



The Duality Of Power In Nursing Supervision: A Systematic Review Of Barriers, Facilitators, And Technological Innovations In Clinical Supervision Practices Across Healthcare Settings

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Abstract

Background: Nursing supervision is a pivotal managerial instrument for determining quality of care, yet its implementation remains fragmented across primary care, emergency departments, nursing homes, clinical education, newly graduated nurse orientation, and operating rooms, resulting in inconsistent outcomes.

Aims: To synthesize recent empirical evidence (2021–2026) on the conceptualization, barriers and facilitators, and innovative strategies in nursing supervision.

Methods: This systematic review followed PRISMA 2020 guidelines using PubMed (n=143), PubMed Central (n=961), and ScienceDirect (n=2,552), yielding 3,656 records. After filtering (2021–2026, open access), 415 records remained; 386 unique records were screened, with 142 eligible after title and abstract screening. Full-text assessment excluded 130 records (macro-level hospital management = 120; irrelevant outcomes = 8; non-empirical = 2), resulting in 12 studies for synthesis.

Results: Thematic synthesis identified nursing supervision as a dual construct: power repressive-disciplinary and productive-supportive, influenced by structural-organizational gaps, resource constraints, supervisor competence and readiness, and relational-communicative dynamics. Quantitative evidence involving 495 clinical mentors across 30 hospitals showed that institutional psychological support and formal training were independently associated with improved mentoring motivation, attitudes, and practices (OR=2.908; 95% CI=1.430–5.913; p=0.003). Innovations included the Johari-window-based self-awareness model, Severinsson's Nursing Supervision Model, reflective group supervision in clinical orientation, and validated non-technical skills instruments (inter-rater reliability 0.83–0.91), complementing gamification and the 3V6W framework.

Conclusion: Effective nursing supervision requires a shift from vertical control to horizontal dialogue, supported by institutional investment, continuous formal training, standardized instruments, and educational technology.

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INTRODUCTION

Nursing supervision has long been positioned as a core managerial instrument bridging institutional policy with frontline care practices in healthcare delivery (Anggeria & Damanik, 2022). This function operates not merely as an administrative oversight mechanism, but rather as a complex relational process that influences the technical, educational, and psychosocial dimensions of the nursing workforce (Galiano et al., 2025; Silva et al., 2022). Within the contexts of primary healthcare, pre-hospital emergency care, long-term care facilities, clinical nursing education, newly graduated nurse orientation programs, and operating rooms, supervisory practices manifest a highly heterogeneous landscape, both in their operational structures and in their subsequent impact on the quality of care and the psychological well-being of the workforce (González-García et al., 2021; Hedlund et al., 2024).

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Silva et al. (2022), through a qualitative study grounded in the health work process framework and Foucauldian power categories, revealed that nursing supervision within the Family Health Strategy in Brazil operates in a duality: on one pole, supervision functions as a panoptic disciplinary mechanism demanding continuous physical presence and generating oppressive surveillance over Community Health Workers (CHWs); on the other pole, supervision executed through open dialogue fosters psychological safety, trust, and healthy teamwork. These findings are consistent with research by Galiano et al. (2025) on mobile emergency medical services (SAMU) in Brazil, which utilized the Critical Incident Technique and found that 78% of negatively charged critical incidents were dominated by structural physical separation between nurses and nursing technicians in separate operational vehicles, infrastructural inadequacies, and interpersonal conflicts with the emergency regulation center.

On a broader regional scale, a scoping review by Alhassan et al. (2025) encompassing 16 studies in Africa systemically confirms a similar pattern: effective supervisory practices rely upon initial orientation, continuous training, monitoring coupled with feedback, and assertive leadership, whereas dominant challenges include supervisor unpreparedness, administrative task burdens, material and financial resource constraints, as well as weak regulatory frameworks. Consequently, the scarcity of formal training in supervisory and delegation competencies is identified as a cross-national root cause across developing countries (Alhassan et al., 2025).

