

Nursing Leaders Utilizing Theories To Guide Innovation In Practice: A scoping review

Tina Rylee¹, Willoughby Moloney^{1*}, Amy A. Nichols¹, Stephen J. Cavanagh¹

¹ University of California Davis, Sacramento, California, USA

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Corresponding author:

Willoughby Moloney

University of California Davis

E-mail : wmoloney@health.ucdavis.edu



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Abstract

Background: Theories establish conceptual approaches that underpin clinical decision-making and inform nursing practices. Innovation is essential for developing ideas and processes that improve patient outcomes. Nurse leaders are strategically positioned to promote innovation to practice by applying these inventive theoretical models to support the implementation of practice innovation, and, where institutional structures permit, to position innovation adoption.

Aim: Conduct a scoping review of existing literature to identify prevailing theories related to innovation.

Methods: A two-part scoping review was conducted in 2022 using Google Scholar, selected intentionally to capture gray literature and dissertations alongside peer-reviewed publications, complemented by a Semantic Scholar update in 2025. Both databases were searched to identify which existing theories nurse leaders utilize to guide practice innovation.

Results: Nurse leaders used six of 25 identified innovation theories across 68 publications (23 peer-reviewed articles, 43 dissertations): Diffusion of Innovations Theory (N=35), Leader-Member Exchange Model (N=15), Karasek's Job Demands-Control Model (N=10), Cognitive Stress-Coping Theory (N=4), Job Characteristics Model (N=4), and Champion Behavior (N=1). Innovation occurred across evidence-based practice (N=15), clinician roles (N=8), coping (N=7), leadership style (N=7), leader-member relationships (N=6), empowerment (N=6), recruitment and retention (N=5), education (N=4), work environment and organizational culture (N=3), and innovation implementation (N=3)..

Conclusions: Nursing leadership literature favors a select few highly cited theories and may benefit from broader, more inclusive theoretical approaches when developing and evaluating innovative practice. Diversifying theoretical frameworks ensures innovation efforts are contextually appropriate, evidence-based, and sustainable. This review provides a guide to nursing innovation theories for future research seeking to create supportive environments that sustain innovation.

Key Words: Nursing leadership, Innovation theory, Clinical decision-making, Diffusion of Innovations

INTRODUCTION

Innovation is defined as the development of new products or processes aimed at providing a competitive economic or performance advantage.¹⁻³ It plays a crucial role in generating ideas and processes that enhance patient care and improve operational efficiencies. However, there is a dearth of literature on how theory is used to guide innovation by nurse leaders. Nurse leaders play an active role in developing healthcare policies and ensuring quality nursing practice. For example, nurse managers lead the day-to-day activities of the staff on the unit, nurse administrators manage specific departments and nurse executives are responsible for leading overall nursing operations. At the forefront of patient care, informed nurse leaders are in a unique position to drive innovation, regardless of whether they hold an official leadership title. The concept of nurse leader therefore encompasses both positional and non-positional dimensions: positional leaders hold formally designated roles, whereas non-positional, emergent leaders influence peers and drive change through expertise, relationships, and initiative rather than hierarchical authority.⁴ This distinction is consequential for innovation research, because bottom-up, emergent leadership may generate innovations that top-down models suppress or fail to capture. Throughout this review, “nurse leader” refers to both designations unless otherwise specified. Nurse leaders can effectively manage resources and share knowledge to foster a culture of innovation by encouraging divergent thinking and promoting autonomy and confidence among their nursing staff.⁵ Despite the known importance of innovation in nursing practice, transitioning new ideas into practice can take time and the nursing profession faces further barriers to innovation due to an organizational hierarchy that focuses on physician authority and cost-based decision-making.⁶

The claim that nurse leaders are strategically positioned to facilitate innovation warrants critical examination, however, since institutional structures do not uniformly support this positioning. Hierarchical organizational cultures, entrenched physician-authority models, and resource-constrained environments can suppress bottom-up innovation even when individual nurses possess the motivation and knowledge to pursue it.⁶ Managerial layers designed for compliance and standardization may inadvertently filter out the divergent ideas that genuine innovation requires. Furthermore, the tendency to assign innovation responsibilities to senior leaders may marginalize frontline nurses, who are closest to patient care and often the first to identify opportunities for improvement, while over-crediting formal authority as the engine of change. A nuanced understanding of both the enablers and structural barriers to innovation is therefore essential before assigning the role of innovation catalyst exclusively to nurse leaders.

Notwithstanding these structural barriers, nurse leaders who are supported by enabling organizational conditions may advance innovative practices by utilizing theoretical approaches to facilitate the implementation process of innovation. It is conceivable that nurse leaders frequently and intuitively apply theoretical processes without explicit awareness, primarily due to a lack of structured learning on established theoretical approaches. Formal theories create conceptual guidelines which provide a foundation for clinical decision-making and determine nursing practice through ensuring best practice for improved patient-outcomes. Furthermore, there are antecedents of successful innovation in nursing that consist of the characteristic of the individual nurse (behavioral dispositions such as risk taking and creative thinking), the organization (such as creative climate and influential leadership) and process components (implementation, outcome assessment, and sustainability).^{1,7,8,9} Understanding the processes of these antecedents can help nurse leaders implement and sustain innovation and may lead to innovation in product and practice development.

