

Araştırma Makalesi/ Research Article

Psychological Empowerment in Nursing Research: Identifying Research Gaps Using Bibliometric Analysis

Hemşirelik Araştırmalarında Psikolojik Güçlendirme: Araştırma Boşluklarını Bibliyometrik Analiz Kullanarak Belirleme

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ABSTRACT

Objective: This study was performed to identify research gaps related to psychological empowerment in nursing research using bibliometric analysis.

Methods: Descriptive and bibliometric analyses were employed. The study universe included 118 articles on nurse psychological empowerment in the Web of Science (WoS) database. The SALSA method was used in the data selection process. Data analysis and visualization were performed using the Bibliometrix Package in R software and VOSviewer.

Results: Articles published by 345 authors in 42 different sources between 1997 and 2022 were reached. The distribution of articles to journals didn't follow Bradford's Law, while author productivity didn't follow Lotka's Law. The most commonly used author keywords were "psychological empowerment," "empowerment," "nurses," "structural empowerment," "job satisfaction," "nursing," and "organizational commitment," while recent popular author keywords include "COVID-19," "nursing education," and "nurse administrators."

Conclusion: The literature on nurse psychological empowerment is limited. Literature has focused more on organizational outcomes and has had a managerial perspective. This research has revealed a gap in the literature on patient outcomes, care quality, and empowerment strategies or interventions.

Keywords: Bibliometrics, empowerment, nurse, psychological empowerment, research gaps

ÖZ

Amaç: Bu çalışma, hemşirelik araştırmalarında psikolojik güçlendirme ile ilgili araştırma boşluklarını bibliyometrik analiz kullanarak belirlemek için yapılmıştır.

Yöntem: Tanımlayıcı ve bibliyometrik analizler kullanılmıştır. Çalışma evreni, Web of Science (WoS) veritabanındaki 118 hemşire psikolojik güçlendirme makalesini içermektedir. Veri seçim sürecinde SALSA yöntemi kullanılmıştır. Veri analizi ve görselleştirilmesi R yazılımında Bibliometrix Paketi ve VOSviewer kullanılarak gerçekleştirilmiştir.

Bulgular: 1997 ile 2022 arasında 345 yazar tarafından 42 farklı kaynaktan yayımlanan makalelere ulaşılmıştır. Makalelerin dergilere dağılımı Bradford Yasası'na uygunken, yazar üretkenliği Lotka Yasası'na uymamıştır. En yaygın kullanılan yazar anahtar kelimeleri "psikolojik güçlendirme," "güçlendirme," "hemşireler," "yapısal güçlendirme," "iş doyumunu," "hemşirelik," ve "örgütsel bağlılık" iken, son dönemde popüler olan yazar anahtar kelimeler "COVID-19," "hemşirelik eğitimi," ve "hemşire yöneticiler"dir.

Sonuç: Hemşire psikolojik güçlendirme alanındaki literatür sınırlıdır. Literatür daha çok örgütsel sonuçlara odaklanmış ve yönetsel bir perspektife sahiptir. Bu araştırma, hasta çıktıları, bakım kalitesi ve güçlendirme stratejileri/müdahaleleri konusunda bir literatür boşluğunu ortaya koymuştur.

Anahtar kelimeler: Bibliyometri, güçlendirme, hemşire, psikolojik güçlendirme, araştırma boşlukları

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Introduction

Psychological empowerment is the belief in one's ability to affect their work environment and achieve desired outcomes (Spreitzer, 1995). Psychological empowerment is a cognitive and attitudinal mental state that helps nurses feel competent in performing their assigned tasks. It is the most effective strategy to enhance productivity, utilize available resources within the organization, and unleash potential capabilities to achieve goals (Llorente-Alonso et al., 2024; Royan et al., 2017). Psychological empowerment plays an important role in improving patient and nurse outcomes. It is effective for nurses to provide high-quality care to patients and to ensure job satisfaction (Cho et al., 2021). Additionally, psychological empowerment is considered as a way to enhance employee performance (Dust et al., 2014). Therefore, it is crucial to empower nurses psychologically (Gu et al., 2022).