From a distinct institutional perspective, Zhao et al. (2021) in China applied the Theoretical Domains Framework to analyze the implementation of the Aged Care Clinical Mentoring (ACCM) model in long-term care facilities, revealing that staff proactivity and organizational support serve as primary drivers, whereas the low educational background of nursing assistants, resistance to change, and funding constraints act as significant structural barriers (Nakrem et al., 2019; Zhao et al., 2021). In response to the limitations of conventional approaches, Silva et al. (2025) developed and validated SUPERVISE®, a web-based serious game grounded in Experiential Learning theory (Kolb), Self-Determination theory (Ryan & Deci), constructivism, and Social Cognitive Theory (Bandura); this innovation achieved a System Usability Scale score of 79.4 and a 95.4% expert consensus rate via the e-Delphi method, marking a paradigmatic shift toward educational technology-based supervision.

The convergence of findings in primary and emergency care settings is further extended by a number of studies across other clinical settings. Raliphaswa et al. (2026) in Limpopo, South Africa, documented similar structural barriers within the inpatient units of a referral hospital; Zhang et al. (2024) in China developed the "3V6W" problem identification framework for cross-departmental on-site supervision; and Sérgio et al. (2023) in Portugal revealed a duality of perception between quality audits and formative clinical supervision within medical-surgical inpatient services. The scope of these clinical settings is subsequently enriched by large-scale quantitative evidence regarding the motivation, attitudes, and practices of clinical mentoring (Wang et al., 2024), the lived experiences of newly graduated nurses within structured clinical orientation programs (Kjellsdotter et al., 2026), a professional self-awareness facilitation model for enrolled nurses (de Klerk et al., 2023), and a systematic review of structured clinical supervision within perioperative services (de Paula et al., 2026). These eight additional studies demonstrate that the phenomenon of nursing supervision spans a far broader spectrum of clinical settings than previously mapped by initial pioneering studies, while simultaneously enriching the diversity of methodological designs available for synthesis (Masamha et al., 2022; Mlambo et al., 2021).

Although these nine studies convergently identify structural, relational, and competence determinants as critical factors dictating the effectiveness of supervision, the existing literature remains fragmented according to specific clinical settings (family nursing, emergency care, long-term care facilities, clinical education, mentoring, newly graduated nurse orientation, and operating rooms) without a cross-contextual synthesis that comprehensively integrates the perspectives of power relations theory (Foucault), experiential learning theory (Kolb), the behavioral determinant framework (Theoretical Domains Framework), the clinical supervision functions framework (Proctor), and nursing transition theory (Duchscher). Furthermore, no systematic review has explicitly mapped how educational technology innovations, both digital (gamification, immersive virtual reality simulation) and non-digital (methodological frameworks, reflective facilitation

models), interact with classical structural determinants to generate policy recommendations that are generalizable across geographical contexts and clinical settings.

This gap underscores the need for a systematic synthesis that consolidates evidence from diverse geographical contexts and clinical settings to generate a more holistic explanatory framework regarding the mechanisms of success and failure in contemporary nursing supervision.

This systematic review aims to: (1) identify and classify the barriers and facilitators of nursing supervision practices across clinical settings; (2) analyze the conceptualization of power and supervisor-supervisee relations as manifested in recent empirical literature; and (3) evaluate the contribution of educational technology innovations to the effectiveness and sustainability of nursing supervision practices.

METHOD

This study employs a systematic literature review (SLR) design adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page et al., 2021), selected due to its suitability for synthesizing heterogeneous evidence (qualitative, scoping reviews, cross-sectional, mixed-methods, and systematic reviews) in a transparent and replicable manner.

A systematic search was conducted across three electronic databases: PubMed, PubMed Central (PMC), and ScienceDirect on July 10, 2026, at 19:10 WIB, employing a controlled quotation-marked phrase strategy ("nursing supervision") refined from an initial free-keyword trial search (which had previously yielded 765,963 records: PubMed $n = 298,983$; PMC $n = 345,654$; ScienceDirect $n = 121,326$). This refined phrase strategy yielded 3,656 initial records (PubMed $n = 143$; PMC $n = 961$; ScienceDirect $n = 2,552$).