Innovation theory in nursing does not exist in disciplinary isolation, and a fuller appreciation of its intellectual landscape benefits from engagement with adjacent fields. Organizational behavior, management science, and sociology have long grappled with questions of how new ideas diffuse, how group diversity accelerates creative problem-solving, and how institutional constraints shape or suppress innovation. de Bono's¹⁰ work on lateral thinking, for example, proposes that crossing disciplinary boundaries and recombining ideas from distinct knowledge domains is a reliable mechanism for generating genuinely novel solutions. Similarly, Syed¹¹ demonstrates through historical and organizational case studies that teams with cognitively diverse members consistently

outperform homogeneous expert groups on complex, non-routine problems. These perspectives suggest that nursing's reliance on a narrow cluster of established theories may reflect not only disciplinary familiarity but also a broader structural tendency to draw from homogeneous intellectual traditions, and that deliberate diversification of both disciplinary influences and theoretical frameworks could strengthen innovation efforts in the field.

Despite the critical role a strong theoretical foundation plays in implementing and sustaining clinical innovation, there has yet to be a review specifically examining existing theories that are utilized by nurse leaders to inform their innovative care practices.

AIM

The purpose of this research was to:

1. Conduct a scoping review of existing literature to identify prevailing theories related to innovation.
2. Determine which theories have been employed by nurse leaders to guide innovation in nursing practice.
3. Validate how nurse leaders use theories to facilitate innovation in the nursing field.

METHODS

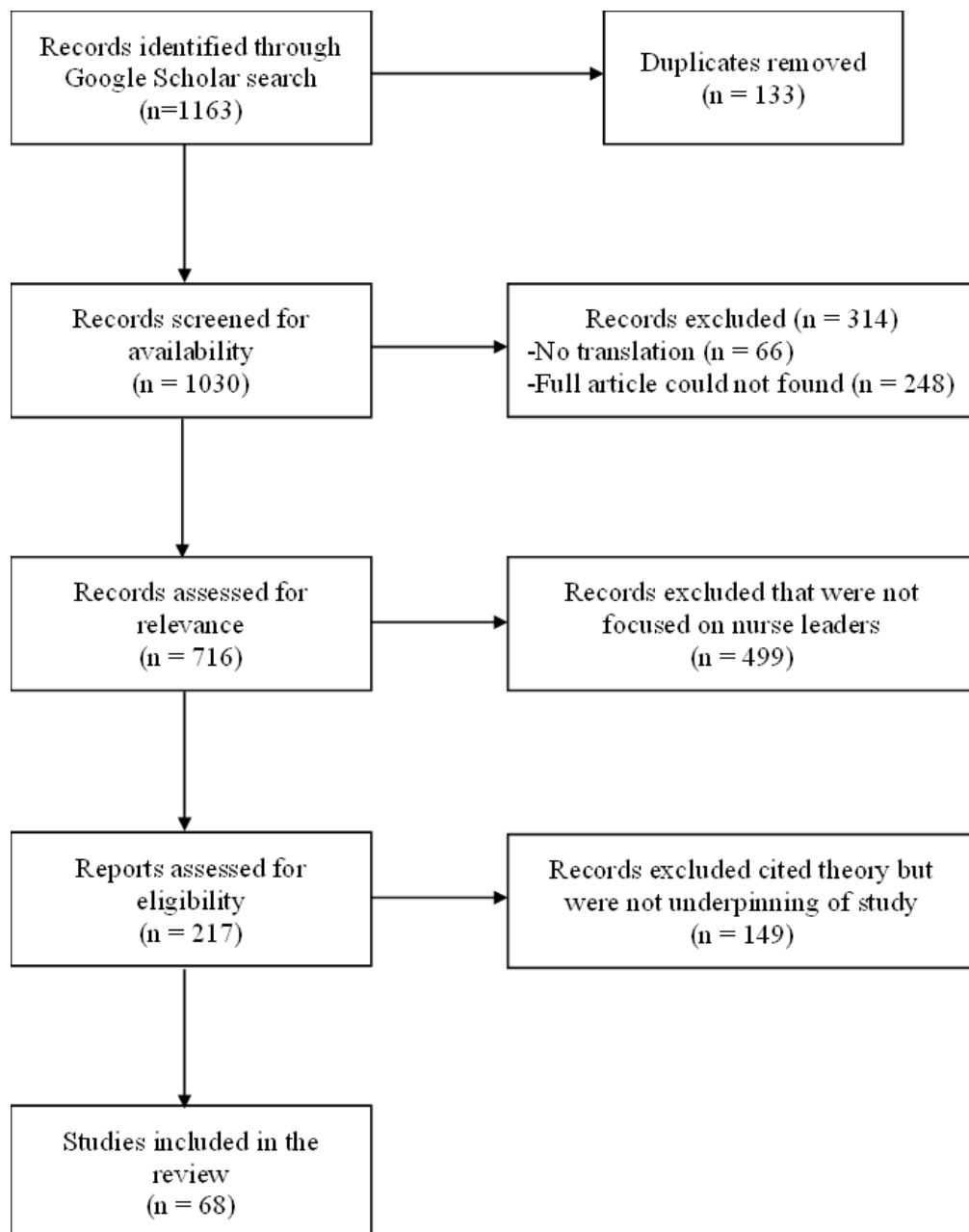
1. Search rationale

Google Scholar was selected as the primary search database for this review for several methodological reasons. First, Google Scholar indexes a substantially broader range of document types than domain-specific clinical databases, including dissertations, theses, gray literature, and conference proceedings alongside peer-reviewed journal articles; because doctoral dissertations represent a substantial and legitimate body of nursing leadership scholarship, their deliberate inclusion was consistent with the scoping review purpose of mapping the full extent of available evidence.¹² Second, the interdisciplinary nature of innovation theory (spanning organizational behavior, management science, psychology, and sociology as well as health sciences) made a domain-specific clinical database such as CINAHL, PubMed, or MEDLINE a suboptimal fit for the first phase of the search, which aimed to identify innovation theories regardless of disciplinary origin. Third, prior scoping reviews addressing emerging or cross-disciplinary topics in health sciences have similarly justified the use of Google Scholar as a complement to or substitute for traditional databases.¹³ The Semantic Scholar update conducted in 2025 provided a targeted supplementary check of recent peer-reviewed literature.