Studies have shown that nurses still have limited control and influence over their work environments (Cho et al., 2021; Spence Laschinger, 2008). In addition, studies have demonstrated that psychological empowerment among nurses is associated with nurse performance, leadership, job satisfaction, intent to leave, organizational commitment, and patient outcomes (Ahmad and Oranye, 2010; Cho et al., 2021; Leggat et al., 2010; Shapira-Lishchinsky and Benoliel, 2019). Therefore, it is important to understand psychological empowerment among nurses and to ensure that nurses feel empowered in order to identify fields for intervention and improvement in nursing practice and policies (Rasheed et al., 2020).

One way to understand and develop a field is to know the characteristics of the current scientific knowledge structure and to identify knowledge gaps (Wong et al., 2013). Qualitative content analysis, systematic reviews, narrative reviews, and bibliometric analysis are used for this purpose. Bibliometric analysis is a quantitative research method that uses statistical and mathematical tools to analyze scientific literature. This method can evaluate research trends, the impact of research, and the quality of scientific output. Additionally, this method can be used to identify gaps in the literature and to guide future research in a specific field (Donthu et al., 2021).

The use of the bibliometric analysis method is increasing in nursing research due to reasons such as increasing interest in evidence-based nursing, increasing digital archiving, and the growing number of user-friendly bibliometric tools (Kokol

and Blažun Vošner, 2019). Recently, several nursing studies have used bibliometric analysis to examine virtual simulation (Cant et al., 2022), COVID-19 (Çiçek Korkmaz and Altuntaş, 2022), leadership and care (Kantek et al., 2023) and meta-approaches (Kokol, 2021). However, no study has been found in the literature that reveals the accumulation of knowledge and gaps in nurse psychological empowerment. Therefore, this study aimed to identify research gaps in the field of nurse psychological empowerment using bibliometric analysis. This study, which analyzes and synthesizes the existing literature, will identify gaps in the research, provide a general overview of research trends in psychological empowerment among nurses, and suggest potential directions for future research. The results of this study can guide future research in this field, which can help improve the understanding of psychological empowerment and its potential impact on nursing practice and patient outcomes. This can help improve the quality of nursing care and promote the well-being of nurses.

Methods

Design

A descriptive bibliometric analysis of articles on psychological empowerment in nursing research was conducted in the study.

Sample/participants

This study was carried out by analysing 118 studies on psychological empowerment in nursing research.

Data collection

The research data was obtained from the Web of Science (WoS) database. This database was preferred due to its rich publication and citation history and efficient access to bibliographic data (Zavadskas et al., 2014). The Web of Science database search was conducted on December 24, 2022, by using Medical Subject Headings (MeSH) terms such as "psychological empowerment" in the topic section. As a result, the search results demonstrated 2664 documents. Subsequently, the subject area section was selected as nursing. The document type was limited to articles and reviews, resulting in 239 studies. Limiting the studies to those in English resulted in 238 studies. After excluding studies not related to the subject, a total of 118 relevant studies from the years 1997 to 2022 were included. The SALSA method was used to produce unbiased data sets during the process of data selection and analysis and to acquire research targets

(Papaioannou et al., 2010), which includes search, appraisal, synthesis, and analysis steps (Figure 1).