Table 1. Eligibility Criteria Based on the PICOS Framework

Component	Inclusion Criteria	Exclusion Criteria
Population	Nursing workforce (nurses, nursing technicians, community health workers, nursing assistants, enrolled nurses, newly graduated nurses) and clinical supervisors	Non-nursing students; non-nursing healthcare professionals as the sole focus
Intervention/Interest	Clinical nursing supervision practices, models, or interventions, including mentoring and structured clinical orientation programs	Macro-level hospital management without an individual supervisory focus
Comparison	Not mandatory	Not mandatory
Outcomes	Barriers/facilitators, quality of care, psychological well-being, usability/reliability of supervisory instruments	Outcomes irrelevant to the process/impact of supervision
Study Design	Qualitative, mixed-methods, scoping reviews, systematic reviews, cross-sectional, descriptive-exploratory	Non-empirical (opinions, editorials)
Time & Access	Published 2021–2026; open access/free full-text available	Paywalled, full-text unavailable

In accordance with the PRISMA 2020 flow diagram (Figure 1), the application of automated database filters (publication year range 2021–2026; open access status) screened 3,656 records down to 415 records, which were subsequently advanced to the deduplication stage. The deduplication process eliminated 270 duplicate records, leaving 386 unique records (PubMed $n = 21$; PMC $n = 232$; ScienceDirect $n = 162$) for title and abstract screening; no records were manually excluded during this automated filtering phase. Title and abstract screening excluded 244 records that were irrelevant to the focus of clinical nursing supervision, leaving 142 eligible records for full-text evaluation. At the full-text evaluation stage, 130 records were excluded based on three primary reasons: (1) focusing on macro-level hospital management without a direct link to individual supervisory processes ($n = 120$); (2) reporting outcomes irrelevant to the objectives of the review ($n = 8$); and (3) being non-empirical in nature, such as opinions or narrative reviews lacking an explicit methodology ($n = 2$). Consequently, 12 final inclusion studies were obtained.