2. Literature search

A two-part scoping review of the English language literature relating to theories of innovation was conducted. This enabled a systematic and iterative approach to identifying and synthesizing the existing body of literature on the given topic. The first step was to identify existing theories related to innovation. Then, a search of publications that included nursing leadership and innovation terminology as search terms was done. For the purposes of this study, all nurses with the term 'leader' in their title were considered nurse leaders, which may include managers, administrators and executives. In general, theories explain why a phenomenon occurs, models explain how it occurs, and frameworks organize phenomena into actionable strategies. However, these terms are often used interchangeably, therefore this review refers to all innovation theories, models, and frameworks as innovation theories to ensure the inclusion of all relevant research. This pragmatic terminological decision was made because the terms are used inconsistently and often interchangeably across the nursing literature itself, and the goal of this scoping review was breadth of coverage and terrain-mapping rather than philosophical precision about construct type.

Figure 1: Literature review flowchart



3. Existing theories related to innovation

A search of Google Scholar was conducted on April 4, 2022, using the terms (workplace AND innovation AND theory) and a second search using (developing innovation scales). The search revealed millions of results for each strategy. Articles were sorted by relevance and analyzed to identify any theory, model, or framework used in the study. This process continued until saturation was reached and no new theories were identified 30 times in a row. The threshold of 30 consecutive non-results was adopted as a pragmatic operational decision by the research team, applied consistently throughout the search process. This approach is conceptually grounded in the qualitative principle of theoretical saturation, which holds that data collection may cease when additional sources yield no new categories or concepts.¹⁴ While no universal numeric threshold for saturation exists, the 30-result rule provided a transparent, reproducible, and

conservative stopping criterion. The snowball method was used to identify further relevant references.¹⁵

For each identified theory, the original publication was located and reviewed. The initial search found 25 distinct theories. Among these, three had both an original and a revised publication. Although not drawn from entirely separate source materials, each version was cited by a different set of articles. To ensure a more comprehensive analysis, both versions were included, while still treating them as one overarching theory, to capture the broader range of literature connected to it. In the final analysis, only the Leader-Member Exchange Theory has two versions.^{7,8} For those theories not named by their authors, a name was given based on the paper's title or how the theory was referred to in the publication. Using the categories from an article exploring how nurses conceptualize innovation¹, the 25 theories were grouped based on whether they described innovation focused on the individual, an organization, or a process (Table 1).

Table 1: Innovation theories

Theory		Citation
1. Champion Behavior* ^{18,88}	Process	Schon (1963); Burgelman (1983)
2. Cognitive Stress-Coping Theory* ¹⁶	Individual	Lazarus (1966)
3. Diffusion of Innovations* ⁹	Organizational; Process	Rogers (1983)
4. Karasek's Job Demands-Control Model (JD-C)* ¹⁵	Organizational	Karasek (1979)
5. Leader-Member Exchange (LMX) theory* ^{7,8}	Individual	Dansereau, Graen, & Haga (1975); Graen & Uhl-Bien (1995)
6. The Job Characteristics Model* ¹⁷	Individual	Hackman & Oldham (1980)
7. Activation Theory ⁸⁹	Individual	Gardner & Cummings (1988)
8. Adaptive-innovation Dimension ⁹⁰	Individual	Kirton (1976)
9. An Interactionist Model of Creative Behaviors ⁹¹	Individual	Woodman & Schoenfeldt (1990)
10. Componential Model of Creativity and Innovation in Organizations ⁹²	Organizational	Amabile (1983)
11. Componential Model of Creativity and Innovation in Organizations ⁹³	Organizational	Amabile (1988)
12. Disruptive Innovation Theory ⁹⁴	Process	Christensen (1997)
13. Entrepreneurial Orientation Construct ⁹⁵	Organizational	Kimberly (1981)
14. Five Factor Model ⁹⁶	Individual	Costa & McCrae (1992)
15. Innovative Work Behavior ⁸⁶	Process	Scott & Bruce (1994)
16. Model of Creative Thinking ⁹⁷	Process	Wallas (1926)
17. Motivational Framework for Stimulating Creativity ⁹⁸	Individual	Lovelace (1986)
18. Organizational Adaptation ⁹⁹	Organizational	Harvey & Mills (1970)
19. Person-environment Fit Theory ¹⁰⁰	Individual	Caplan (1983)
20. Rohrbaugh's Competing Values model ¹⁰¹	Organizational	Quinn & Rohrbaugh (1981)

4. Use of theories by nursing leadership to guide innovation

Google Scholar was again used to search for literature that cited one or more of the original works of the 25 theories previously identified. The identified articles were searched for who cited the original work and included the terms “nursing leadership” or “nurse leadership” or “nurse leader” (N = 1163). References were exported into EndNote 20. After removal of duplicates and non-English and no access articles, a total of 716 publications remained (Figure 1). Next, publications that were not primarily focused on nurse leaders were excluded (N = 499). Then, the content of publications articles was examined to exclude those that may cite the theories when defining the concept of innovation but did not use the theories to directly contribute to the theoretical underpinning of the study (N = 149). After applying all the exclusion criteria, there were 68 publications identified for further analysis. This included extracting author name, year of publication, title, journal, and the innovation theory used (Figure 1).

To ensure currency of the findings, a complementary search of Semantic Scholar was conducted in September 2025 using the same terms as the 2022 search. No new publications meeting inclusion criteria were identified, providing additional confidence that the 68 publications from the 2022 search represent the available evidence base at the time of this review.

