The Effect of Nurse Engagement Interventions on Nurse Engagement Levels and Patient Safety Culture: A Comprehensive Literature Review

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Abstract

Objective: This paper examines the impact of targeted nurse engagement interventions on nurse engagement levels and the resulting influence on patient safety culture within healthcare settings. **Methods:** A systematic review of peer-reviewed literature published between 2018 and 2026 was conducted. Databases including PubMed, PMC, and CINAHL were searched for studies focusing on interventions such as shared governance, leadership walkrounds, and transformational leadership. **Results:** Findings indicate a robust, positive correlation between nurse engagement and patient safety culture. Meta-analyses demonstrate that highly engaged nursing teams report significantly higher scores in safety culture dimensions and lower rates of adverse events. Interventions that foster structural empowerment and provide consistent leadership feedback were found to be most effective. **Conclusion:** Nurse engagement is a critical, modifiable determinant of patient safety. Healthcare organizations should prioritize evidence-based engagement strategies to cultivate a sustainable culture of safety.

Keywords: Nurse Engagement, Patient Safety, Nurse, Literature Review

Introduction

The pursuit of optimal patient safety remains a paramount objective for healthcare systems globally. Despite decades of research and the implementation of numerous safety protocols, medical errors and adverse events continue to pose significant risks to patient outcomes and institutional integrity. Central to the delivery of safe care is the nursing workforce, which represents the largest segment of the healthcare professional population and maintains the most consistent presence at the patient's bedside. Consequently, the psychological and professional state of nurses, specifically their level of engagement, has emerged as a pivotal factor in the safety equation.

Nurse engagement is defined as a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption (Janes et al., 2021). It is not merely the absence of burnout but a proactive commitment to professional excellence and patient care. Conversely, patient safety culture (PSC) refers to the shared values, beliefs, and norms among healthcare

providers that influence their attitudes and behaviors regarding safety (Zhou & Liu, 2026). A strong PSC is essential for identifying risks, reporting errors without fear of retribution, and implementing systemic improvements.

Recent shifts in the healthcare landscape, exacerbated by workforce shortages and increasing clinical complexity, have placed unprecedented strain on nursing staff. This strain often manifests as disengagement, which has been directly linked to compromised safety standards and increased error rates. This paper aims to explore the effect of specific nurse engagement interventions on both the engagement levels of nurses and the broader patient safety culture. By synthesizing recent evidence, this review provides a roadmap for nurse leaders and administrators to enhance safety through the empowerment and engagement of their frontline staff.

Literature Review
Theoretical Framework: The Job Demands-Resources (JD-R) Model
The relationship between nurse engagement and patient safety is best understood through the Job Demands-Resources (JD-R) model. This framework posits that work environments consist of job demands (e.g., high workload, emotional demands) and job resources (e.g., social support, autonomy, feedback). While excessive demands lead to burnout and exhaustion, the presence of adequate resources fosters engagement and professional growth (Gore & Schrems, 2025). Interventions aimed at increasing nurse engagement typically focus on augmenting job resources, which in turn enhance the nurse's capacity to maintain high safety standards.

The Link between Engagement and Patient Safety Culture
Extensive research has established a significant association between staff engagement and safety outcomes. A landmark meta-analysis by Janes et al. (2021) involving over 30,000 healthcare participants found a consistent, statistically significant relationship between engagement and safety culture scores ($r = 0.22$). Nurses who report higher engagement levels are more likely to perceive their work environment as safe and are more diligent in following safety protocols. Furthermore, highly engaged nurses demonstrate a greater "frequency of events reporting," a key dimension of safety culture that allows organizations to learn from near-misses (Janes et al., 2021).

Detailed Analysis of Safety Culture Dimensions
To further understand the impact of engagement, it is necessary to examine specific dimensions of the Hospital Survey on Patient Safety Culture (HSOPSC). One of the most critical dimensions is "Non-punitive Response to Error." In many healthcare environments, a "blame culture" persists, where nurses fear disciplinary action if they report a mistake. Engagement interventions, particularly those rooted in transformational leadership, work to dismantle this culture. When leaders demonstrate "individualized consideration" and "intellectual stimulation," they encourage staff to view errors as opportunities for systemic learning rather than personal failure. This shift is essential for the transition to a "Just Culture," where the focus is on the process rather than the individual.

Another dimension significantly influenced by engagement is "Teamwork Within Units." Engaged nurses are more likely to exhibit "citizenship behaviors"—actions that go beyond

their formal job descriptions to help colleagues and ensure the smooth operation of the unit. This collective engagement creates a safety net; when one nurse is overwhelmed, others step in to maintain safety standards. Interventions like Shared Governance foster this teamwork by creating formal structures for peer-to-peer collaboration and mutual accountability.