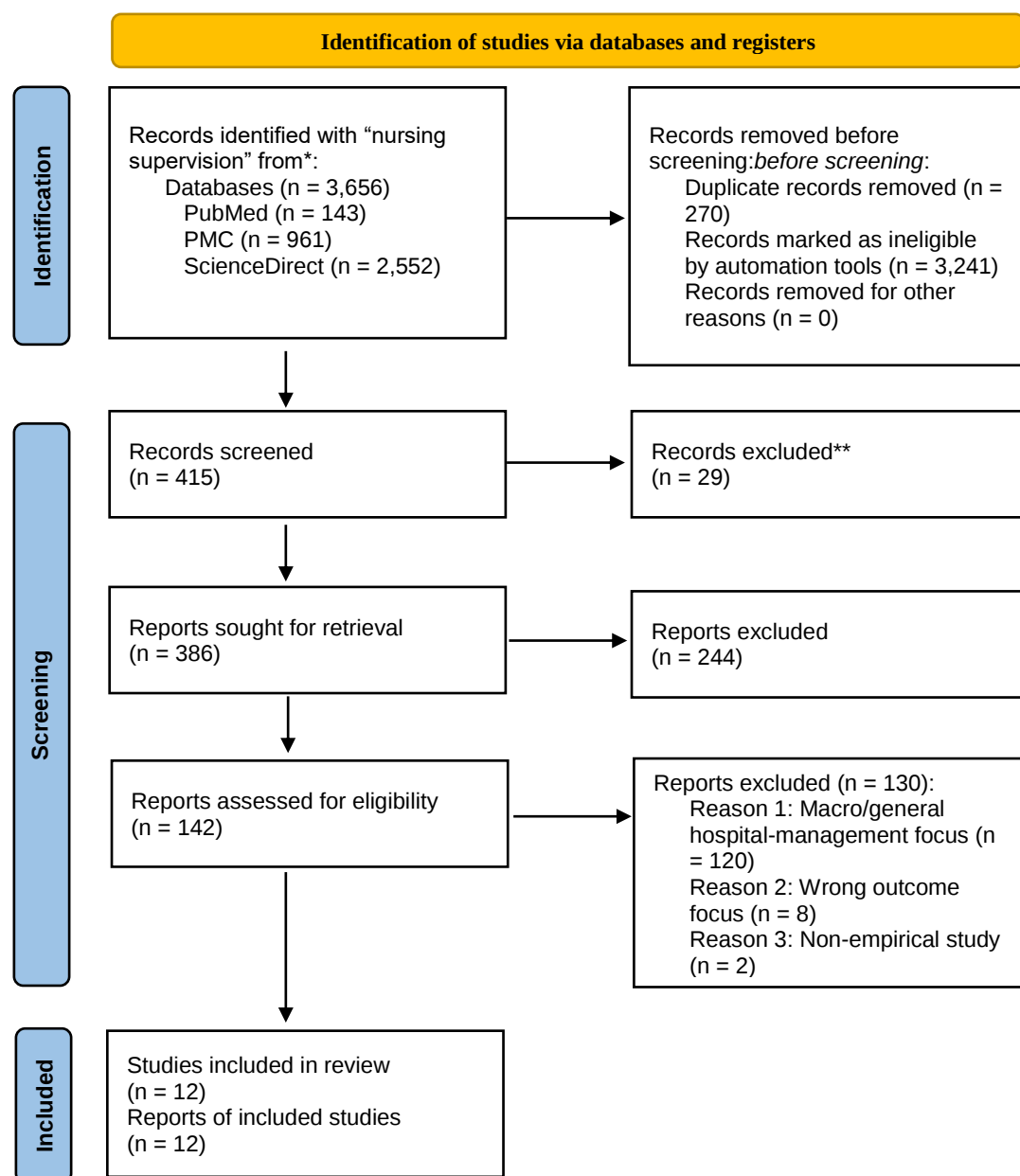


Figure 1. PRISMA flow diagram of study selection

*Databases searched via the systematic (refined, quotation-marked phrase) strategy on 10 July 2026 at 19:10 WIB: PubMed (n = 143), PubMed Central/PMC (n = 961), ScienceDirect (n = 2,552). A preliminary broad-keyword trial search (nursing supervision, without quotation marks) had earlier returned 765,963 records prior to refinement: PubMed (n = 298,983), PMC (n = 345,654), ScienceDirect (n = 121,326).

**Automation-tool filters applied to the 3,656 identified records: Publication Year 2021-2026 and Free Full-Text/Open Access, which passed 415 records to deduplication; after removing duplicates, 386 unique records (PubMed n = 21, PMC n = 232, ScienceDirect n = 162) proceeded to title screening. No records were excluded by human reviewers at this stage.

Source: Page MJ, et al. BMJ 2021;372:n71. doi: 10.1136/bmj.n71.

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Data was extracted using a standardized form covering: author/year, country, study design, population/sample, objectives, main findings related to barriers-facilitators, and implications. Synthesis was conducted via a narrative thematic synthesis following Bardin's content analysis stages (codification, categorization, interpretation), consistent with the analytical approach utilized in the majority of the synthesized primary studies (Alhassan et al., 2025; Silva et al., 2022; Wang et al., 2024; Zhao et al., 2021).

This review is limited to English-language literature with free full-text access, thereby potentially excluding relevant evidence in non-English languages or behind a paywall. A formal methodological quality assessment (e.g., JBI Critical Appraisal or CASP) has not yet been structurally applied by the authors across all included studies in this draft and is recommended to be added in the final revision; interestingly, one of the included studies (de Paula et al., 2026) actually applied the JBI Critical Appraisal instrument to the 12 primary studies it synthesized, thereby setting a relevant methodological precedent to be adopted in the future quality assessment stage of this review.

RESULTS AND DISCUSSION

Results

Characteristics of Included Studies. A cross-analysis of the twelve studies yielded four main interrelated thematic categories: (1) power duality in supervisory relations; (2) structural-organizational determinants; (3) supervisor competence and readiness; and (4) educational technology innovation and sustainability.