5. How nurse leaders are using theory to inform innovation

Understanding nurse leaders’ utilization of theory to inform innovation in products, processes and practice is crucial because it informs advances in clinical decision-making, determines best nursing practice and impacts patient-outcomes. Therefore, each publication was read line-by-line by the researchers for information on the type of innovation being pursued. Outcomes were categorized by the researchers as either a product or a practice improvement. A product was defined as an outcome that is tangible (for example electronic health records and educational programs) while practice improvement outcomes were grouped into thematic categories of organizational (EBP, clinician roles, recruitment and retention, education, work environment and organizational culture, and innovation implementation) or individual/relational (coping, leadership style, leader and employee relationship, and empowerment). An important methodological caveat applies to the interpretation of these findings: within a scoping review design, it is not possible to conclude that the identified theories caused, explained, or produced the innovations described in the included publications. Rather, the theories served as the declared theoretical underpinning of each study as reported by the original authors. The scoping review methodology was not designed to evaluate the quality of the theoretical application, the fidelity with which the theory was operationalized, or the degree to which the theory contributed to study outcomes.

RESULTS

1. Literature search

The literature revealed a total of 25 theories (Table 1), six of which had been utilized by nurse leaders across 68 publications (Table 2): Diffusion of Innovations Theory⁹ (N=35), Leader-Member Exchange Model^{7,8} (N=15), Karasek’s Job Demands-Control Model¹⁵ (N=10), Cognitive Stress-Coping Theory¹⁶ (N=4), Job Characteristics Model¹⁷ (N=4) and Champion Behavior¹⁸ (N=1). Three theories focused on the individual level,^{7,8,16,17} one on the organizational level¹⁵, and one on both the organization and the process.⁹

Table 2: Nursing Leadership: Innovation theories

Theory	Antecedent characteristic	Summary
Cognitive Stress-Coping Theory ¹⁶	Individual	Lazarus (1966) Individual appraises situations (as threatening, challenging, or irrelevant) which significantly influences stress response.
Diffusion of Innovations Theory ⁹	Organizational; Process	Rogers (1983) - Innovation (new), Communication channels (process), Time (rate of adoption), and Social system (interrelated units to problem solve). - Innovation-decision process: Knowledge, Persuasion, Decision, Implementation, Confirmation. - Attributes of innovations and rate of adoption: relative advantage, compatibility, complexity, trialability, and observability. - Adopter categories: Innovators, Early adopters, Early majority, Late majority, Laggards
Karasek's Job Demands-control Model (JD-C) ¹⁵	Organizational	Karasek (1979) - Higher job demands require more effort and increase job stress. - Job control and job autonomy reduce job stress. - Changes in job control and time demands can lead to changes in psychological stress experienced over time.
Leader-Member Exchange (LMX) Theory ⁸	Individual	Graen & Uhl-Bien (1995) - Vertical relationships between leader and subordinates. - Three stages: role-taking, role-making, and routinization. - Two types of relationships: low-quality leader-member relations which include an impersonal formal relationship, or high-quality leader-member relations based on trust, respect, and mutual influence.
The Job Characteristics Model ¹⁷	Individual	Hackman & Oldham (1980) - Enriching jobs associated with improved job satisfaction, motivation and work performance. - Job characteristics: skill variety, task identity, task significance, autonomy, and feedback. - Psychological states: experienced meaningfulness of the work, experienced responsibility for outcomes

The literature consisted of dissertations (N=43), scholarly research articles (N=23), a report (N=1) and a conference paper (N=1). The outcomes within the literature resulted in a new product (N=5) or a new practice (N=63). The new practice literature focused on organizational factors including evidence-based practice (EBP) related outcomes (N=15), clinician roles (N=8), recruitment and retention (N=5), education (N=4), work environment and organizational culture

(N=3) and innovation implementation (N=3), or individual/relational factors including coping (N=7), leadership style (N=7), leader and member relationships (N=6), and empowerment (N=6), (Table 3). These categories were not mutually exclusive, with some publications fitting into more than one category.

Table 3: Innovation Product and Practice Outcomes

New products	
Diffusion of Innovation	1. Abbott CA. Adoption of a ventilator-associated pneumonia clinical practice guideline. 2006
	2. Ackerman LC. Caring Science Education: The Essence of Professional Practice for the Registered Nurse. 2019
	3. Dykes PC. Pilot testing fall TIPS (tailoring interventions for patient safety): a patient-centered fall prevention toolkit. 2017
	4. Morgan JA. Was That in An Email? An Electronic Tool to Improve Nursing Communication Satisfaction. 2020
	5. Osborne-McKenzie T. Implementing and Evaluating a Clinical Information Interface between an Electronic Medical Record and a Patient Classification System. 2014
New practice – Evidence-Based Practice	
Diffusion of Innovation	1. Calzone KA. The global landscape of nursing and genomics. 2018
	2. Camargo FC. Apprehensions of nurse managers on evidence-based practice. 2017.
	3. Camargo FC. Assessment of an intervention for the diffusion of evidence-based nursing in a teaching hospital. 2017
	4. Fabry D. Hourly rounding: perspectives and perceptions of the frontline nursing staff. 2015
	5. Fink R. Overcoming barriers and promoting the use of research in practice. 2005
	6. LaPierre E. Barriers to research use in the PACU. 2004
	7. Lefebvre N. Knowledge to Practice (K2P) Integrating the Use of Research Evidence in Decision-Making at Saint Elizabeth Health Care. 2007
	8. McCloskey DJ. Nurses' perceptions of research utilization in a corporate health care system. 2008
	9. Olade RA. Attitudes and factors affecting research utilization. 2003
	10. Paparone PA. Leadership and Attitudes on Adopting Evidence-Based Practice for Influenza Vaccination. 2014
	11. Richardson D. The successful implementation of electronic health records at small rural hospitals. 2016
	12. Shirey MR. Evidence-based practice: how nurse leaders can facilitate innovation. 2006
	13. Shuman C. Addressing the practice context in evidence-based practice implementation: Leadership and climate. 2017
	14. Strudwick G. Understanding nurses' perceptions of electronic health record use in an acute care hospital setting. 2017
	15. Walker-Czyz A. The Impact of an Integrated Electronic Health Record Adoption on the Quality of Nursing Care Delivered. 2014
New Practice – Clinician Roles	
Diffusion of Innovation	1. Klich-Heartt EI. Entry-level Clinical Nurse Leader: Evaluation of Practice. 2010
	2. Moreno J. Development of a Formalized Mentorship Program for Newly Licensed Registered Nurses at a Large Community Medical Center. 2017