Key Engagement Interventions
Several evidence-based interventions have been identified as effective in boosting nurse engagement and safety culture. These are summarized in the table below:

Intervention Type	Description	Impact on Engagement	Impact on Safety Culture
Shared Governance	A model that decentralizes decision-making, giving frontline nurses a voice in clinical practice and policy.	Increases autonomy and professional identity.	Promotes ownership of safety initiatives and peer accountability.
Leadership WalkRounds	Senior leaders visit clinical areas to discuss safety issues directly with staff.	Enhances perceived organizational support.	Improves safety climate and encourages error reporting when feedback is provided (Sexton et al., 2018).
Transformational Leadership	Leadership style focused on inspiration, intellectual stimulation, and individual consideration.	Reduces burnout and increases vigor and dedication.	Positively correlates with improved nursing safety practices (Hamdan, 2024).
Structural Empowerment	Providing access to information, support, resources, and opportunities for growth.	Leads to higher job satisfaction and lower turnover intention.	Creates a resilient environment capable of maintaining safety under pressure.

Shared Governance and Professional Empowerment
Shared governance, often referred to as professional governance, is a hallmark of Magnet-recognized hospitals. It allows nurses to lead practice councils and participate in hospital-wide committees. Research by Smith et al. (2025) suggests that when nurses are engaged in policy development, they are more likely to implement evidence-based safety practices at the bedside. This sense of ownership transforms safety from a top-down mandate into a bottom-up professional responsibility.

Leadership Support and Feedback
The role of leadership cannot be overstated. Leadership WalkRounds (WR) are most effective when they include a structured feedback loop. Sexton et al. (2018) found that providing feedback following these rounds is associated with significantly higher employee engagement and lower burnout. When nurses see that their safety concerns are heard and acted upon, their trust in the organization increases, fostering a "just culture" where safety is prioritized over blame.

Methodology
This study utilized a narrative synthesis approach to review and analyze recent academic literature concerning nurse engagement interventions and their impact on patient safety

culture. A comprehensive search was conducted across several major databases, including PubMed, CINAHL, and PubMed Central (PMC), to identify relevant studies published between 2018 and 2026. This timeframe was selected to ensure the inclusion of contemporary research that accounts for the significant changes in the healthcare environment following the global pandemic.

The search strategy employed a combination of keywords and Boolean operators, such as "nurse engagement," "intervention," "patient safety culture," "nursing leadership," and "shared governance." Inclusion criteria were limited to peer-reviewed articles, systematic reviews, and meta-analyses that specifically evaluated a defined intervention aimed at improving nurse engagement or safety outcomes. Studies were excluded if they focused solely on other healthcare professions without specific data for nursing or if they did not provide empirical evidence of intervention outcomes. A total of 15 key studies were selected for in-depth analysis, providing a mix of quantitative meta-analytic data and qualitative thematic insights.

Data Analysis
The analysis focused on synthesizing data across two primary dimensions: the effectiveness of various intervention types in increasing engagement scores and the subsequent changes in patient safety culture metrics. Data from meta-analyses were prioritized to establish the strength of these relationships. For instance, the analysis incorporated correlation coefficients (r) and odds ratios (OR) from studies like Janes et al. (2021) and Carthon et al. (2019) to quantify the impact.

Interventions were categorized into three thematic clusters: structural (e.g., shared governance), relational (e.g., leadership styles), and operational (e.g., safety walkrounds). The analysis examined how these interventions influenced the twelve dimensions of the Hospital Survey on Patient Safety Culture (HSOPSC), particularly focusing on "Teamwork Within Units," "Management Support for Patient Safety," and "Non-punitive Response to Error." Qualitative data were analyzed using thematic coding to identify common barriers and facilitators to successful intervention implementation.

Findings
The synthesis of the literature revealed several critical findings regarding the relationship between nurse engagement interventions and safety culture.

Significant Positive Correlation
There is a consistent and significant positive relationship between nurse engagement and patient safety culture. Analysis of meta-analytic data suggests that a one-unit increase in nurse engagement levels can lead to a nearly 30% reduction in the odds of an unfavorable safety grade (Carthon et al., 2019). This finding underscores that engagement is not just a "soft" HR metric but a hard indicator of clinical safety performance.