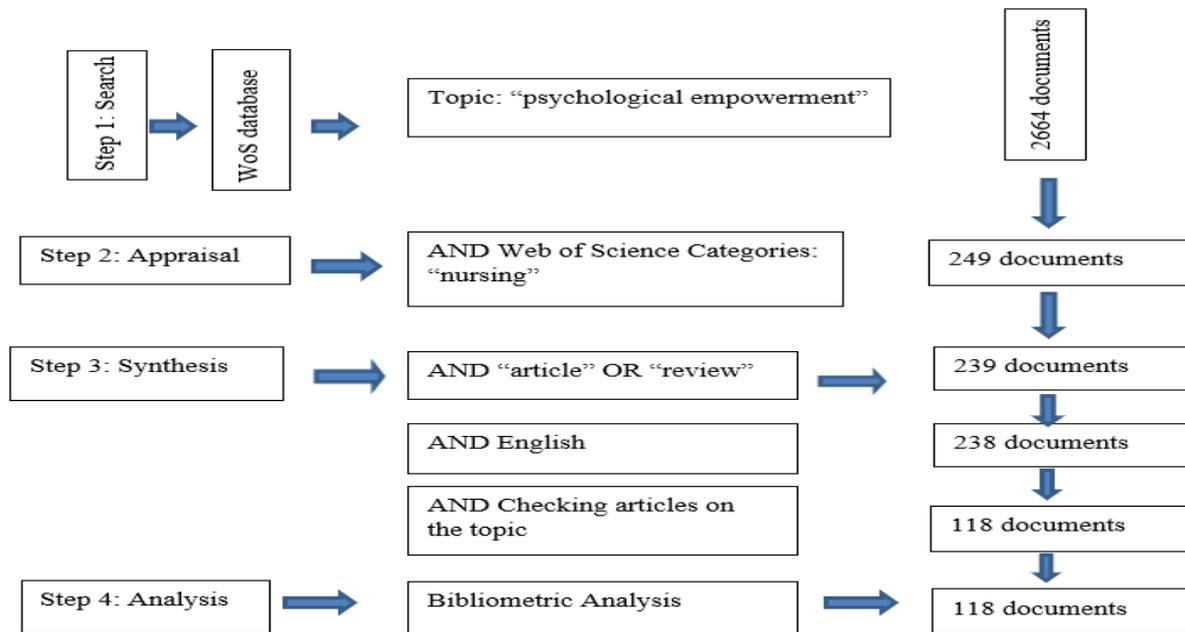


Figure 1. SALSA steps of data selection and analysis procedure.

Data analysis

All information about the documents, including citation information, bibliographic information, abstracts, keywords, and other information/full record, and cited references, was exported. The exported data files were converted to a convenient form for data analysis. Trend topics, thematic map, thematic evolution, and co-occurrence map analyses were used to identify research gaps in the field of psychological empowerment. The findings of the keyword analysis were visualized using the VOSviewer program. Thematic map analysis was presented and visualized using the bibliometrix package in the R programming language (Warnes et al., 2016).

Validity and reliability

In this study, SALSA steps were employed to achieve validity and reliability. In addition, all documents in the dataset were independently reviewed by two researchers to determine their relevance and appropriateness for the study's objectives.

Ethics

Since this study has no direct influences on humans and/or animals, no approval from the board of ethics was required.

Results

The search results revealed that a total of 118 documents were produced on nurse psychological empowerment between 1997-2022. The distribution of documents and citation numbers by year is shown in Figure 2a. The year with the highest number of documents produced was 2022 (11 documents). 78.81% of publications were produced in 2010 and later years. The annual growth rate of publication production was 10.07%. The document's average age was 8.08 years, and the average citations per document were 35.7. 88.98% (105 documents) of the documents were articles, and 11.02% (13 documents) were review articles.

Documents on nurse psychological empowerment were published in 42 different sources. The most relevant sources were the Journal of Nursing Management (34 documents), Journal of Nursing Administration (12 documents), Applied Nursing Research (6 documents), and the Journal of Advanced Nursing (6 documents).

