Nurse Manager Competencies, Nurse Engagement and Work Environment Toward Nurses' Performance: Conceptual Framework

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Abstract: *Nursing staff performance is a critical component of the quality of health care, patient safety, and the efficiency of health care organizations. Nurse managers play a pivotal role in influencing the work environment and professional practice of nurses in a context of growing complexity and turbulence that characterises health systems. This conceptual study presents an integrated framework of relationships to explore how nurse manager competencies, nurse engagement and the nursing work environment might impact nurse performance. Using leadership theories, the Job Demands-Resources (JD-R) model, and the magnet framework as a foundation, the study conceptualizes nurse manager competencies as multidimensional attributes of a nurse managers capacity including but not limited to leadership, communication, emotional intelligence, and clinical expertise. Nurse engagement, meanwhile, is framed as a mediating component of nurse emotional commitment and employee involvement with their work. Similar to the approaches of climate for sustainable development and performance practices, the organizational environment; in terms of support for climate, staffing adequacy, and autonomy, is treated as a contextual moderator that can act either as an enhancing or suppressing factor for performance outcomes. By establishing these linkages, the framework offers a theoretically informed foundation for empirical investigation and practical action to maximise the impact of the workforce on health systems. It anticipates that this conceptual model will inform future empirical studies and policy initiatives aimed at strengthening leadership development, enhancing nurse engagement, and improving organizational climates toward achieving excellence in nursing performance.*

Keywords: nurse manager competencies, nurse engagement, work environment, nurses' performance, conceptual framework, JD-R model.

1. Introduction

Nurses' performance is a direct driver of care quality, patient safety, and the operational efficiency of health care organizations. Yet sustaining consistently high performance has become harder as health systems face persistent workforce pressure, rising service complexity, and widening expectations for safety and quality. Global nursing priorities increasingly emphasize strengthening leadership capability, improving practice environments, and supporting workforce sustainability because these

conditions shape whether nurses can deliver reliable, high-quality care at scale (World Health Organization, 2021). In parallel, excellence-oriented initiatives such as Magnet-related standards reinforce that nursing outcomes are not produced by individual effort alone, but by leadership, systems, and professional practice conditions that enable performance (Curto, 2022). Within this context, nurse managers occupy a pivotal position because they influence coordination, communication, and the day-to-day functioning of nursing units. Evidence syntheses in nursing leadership consistently show that leadership development and managerial capability are linked to outcomes that matter staff stability, quality, and service performance yet the field still struggles to explain how leadership translates into measurable nurse performance and when that translation fails (Cummings et al., 2021). This question becomes especially urgent in turbulent or constrained settings, where crisis conditions and resource limits can suppress the impact of even competent leadership (Ismail, 2020). If structural feasibility is weak, leadership may raise morale but still fail to produce observable improvements in workload execution, patient safety behaviors, or efficiency.

A second problem is conceptual and methodological: many studies treat leadership/competency, engagement, and the work environment as parallel predictors, while using measures that overlap in content. The nursing practice environment literature shows how widely used environment instruments can embed managerial support and relational items, which blurs the boundary between "what leaders do" and "what the system provides" (Swiger et al., 2017). When leadership measures also include staffing adequacy, autonomy, or organizational support content, the resulting estimates inflate relationships and make interpretation weak. This is not a small technical issue it undermines what organizations should prioritize, because contaminated models cannot cleanly distinguish whether performance depends more on competency development, engagement enhancement, or structural investment. Nurse engagement is frequently presented as the missing mechanism, but it is also often treated loosely. Research indicates that staff engagement is meaningfully associated with safety-related outcomes, implying that motivation and involvement have practical consequences beyond satisfaction (Janes et al., 2021). Leadership behaviors and supportive interpersonal conditions also matter for nurses' motivational attachment and retention-relevant outcomes, reinforcing the importance of proximal managerial and social resources (Fernet et al., 2021). However, engagement cannot be expected to produce performance gains automatically: if staffing is inadequate, autonomy is constrained, or the work system blocks nurses' ability to enact professional judgment, engagement may not translate into improved performance. This aligns with job demand–resource logic in nursing, where demands and personal/contextual factors shape how work conditions affect outcomes (Bani-Hani & Hamdan-Mansour, 2021).