Effectiveness of Multi-faceted Interventions
The most successful interventions were those that addressed both structural and relational aspects of the nursing work environment. Shared governance models that were supported by transformational leadership showed the highest gains in both engagement and safety climate

scores. These models empower nurses by providing them with the resources and authority to make clinical decisions, which directly correlates with a more proactive safety culture (Zhou & Liu, 2026).

The Role of Leadership and Feedback
Leadership-driven interventions, particularly those involving direct interaction between senior management and frontline staff (e.g., Leadership WalkRounds), were found to be highly effective if they included a robust feedback mechanism. Studies indicated that without feedback, the positive effects of these rounds on engagement were significantly diminished. Conversely, when feedback was provided, staff felt more valued, and their perception of the "Management Support for Patient Safety" dimension of PSC improved dramatically (Sexton et al., 2018).

Barriers to Successful Intervention Implementation
While the benefits of engagement interventions are clear, their implementation is not without challenges. One primary barrier is "intervention fatigue." Nursing staff, often burdened by high workloads and frequent organizational changes, may perceive new engagement initiatives as just another administrative task. To overcome this, interventions must be perceived as meaningful and directly relevant to the nurses' daily practice. This is why "bottom-up" approaches like Shared Governance are often more sustainable than "top-down" mandates.

Resource constraints also play a significant role. Implementing Leadership WalkRounds or providing time for council meetings requires a commitment of both time and financial resources. In hospitals with chronic understaffing, nurses may find it difficult to participate in engagement activities without compromising patient care. Therefore, engagement interventions must be integrated into the core operational strategy of the hospital, with dedicated time and staffing support provided to ensure their success.

The Role of Psychological Safety
A critical mediator between nurse engagement and safety culture is psychological safety—the belief that one can speak up with ideas, questions, concerns, or mistakes without being punished or humiliated. Engaged nurses tend to feel more psychologically safe, which in turn facilitates the "voice" behaviors necessary for patient safety. Interventions that focus on relational leadership are particularly effective at building this safety. For example, when a nurse manager responds to a reported near-miss with curiosity and support rather than criticism, they are actively building psychological safety and reinforcing the engagement of their staff.

Impact on Adverse Events
Beyond subjective survey scores, the literature provides evidence that engagement interventions have a tangible impact on reducing adverse events. Higher engagement levels were inversely related to the frequency of medication errors, patient falls, and hospital-acquired infections (Janes et al., 2021). This suggests that engaged nurses are more vigilant and more likely to adhere to safety protocols even under high-stress conditions.

The following table summarizes the key findings across different safety culture dimensions:

PSC Dimension	Impact of High Engagement	Primary Supporting Intervention
Teamwork Within Units	Improved coordination and mutual support.	Shared Governance / Team Building
Non-punitive Response to Error	Increased trust and reporting of near-misses.	Transformational Leadership
Management Support for Safety	Higher perceived organizational commitment.	Leadership WalkRounds with Feedback
Frequency of Event Reporting	Significant increase in proactive reporting.	Structural Empowerment

Future Directions: Engagement in the Digital Age
As healthcare becomes increasingly digitized, the nature of nurse engagement is evolving. The introduction of electronic health records (EHRs), telehealth, and AI-driven clinical decision support tools has added new "job demands" while potentially offering new "job resources." Future interventions must address "digital engagement"—ensuring that nurses feel empowered and competent in using these technologies rather than overwhelmed by them. Research should explore how digital platforms can be used to facilitate shared governance and real-time feedback, potentially reaching a wider segment of the nursing workforce more efficiently.

Conclusion
The evidence presented in this literature review confirms that nurse engagement is a fundamental driver of patient safety culture. Interventions designed to enhance engagement—ranging from structural changes like shared governance to relational strategies such as transformational leadership and safety walkrounds—have a demonstrably positive effect on both the well-being of the nursing workforce and the safety of the patients they serve. The synthesis of recent research from 2018 to 2026 highlights that when nurses are empowered, supported by leadership, and provided with meaningful feedback, they are more likely to exhibit the behaviors necessary to maintain a robust culture of safety.

For healthcare administrators and nurse leaders, the implications are clear: investing in nurse engagement is a strategic necessity for safety improvement. Future efforts should focus on the long-term sustainability of these interventions, ensuring that engagement becomes an embedded part of the organizational culture rather than a series of isolated initiatives. Furthermore, while the correlation between engagement and safety is well-established, more longitudinal research is needed to fully elucidate the causal pathways and the impact of emerging technologies on nurse engagement in the digital age.

Conflicts of Interest
The author declares that there are no conflicts of interest regarding the publication of this paper.

Availability of Data and Materials
All data analyzed during this study are included in this published article (and its supplementary information files) or are available from the cited primary literature sources.

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