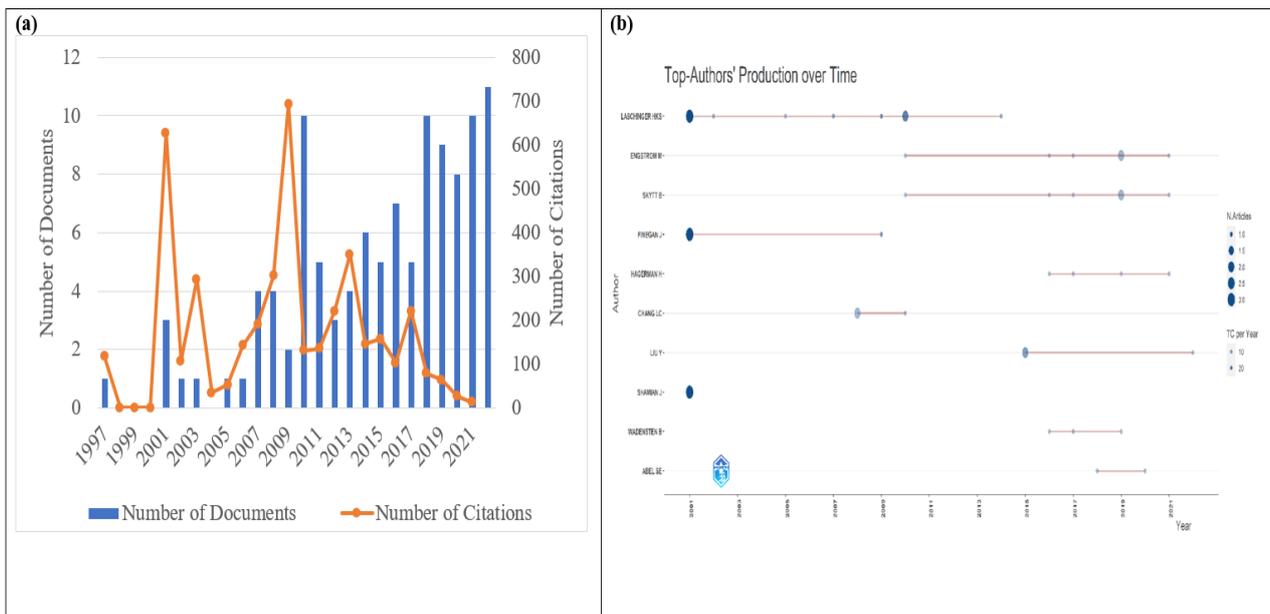


Figure 2. (a) Number of publications and citations by year **(b)** Top authors' production over time

The conformity of the publications on nurse psychological empowerment to Bradford's Law was evaluated. Bradford's Law is an empirical law that explains the distribution of articles within a group of journals (Venable et al., 2016). It states that a small number of journals will contain the majority of the total articles, while a large number of journals will contain a relatively small proportion of them. The law is used to identify the most productive journals in a particular field and to estimate the number of articles that will be found in a specific number of journals (Khare and Jain, 2022). According to Bradford's Law, the core journal group in the first zone (Zone 1) should contain one-third of the publications, the second zone (Zone 2) should contain another one-third of all publications, and the third zone (Zone 3) should contain the remaining one-third of publications (Garfield, 1980). In this study, it was found that two journals (Journal of Nursing Management and Journal of Nursing Administration) are in the core journal (Zone 1) area, and they are the most effective sources. Additionally, nine journals are in Zone 2, and 32 journals are in Zone 3. Journals in Zone 1 contain 4.76% of all journals and 38.98% of all publications. Therefore, it can be seen that the distribution of publications in the field does not comply with Bradford's Law.

The documents were produced by 345 different authors. 8.47% of the documents were single-

authored (10 documents), and 91.53% were multi-authored (108 documents). The number of co-authors per document was 3.56, and the percentage of international co-authors was 17.8%. The most productive authors in the field were Laschinger HKS (10 documents), Engstrom M (6 documents), and Skytt B (6 documents). The production of authors over time is shown in Figure 2b. In recent years, Engstrom M, Skytt B, Hagerman H, and Liu Y have been the top authors contributing to the field of nurse psychological empowerment.

Lotka's Law, also known as the scientific productivity law, is an empirical law that explains the distribution of productivity among scientists or researchers. It states that a small number of scientists will produce the majority of the total scientific output, while a large number of scientists will produce a relatively small output. In order for authors in a given field to be considered to be publishing in accordance with Lotka's Law, it is necessary for 60% of the authors to contribute to the field with one article, 15% with two articles, and 7% with three articles (Rowlands, 2005). In the field of nurse psychological empowerment, 86.1% of authors have contributed with one article, 11.0% with two articles, and 1.2% with three articles. In light of this distribution, it can be seen that the publication count distribution of authors in the field does not adhere to Lotka's Law.

Authors from 203 different institutions produced documents on nurse psychological empowerment. The most productive institutions were the University of Western Ontario (38 documents), University of Gavle (11 documents), Tianjin University of Traditional Chinese Medicine (10 documents), and West Virginia University (10 documents). The publications were produced by authors from 30 different countries. The origins of the publications were 25.42% from the USA (30 documents), 19.49% from Canada (23 documents), and 16.10% from China (19 documents).

It was determined that 296 keywords were used in 118 documents. The frequency of use of author keywords ranged from a minimum of 1 to a maximum of 46. The co-occurrence map of author keywords that were used five or more times is shown in Figure 3a. The size of the nodes and words increases with a higher rate of word co-occurrence,

while the color of the nodes represents this co-occurrence (Weismayer and Pezenka, 2017). The keyword analysis revealed that the author keywords most frequently used were “psychological empowerment” (46 times), "empowerment" (26 times), "nurses" (18 times), "structural empowerment" (18 times), "job satisfaction" (17 times), "nursing" (13 times), and "organizational commitment" (7 times). The co-occurrence map of research on nurse psychological empowerment was categorized into three clusters. The first cluster (red) included six keywords: empowerment, job satisfaction, leadership, nursing, organizational commitment, and workplace. The second cluster (green) included five keywords: burnout, nurse, psychological empowerment, structural empowerment, and structural equation model. The third cluster (blue) included only one keyword: student nurse.