This conceptual paper proposes an integrated framework in which nurse manager competencies (leadership, communication, emotional intelligence, and clinical expertise) influence nurses' performance (quality of care, patient safety, and organizational efficiency) directly and indirectly through nurse engagement (emotional commitment and employee involvement), while the work environment (supportive climate, staffing adequacy, and autonomy) moderates whether these effects materialize. The practical claim is deliberately strict: leadership capability may elevate engagement, but performance improvement is expected to weaken under structural constraint because motivation cannot be enacted consistently when time, staffing, and decision authority are insufficient (Pursio et al., 2021; Graystone, 2018). By clarifying these relationships, the framework is designed to be testable and useful supporting more rigorous empirical designs and more defensible policy choices than generic "leadership matters" narratives, particularly in a field where the quality of evidence and incentives for robust scholarship have been openly criticized (Darbyshire & David, 2022).

2. Theoretical Development

2.1 Core Constructs and Conceptual Boundaries

This framework specifies four constructs nurse manager competencies, nurse engagement, work environment, and nurses' performance and imposes strict conceptual boundaries to prevent leadership–environment overlap that inflates relationships and weakens interpretation. The intent is to separate managerial behavior, nurses' motivational state, structural opportunity conditions, and behavioral performance outcomes. Nurses' performance is defined as observable work-role behavior that contributes to care quality, patient safety, and organizational efficiency. This includes reliable execution of clinical tasks, teamwork and coordination behaviors that prevent errors, and adaptive responses under changing demand. Because performance is often conflated with attitudes or self-assessment, the framework treats it as behavioral output that should be aligned to safety and service delivery outcomes, consistent with evidence linking staff engagement to patient safety outcomes (Janes et al., 2021). This emphasis is also consistent with Magnet-oriented nursing excellence, which prioritizes demonstrable nursing outcomes and professional practice systems rather than perceptions alone (Curto, 2022).

Nurse manager competencies are conceptualized as enacted behaviors expressed through leadership, communication, emotional intelligence, and clinical expertise. Systematic nursing leadership evidence indicates that leadership capability and educational interventions relate to workforce and service outcomes, but results vary partly due to inconsistent measurement and conceptual mixing with environmental factors (Cummings et al., 2021). In this model, competencies are treated as managerial enactment that supports staff functioning, including role clarification, coordination, performance feedback, emotionally regulated interactions, and clinically credible decision support. Crisis-relevant leadership actions that protect staff functioning following disruptive events are included as competency expressions (Owen & Schimmels, 2020). Leadership approaches that emphasize empowerment also support this logic by clarifying how managerial behaviors expand nurses' capacity to act effectively in their roles (Wong & Laschinger, 2013). Competency indicators must exclude staffing adequacy, autonomy policy, organizational resource availability, and system infrastructure. These are environmental conditions rather than competency content.

Nurse engagement is conceptualized as nurses' emotional commitment and employee involvement with their work, functioning as a motivational mechanism through which managerial competencies influence performance. Engaging leadership theory supports the premise that leadership practices can stimulate and sustain engagement (Schaufeli, 2021). Evidence also shows that supervisor-related behaviors and coworker behaviors predict motivation and commitment-relevant outcomes in nursing, reinforcing the role of proximal social and managerial inputs in shaping engagement-related states (Fernet et al., 2021). Engagement must not be substituted with job satisfaction or generalized commitment measures; doing so undermines the mediation logic and produces ambiguous interpretation.

The work environment is conceptualized as an opportunity structure that can enable or constrain the translation of competencies and engagement into performance. It is represented by support for climate, staffing adequacy, and autonomy. Autonomy is especially central because it determines whether nurses can enact professional judgment and respond adaptively, which are necessary for performance in complex care settings (Pursio et al., 2021). Structural constraints arising from governance and resourcing decisions can suppress enactment capacity even when motivation is present, making the environment a plausible boundary condition for performance outcomes (Ismail, 2020). Work environment indicators should exclude manager support, supervision quality, and interpersonal relations content because these are proximal social processes attributable to leadership and team dynamics rather than exogenous structural conditions.