Table 2. Characteristics of the Synthesized Studies

No	Author (Year)	Country	Study Design	Sample/Focus	Main Theme
1	Silva, Mininel, & Silva (2022)	Brazil	Qualitative exploratory-interpretative	37 FH personnel (22 CHWs, 5 nurses, 10 technicians)	Duality of disciplinary versus productive power
2	Galiano et al. (2025)	Brazil	Qualitative descriptive (Critical Incident Technique)	17 SAMU personnel (7 nurses, 10 technicians)	Structural physical separation
3	Alhassan et al. (2025)	Multi-country Africa (16 studies)	Qualitative descriptive (Critical Incident Technique)	1.727 cross-study participants 36 experts + 39 nurses	Practices and challenges of systemic supervision and delegation
4	Silva, Camelo, Pinto, Campos, Ferreira, & Fernandes (2025)	Portugal	Mixed-methods (e-Delphi + usability testing)	8 managers, 50 nurses, 64 nursing assistants	Validation of the SUPERVISE® gamification tool
5	Zhao, Liao, Feng, Chen, & Ning (2021)	Tiongkok	Qualitative descriptive (TDF)	8 managers, 50 nurses, 64 nursing assistants	ACCM enabler-barrier model in elderly care facilities
6	Raliphaswa, Luhlima, & Mafumo (2026)	South Africa (Limpopo)	Qualitative exploratory-descriptive with an appreciative inquiry approach	24 registered professional nurses (maternity, pediatric, and emergency units at 3 referral hospitals)	Administrative, educational/training, and organizational challenges in care supervision
7	Zhang, Zhang, Bian, Li, Yue, & Zhang (2024)	Tiongkok (Shanxi)	Qualitative descriptive (Braun & Clarke thematic analysis)	14 nursing managers (ranging from ward heads to deputy nursing directors)	Problem identification pathway using the "3V6W" model (3 perspectives & 6 approaches) in on-site supervision
8	Sérgio, Carvalho, & Pinto (2023)	Portugal (Lisboa)	Qualitative exploratory (focus group + IraMuTeQ lexicometric analysis)	16 medical-surgical inpatient nurses at private hospitals	Dual perceptions of supervision: control audit versus formative clinical supervision regarding quality indicators
9	Wang, Hu, Yao, Pan, Wang, & Wang (2024)	Tiongkok (Zhejiang)	Cross-sectional Cross-sectional (multivariate logistic regression)	495 clinical nursing mentors from 30 hospitals across 8 cities	Organizational determinants (training, psychological support, performance evaluation) affecting mentoring
10	Kjellsdotter, Sundberg, Wills, & Berglund (2026)	Sweden	Hermeneutic phenomenology (Lindseth & Norberg)	35 newly graduated nurses participating in the Clinical Nursing Introduction Program	Sense of community and mitigation of transition shock through reflective group supervision (POH)

No	Author (Year)	Country	Study Design	Sample/Focus	Main Theme
11	de Klerk, Temane, & Downing (2023)	South Africa (Gauteng)	Qualitative theory-generating (model development, Chinn & Kramer)	7 clinical preceptors at nursing agencies; enrolled nurses as the target of facilitation (CNIP)	Professionalism self-awareness facilitation model based on the Johari Window and Nursing Supervision Model (Severinsson)
12	de Paula, Folgado, João, & Madeira (2026)	Portugal (multi-country review)	Systematic review (PRISMA 2020, JBI appraisal)	12 primary perioperative studies from 6 countries	Structured clinical supervision, technical and non-technical competencies, and standardized instruments (NANTS, SPLINTS)

[Silva et al. \(2022\)](#) explicitly demonstrate that nursing supervision within family health strategies operates within a framework of Foucauldian disciplinary power manifested through hierarchical oversight that demands physical presence and control over the productivity of Community Health Worker (CHW) home visits while simultaneously holding the potential to function as a productive power that fosters trust and psychological safety when practiced dialogically. While this dual nature is not explicitly evident in all other studies, it is implicitly reflected in the report by [Zhao et al. \(2021\)](#) regarding self-role orientation conflicts between senior managers and assistant nurses, where seniority-based authority can potentially trigger resistance rather than constructive compliance.

The study by [Sérgio et al. \(2023\)](#) in Portugal offers empirical evidence that both reinforces and refines the concept of the duality of power previously conceptualized by Silva et al. (2022) through a Foucaultian lens. Through a lexicometric analysis (Descending Hierarchical Classification) of the perceptions of 16 nurses, the study found that the nursing quality audit model is perceived as an evaluative-normative control instrument based on positivity indices, whereas clinical supervision is perceived as a formative process that fosters knowledge sharing, reflection, and personal-professional growth. These two constructs audit as a form of surveillance power and clinical supervision as a form of productive power emerge as integrated poles within a single institutional model rather than as mutually exclusive entities. These findings extend the duality of power originally identified at the micro-level of supervisor-supervisee relations ([Silva et al., 2022](#)) to the meso-level, specifically regarding the interplay between two institutional mechanisms (audit versus clinical supervision) operating in parallel within a healthcare organization.

