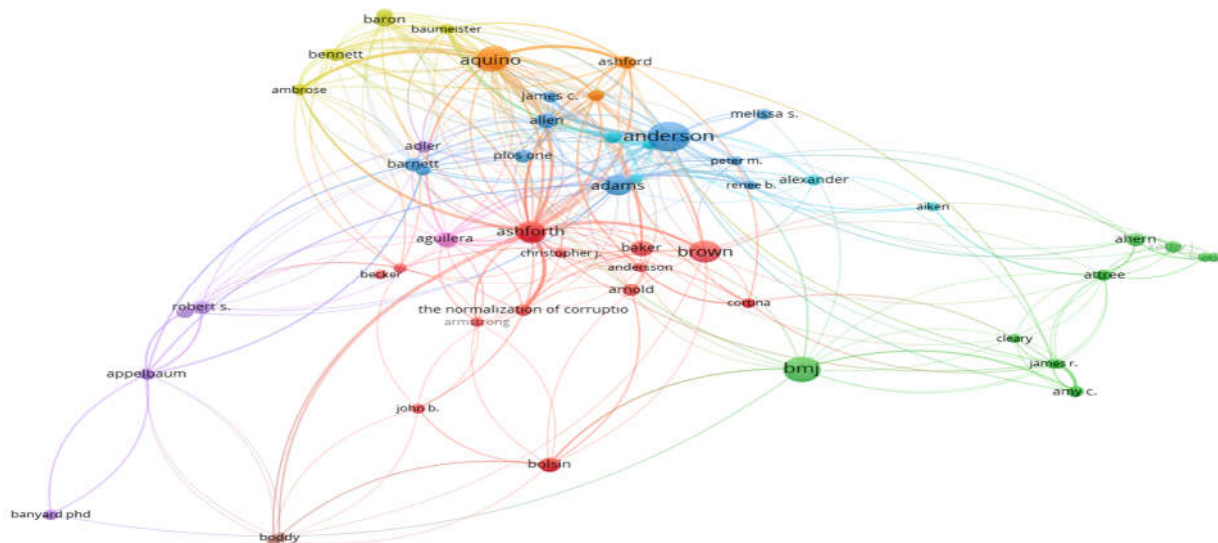

Figure 11. Links Between Co-Cited Authors

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Whistleblowing is a prominent topic in social sciences, healthcare, and education. This study presents a comprehensive bibliometric analysis of academic publications on whistleblowing in the context of healthcare institutions. Using data from the Scopus database spanning the years 1993-2025, a total of 1097 articles were analyzed using the VOSviewer program to identify patterns in citation and authorship affiliations, collaboration networks, and keyword trends. The results of the study can be summarized as follows:

It was concluded that the number of studies on whistleblowing in healthcare facilities has increased in recent years (especially since 2021), resulting in increased research interest in this topic. Furthermore, it was determined that the most published publications on the subject in Scopus are articles, and the most cited countries are the United Kingdom, the U.S.A., Australia, and Norway, respectively. The authors with the most published articles on the subject are Ngah, A. H., and Yang, W. (9), with 9 articles each. The most cited authors are Pappas, I. O., and Woodside, A. G, with 1,404 citations each.

This study also found that the most frequently used keywords in publications in the relevant database on the subject are "human," "humans," "article," "female," "male," "whistleblowing," "adult," and "ethics," respectively. It has been determined that frequently used keywords on the subject in recent years (2022 and beyond) have undergone changes, taking the form of "covid-19," "China," "sustainability," ethical leadership, "healthcare," "ethical climate," "social media," and "artificial intelligence." This change reflects the broadening of authors' perspectives and methodologies on the subject in 2022 and beyond.

The number of studies in the literature that include bibliometric analysis on whistleblowing and whistleblowing in healthcare organizations is quite limited. Judijanto & Wifasari (2025), in their bibliometric analysis of studies in the Scopus database on whistleblowing intention in the context of corporate governance and business ethics, determined that the most frequently used keywords in the publications in the database were "whistleblowing," "fraud," "morality," "ethical decision making," and "interpersonal communication," respectively. The difference between Judijanto & Wifasari's (2025) study and this study in terms of the most frequently used keywords on whistleblowing stems from the fact that the studies were conducted in different fields (this study investigates whistleblowing in healthcare organizations, while the other is a general study).

Judijanto & Wifasari (2025) also found that the countries with the highest "publications" on research topics were, in order, the United States, Brazil, Ireland, and the United Kingdom. In this study, the countries with the highest number of publications (authors), in order, were the United Kingdom, the United States, Australia, and China. The common inclusion of the United States and the United Kingdom in both studies may reflect the nearly similar results obtained.

All this information will be useful for guiding future researchers on this topic (for example, the keywords researchers use can guide those conducting research on this topic). This study provides strategic insights for academics, practitioners, and policymakers by identifying future research opportunities to strengthen whistleblowing mechanisms and ethical decision-making in healthcare institutions.

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