2.2 Theoretical Logic Linking Competencies, Engagement, Environment, and Performance

The framework integrates leadership theory, engagement mechanisms, and structural constraint logic into a moderated mediation argument. Nurse manager competencies are expected to function as proximal resources that influence nurses' motivational investment. When nurse managers communicate clearly, coordinate work effectively, regulate interpersonal tension, and provide clinically credible support, nurses are more likely to invest emotionally and behaviorally in their work, consistent with engaging leadership mechanisms (Schaufeli, 2021). Empirical evidence also supports the relevance of supervisor-related behaviors in shaping nurses' autonomous motivation and commitment-related outcomes, which are closely aligned with engagement processes (Fernet et al., 2021). Engagement is expected to increase sustained effort, focus, and discretionary collaboration, which are required for safety-oriented behaviors and consistent service delivery. The association between staff engagement and patient safety outcomes supports treating engagement as performance-relevant rather than purely attitudinal (Janes et al., 2021).

The central claim is that engagement does not automatically yield performance gains. The work environment determines whether motivated nurses can enact high-quality work behavior consistently. Staffing adequacy shapes time and capacity for safe execution, autonomy shapes enactment of clinical judgment, and climate support shapes whether initiative is reinforced or suppressed. Evidence on professional autonomy in nursing supports this logic by showing that autonomy is structurally tied to how nurses practice and perform (Pursio et al., 2021). Evidence on system-level constraints further illustrates how governance and resourcing conditions can erode service delivery and resilience regardless of motivation, supporting the environment's moderating role (Ismail, 2020). Magnet-oriented excellence standards also imply that strong outcomes depend on leadership and professional practice conditions operating together (Curto, 2022).

2.3 Hypotheses

H1: Nurse manager competencies are positively associated with nurse engagement.

H2: Nurse engagement is positively associated with nurses' performance, including quality of care, patient safety, and organizational efficiency.

H3: Nurse engagement mediates the relationship between nurse manager competencies and nurses' performance.

H4: The work environment moderates the relationship between nurse engagement and nurses' performance such that the relationship is stronger under supportive climates, adequate staffing, and greater autonomy and weaker under structural constraint.

H5: The indirect effect of nurse manager competencies on nurses' performance through nurse engagement is conditional on the work environment (moderated mediation), with stronger indirect effects under supportive climates, adequate staffing, and meaningful autonomy.

3. CONCEPTUAL FRAMEWORK MODEL AND SPECIFICATION

This section translates the theoretical logic into a testable conceptual model by defining the direction of effects, specifying the mediating and moderating roles, and aligning the framework with the study variables and attributes (Table 1). The model is built on a simple but strict causal logic: nurse manager

competencies function as proximal managerial resources that increase nurse engagement, and engagement is expected to improve nurses' performance; however, whether engagement can be enacted into measurable performance depends on the work environment, particularly staffing adequacy and autonomy. This "translation" logic is consistent with evidence that leadership matters but does not operate in a vacuum, and that nursing excellence expectations (e.g., Magnet-oriented structures) are fundamentally systems-based rather than purely individual-based (Curto, 2022). It also responds to ongoing concerns about weak conceptual discipline and avoidable contamination in nursing management scholarship by enforcing clear construct placement and pathway roles (Darbyshire & David, 2022).

3.1 Model Structure and Pathways

The proposed framework specifies a mediation pathway and a moderation boundary condition, producing a moderated mediation model. First, nurse manager competencies are hypothesized to predict nurse engagement (H1), reflecting the idea that managers shape the motivational tone of work through leadership, communication, emotionally intelligent interaction, and clinically credible support capabilities frequently emphasized in leadership development evidence (Cummings et al., 2021). Second, nurse engagement is hypothesized to predict nurses' performance (H2), consistent with evidence that staff engagement is associated with safety-relevant outcomes (Janes et al., 2021). Third, engagement is positioned as the explanatory mechanism (H3), meaning nurse manager competencies should influence performance indirectly through engagement (Schaufeli, 2021). The model then introduces the work environment as a contextual moderator of the engagement → performance pathway (H4). The moderation claim is not decorative. It states that even highly engaged nurses may fail to deliver measurable improvements when staffing is inadequate or when autonomy is structurally constrained, because engaged effort cannot be converted into consistent work-role behavior under persistent system blockage (Pursio et al., 2021). This boundary condition yields the moderated mediation hypothesis (H5): the indirect effect of competencies on performance through engagement is expected to be stronger under more supportive climates, adequate staffing, and higher autonomy (Curto, 2022).

