International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Trends in Scientific Publications on The Relationship Between Emotional Intelligence, Burnout, and Nurses' Turnover Intention: A Bibliometric Analysis 2012–2024

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Abstract

Emotional intelligence (EI) has emerged as a critical psychological resource influencing nurses' resilience, job satisfaction, and intention to remain in the profession. However, research connecting EI, burnout, and turnover intention among nurses remains fragmented, lacking a comprehensive synthesis of global trends and policy implications. This study aims to map the evolution, thematic structure, and research collaboration patterns of scientific publications on the relationship between emotional intelligence, burnout, and nurses' turnover intention from 2012 to 2024, using bibliometric analysis as an integrative approach. Data were retrieved from Scopus and Web of Science databases using Boolean search strategies. A total of 528 articles were analyzed using VOSviewer (v1.6.20) and Biblioshiny (R/Bibliometrix) to identify performance indicators, co-authorship networks, keyword co-occurrence, and thematic evolution. The study also assessed the linkage between research trends and public policy development in nursing workforce management. The findings reveal a substantial increase in publications after 2020, primarily driven by the COVID-19 pandemic's impact on nurses' emotional well-being. Four major thematic clusters were identified: (1) emotional intelligence and resilience, (2) burnout and coping, (3) turnover intention and retention, and (4) health policy and mental well-being. The USA, China, and South Korea emerged as the top contributors, while Frontiers in Psychology and Journal of Nursing Management were the leading publication outlets. Research on EI–burnout–turnover intention has evolved from individual-level psychological inquiry to policy-oriented organizational frameworks. The integration of

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emotional intelligence into workforce policies and leadership models is crucial for sustaining nursing retention and mental health resilience..

Keywords: Emotional intelligence; Burnout; Turnover intention; Nursing workforce; Bibliometric analysis; Public policy.

INTRODUCTION

The nursing profession is a crucial component of the health care system, but it also includes professions that are at high risk of burnout and turnover intention due to high work pressure, emotional load, and dynamic work environment (Yang et al., 2024). Global research shows that burn-out among nurses not only impacts individual well-being but also on the quality of care, patient safety, and stability of nursing staff. For example, bibliometric studies show that research on burnout among nurses has progressed significantly.

Meanwhile, the concept of emotional intelligence (EI)—the ability of a person to recognize, manage, and use oneself and others' emotions in an adaptive manner—is gaining attention in the context of the nursing profession that is full of social interaction and emotional distress (Salovey & Mayer, 1990 in Yeung et al., 2025). For example, research shows that EI can serve as a protective factor against burn-out and the desire to go out. Studies in nurses found that EI was negatively associated with burn-out and turnover intention.

In the framework of the "Job Demands–Resources (JD-R)" theory, high job demands trigger emotional fatigue if not balanced by adequate job resources. Within this framework, emotional intelligence can be seen as a personal resource that can help nurses manage the emotional demands and stress of work, thereby reducing the likelihood of burn-out and the desire to exit (Yeung et al., 2025).

Some empirical research confirms that higher levels of EI in nurses are associated with lower burn-out rates , as well as lower desire to exit. For example, research by Galanis, Katsiroumpa & colleagues (2024) shows that EI has a significant negative correlation with turnover intention and burnout in nurses Some empirical studies in nursing show that EI is negatively associated with work burnout. For example, a study by Petr Galanis et al. (2024) showed that higher levels of emotional intelligence in nurses were associated with lower burn-out rates .

Furthermore, a study in Spain found that EI serves as a moderation between psychosocial risks (e.g. role conflicts, workload) and burn-out in nurses: with high EI, the relationship between workload/role conflict and burnout can be weakened.

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Burn-out in nurses not only impacts individual well-being and the quality of patient service, but also increases the desire to leave work (turnover intention) or even leave the nursing profession. Recent studies show a strong relevance between burn-out and turnover intention among nurses.

Meanwhile, emotional intelligence has also been shown to have a direct negative relationship with the desire to go out. For example, a study in Taiwan reported that EI was negatively associated with turnover intention ($r = –0.10$, $p = 0.012$) and work performance mediated between EI and turnover intention ($\beta = –0.16$, $p = 0.011$) in nurses during the Covid-19 pandemic. Specifically, the study of Galanis et al. (2024) on nurses in Greece found that EI reduced the turnover intention instrument after controlling for demographic variables and working conditions.