Meanwhile, [Zhang et al. \(2024\)](#) in China have implicitly enriched this cluster with their finding that nursing managers engaged in cross-departmental supervision face limitations regarding epistemic authority; lacking the specific clinical knowledge of the departments they oversee, their formal supervisory power does not automatically translate into the capacity to identify problems in depth. This situation demonstrates that structural power (managerial position) and epistemic power (mastery of clinical knowledge) are distinct dimensions, thereby broadening the understanding of the duality of power which previously emphasized relational-interpersonal aspects ([Benz & Bühlmann, 2024](#); [Gallen, 2023](#)) to also encompass a cognitive-epistemic dimension.

The model for facilitating professionalism-related self-awareness developed by [de Klerk et al. \(2023\)](#) in South Africa offers a more nuanced theoretical perspective on this duality of power. Drawing upon the Nursing Supervision Model (Severinsson, 2001) and the Johari Model (Luft, 1969), clinical preceptors guide enrolled nurses through three sequential phases: the relational phase (dialogue and connection), the working phase (identifying discrepancies between self-knowledge and others' perceptions via the Johari Worksheet to foster an internal locus of control), and the termination phase (evaluation and the assumption of ownership over behavioral changes). On the surface, this model appears to be a pure manifestation of the productive power described by [Silva et al. \(2022\)](#), as it operates through dialogue rather than coercive supervision. However, when examined more deeply through the same Foucaultian lens, this process of "self-awakening" actually represents a most subtle form of disciplinary power: the external supervisory gaze is internalized into a mechanism of self-surveillance that persists even in the supervisor's physical absence. Thus, the duality of power initially conceptualized by [Silva et al. \(2022\)](#) as two distinct poles (repressive

versus productive) now appears as a single continuum, wherein the most effective productive power is that which succeeds in instilling discipline as voluntary self-awareness.

An additional theoretical contribution comes from the systematic review by [de Paula et al. \(2026\)](#), which explicitly distinguishes clinical supervision from preceptorship and mentorship by referencing Proctor's (2008) functional framework: the normative function (quality and accountability), the formative function (learning and competence development), and the restorative function (professional support and well-being). This functional trichotomy provides a theoretical vocabulary that breaks down "power" into three empirically distinguishable functions: one representing the control-accountability dimension aligned with Foucaultian disciplinary power (the normative function), and the other two representing the generative-supportive dimension aligned with productive power (the formative and restorative functions). Triangulating the Foucaultian framework ([Silva et al., 2022](#)), the audit-supervision meso-duality ([Sérgio et al., 2023](#)), epistemic-structural power ([Zhang et al., 2024](#)), discipline-as-self-awareness ([de Klerk et al., 2023](#)), and Proctor's functional trichotomy ([de Paula et al., 2026](#)) yields a conceptual map of power duality that is far more layered than the initial binary model.

Structural-Organizational Determinants

The theme of physical separation between supervisor and supervisee emerges as the most consistent determinant across contexts. [Galiano et al. \(2025\)](#) report that 100% of critical incidents in the "Organizational Conditions" category were negative in nature, dominated by inadequate transportation and maintenance of operational vehicles conditions beyond the nurses' direct control yet still impacting their accountability. Parallel to these findings, [Alhassan et al. \(2025\)](#) identify shortages of material, medical, and financial resources as systemic barriers across African countries, while [Zhao et al. \(2021\)](#) highlight limited funding and staffing ratios as major structural constraints on the implementation of mentoring models in China.