While the model is intentionally centered on competencies, engagement, environment, and performance, it acknowledges that informal social dynamics can shape climate perceptions and interpersonal functioning. Workplace gossip, for example, can influence norms and social status processes inside organizations and may therefore act as a contextual nuisance factor to control rather than a core pathway to theorize in the primary framework (Lian et al., 2023). Likewise, broader environmental and public-health stressors can escalate demand pressures on health systems, thereby intensifying constraints within the work environment; such exogenous shocks are relevant as contextual background conditions rather than focal constructs of the model (Li et al., 2021).

3.2 Proposed Conceptual Framework

Figure 1. Proposed conceptual framework linking nurse manager competencies, nurse engagement, work environment, and nurses' performance.

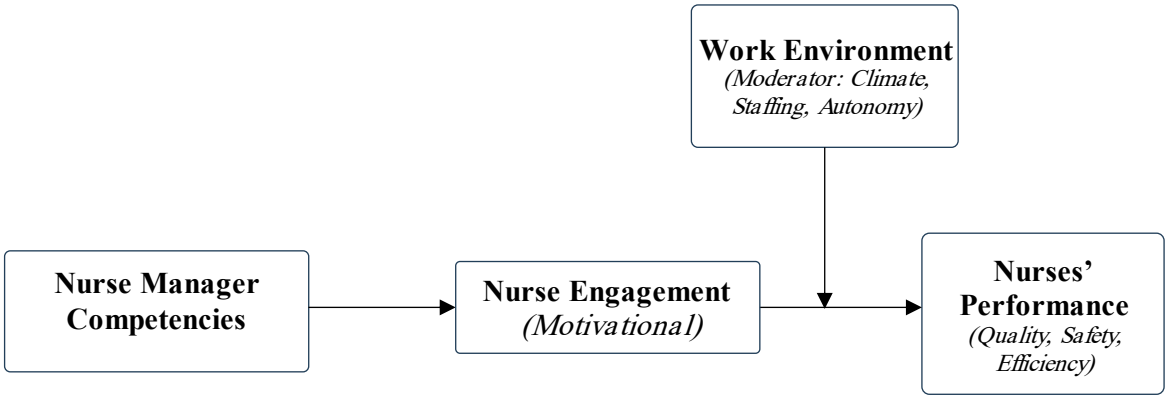

Figure 1: Conceptual Framework.

3.3 Variables and Attributes Alignment

Table 1. Variable types, names, and components/attributes.

Variable Type	Variable Name	Components/Attributes
Independent Variable	Nurse Manager Competencies	Emotional Intelligence, Clinical Expertise
Mediating Variable	Nurse Engagement	Emotional Commitment, Employee Involvement
Moderating Variable	Work Environment	Support for Climate, Staffing Adequacy, Autonomy
Dependent Variable	Nurses' Performance	Quality of Care, Patient Safety, Organizational Efficiency

4. MEASUREMENT SPECIFICATIONS AND RESEARCH DESIGN BLUEPRINT

Rigorous testing of the proposed moderated mediation model depends on measurement discipline. If competencies, engagement, work environment, and performance are captured from the same nurses at the same time using one questionnaire, the study will mostly measure shared method bias and overlapping wording rather than the causal logic it claim. That design is cheap, but the findings would be weak evidence for mechanisms and boundary conditions. A defensible blueprint must therefore separate constructs by source, level, and time in a way that matches the theory and reduces the leadership–environment contamination repeatedly documented in nursing environment measurement work (Swiger et al., 2017).

4.1 Minimum Design Requirements

The minimum design that matches the model is time-lagged and multi-source. Nurse manager competencies should be assessed first as staff-observed enacted behaviors, because leadership resources only matter in JD-R terms when they are experienced in daily work, and staff ratings are the most direct way to capture that exposure (Cummings et al., 2021). Nurse engagement should be measured subsequently as an individual motivational state, because it represents the proposed

mechanism rather than an antecedent, and engaging leadership theory treats engagement as a state activated and sustained through leadership practices (Schaufeli, 2021). Nurses' performance should then be measured after engagement using sources that are not the same self-report instrument used for competencies and engagement, because self-rated performance collapses behavior into self-perception and exaggerates associations (Janes et al., 2021). The work environment should be measured as a contextual condition that is relatively stable over the measurement window and modeled at the appropriate organizational or unit level, because it represents opportunity structures (staffing and autonomy) that shape feasibility of translating motivation into performance (Pursio et al., 2021).