2. New products

Theory-driven innovation that utilized the Diffusion of Innovation Theory resulted in the development of several tangible products which looked to improve electronic health record (EHR) systems and educational programs. One such tool was used as an alternative to email to improve communication in an obstetrics unit by providing information on organizational plans and EBP innovations with links to resources specific to the unit.¹⁹ Another tool connected EHR to a patient classification system to give nurse leaders access to current and accurate data to enable them to manage their staff more effectively.²⁰ The Fall TIPS Toolkit is a clinical decisions support system that links patients' fall risk assessments with evidence-based interventions.²¹ An education team developed guidelines to prevent ventilator-associated pneumonia that included self-learning packets, educational materials and storyboards.²² Another product focused on an experiential learning series designed to create a culture of caring by providing nurses with a theoretical guide to follow whilst observing, acting and reinforcing caring practices.²³

3. New practice

The majority of the theory literature focused on the development of innovative practices that aimed to improve organizational aspects related to quality of care (EBP, clinician roles, recruitment and retention, education, work environment and organizational culture, and innovation implementation) or relational aspects related to the wellbeing of healthcare workers (coping, leadership style, leader and employee relationship, and empowerment).

3.1 Organizational factors

3.1.1. Evidence-based practice

Evidence-based practice is defined as the integration of research findings into the delivery of care and serves as the foundation for improving clinical practice outcomes.²⁴ Fifteen publications focused on EBP and explored perceptions and techniques to improve the adoption of evidence in practice. All studies utilized the Diffusion of Innovations Theory to guide their innovation development. For example, one study aimed to improve nurses' capacity to integrate genomics into practice,²⁵ another examined the role of nurse leaders in facilitating EBP,²⁶ and a third identified barriers to using research in post-anesthesia care.²⁷ Nurse leaders benefit from being EBP competent^{28,29} and advocate for the implementation of new technologies and educational programs and standards that address skill and knowledge gaps related to EBP.³⁰⁻³⁵ Formal and informal training that models how nurses can incorporate EBP, such as using tools within electronic health records, plays a critical role in improving quality, safety, and nurse satisfaction.^{35,36}

3.1.2 Clinician roles

Nine publications within the literature discussed the creation of new clinician roles or the importance of specific roles within an organization. Six publications utilized the Diffusion of Innovation Theory,³⁷⁻⁴² one utilized the Leader-Member Exchange Model,⁴³ another the Champion Behavior theory,⁴¹ and one the Job Characteristics Model.⁴⁴

The role of Chief Executive Officer is important for developing a vision, planning and organizing, analyzing and solving problems, leading, motivating and inspiring, networking, and driving innovation.⁴⁴ An Interim Chief Nursing Officer adds value by establishing strategic relationships, bringing diverse experience and building sustainable foundations.⁴² Clinical Nurse Leaders enhance quality care by promoting best practices at the bedside and assisting patients with complex care issues.^{37,39} Head nurses set clear expectations for quality care and serve as role models by encouraging independence and fostering problem-solving skills.⁴³ Nursing residency programs facilitate the transition of new nurses into practice, which can improve retention.⁴⁰

A clinical champion may emerge from various managerial or executive roles, engaging in disseminating knowledge, advocating for change, building relationships, and navigating consensus to support innovation efforts.⁴¹ Furthermore, mentor roles in nursing promote competence, reduce workplace bullying, and increase job satisfaction.³⁸

3.1.3 Recruitment and retention

The issue of recruitment and retention of nursing staff was explored by five publications within the literature findings. Two utilized the Leader-Member Exchange Model, one the Diffusion of Innovations theory,⁴⁵ one the Job Characteristics Model,⁴⁶ and one Karasek's Job Demands-Control Model.⁴⁷ A greater intention to leave was shown in nurses who had less experience and income, a lower value of benevolence and a higher score of hedonism.⁴⁷ Nurse leaders had greater intention to leave if their role was unclear, and their relationship with the Director of Nursing was poor.⁴⁸ Nurse leaders can reduce staff turnover through skills training, new nurse orientation programs, involving nurses with administrative and clinical aspects of their work, and creating a culture of consistent communication and feedback.⁴⁶ In academia, nurse leaders improve faculty retention through good communication and quality relationships⁴⁹ while intentional recruitment processes improve faculty recruitment.⁴⁵

3.1.4 Education

Four results from the literature review described the use of innovative education in nursing, with three utilizing the Diffusion of Innovations theory⁵⁰⁻⁵² and one the Leader-Member Exchange Model.⁵³ Nurse leaders found that formal education helped bring awareness to their practice, and with reflection, could determine alternative ways of leading.⁵³ Nurse leaders who select the most qualified preceptors can improve the facilitation of transitioning new nurses.⁵⁰ Education is also important in helping nurses retain new knowledge.⁵² Continued growth in remote learning innovations helps when traditional education methods are not available. Despite potential technological, environmental, and teaching barriers, effective remote learning can occur when the proper resources are devoted to it.⁵¹