The study by [Raliphaswa et al. \(2026\)](#) in Limpopo, South Africa, provides compelling convergent evidence regarding the cluster of structural determinants previously identified by [Alhassan et al. \(2025\)](#) and [Zhao et al. \(2021\)](#). Through in-depth interviews with 24 registered nurses, the study confirms that nursing staff shortages across various categories, limited material resources (equipment, medications, triage forms), weak management support, and poor infrastructure (leaking roofs, collapsing ceilings, inadequate security systems) are structural determinants that systemically hinder the implementation of care supervision. Particularly enriching this cluster is the finding of a reciprocal relationship between resource limitations and staff attitudes: staffing shortages drive excessive workloads and fatigue, which in turn diminish enthusiasm and foster negative staff attitudes toward both supervision tasks and the provision of care itself a causal chain that subsequently received much stronger quantitative confirmation in the study by [Wang et al. \(2024\)](#).

[Wang et al. \(2024\)](#) in China present large-scale multivariate quantitative evidence (involving 495 clinical mentors from 30 hospitals across 8 cities in Zhejiang Province) that substantially reinforces the qualitative evidence within this cluster. Through multivariate logistic regression, the frequency of institutional psychological support emerged as the most consistent and significant determinant across all three dimensions (motivation, attitude, and mentoring practice), revealing a clear dose-response pattern: mentors who "almost never" received psychological support had 94.3% lower odds of high motivation compared to those who "always" received it (OR=0.057; 95% CI 0.016–0.203). Furthermore, mentors at non-Tertiary A hospitals actually exhibited 62.7% higher odds of motivation than their counterparts at Tertiary A hospitals (OR=1.627; 95% CI 1.054–2.511) a finding that challenges the assumption that institutions with greater resources automatically foster more motivated supervisors. Thus, [Wang et al. \(2024\)](#) transform patterns of structural determinants previously reported only through qualitative-descriptive accounts ([Alhassan et al., 2025](#); [Galiano et al., 2025](#); [Raliphaswa et al., 2026](#); [Zhao et al., 2021](#)) into multivariately validated statistical associations, thereby substantially strengthening the external validity of this cluster.

[Kjellsdotter et al. \(2026\)](#) in Sweden enrich this cluster by examining the perspective of newly graduated nurses undergoing the Clinical Nursing Introduction Program (CNIP). This phenomenological-hermeneutic study demonstrates that the program's structural components

including orientation weeks, clinical placement rotations, full educational days exempt from ward duties, and process-oriented group supervision (POH) serve as organizational buffers that mitigate "transition shock". The study also reveals that external factors, such as the COVID-19 pandemic, significantly disrupted the continuity of supervision, mirroring the patterns of structural physical separation reported by [Galiano et al. \(2025\)](#) healthcare workers in full personal protective equipment became indistinguishable from one another, while heavy workloads consumed time that should have been allocated to reflective supervision. The distinctive contribution of [Kjellsdotter et al. \(2026\)](#) to this cluster is the explicit articulation of "protected time" as a structural mechanism intentionally designed by the institution to counter daily operational pressures a structural antidote not explicitly identified in previous studies.

[Zhang et al. \(2024\)](#) also strengthens this cluster from a different perspective, namely structural limitations at the level of cross-departmental knowledge. The mismatch between the professional competence of the supervisor and the department being supervised is identified as a systemic obstacle that causes supervision to only be able to detect superficial problems (for example documentation compliance) without reaching deep-rooted problems. These findings expand the conceptualization of structural determinants from previously focusing on physical and financial resources to also include the organizational structure of supervision itself, namely a cross-departmental rotation model that inherently limits the depth of supervision.

A systematic review by [de Paula et al. \(2026\)](#) of 12 studies on perioperative supervision across six countries (predominantly Norway and Sweden) confirms that organizational determinants specifically limited protected supervision time, role ambiguity, and clinical productivity pressures are cross-continental and not confined to developing country contexts. A study by Abdelaziz even demonstrates a statistical association between high role ambiguity (77.5%) and the failure to achieve clinical training objectives (55.2%) among nursing interns in Egypt. These findings extend the external validity of the cluster of structural-organizational determinants from the Global South (Africa, South America) and East Asia (China) to high-income European contexts, affirming that structural barriers to supervision are a universal phenomenon independent of a health system's level of prosperity.