4.2 Measurement of Core Constructs

Nurse manager competencies should be operationalized as staff-observed enacted behaviors aligned with leadership, communication, emotional intelligence, and clinical expertise. Measures should focus on what managers actually do that helps nurses' function effectively, such as setting direction, coordinating work, providing timely feedback, supporting problem-solving, and offering clinically credible guidance that strengthens decision-making and safe practice (Cummings et al., 2021). Because nursing units operate under recurring pressure and episodic disruption, competency measurement should also be capable of capturing leadership behaviors under strain, given that crisis-relevant leadership responses can materially affect staff functioning and unit stability (Owen & Schimmels, 2020). Competency indicators must explicitly exclude staffing adequacy, structural autonomy policy, and organizational resourcing, because those belong to the work environment and mixing them into "competency" measures is contamination that will inflate effects and make interpretation unreliable (Swiger et al., 2017). Where competencies are modeled at the unit level, aggregation from individual nurse ratings to a unit/manager score should only be undertaken when within-unit agreement and reliability justify that step, otherwise unit-level claims become statistical fiction rather than evidence.

Nurse engagement should be measured as an individual-level construct reflecting emotional commitment and employee involvement, consistent with the model's mediating role. The instrument should be grounded in engagement theory and aligned with engaging leadership logic, where engagement is treated as a motivational state that leadership practices can activate and sustain through supportive, energizing interaction and meaningful work structuring (Schaufeli, 2021). Engagement measurement should not be substituted with job satisfaction or generalized organizational commitment, because that substitution undermines the mediation pathway by replacing a motivational mechanism with broader attitudes, which typically have different antecedents and consequences. Given evidence that supervisor and coworker behaviors predict motivation and commitment-relevant outcomes in nursing, engagement measurement should also be interpreted in light of proximal social influence without confusing those social processes with structural environment conditions (Fernet et al., 2021).

The work environment must be measured as a contextual opportunity structure, aligned to support for climate, staffing adequacy, and autonomy, and specified so that it is conceptually independent from manager behaviors. This matters because practice environment measurement has a documented history of embedding leadership/supervision content, which blurs constructs and inflates relationships; the updated review of the Practice Environment Scale of the Nursing Work Index makes clear that careful application and interpretation are necessary, particularly regarding leadership-related subcontent (Swiger et al., 2017). Staffing adequacy is best represented using defensible structural indicators such as staffing ratios, vacancy rates, overtime reliance, and workload proxies

where data permit, because these capture feasibility constraints that no amount of "good leadership" can fully compensate for. Autonomy should be represented through formal decision rights, governance arrangements, and scope-of-practice enactment, consistent with evidence that professional autonomy is structurally tied to how nurses practice and perform, especially under complexity (Pursio et al., 2021). Support for climate should be anchored in organizational signals and infrastructure for quality and professional practice, and perception-based environment items should be used cautiously and only after removing leadership-content items to preserve construct independence (Swiger et al., 2017). Treating environment as a moderator is theoretically necessary rather than optional: governance and resourcing constraints can suppress enactment capacity even when motivation exists, meaning engagement may not translate into performance under structural blockage (Ismail, 2020). Where measurement development or indicator selection requires evidence mapping, systematic review approaches used in other applied domains can support transparent indicator justification, even when the substantive context differs (Li et al., 2021).

Nurses' performance should be measured using observable indicators aligned to quality of care, patient safety, and organizational efficiency. Because evidence indicates that staff engagement is meaningfully associated with patient safety outcomes, performance measurement should prioritize safety- and quality-relevant indicators when attribution is defensible (Janes et al., 2021). Performance should be captured through supervisor ratings of task and adaptive performance and, where feasible, peer input for teamwork-related behaviors, because teamwork is a core performance channel in nursing units. Objective indicators such as safety incident metrics can be used, but only when the metric is not dominated by reporting artifacts, case-mix, or system-level documentation effects and when the link to nursing performance is defensible (Janes et al., 2021). Nurse self-rated performance should not be used as the sole outcome, because it collapses behavior into self-perception and magnifies common-method inflation, producing associations that look strong but do not test the model's causal logic.