3.1.5 Work environment and organizational culture

Three publications explored aspects of the work environment and organizational culture that influence nursing practices and innovation. One study applied the Diffusion of Innovations theory, highlighting how nursing homes implemented culture innovation practices in response to demographic shifts, market factors, satisfaction surveys, and state-driven quality improvement efforts.⁵⁴ Another study, using the Job Characteristics Model, highlighted the importance of fostering work environment that supports security, growth, autonomy, and feedback for academic middle managers in nursing programs.⁵⁵ Finally, a study applying Karasek's Job Demands-Control Model examined the relationship between high psychological demands and low job control among nurse case managers, emphasizing the need for innovative strategies to mitigate job strain and enhance coping abilities.⁵⁶

3.1.6 Innovation implementation

Three publications specifically explored strategies for implementing innovation in nursing environments, with all utilizing the Diffusion of Innovations theory to guide their study.⁵⁷⁻⁵⁹ Mid to senior-level nurse leaders are often more familiar with the organization's desire to innovate and the resources available compared to staff nurses.⁵⁷ As a result, executives and clinical directors may be more innovative than nurse managers, possibly due to their broader organizational awareness.⁵⁸

Nurse leaders may believe it is the responsibility of all team members to lead innovation in an organization, however, leadership must remain engaged and committed to ensure innovation is sustained.⁵⁹ Strategies for innovation include securing dedicated resources, ensuring staff involvement, and maintaining leadership presence and commitment throughout the process.⁵⁹

To foster staff buy-in, it is important for nurse leaders to demonstrate the benefits of the innovation and provide a trial period for staff nurses to experience it firsthand.⁵⁷ This approach allows staff to see the potential positive impact before full implementation, increasing the likelihood of successful adoption.

3.2 Individual/relational factors

3.2.1 Coping

Coping in this context explores the occupational mechanisms which nurse leaders need to help nurses cope with the demands of their job. Seven publications explored coping strategies, four utilizing Karasek's Job Demands-Control Model⁶⁰⁻⁶³ and three utilizing the Cognitive Stress-Coping Theory.⁶⁴⁻⁶⁶ High job demands and insufficient resources lead to burnout and negatively impact nurse wellbeing.^{61,66} Resilience and work engagement are negatively correlated with burnout and nurses benefit from ongoing education on coping strategies to manage their occupational stress.⁶⁵ However, some coping strategies may actually increase stress among nurses with lower hardiness.⁶⁴ Examples include confrontation, self-controlling, accepting responsibility and escape-avoidance.⁶⁴ Low hardiness was associated with higher stress.⁶⁴ Furthermore, it is important for nursing administrators to balance the nurse's job demands and efforts to reduce nurse stress and turnover.^{60,63} Creating an inviting workplace and a healthy work-life balance helps to reduce staff turnover and stress for nurses and nurse managers.⁶²

3.2.2 Leadership style

In the nursing literature, seven publications looked at the influence of leadership style on employee work engagement,⁶⁷⁻⁶⁹ organizational support,^{70,71} nurse confidence,⁷² EBP support,²⁴ and organizational change.⁷³ Four publications utilized the Leader-Member Exchange Model,^{69,71-73} one applied the Karasek's Job Demands-Control Model,⁷⁰ one used the Diffusion of Innovations theory,²⁴ and one relied on Job Characteristics Model.⁶⁷

Aranzamendez found that direct supervisor affiliation and leadership style had a significant impact on nurses' voicing concerns, contribute ideas, and advocate for improvement, leading to greater innovation.⁷² The motivation and turnover of female leaders is impacted by relationships with co-workers, workload and lack of authority.⁶⁷ Leaders who identify their leadership style as having less focus on innovation and production, and who provide little attention to employee orientation, are associated with greater employee stress.⁶⁹ Resonant leadership, which emphasizes relationships and people over tasks, improves patient safety, staff experience, and patient satisfaction.⁷¹ Transformational leadership, which inspires, motivates, intellectually stimulates, and supports individuals, increases nurses' intent to vaccinate against influenza.²⁴

Additionally, a dissertation applying the LMX model examined a leadership shift within a healthcare organization from a hierarchical, compartmentalized socio-technical management approach to a relational leadership style.⁷³ Employees perceived that this innovation positively influenced social capital, patient safety, and job satisfaction.⁷³ Organizational support resources provide nurse leaders with more time to focus on health-promoting leadership, resulting in improved employee wellbeing.⁷⁰

3.2.3 Leader and employee relationship

Six publications in the nursing literature focused on the dynamics of the leader and employee relationship and potential impact on work environment. Five studies utilized the Leader-Member Exchange Model⁷⁴⁻⁷⁸ and one on the Cognitive Stress-Coping Theory.⁷⁹ A well-perceived relationship between nurse leaders and nursing staff results in improved job satisfaction, organizational commitment, perception of leader effectiveness, and patient safety.^{74,76-78} Furthermore, effective leadership contributes to reduced cynicism and emotional burnout.⁷⁵ It is recommended that leadership consider employee coping style, which partially mediates the relationship between leadership and quality of work life.⁷⁹

3.3.2.4 Empowerment

Six publications focused on factors that empower nurse leaders at work with three using Karasek's Job Demands-Control Model,⁸⁰⁻⁸² two Leader-Member Exchange Model,^{83,84} and one Diffusion of Innovations Theory.⁸⁵ Nurse leaders are essential to creating empowering work

environments that foster knowledge exchange and support EBP.⁸³ Nurse leaders who are given greater autonomy in their decision-making will experience improved motivation and morale.⁸²

However, nurse personal attributes also play a critical role in engagement and job performance, beyond the influence of the work environment alone.⁸¹ Nurse leaders recognize that engaged nurses demonstrate greater loyalty to the organization, contributing to a more empowered and committed workforce.⁸¹