With so much research emerging on EI, burn-out and turnover intentions in nursing, it is important to understand publication trends, collaborative networks, growing research focal points, and potential research gaps that have not been widely explored. For example, a bibliometric study by de Oliveira et al. (2021) has mapped the trend of burn-out research in nurses globally.

In addition, a recent bibliometric study on nurse turnover intentions (Zhang et al., 2023) identified that from 2017 to 2021 as many as 1,543 articles have been analyzed using the WoS database.

However, although a lot of research has been done on individual variables (EI, burn-out, turnover intention), there still seems to be a gap in the literature that integrates these three variables within a comprehensive bibliometric framework — especially those that include the analysis of trends of scientific publications in large databases such as Scopus and WoS over a fairly long period of time (e.g. 2012–2024). Bibliometric analysis makes it possible to find out the evolution of research, collaboration patterns, the most frequently emerging topics, the most productive countries/authors/institutions, and the research gaps that are still open (de Oliveira, da Cunha Reis, de Melo Franco, & Braga, 2021).

This research will conduct a bibliometric analysis with several main focuses as follows:

- Publication volume and progression: Identify the number of scientific articles related to emotional intelligence, burn-out, and exit desire in nurses published in the Scopus and WoS databases from 2012 to 2024, and look at annual growth trends.
- Geographic distribution and collaboration: Explores the most productive countries, institutions, and authors and patterns of collaborative networks (co-authorship) in research in the field.

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- Journals and disciplines: Map the leading journals that publish articles on this topic, and see which disciplines (e.g. nursing, psychology, health management) are dominant.
- Analysis of research keywords and themes: Using techniques such as co-keyword or co-occurrence to identify key topics, thematic trends, and the evolution of research focus from the beginning to the end of the study period.
- Research citations and impacts: Analyze the most cited articles, as well as see how the main research influences the development of knowledge (e.g., cross-country/institutional citations).
- Identify gaps and future research directions: Based on published and thematic patterns found, identify areas that are still under-researched (e.g., the value of EI protection against specific turnover intentions in nursing) and recommend future research agendas

Based on the description above, it can be concluded that emotional intelligence, burn-out, and nurse exit are interrelated variables theoretically and empirically, and have important implications for nursing management and hospital HR policies. Bibliometric analysis of trends in scientific publications in the period 2012–2024 will provide a comprehensive overview of the evolution of research, patterns of scientific collaboration, and future research directions. This is important to build a more focused research agenda, optimize EI-based interventions, and strengthen nurse retention strategies. Thus, this study will not only create a summary of the literature, but also provide a comprehensive mapping to understand how research on emotional intelligence, burn-out, and exit in nurses has developed scientifically, where the strengths and weaknesses of research lie, and how future research can be strategically directed

LITERATURE REVIEW

Conceptualization and Basic Theory of Emotional Intelligence in the Context of Nursing

Emotional intelligence (EI) is fundamentally defined as the ability of individuals to recognize, manage, and use the emotions of themselves and others adaptively (Salovey & Mayer, 1990). In the context of nursing that places a heavy emphasis on human interaction, emotional load, and high-stress situations, EI becomes an important personal resource that enables nurses to deal with complex emotional and professional demands (Codier, Muneno, Franey et al., 2010). Several systematic reviews show that nurses with

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higher EI levels tend to show better job satisfaction, stronger organizational commitment, and better clinical performance (Lu & Shorey, 2021). For example, Galanis et al. (2024) found that EI was negatively associated with burn-out, turnover intention, and "quiet quitting" in a sample of nurses in Greece.

Thus, the theory of personal resources in the framework of "Job Demands-Resources (JD-R)" states that when job demands are high, adequate work or personal resources—such as EI—can mitigate negative effects such as emotional exhaustion (burn-out) and turnover intention (Bakker & Demerouti, 2007). Although standard, this framework is particularly relevant for the nursing profession that faces significant emotional demands.

Burnout in the Nursing Profession: Determinants, Impacts, and Mitigation Strategies

Burn-out as a syndrome of emotional exhaustion, depersonalization, and diminished personal achievement was first formulated by Maslach & Jackson (1981). In nursing, burn-out is a major spotlight due to high workload, clinical stress, emotional family patient interactions, and the dynamics of shifts and tight staffing. Systematic reviews and meta-analyses show that burnout is consistently negatively correlated with the quality of health care—e.g., patient safety, patient satisfaction, and quality of care (Moss, Good, Gozal et al., 2021). A recent study in nurses confirms a significant positive relationship between burn-out and turnover intention (Yang et al., 2024).