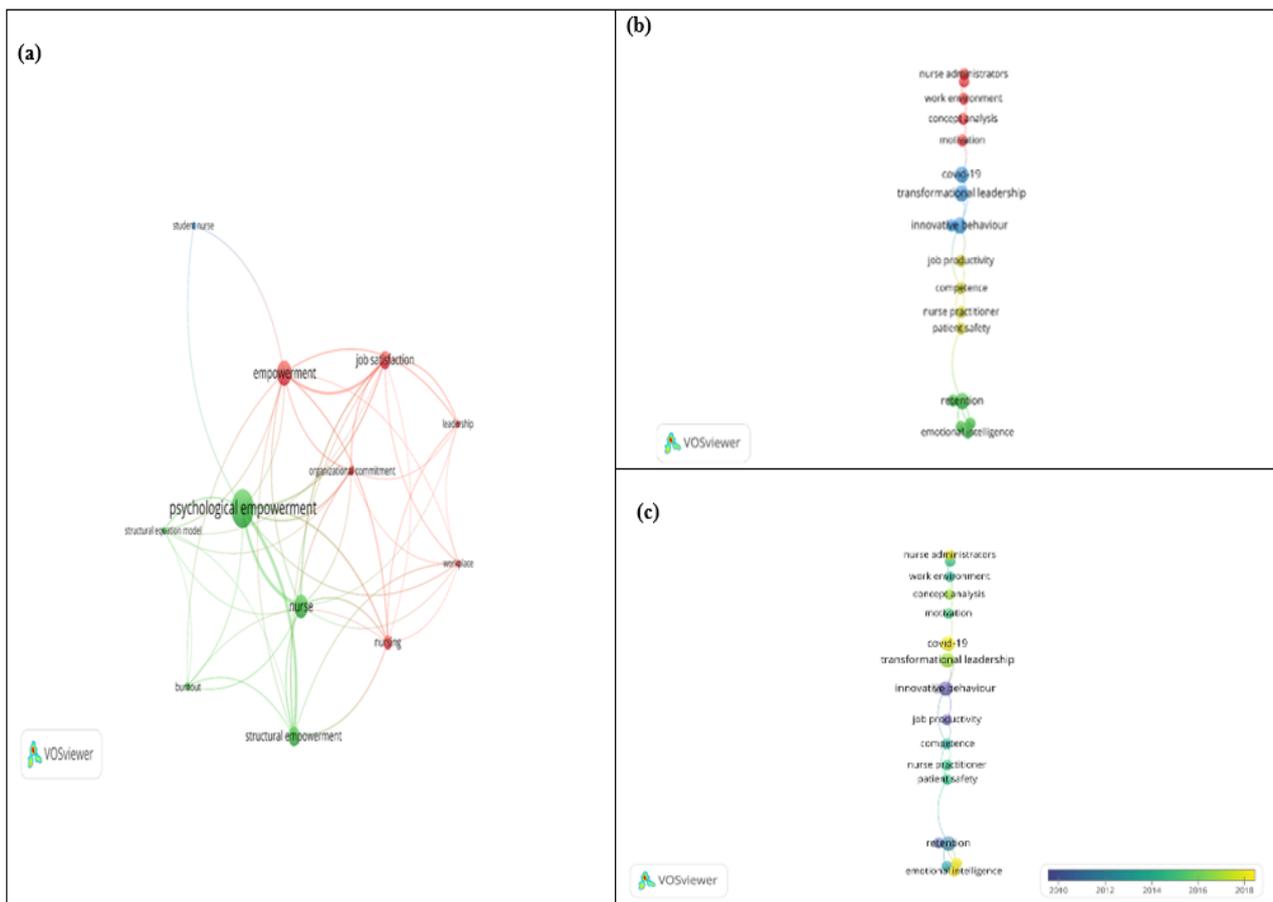


Figure 3. (a) Overview of co-occurrence map of author keywords **(b)** Overview of co-occurrence map of author keywords **(c)** Chronological overview of co-occurrence network of author keywords