Nurse leaders who have received higher education at the Masters level show improved leadership capabilities which in turn improves patient safety, quality of care, and staff satisfaction.⁸⁵ There is a risk that increasing nurse leader span of control within an organization may result in greater work demands and decreased satisfaction and increased turnover.⁸⁰ However, a supportive environment which encourages nurse leader self-care activities may reduce those risks.⁸⁴

DISCUSSION

4.1 Theories driving innovation in nursing

Innovation plays a critical role in generating ideas and processes that enhance patient care and improve operational efficiencies.¹⁻³ However, innovation is not clearly defined within healthcare literature, and there is a dearth of knowledge on how innovation theories are applied in the development of nursing practice. Nurses are at the forefront of healthcare and are in a unique position to drive a culture of innovation among their nursing staff. Nurse leaders may advance innovative practices by utilizing theoretical approaches to facilitate the implementation process.⁹ These approaches help users navigate, understand, and evaluate the process. However, this review has shown that only a select few theories have been used to drive innovation within nursing, with 68 instances of innovation using only five different theories. Nurse leaders may also face barriers to theory-based decision-making within organizational business models that do not value theoretical approaches.

Over half of the literature on nursing innovation utilized the Diffusion of Innovations Theory¹⁶ to guide their framework. This theory was applied to all innovations related to product development, as well as most practice innovations focused on EBP and innovation implementation. The Diffusion of Innovations Theory was developed in 1983 and is commonly taught in advanced nursing programs, which may explain its frequent use compared to other theories. This theory considers a wide range of factors, including the dissemination, implementation, and sustainability of an innovation, along with the individual characteristics that influences the adoption process. Because this theory considers various factors, it remains a comprehensive and effective guide for implementing innovations in practice.

The next most used theories were the Leader-Member Exchange (LMX) Model^{17,18} and the Karasek's Job Demands-control Model,¹⁹ which focus on different aspects of innovation. The LMX Model emphasizes the individual relationships between leaders and team members, while Karasek's Model focuses on organizational structures and their impact on employees. This review highlights the need for nurse leaders and researchers to adopt broader, more inclusive theoretical approaches when developing and evaluating innovations. It is unclear why nursing innovation literature prioritizes these particular theories over others. Lesser utilized but potentially valuable theories include the Innovative Work Behavior Model⁸⁶ and the Social Exchange Theory Framework.⁸⁷

Nursing leadership literature appears to favor theories that are highly cited and widely recognized, possibly contributing to their popularity. However, it is recommended that nurse leaders and researchers be cautious when selecting a theory to guide their work, as a lesser-known theory may better align with their specific goals and contexts. By diversifying the theoretical approaches used to guide innovation, nurse leaders can ensure that innovation efforts are contextually appropriate, evidence-based, and sustainable over time. It is also worth critically examining the assumption, implicit in much of the reviewed literature, that innovation in nursing is primarily driven from the top down. Notably, 43 of the 68 included publications (63%) are

dissertations authored by practicing nurse leaders in graduate training programs, which may itself reflect a top-down sampling bias: those studying formal leadership are more likely to frame innovation as a product of designated authority rather than emergent, distributed agency. The reviewed literature therefore likely underrepresents the innovative contributions of frontline nurses who drive change informally, without a title or designated mandate. Emergent, distributed, and non-hierarchical forms of innovation leadership remain underexplored in the nursing theory literature and should be treated as a priority area for future research, particularly given evidence from organizational behavior that innovation often originates at the periphery rather than the center of formal power structures.¹¹ Future reviews should deliberately seek out and include studies that examine peer-to-peer innovation, unit-level culture change, and bottom-up improvement initiatives to provide a more complete picture of how nursing innovation actually occurs.

The finding that nursing innovation literature draws predominantly from a narrow cluster of theories invites reflection on a parallel phenomenon identified in the broader literature on organizational innovation: the tendency of professional communities to draw from homogeneous intellectual traditions even when cross-disciplinary frameworks might be more generative. Just as Diffusion of Innovations Theory and Lead-Member Exchange Theory have become default lenses for nursing researchers, so too the profession may have defaulted to familiar disciplinary boundaries. Syed¹¹ argues that the most productive problem-solving environments are those that deliberately assemble people and ideas from diverse knowledge backgrounds, and that homogeneous expert groups share the same blind spots and converge on the same solutions. Applied to nursing innovation theory, this suggests that deliberately seeking frameworks from management science, sociology, complexity theory, and behavioral economics could open new explanatory possibilities that domain-specific nursing theories cannot provide. This perspective reinforces this review's recommendation that nursing innovators diversify their theoretical toolkit beyond the most familiar and frequently cited frameworks.

4.2 Defining innovation in nursing

In the nursing context, innovation is more than the development of new technologies or processes. It includes using novel approaches to improving organizational and individual factors related to clinical practice to improve patient outcomes, reduce disparities, and enhance overall quality of care. As well as adopting EBP guidelines and the use of technology to optimize clinical decision-making, other examples of innovation in nursing practice includes leadership innovations that transform leadership styles to cultivate an environment that encourages critical thinking, collaboration, and professional development, and education innovations such as new teaching methods, including simulation-based learning, to better prepare nurses for complex clinical environments. Defining innovation in this broader sense will help nurse leaders align their efforts to a more holistic understanding of how innovation occurs across multiple dimensions, ultimately contributing to more sustainable improvements in care delivery.