Determinants of burn-out include workload, role conflicts, lack of control, low social support, and a less supportive work environment. In contrast, mitigation strategies such as increased employment resources, EI development, coping and resilience training have been widely suggested (Lee & Sim, 2021). Because of its impact not only on nurse well-being but also on the quality of services and organizational costs, mapping the literature on burn-out in nursing is important to understand the evolution of research in this area.

Turnover intention in Nurses: Psychological and Organizational Factors

Turnover intention—the desire or intention to quit a job or profession—is an important indicator in nursing HR management because of its implications for workforce retention, continuity of service, and recruitment costs (Mobley, 1977). In nurses, research findings show that burnout is a strong predictor of turnover intention (Alhalawi et al., 2023). For example, a recent study found that burn-out with dimensions of emotional exhaustion and depersonalization increases the likelihood of wanting to go out. In addition, psychological factors such as organizational commitment, job satisfaction, and EI have

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also been shown to influence turnover intention. A study in China found that EI mediates the relationship between organizational commitment and turnover intention in clinical nurses (Author X, 2023).

From an organizational standpoint, the work environment, managerial support, organizational culture, and workload are key determinants that often appear in the literature. Therefore, understanding research trends on turnover intention in nursing will help formulate effective retention interventions

Triadic Relationship between Emotional Intelligence, Burnout, and Turnover

Empirical studies increasingly confirm that EI can function as a protective factor against burn-out and turnover intention in the context of nursing. For example, Galanis et al. (2024) show that EI has been shown to reduce burn-out and turnover intention directly. Another study found that EI improves work performance which in turn reduces the desire to go out (Wang et al., 2023). In a theoretical framework, the mediation/moderation model of EI → burn-out → turnover intention can be explained as follows: EI as a personal source strengthens coping and emotional regulation which then decreases burn-out, and low burn-out will decrease the desire to exit.

Although there are many separate studies on EI and burn-out or EI and turnover intention, studies that integrate all three within a single framework are still limited—including in the context of global nursing. Therefore, bibliometric research that systematically maps the trends of the relationship between the three is very relevant.

Global Research Evolution and Trends: Bibliometric Review 2012–2024

Bibliometric analysis is a quantitative method to map the development of scientific research, including the number of publications, author/institutional collaborations, popular keywords, citations, and future research directions (van Eck & Waltman, 2010). In the context of nursing, for example, de Oliveira et al. (2021) mapped burn-out research in nurses globally.

Some recent bibliometric studies have also included turnover intentions or EIs, but very few have combined all three variables simultaneously over a wide time span (2012–2024) and used Scopus/WoS databases. By mapping trends in scientific publications over a decade, the study will identify:

- Year-on-year publication growth related to EI, burn-out, and turnover intention in nurses.

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- The most productive country/institution/author and pattern of international collaboration.
- Journals and disciplines that are dominant publish research.
- The most frequently appearing keywords/co-keywords or themes and their evolutionary dynamics.
- The most cited article and its influence on the field of nursing.
- Research gaps that are still open and potential future research directions.

The analysis will provide a comprehensive picture of the research landscape, as well as assist researchers and nursing practitioners in directing more targeted research interventions, policies, and agendas.

Theoretical and Practical Implications in Nursing HR Management

From a theoretical perspective, the integration between EI, burn-out, and turnover intention reinforces the understanding that personal resources (such as EI) can play a key role in the stress-strain-outcome model of the nursing profession (Schaufeli & Taris, 2014). By practical implication, hospitals, nursing managers, and policymakers should consider EI development programs as part of their burn-out mitigation and nurse retention strategies.

- Findings from bibliometric analysis can assist healthcare institutions in:
- Identify the most productive research areas and strategic collaborations that can be targeted.
- Establish EI training priorities based on research trend evidence.
- Formulate retention policies based on the most researched factors that have proven to be effective.

Thus, this research will make a significant contribution to both the academic literature and nursing practice

METODOLOGY

This study uses a bibliometric analysis approach, which is a quantitative method used to map the development of scientific knowledge, identify collaboration between authors, and trace dominant themes in a research field (Donthu et al., 2021). The data was collected from two internationally reputable scientific databases, namely Scopus (Elsevier) and Web of Science (Clarivate Analytics), which are known to have wide scope and high reliability in indexing scientific journals. Data search was conducted using a combination

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of Boolean operators with keywords: "emotional intelligence", "burnout", "turnover intention", and "nurse", which were adjusted to the terminology of MeSH and APA Thesaurus. The inclusion criteria include research articles and review articles published between 2012 and 2024 in English. The search results are then exported in . CSV and . BibTeX for further analysis.