Figure 3b shows the co-occurrence map of keywords that were used four or fewer times. The co-occurrence network of less frequently used keywords was composed of four clusters. The first cluster (red) consisted of the keywords concept analysis, motivation, nurse administrators, turnover intention, and work environment. The second cluster (green) consisted of the keywords emotional intelligence, new graduate nurse, nursing education, resilience, and retention. The third cluster (blue)

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climate, innovative behavior, and transformational leadership. The fourth cluster (yellow) consisted of the keywords competence, job productivity, nurse practitioner, and patient safety. Figure 3c shows the chronological overview of the co-occurrence map of keywords used four or fewer times. It was determined that the keywords COVID-19, nursing education, and nurse administrators were more frequently used in recent times.

climate, innovative behavior, and transformational leadership. The fourth cluster (yellow) consisted of the keywords competence, job productivity, nurse practitioner, and patient safety. Figure 3c shows the chronological overview of the co-occurrence map of keywords used four or fewer times. It was determined that the keywords COVID-19, nursing education, and nurse administrators were more frequently used in recent times.

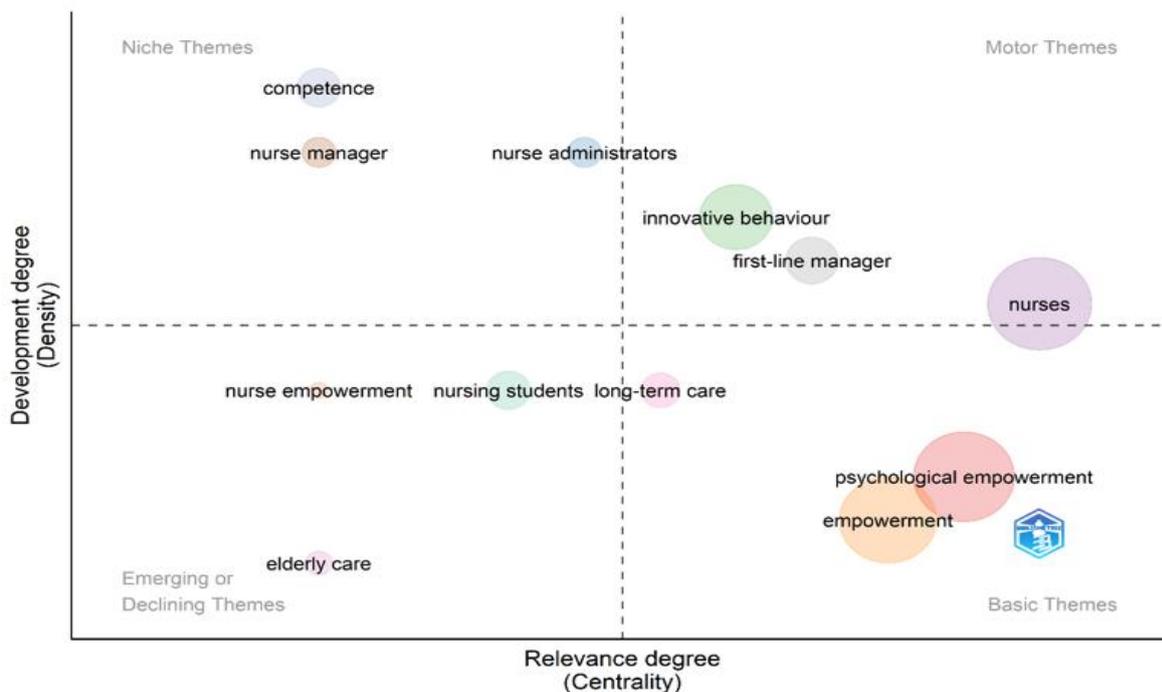


Figure 4. Thematic map

A thematic map shows author keywords and clusters defined through co-occurrence network analysis. The X-axis represents centrality, which provides information about the importance of a theme, while the Y-axis represents density, which is considered a measure of the development of a theme

(Di Cosmo et al., 2021; Khare and Jain, 2022). Accordingly, the thematic map consists of four quadrants. The first quadrant (top-right) shows motor themes, the second quadrant (top-left) shows niche themes, the third quadrant (bottom-left) shows emerging or declining themes, and the fourth

quadrant (bottom-right) shows basic themes. The bubbles on the map are labeled using the keywords with the highest occurrence value, and their size is proportional to the number of word transitions. The

position of the bubble is interpreted based on the density and centrality of the theme (Khare and Jain, 2022).