4.3 Analytic Strategy for Hypotheses Testing

Hypotheses testing requires estimation of the indirect effect of nurse manager competencies on nurses' performance through nurse engagement, the moderating effect of the work environment on the engagement-to-performance path, and the conditional indirect effect implied by moderated mediation. Where nurses are nested within managers and units, multilevel modeling is required to avoid mis-specified standard errors and distorted inference, and to reflect that competencies and work environment are often shared contextual exposures while engagement and performance are individual-level outcomes (Cummings et al., 2021). Empowerment-based leadership pathways can be modeled as part of the competency-to-engagement logic when the competency measurement captures enabling behaviors consistent with empowerment mechanisms (Wong & Laschinger, 2013). Individual difference factors that shape how nurses respond to demands and resources, such as locus of control, can be included as theoretically justified controls to reduce omitted-variable bias when appropriate (Bani-Hani & Hamdan-Mansour, 2021).

4.4 Bias Control and Design Quality

Design quality should be treated as a core requirement because the model's contribution depends on mechanism and boundary testing, not on showing that "everything correlates with everything." Temporal separation should ensure competencies precede engagement and engagement precedes performance, and source separation should ensure that competencies, engagement, and performance are not captured by the same respondent and method. Content separation is essential, particularly for

the environment construct, because leadership–environment overlap is a known source of inflated estimates in nursing environment research (Swiger et al., 2017). Context documentation is also necessary because system-level constraint and instability can suppress translation of motivation into performance; ignoring those conditions risks interpreting constrained settings as leadership failure when the real mechanism is feasibility blockage (Ismail, 2020). Finally, this blueprint intentionally pushes the design toward falsifiability and away from weak conceptual practices that have been criticized within nursing management scholarship, where poor measurement discipline and vague theorizing can produce confident claims with limited evidentiary value (Darbyshire & David, 2022).

5. IMPLICATIONS AND BOUNDARY CONDITIONS

5.1 Theoretical Implications

This framework advances nursing management research by specifying a testable explanation of when leadership-related competencies should translate into measurable nurse performance and when those effects should attenuate. Nursing leadership research supports the importance of leadership capability and leadership development, yet studies often treat leadership, engagement, and work environment as parallel predictors without clarifying the mechanism and the feasibility conditions required for translation into performance (Cummings et al., 2021). By positioning nurse engagement as the mediating mechanism and the work environment as the contextual boundary condition, the model explains inconsistent findings across settings: competent managers may elevate engagement, but performance improvements can be weak or absent when staffing and autonomy constraints prevent motivated work-role behavior from being enacted consistently. The framework also improves theoretical clarity by enforcing boundaries in measurement and conceptual placement, directly addressing the documented tendency of practice environment measurement to embed leadership content and thereby blur causal interpretation (Swiger et al., 2017). In addition, the model aligns with excellence-oriented nursing logic embedded in Magnet-related standards, which emphasize that outcomes reflect leadership operating within enabling professional practice systems rather than leadership acting alone, and it translates that systems logic into a moderated mediation structure that can be empirically tested (Curto, 2022). The framework's emphasis on disciplined theory and testable claims also responds to broader critiques that nursing management scholarship must prioritize methodological and conceptual rigor over status-driven or rhetorically strong but weakly tested narratives (Darbyshire & David, 2022).

5.2 Practical Implications

The practical message is straightforward: leadership development is valuable, but it will not reliably improve performance if structural feasibility is not addressed. Organizations that invest heavily in competency training while leaving staffing adequacy and autonomy constraints unchanged should expect limited performance gains, even if engagement indicators improve, because governance and resourcing constraints can suppress enactment capacity regardless of frontline motivation (Ismail, 2020). In moderately constrained environments, the model implies stronger returns from combined investment, where nurse managers' competencies are developed alongside targeted structural improvements that remove bottlenecks to performance enactment. Autonomy is a priority lever because professional autonomy shapes whether nurses can exercise clinical judgment and respond adaptively to evolving care demands, which is central to performance in complex settings (Pursio et al., 2021). Engagement should be treated as a diagnostic signal rather than as an endpoint; evidence linking staff engagement to patient safety outcomes supports its operational relevance, but the model clarifies that engagement is not a substitute for performance measurement (Janes et al., 2021). High