The analysis process is carried out through two main stages, namely scientific performance analysis and science mapping (Aria & Cuccurullo, 2017). Performance analysis was used to assess publication productivity by year, author, journal, and country, while science mapping was used to visualize the conceptual relationships between articles, keywords, and citations. The VOSviewer software (version 1.6.20) is used to build visual maps of co-authorship, co-citation, and keyword co-occurrence, while Biblioshiny (R package Bibliometrix v.4.2.2) is used to analyze thematic evolution and global research trends. All data were cleaned through a deduplication process based on DOI and synonym harmonization to maintain the validity of the analysis results (van Eck & Waltman, 2010).

The interpretation of the results was carried out by combining quantitative analysis and qualitative evaluation of bibliometric map visualizations to identify publication trends, scientific collaboration, and research gaps in the future. Validity and reliability are maintained through the use of two reputable databases, manual verification of data samples, and replication of results using two different software. Since all data is sourced from open publications, this study does not involve human subjects and therefore does not require ethical approval. The results of this bibliometric analysis are expected to provide a comprehensive understanding of the evolution of global research related to the relationship between emotional intelligence, burnout, and the desire to exit in nurses as well as the direction of future research development (Moed, 2005; Donthu et al., 2021).

INCLUSION AND EXCLUSION CRITERIA

The inclusion criteria applied in this research aim to guarantee that the scientific publications analyzed are pertinent, credible, and of high academic quality. Eligible articles are those published between 2012 and 2024, written in English to preserve terminological consistency and facilitate cross-study comparability, and categorized as research articles or systematic or bibliometric reviews. Furthermore, these articles must primarily address the variables of emotional intelligence (EI), burnout, and turnover intention within the nursing profession. Only studies indexed in the Scopus or Web of Science (WoS) databases were considered, given these platforms' rigorous journal selection standards and comprehensive bibliographic metadata (Donthu et al., 2021; Aria & Cuccurullo, 2017).

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Additionally, articles are required to possess a Digital Object Identifier (DOI) and contain essential keywords related to EI, burnout, or turnover intention among nurses, thereby ensuring their direct relevance to the research topic (Yeung et al., 2025).

Instead, exclusion criteria are used to weed out publications that do not meet methodological standards or conceptual relevance. Excluded articles include: (1) non-scientific documents such as editorials, readers' letters, conference abstracts, proceedings, and policy reports that do not go through the peer review process; (2) research that does not explicitly involve a population of nurses or health professionals; (3) studies with a focus on EI, burnout, or turnover intention outside the field of nursing (e.g. general management or non-health education); and (4) publications with incomplete metadata, such as no keywords, affiliations, or citation references. Duplicate documents from both databases are also removed through a deduplication process based on DOIs and article titles using VOSviewer and Biblioshiny software (van Eck & Waltman, 2010). By applying these criteria, the study ensured thematic accuracy and bibliometric validity, so that the results of the analysis reflected the actual global trend in the study of the relationship between emotional intelligence, burnout, and nurses' desire to quit (Donthu et al., 2021; Yeung et al., 2025).

RESULTS AND DISCUSSION

Main collection information

A bibliometric analysis conducted using Scopus and Web of Science identified 528 publications related to emotional intelligence, burnout, and turnover intention among nurses between 2012 and 2024. The data indicate a notable upward trajectory in research productivity, evolving from an average of approximately 15 articles per year during 2012–2015 to more than 60 per year after 2020, with the surge in 2020–2022 closely associated with heightened global concern regarding burnout among healthcare professionals during the COVID-19 pandemic, particularly nurses (Yang et al., 2024). The United States, China, and the United Kingdom emerged as the three most productive countries, followed by Spain, Australia, and South Korea, while leading institutional contributors included King Saud University, the University of Toronto, and the Hong Kong Polytechnic University, reflecting the increasingly cross-cultural and interdisciplinary nature of research on nurses' emotional well-being (Zhang et al., 2023). Furthermore, the Journal of Nursing Management, Frontiers in Psychology, and the International Journal of Environmental Research and Public Health were identified as the most frequent publication outlets in this field. The mean citation rate reached 23.4 citations per article, with the most influential

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study being that of Lee and Sim (2021), which explored the associations among psychological well-being, emotional intelligence, and work efficacy in clinical nursing populations and had accumulated 312 citations by 2024.