Table 1. Topics based on author keyword occurrences by themes

Theme	Cluster	Topics (based on author keyword occurrences)
Motor theme	Nurses	nurses (20), job satisfaction (15), nursing (13), workplace (6), leadership (5), organizational commitment (5), assertiveness (3), concept analysis (2), COVID-19 (2), management (2), model (2), motivation (2), psychometrics (2), staff (2), work empowerment (2), work environment (2)
	Innovative behaviour	innovative behaviour (4), job (4), satisfaction (3), transformational leadership (3), commitment (2), ethical climate (2), organizational (2)
	First-line manager	first-line manager (4), structural and psychological empowerment (3), leadership-management performance (2)
Niche theme	Competence	competence (2), nurse practitioner (2), patient safety (2)
	Nurse manager	nurse manager (2), structural equation (2)
	Nurse administrators	nurse administrators (2), turnover (2)
Emerging or declining themes	Nurse empowerment	nurse empowerment (2)
	Elderly care	elderly care (3)
	Nursing students	nursing students (4), nursing education (2)
Basic theme	Psychological empowerment	psychological empowerment (36), structural empowerment (16) nurse (2) retention (4) systematic review (4) meta-analysis (3) moral courage (2) student (2)
	Empowerment	empowerment (39), psychological (10), burnout (6), structural (4), authentic leadership (2), intent to stay (2)
	Long-term care	long-term care (3), palliative care (2)

Figure 4 presents the thematic typology of documents on nurse psychological empowerment. In the thematic map analysis, the author keyword count is 296, the minimum cluster frequency is 5, and the level count is 1 for each cluster. The analysis results reveal that the motor themes (high density and high centrality) are "nurses," "innovative behaviour," and "first-line manager;" the niche themes (high density and low centrality) are "competence," "nurse manager," and "nurse administrators;" the emerging or declining themes (low density and low centrality) are "nurse empowerment," "nursing students," and "elderly care;" and the basic themes (low density and high centrality) are "psychological empowerment", "empowerment", and "long-term care". The topics

based on the author keyword occurrences are shown in Table 1.

Discussion

There is a need for research results on nurse psychological empowerment to improve patients, nurses, and organizational outcomes (Yesilbas and Kantek, 2022). This study aimed to determine the gaps in the literature on nurse psychological empowerment using bibliometric analysis. The results will provide guidance for future research and contribute to the expansion of the psychological empowerment literature. The findings of this study provided important information about the literature gap on nurse psychological empowerment.

The first of these was related to the depth/maturity of the field. The number of publications is an important indicator in understanding the productivity and depth of the field. The high number of documents is interpreted as an indication of the strong knowledge base in the field (Liu et al., 2019). Our findings revealed that the number of publications on nurse psychological empowerment was 118. This number was quite low compared to the number of publications in many other fields of nursing. Previous bibliometric studies have determined that 4,159 publications were produced on evidence-based practice (Unal and Teskereci, 2022), 3,558 on leadership and care (Kantek et al., 2023), 1,280 on COVID-19 (Çiçek Korkmaz and Altuntaş, 2022), and 589 on nurse empowerment (Yesilbas and Kantek, 2022). In this regard, it can be said that the field of nurse psychological empowerment has not developed enough, and more research is needed.

There may be several reasons for the inadequacy of the literature on nurse psychological empowerment. One of these may be that the concept of psychological empowerment is a relatively new research topic in nursing research. Spreitzer developed the psychological empowerment model in 1995. With the development of the measurement tool based on this model, psychological empowerment studies began to take their place in the literature (Laschinger and Havens, 1996). According to our findings, the first publication on psychological empowerment in nursing literature appeared in the WoS database in 1997. Although nurse psychological empowerment studies have a 25-year history, the majority of publications (78.81%) are from 2010 and after. The recent history of nurse psychological empowerment studies may have led to the inadequate development of literature. Another reason for the lack of literature on nurse psychological empowerment may be the limited number of authors specializing in this field. Our findings show that the most productive author in this field is Laschinger HKS. Additionally, the vast majority of authors in the field have made only one publication, which means that the distribution of publication numbers does not follow Lotka's Law. This implies that the field is insufficient in terms of author productivity and needs to be developed. Creating a productive core group of authors on nurse empowerment could contribute to the expansion of the field. Journal editors can play an important role in addressing this issue. They are responsible for determining publication policies, defining the scope

and focus of the journal, and identifying research areas that are underrepresented or need further exploration, in addition to maintaining the overall vision and direction of the journal (Waldrop and Likis, 2022). Editors can raise awareness of nurse psychological empowerment by planning special issues on the topic. This can be encouraging for authors to collaborate and increase the number of publications. In addition, research institutions prioritizing funding for nurse psychological empowerment studies can increase the contribution of relevant authors to the field.