engagement with weak performance implies a translation barrier, whereas low engagement under apparently competent management suggests that leadership behaviors are not being experienced as usable resources under prevailing conditions, consistent with engaging leadership logic and evidence that supervisor-related behaviors shape motivational outcomes (Fernet et al., 2021). Informal unit social dynamics can also distort climate and engagement signals and should be treated as potential nuisance influences when they are salient, given evidence that norm-based social processes such as gossip relate to status judgments and can shape interpersonal functioning in organizations (Lian et al., 2023). Crisis-sensitive leadership actions should also be considered in workforce planning because leadership responses to disruptive events can support staff stabilization and functioning under pressure (Owen & Schimmels, 2020).

5.3 Boundary Conditions

The framework's boundary conditions are explicit and designed to preserve testability. The model predicts that the competencies-to-performance relationship and the engagement-to-performance relationship will vary as a function of structural opportunity provided by the work environment, because motivated behavior cannot be enacted consistently when feasibility conditions are weak. This claim is consistent with evidence that governance and resourcing conditions can erode service delivery capacity and resilience and with evidence that professional autonomy is structurally tied to how nurses practice and perform in complex environments (Pursio et al., 2021). Under staffing inadequacy, time pressure and cognitive bandwidth constraints are expected to suppress consistent quality and safety behaviors, regardless of engagement. Under restricted autonomy, engagement may not translate into adaptive performance because nurses cannot enact professional judgment effectively, even when they are motivated (Pursio et al., 2021). Under weak support for climate, initiative and discretionary contribution may be suppressed and the organization may fail to reinforce high standards of practice, which aligns with the systems emphasis inherent in Magnet-oriented approaches to nursing excellence (Curto, 2022). These boundary conditions make the framework practically useful because it predicts not only positive associations but also attenuation or null effects under realistic constraint patterns, guiding leaders away from leadership-only interventions when structural feasibility is the primary barrier.

6. RESEARCH DIRECTIONS

6.1 Priority Research Questions and Hypothesis Testing

Future research should test the proposed moderated mediation model using designs that can actually support the claims of mechanism and boundary conditions, rather than relying on cross-sectional single-source surveys that mostly reproduce common-method inflation. The central empirical question is whether nurse manager competencies predict nurses' performance indirectly through nurse engagement and whether this indirect pathway strengthens or weakens as a function of the work environment. Studies should therefore prioritize direct tests of the conditional process implied by H3–H5, including whether competencies elevate engagement reliably across contexts, whether engagement predicts performance outcomes that are behaviorally anchored, and whether staffing adequacy and autonomy systematically condition the engagement-to-performance translation. Because engagement has been shown to relate to patient safety outcomes, future tests should explicitly include safety-relevant performance indicators to strengthen practical interpretability (Janes et al., 2021). Leadership measurement should remain focused on enacted behaviors that represent leadership capability rather than structural conditions, consistent with evidence syntheses

emphasizing the importance of leadership factors and leadership development interventions while also revealing variation in how leadership is operationalized across studies (Cummings et al., 2021).

A second research direction is to test boundary asymmetry and attenuation effects rather than assuming linear positivity. The model implies that leadership and engagement effects can flatten or disappear under severe structural constraint, particularly when staffing adequacy is low or autonomy is restricted. This should be tested directly by examining whether effect sizes are meaningfully smaller in high-constraint units and by identifying thresholds where feasibility breaks down. Autonomy is especially important as a boundary condition because integrative evidence indicates that professional autonomy is structurally tied to nursing practice and therefore to the feasibility of performance enactment in complex environments (Pursio et al., 2021). In addition, where demand conditions vary, individual difference factors such as locus of control may shape how nurses experience demands and respond to resources, and future studies can explore whether such factors alter the strength of motivational pathways in ways that matter for intervention targeting (Bani-Hani & Hamdan-Mansour, 2021).