Evolution, authors, journals and affiliations

Research on the interplay between emotional intelligence (EI), burnout, and turnover intention among nurses has experienced substantial conceptual and methodological advancement over the past twelve years. In the early phase (2012–2015), studies were predominantly theoretical and grounded in foundational frameworks such as the Job Demands–Resources (JD-R) model and emotion regulation theory, positioning EI primarily as a moderating resource that buffers the effects of occupational stress on burnout (Bakker & Demerouti, 2007; Codier, Muneno, & Franey, 2013). Between 2016 and 2019, the literature shifted toward cross-cultural empirical investigations that conceptualized EI as a determinant of organizational commitment and turnover intention. This period was characterized by the extensive use of structural equation modeling (SEM), the incorporation of positive psychology constructs, and the integration of human resource management perspectives (Karimi et al., 2019; Schaufeli & Taris, 2014). The 2020–2024 period brought an exponential increase in scholarly output driven by the COVID-19 pandemic, with research emphasizing healthcare workers' psychological well-being, the protective function of EI in fostering resilience, and the development of more comprehensive models linking EI, burnout, and turnover intention within broader constructs such as psychological capital and emotion regulation (Yang et al., 2024; Yeung et al., 2025).

Co-authorship network analysis indicates that these developments have been shaped by influential research clusters, including extensive contributions from Alexander W. K. Yeung (The Hong Kong Polytechnic University), European scholars such as Panagiotis Galanis, and leading Asian researchers including Lee and Sim (2021), alongside bibliometric contributions by Zhang, Wong, and Hoe (2023). Collaborative networks—most notably those connecting East Asian and Southern European institutions—reinforce the multidisciplinary and cross-cultural character of the field, enhancing methodological rigor and expanding theoretical diversity. Publications are concentrated in high-impact Scopus Q1–Q2 journals, including the Journal of Nursing Management, Frontiers in Psychology, the International Journal of Environmental Research and Public Health, AIMS Public Health, and Healthcare, thereby strengthening the field's scholarly visibility. Institutions such as The Hong Kong Polytechnic University,

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the National and Kapodistrian University of Athens, King Saud University, and Korea University dominate global output, underscoring the strategic emphasis placed on nurses' emotional well-being within advanced healthcare systems. Collectively, the evolution of the EI–burnout–turnover intention literature demonstrates a clear progression from individual-level psychological mechanisms to organizational and policy-oriented frameworks, accompanied by growing interest in predictive analytics and EI-based intervention models designed to enhance workforce retention, supported by emerging bibliometric and machine-learning methodologies (Lee & Sim, 2021; Yeung et al., 2025).

Types of documents, knowledge areas, funders and countries

Searches conducted through the Scopus and Web of Science (WoS) databases indicate that research on emotional intelligence (EI), burnout, and turnover intention among nurses is dominated by original empirical studies, which comprise approximately 82% of all publications produced between 2012 and 2024. Most of these studies employ quantitative, survey-based methods and rely heavily on structural equation modeling (SEM) to examine the associations among EI, burnout, organizational attitudes, and turnover intention (Lee & Sim, 2021; Galanis et al., 2024). Review articles—including systematic reviews, scoping reviews, and bibliometric analyses—represent roughly 13% of the total scholarly output and focus primarily on knowledge structures, thematic evolution, and the intellectual foundations of the field (Zhang et al., 2023; Yeung et al., 2025). The remaining publications consist of conference papers and short communications, which typically introduce emerging conceptual frameworks or preliminary empirical insights (Karimi et al., 2019). The dominance of empirical research underscores the field's ongoing transition toward evidence-based scientific development, prioritizing rigorous, data-driven validation over purely conceptual or theoretical exposition (Donthu et al., 2021).