Most publications related to nurse psychological empowerment were produced by the United States, Canada, and China. This finding aligns with the study conducted by Yesilbas and Kantek (2022). However, the notable finding here is that only a few publications have contributed to the literature from 30 different countries. This may suggest that the literature on nurse psychological empowerment is lacking in cultural diversity. Given that the impact of empowerment concepts and initiatives/strategies can vary from culture to culture (Ahmad and Oranye, 2010), there is a need for more information on nurse psychological empowerment from a wider range of countries. Cultural diversity can positively contribute to the deepening of the field.

In keyword analysis, the frequency of a word provides information about the relative importance and relevance of the topic within the field (Weismayer and Pezenka, 2017). Keyword analysis has revealed that the hot topics in the field of nurse psychological empowerment are "empowerment", "nurses", "structural empowerment", "job satisfaction", "nursing", "organizational commitment", and "leadership". When these hot topics and subsets are examined, it becomes clear that the literature on nurse psychological empowerment is mostly focused on organizational outcomes and has a managerial perspective. This is supported by the fact that the most relevant and core sources are nursing management journals such as the Journal of Nursing Management and the Journal of Nursing Administration. Nurse psychological empowerment not only has an impact on institutional outcomes such as structural empowerment, job satisfaction, and organizational commitment, but also on patient outcomes and nursing care quality (Shapira-Lishchinsky and Benoliel, 2019). Both the author keywords in the keyword analysis and the themes in the thematic map showed that there were no themes or keywords related to these outcomes and nurse empowerment

interventions or strategies. Based on these findings, we can say that there is a literature gap on nurse psychological empowerment interventions or strategies for patient outcomes and nursing care quality.

Conclusion and Recommendations

This study identified research gaps in the field of nurse psychological empowerment. The literature on psychological empowerment of nurses is limited. It is recommended to increase the number of studies in the field of nurse psychological empowerment due to the low number of studies. Nurse psychological empowerment literature is mostly focused on organizational outcomes and has a managerial perspective. This study has revealed a gap in nurse psychological empowerment literature on patient outcomes, care quality, and empowerment strategies or interventions. However, more research is needed to understand how cultural and demographic factors contributing to the psychological empowerment of nurses can affect the effectiveness of interventions and the quality of nursing care. Additionally, increasing the number of core authors contributing to the field will positively impact scientific productivity, deepening and advancing the literature. Policymakers, editors, and researchers should consider our research findings when planning future studies, and cross-country comparative research would enhance the depth of the field.

Limitations of The Study

This study has some strengths and limitations. The strength of this study is that it is the first bibliometric study to examine research gaps in the field of nurse psychological empowerment. However, this study has certain limitations. Firstly, the WoS database was the only data source for this study. Therefore, publications not covered by WoS were not included in the study. Secondly, since the aim of the study was to identify a literature gap, the literature sample was limited to article and review publication types. Therefore, the analysis is relatively limited. Finally, the study results are limited to the publications available at the time of the search. The increase in the number of studies over time may lead to different results.

Ethics Committee Approval: Since this study has no direct influences on humans and/or animals, no approval from the board of ethics was required.

Peer-review: External referee evaluation.

Author Contributions: Idea/Concept: HY, FK, TAO.; Design: HY, FK.; Supervision: HY, FK.; Materials: FK, HY.; Data Collection and/or Processing: HY, FK.; Analysis and / or Interpretation: FK, HY.; Literature review: HY, FK.; Writing: HY, FK, TAO.; Critical review: FK, HY.

Conflict of interest: The authors declare that they have no conflict of interest.

Financial Disclosure: No financial support has been received for this research.

What did the study add to the literature?

- This study was the first bibliometric analysis to examine research gaps in the field of nurse psychological empowerment.
- The results of this study may guide future research to expand the field of nurse psychological empowerment, and research focused on addressing research gaps can contribute to the overall advancement of the field.

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