6.2 Measurement Development and Construct Purity

A critical methodological direction is the development and validation of cleaner measurement strategies that preserve construct purity, particularly for the work environment. Because widely used practice environment tools can embed leadership or managerial support content, future research should either apply such tools with careful item-level boundary enforcement or supplement them with structural indicators that are independent of immediate leader behavior, consistent with recommendations for careful use of the Practice Environment Scale and related measures (Swiger et al., 2017). This is not a cosmetic issue; it determines whether the model can distinguish leadership effects from structural opportunity effects. At the same time, nurse manager competencies should be measured as staff-observed enacted behaviors rather than manager self-assessment to match the model's causal logic and to avoid inflating associations through self-perception consistency (Cummings et al., 2021). Engagement measurement should remain aligned to engagement theory and engaging leadership mechanisms, because the validity of the mediation pathway depends on engagement being a motivational state rather than a proxy for satisfaction or generalized commitment (Schaufeli, 2021).

Future studies should also strengthen performance measurement by using multi-source assessment and safety-relevant outcomes wherever attribution is defensible. Evidence linking staff engagement to patient safety outcomes suggests that safety indicators can provide stronger external validity than purely perceptual outcomes, but measurement choices should avoid relying on metrics dominated by reporting artifacts or case-mix effects (Janes et al., 2021). Where organizations pursue excellence-oriented frameworks, additional research can examine whether Magnet-aligned professional practice infrastructures amplify the translation of engagement into performance, consistent with the systems emphasis embedded in Magnet recognition and standards (Curto, 2022).

6.3 Design Rigor, Context Sensitivity, and Generalizability

Future research should prioritize multilevel longitudinal designs that establish temporal precedence, respect the nesting of nurses within units and managers, and model environmental opportunity structures at the correct level of analysis. Crisis and disruption contexts should be explicitly incorporated, because leadership actions following disruptive events can shape unit functioning and

staff stability, and ignoring disruption risks misattributing performance changes to leadership capability when they are driven by shock conditions or recovery dynamics (Owen & Schimmels, 2020). Similarly, studies conducted in chronically constrained systems should incorporate governance and resourcing context, because austerity-related or policy-driven constraints can reduce resilience and suppress performance enactment even when leadership and motivation are present, which is central to the model's boundary logic (Ismail, 2020).

Researchers should treat informal social dynamics as potential nuisance influences rather than core constructs unless they are directly theorized and measured. Norm-based social processes can shape interpersonal relations and status judgments and may affect engagement or climate perceptions in ways that complicate inference if unmeasured (Lian et al., 2023). Addressing these issues through design discipline and transparent construct boundaries would also respond to broader critiques that nursing scholarship should emphasize methodological integrity and testable claims rather than relying on rhetorical certainty (Darbyshire & David, 2022). Although the present framework is nursing-focused, adopting systematic approaches for transparent measurement justification and indicator development can improve replicability and comparability across studies, consistent with the value of structured evidence synthesis approaches in applied research traditions (Li et al., 2021).

7. CONCLUSION

This conceptual paper developed an integrated framework explaining how nurse manager competencies influence nurses' performance through nurse engagement, while specifying the work environment as a contextual condition that can strengthen or suppress the translation of motivation into measurable performance. The model addresses a recurring problem in leadership and workforce research: leadership, engagement, and work environment are often treated as parallel predictors and measured with overlapping content, which obscures whether observed effects reflect managerial behavior or structural feasibility. The framework defines nurse manager competencies as staff-observed enacted behaviors captured through leadership, communication, emotional intelligence, and clinical expertise. Nurse engagement is positioned as the primary motivational mechanism that links these managerial resources to performance. Nurses' performance is defined as observable work-role behavior expressed through quality of care, patient safety, and organizational efficiency, rather than as a self-evaluated attitude.

The central claim of the framework is translation: competent nurse managers may increase engagement, but engagement will not consistently produce performance gains when staffing adequacy, autonomy, or supportive climate conditions are insufficient to enable enactment. The framework therefore discourages leadership-only solutions in structurally constrained settings and emphasizes the need to align leadership development with system-level improvements that make high performance feasible. The paper provides a research blueprint that prioritizes construct purity and design rigor through time-lagged, multi-source measurement and appropriate multilevel analysis. This blueprint is intended to support stronger empirical testing of the proposed mechanisms and boundary conditions and to guide more realistic workforce and leadership interventions aimed at sustained excellence in nursing performance.

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