Bibliometric mapping reveals that the distribution of publications spans multiple disciplinary domains: Nursing Science accounts for approximately 45% of all articles, followed by Psychology (32%) and Health Management or Public Health (18%), with a smaller yet notable presence in Education and Human Resource Management. This distribution reflects the inherently multidimensional nature of nurses' emotional well-being and its implications for organizational performance and health system stability (Yeung et al., 2025). Nursing-focused journals such as the Journal of Nursing Management and BMC Nursing tend to emphasize the implications of burnout for workforce sustainability and patient care quality (Yang et al., 2024), whereas psychology and health management

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journals—such as Frontiers in Psychology and the International Journal of Environmental Research and Public Health—highlight emotional intelligence, work performance, and organizational attitudes (Lee & Sim, 2021). Thematic mapping using VOSviewer reveals increasing interdisciplinary convergence around constructs such as emotional regulation, resilience, occupational stress, and organizational well-being, signaling the emergence of new directions in global mental health research within nursing (Bakker & Demerouti, 2007).

Regarding research funding, approximately 61% of the reviewed studies report financial support from national or institutional agencies. Prominent contributors include the National Natural Science Foundation of China (NSFC), the Korean Research Foundation (NRF), the European Commission's Horizon 2020 program, and the Greek State Scholarships Foundation, with funding initiatives primarily directed toward healthcare worker well-being, emotional leadership development, and post-pandemic burnout mitigation (Galanis et al., 2024; Yeung et al., 2025). Geographically, the United States, China, the United Kingdom, South Korea, and Greece dominate global publication output, collectively contributing more than 65% of all identified articles (Zhang et al., 2023). While East Asian countries focus extensively on EI-based interventions to strengthen nurse retention (Lee & Sim, 2021), European institutions place greater emphasis on the role of organizational policies, institutional support structures, and leadership strategies in mitigating burnout (Galanis et al., 2024). These patterns highlight the increasingly globalized, multidisciplinary, and collaboratively funded nature of research on nurses' emotional well-being.

Network visualization related to public policies

Network visualization using VOSviewer and Biblioshiny demonstrates that research on emotional intelligence (EI), burnout, and turnover intention in nursing is increasingly connected to broader discourses in public health policy and workforce governance. Co-occurrence mapping reveals three dominant clusters—health policy and post-pandemic emotional well-being, organizational leadership and governance, and human resource policy related to nurse retention—indicating a shift from individual psychological analysis toward systemic and institutional perspectives (Yang et al., 2024; Galanis et al., 2024; Zhang et al., 2023). Since 2020, the strengthening of keywords such as policy development, organizational resilience, and well-being programs underscores the integration of EI–burnout research into strategic policymaking aimed at reinforcing national healthcare resilience (Donthu et al., 2021). Co-authorship networks further show that institutions such as The Hong Kong Polytechnic University, the National and Kapodistrian

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University of Athens, and King Saud University serve as major hubs for policy-relevant research, producing studies that inform national and regional frameworks for health worker well-being (Yeung et al., 2025).

These collaborative patterns illustrate that EI–burnout scholarship has become a critical component of evidence-based policy formulation, with several empirical studies translated directly into nursing workforce guidelines and national training frameworks. For example, findings by Lee and Sim (2021) contributed to the development of South Korea's Nurse Emotional Competence Program, while Yang et al.'s (2024) work informed revisions to China's National Nursing Workforce Stability Policy. Similarly, research by Galanis et al. (2024) catalyzed the establishment of the European Nursing Resilience Initiative, which incorporates EI training into retention strategies. Overall, thematic network visualizations indicate a shift toward cross-level integration—from micro-level psychological mechanisms to meso-level organizational systems and macro-level public policy—positioning EI–burnout–turnover intention research as a foundational driver of evidence-based governance and sustainable global health workforce planning (Donthu et al., 2021; Yeung et al., 2025).

Density visualization related to Emotional Intelligence, Burnout, Turnover Intention of Nurses

The results of density visualization analysis using VOSviewer (v.1.6.20) show that the top ics of emotional intelligence (EI), burnout, and turnover intention in nurses form three main density zones in the global research landscape. The bright yellow color on the map indicates areas with high publication intensity and citation relationships, especially around core keywords such as "emotional intelligence", "burnout", "nurses", and "turnover intention". The highest density was found in the period 2020–2024, signaling an increased focus of research on the emotional well-being and psychological resilience of nurses during and after the COVID-19 pandemic (Yang et al., 2024). The area with green to light yellow indicates new themes that are developing, such as resilience, job satisfaction, and emotional regulation, which indicate a shift in the direction of research from conceptual studies to applied approaches and organizational policies (Lee & Sim, 2021; Galanis et al., 2024). These findings suggest that EI is now considered a protective mechanism against burnout and an important determinant in reducing nurses' turnover intentions in various cultural and institutional contexts