While the included publications did not substantively address economic dimensions of nursing innovation, the near-complete absence of this focus itself constitutes a meaningful finding that warrants attention in future research and practice. Traditionally, innovation has been viewed through an economic lens, with a primary focus on cost savings, operational efficiency, and organizational growth. However, the use of innovation theory in nursing practice does not appear to have an economic focus. Instead, nurse leaders have focused on innovations within organizational factors such as EBP, clinician roles, recruitment and retention, education, work environments, innovation implementation, as well as individual factors including coping, leadership styles, leader-employee relationships and empowerment. While these are essential for improving patient care and fostering professional growth, neglecting the economic dimensions of innovation limits the ability of nurse leaders to address critical issues such as resource allocation, nurse retention, and sustainable practice models.

Given the increasing demands in healthcare, especially with the expectation to do more with less resources, economic considerations must be integrated into innovative strategies within

nursing. Although most nursing innovations focus on improving clinical practice and work environments, economic innovations, such as reducing healthcare costs, optimizing staffing models, and improving operational efficiencies, are equally essential for sustainable innovation. Incorporating the economic perspective in nursing innovation would enhance resource allocation, ensure nurse staffing and workloads are balanced to reduce burnout, and foster data driven decisions that consider the cost-benefit ratio of innovative practices. By expanding the definition of innovation in nursing to include the economic and operational components, nurse leaders can develop a more balanced and sustainable approach to innovation, benefiting patients, clinicians, and the healthcare system as a whole.

4.3 Limitations

It is conceivable that many nurse leaders are utilizing theoretical framework processes without realizing they are doing so due to a lack of education of formal theoretical approaches. Therefore, these practices are not observed or recorded in the literature and cannot be reviewed. Although this review outlines the ways in which other nurse leaders have adopted the use of theory to guide innovation, there was a lack of reporting by authors in this review on whether using the theories provided advantages over non-theory approaches to innovation. Therefore, it cannot be surmised that using a theoretical approach is unequivocally more effective. However, the literature does suggest that utilizing theoretical approaches to facilitate the implementation of innovative practices does provide nurse leaders with improved ways to navigate, understand, and evaluate the innovation process, as well contribute to sustained innovation. Additionally, the included publications varied widely in methodological rigor, and the scoping review design does not permit conclusions about whether theoretical approaches produced better innovation outcomes than non-theoretical approaches; future reviews employing systematic methodology and quality appraisal would be better positioned to address this question. Consistent with this constraint, it is not possible within this methodology to confirm that the identified theories caused the innovations described; rather, the theories served as the declared theoretical underpinning for each study as reported by the original authors, and the review should be interpreted as a map of theoretical usage rather than evidence of theoretical effectiveness.^{1,9,85}

No viable method of identifying innovation theories was found, therefore a snowball methodology was used, which may have overlooked other relevant theories. A further limitation concerns the composition of the evidence base: 43 of the 68 included publications (63%) are doctoral dissertations, which are not subject to the same formal peer-review process as journal articles. This has potential implications for the consistency and rigor of the evidence base, and findings should be interpreted accordingly. As a partial counterpoint, doctoral dissertations in nursing are supervised works subject to committee review and oral defense, which provides some quality oversight; nonetheless, the peer-reviewed subset (N = 23) alone may not be sufficient to sustain the full range of claims made in this review. Further, the review was limited to searching Google Scholar, and CINAHL, PubMed, and MEDLINE were not searched systematically. Google Scholar was selected deliberately to capture the interdisciplinary and gray literature relevant to this emerging topic; however, it is acknowledged that relevant peer-reviewed publications indexed only in clinical nursing databases may have been missed, which limits the generalizability of the findings to the broader peer-reviewed nursing literature.

The review was also restricted to English language publications. Although this approach may exclude valuable regional studies or culturally specific insights published in other languages, English-only searches capture the vast majority of influential global research and are an efficient strategy for this scope of inquiry. This restriction may nonetheless limit the applicability of the findings to non-English-speaking healthcare systems, a concern that is amplified by the sociology of innovation literature's emphasis on the cultural and regional specificity of how innovation is conceptualized and enacted across different national contexts¹¹. The review intentionally did not assess the quality of publications because the goal was to include the outcomes of all relevant literature, regardless of any methodological discrepancies.

CONCLUSION

Many nurse leaders may be using theoretical processes without knowing it, while others wanting to use theory-based decision-making to inform practice innovation may face backlash from executive management who do not recognize its value. However, applying theoretical approaches in nursing innovation has the potential to transform healthcare systems through safer, more efficient, and evidence-based care. Theories help guide nurse leaders to account for all structural components that may support new innovations. This review highlights that innovation in nursing has a theoretical underpinning guided by only a few well-known models. Nurse leaders may benefit from adopting broader, more inclusive theoretical approaches when developing and evaluating innovations, thereby diversifying the theoretical approaches used to guide innovation and ensuring that innovation efforts are contextually appropriate, evidence-based, and sustainable over time.

This review provides a comprehensive guide to the theories of innovation that have been used within nursing to date and contributes to the literature on this issue. The results of this review provide valuable insights for future research that seeks to incorporate innovation theory into nursing and healthcare settings to create supportive environments that can sustain innovation over time. Consistent with the mapping purpose of scoping reviews, this work is best understood as a first-pass terrain survey that identifies the contours of the field rather than a definitive critical synthesis; it is intended to lay the groundwork for future, more targeted reviews. Specifically, the authors recommend focused systematic reviews in high-priority sub-domains identified here, including: a systematic review examining the application and outcomes of Diffusion of Innovations Theory specifically in evidence-based practice adoption across nursing settings; a systematic review of Leader-Member Exchange Theory in nurse retention and turnover; and a scoping or systematic review specifically examining how emergent, non-positional nurse leaders utilize theory to drive innovation at the unit and frontline level. Such focused reviews would enable the depth of critical appraisal and quality assessment that a broad scoping review of this scope cannot provide, and would build a more rigorous evidentiary foundation for theory-guided innovation practice in nursing leadership.

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