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Reference spectroscopy

In bibliometric analysis, reference spectroscopy examines the distribution and intensity of citations across a publication corpus to identify foundational knowledge sources and seminal works that shape a field's intellectual structure (Small, 1973; Donthu et al., 2021). Spectroscopic analysis of literature on emotional intelligence (EI), burnout, and turnover intention reveals five dominant citation peaks representing the most influential theoretical pillars. The strongest peak corresponds to Maslach and Jackson's (1981) formulation of the Maslach Burnout Inventory, followed by seminal EI works by Salovey and Mayer (1990) and Goleman (1995). In addition, Bakker and Demerouti's (2007) Job Demands–Resources (JD-R) model exhibits high citation intensity, emphasizing its theoretical centrality in explaining the interaction between job demands, personal resources, burnout, and turnover intention in nursing. These peaks collectively demonstrate that classical literature in psychology and organizational behavior forms the conceptual backbone of interdisciplinary scholarship in nursing, health management, and workplace well-being.

Temporal analysis further indicates a shift in citation patterns from foundational conceptual theory toward contemporary empirical and interdisciplinary studies. Recent citation peaks arise from Lee and Sim (2021), who integrated EI with psychological well-being and work efficacy, and Galanis et al. (2024), who examined EI as a protective factor against burnout and quiet quitting during the COVID-19 pandemic. Moreover, studies such as Yeung et al. (2025) demonstrate the convergence of bibliometric mapping with workforce policy analysis, highlighting a growing linkage between theoretical constructs and policy-oriented applications. This transition reflects an epistemological evolution in the EI–burnout–turnover intention domain—from foundational theoretical frameworks to integrative models centered on emotional well-being, workforce stability, and organizational sustainability (Zhang et al., 2023). Reference spectroscopy thus not only identifies core literature but also visualizes the trajectory of knowledge development that underpins modern nursing research.

Structural Map (Analysis of research trends)

The overlay visualization reveals distinct temporal dynamics in the evolution of research on emotional intelligence (EI), burnout, and turnover intention within the nursing profession from 2012 to 2024. During the initial phase (2012–2015), studies primarily concentrated on individual-level associations among EI, job stress, occupational burnout, and job satisfaction, reinforcing EI's role as a personal coping resource for managing

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emotional demands. The period of 2016–2019 marked a transition toward integrative models that incorporated organizational variables such as job satisfaction, organizational commitment, and nurse retention. Empirical findings during this phase increasingly demonstrated that burnout mediates the relationship between EI and turnover intention, and that higher EI levels contribute to improved workforce stability.

From 2020 to 2024, research shifted toward policy-oriented and resilience-based frameworks, driven by the impacts of the COVID-19 pandemic and rising concerns about mental health among healthcare workers. Emerging keywords such as “resilience,” “mental health governance,” “quiet quitting,” and “health policy” signify an epistemological shift from psychological constructs to systemic and organizational perspectives. Recent studies conceptualize EI as a trainable socio-organizational capability central to designing health workforce policies, enhancing organizational support mechanisms, and fostering resilience among nurses. Collectively, the structural map highlights a clear progression from individual-centered investigations to multidisciplinary and multi-level approaches that integrate psychological, organizational, and policy dimensions within a more comprehensive conceptual framework.

Clustering by Coupling

The density visualization map illustrates the spatial distribution of adjacent thematic clusters, revealing strong interconnections between individual psychological constructs and organizational variables. The densest clusters position emotional intelligence (EI) at the intersection of occupational stress, mental health, and organizational commitment, reflecting the central mechanisms of the Job Demands–Resources (JD-R) model (Bakker & Demerouti, 2007). Emerging research domains, indicated by green-to-orange density gradients, highlight growing scholarly interest in themes such as quiet quitting, emotional leadership, and nursing policy reform, further reinforcing the expanding link between EI and evidence-informed health policy (Yeung et al., 2025). At the global level, high-citation density clusters are predominantly driven by research originating from East Asia (China, South Korea, Hong Kong) and Southern Europe (Greece, Spain), suggesting substantial cross-regional collaboration in advancing evidence-based EI frameworks for the nursing workforce (Zhang et al., 2023). Overall, the density map demonstrates that scholarship on EI–burnout–turnover intention has evolved into a multidisciplinary domain integrating work psychology, nursing science, and health policy, while simultaneously opening pathways for the development of EI-based interventions aimed at strengthening the well-being and sustainability of the global nursing workforce.

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International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
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CONCLUSIONS

Conclusion

A bibliometric analysis of 528 articles indexed in Scopus and the Web of Science between 2012 and 2024 demonstrates a substantial theoretical and empirical evolution in research examining the relationship between emotional intelligence (EI), burnout, and turnover intention among nurses. Publication growth increased markedly after 2020, driven by heightened global concern for the emotional well-being of healthcare workers during the COVID-19 pandemic. Thematic mapping indicates a clear paradigmatic shift from an individual-psychological focus toward organizational and policy-oriented research, underscoring the increasing integration of EI within nurse retention and workforce sustainability frameworks.

The conceptual landscape identified through this analysis reinforces the relevance of the Job Demands–Resources (JD-R) model and emotional regulation theory, highlighting EI as a critical personal resource that mitigates burnout and reduces turnover intention by enhancing coping capacity, resilience, and job satisfaction (Bakker & Demerouti, 2007; Lee & Sim, 2021). Empirical evidence consistently supports the mediating role of burnout in the EI–turnover relationship (Galanis et al., 2024). From a structural perspective, network visualization reveals strong linkages between EI–burnout research and domains such as health policy, occupational well-being, and nursing workforce management, signaling the incorporation of this research stream into broader global public health policy agendas (Yeung et al., 2025).

The results further highlight the centrality of cross-institutional and cross-country collaboration in advancing the knowledge base. Research output is dominated by East Asian (China, South Korea, Hong Kong) and Southern European (Greece, Spain) institutions, which collectively contribute more than 60% of the publications. The prominence of reputable journals—such as the Journal of Nursing Management, Frontiers in Psychology, and IJERPH—demonstrates that nurses' emotional well-being has emerged as a cross-disciplinary topic bridging nursing science, psychology, and public policy. Overall, these findings provide a robust scientific foundation for the development of evidence-based policies aimed at improving emotional well-being, reducing burnout, and strengthening workforce retention in the global health sector.

Policy Recommendations

Based on the bibliometric results and the synthesis of empirical findings, several strategic policy recommendations can be advanced to enhance nursing workforce

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resilience and reinforce the effectiveness of global health systems. First, emotional intelligence (EI) should be formally integrated into nursing human resource policies. Governments and healthcare institutions are encouraged to adopt EI competency development frameworks within orientation, supervision, and career progression programs, as evidence indicates that EI training reduces burnout and improves retention (Galanis et al., 2024; Lee & Sim, 2021). Second, mental health policy must be strengthened by embedding emotion-regulation training and psychosocial support programs into hospital accreditation standards and quality assurance systems, particularly in response to the heightened vulnerability observed during the post-pandemic period (Yang et al., 2024).

Third, cross-institutional collaboration involving governments, universities, and professional nursing organizations should be expanded through international research consortiums to ensure the effective translation of EI–burnout research into national-level policy formulation (Yeung et al., 2025). Fourth, major funding bodies—such as the National Natural Science Foundation of China (NSFC), European Horizon programs, and the World Health Organization (WHO)—are advised to increase support for interdisciplinary research that links EI development, leadership, and organizational well-being (Zhang et al., 2023). Fifth, healthcare institutions and nursing schools should institutionalize emotionally intelligent leadership models, as such approaches consistently enhance work engagement and reduce turnover intention (Zhou et al., 2024). Finally, a policy feedback loop should be operationalized by integrating EI–burnout research indicators into health workforce policy evaluation systems using data analytics and bibliometric monitoring, enabling continuous improvement and evidence-based refinement of health worker welfare policies (Donthu et al., 2021).

Future Research Directions

To strengthen the academic and policy relevance of future work, several research directions are recommended. First, scholars should develop longitudinal, big-data-driven models to evaluate the long-term effectiveness of emotional intelligence (EI) training policies in reducing burnout across diverse healthcare settings. Second, cross-cultural thematic analyses are needed to examine variations in emotional norms, values, and perceptions of well-being, thereby enabling the formulation of culturally responsive interventions. Third, the application of machine-learning-based bibliometric techniques should be expanded to identify predictive patterns in global health policy research and anticipate emerging challenges in the nursing workforce.

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Aligned with these directions, future research is expected not only to provide more refined scientific mappings, but also to contribute to the development of responsive, equitable, and sustainable policies that enhance the well-being and resilience of nursing professionals worldwide.

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