Supervisor Competence and Readiness

[Alhassan et al. \(2025\)](#) systematically documented that supervisors' lack of readiness for their clinical roles, outdated knowledge, and the absence of guidelines for implementing new policies were recurring obstacles across the 16 studies reviewed. These findings align with [Zhao et al. \(2021\)](#), who reported that the low educational background of nursing assistants in China hindered effective knowledge acquisition, and with [Galiano et al. \(2025\)](#), who noted educational gaps as a managerial component receiving insufficient systematic attention in pre-hospital emergency services.

[Raliphaswa et al. \(2026\)](#) explicitly document two relevant sub-themes a lack of staff training (specifically, the discontinuation of in-service training) and a deficit in supervisory skills (where registered professional nurses do not grasp the scope of their own supervisory duties) which directly align with the findings of [Alhassan et al. \(2025\)](#) regarding the unpreparedness of supervisors for their clinical roles in Africa. Quantitative evidence from [Wang et al. \(2024\)](#) reinforces this pattern by demonstrating that participation in formal training is independently associated with nearly three times higher odds of optimal mentoring practices (OR=2.908; 95% CI 1.430–5.913; p=0.003) compared to mentors who have never undergone training; this finding transforms qualitative claims regarding the importance of supervisor training into a statistically measurable dose-response relationship.

The self-awareness facilitation model proposed by [de Klerk et al. \(2023\)](#) introduces a new dimension to this cluster: supervisor competence is not built solely through formal pre-assignment training but also develops reciprocally through the supervisory activities themselves. Clinical preceptors implementing this model reported that the process of facilitating self-awareness in enrolled nurses also made the preceptors aware of their own shortcomings in supervisory practice a reflective feedback loop not explicitly identified by [Alhassan et al. \(2025\)](#) or [Zhao et al. \(2021\)](#), both of which tend to treat supervisor competence as a static prerequisite to be met prior to

supervision, rather than as a capacity that grows dynamically through the experience of supervising.

As a highly substantive contribution to supervisor competence, the systematic review identifies supervisor-specific training, role clarity, and the use of structured assessment instruments as consistent determinants of supervisory effectiveness across the 12 perioperative studies reviewed. These findings align with [Zhang et al.'s \(2024\)](#) “3V6W” model a non-digital methodological innovation for developing problem-identification competence yet [de Paula et al. \(2026\)](#) go further by documenting that the NANTS-no (Nurse Anaesthetists' Non-Technical Skills-Norway) and SPLINTS-no (Scrub Practitioners' List of Intraoperative Non-Technical Skills-Norway) instruments possess validated psychometric inter-rater reliability (0.83–0.91), a dimension of competence quantification absent from the 3V6W framework.

Innovation and Technological Sustainability

As an innovative contribution, [Silva et al. \(2025\)](#) demonstrate that gamification content validation achieved through a modified e-Delphi method (yielding 95.4–97.9% consensus across two rounds) and usability testing (with a SUS score of 79.4, exceeding the 68-point threshold) can bridge the gap in supervisor training identified in other studies. Gamification elements grounded in Kolb's experiential learning theory and Ryan and Deci's self-determination theory offer a structural solution to the issue of supervisor competence, a theme that repeatedly emerged as a barrier in the studies by [Alhassan et al. \(2025\)](#) and [Zhao et al. \(2021\)](#).

In contrast to [Silva et al. \(2025\)](#), who offer a digital technology-based innovation (the SUPERVISE® serious game), [Zhang et al. \(2024\)](#) contribute to this cluster through a non-digital methodological innovation: the “3V6W” model. This model was validated via semi-structured interviews and Braun and Clarke's thematic analysis involving 14 nursing managers. Although it does not utilize a digital platform, the model meets the criteria for innovation by providing explicit, replicable (scientific and reliable) guidelines for supervisory activities that were previously implicit and relied entirely on the supervisor's personal intuition. [Sérgio et al. \(2023\)](#) further enrich this cluster by observing that private healthcare institutions in Portugal have adopted a standardized audit model adapted from the Haddad framework and standards from the Joint Commission International and ISO 9001:2015 integrated with peer-group-based clinical supervision, representing a form of institutional innovation.

[De Klerk et al.'s \(2023\)](#) added a fourth typology to the innovation cluster: innovation based on phased facilitation tools. The Johari Model Worksheet used in the work phase of this model is a paper-and-pencil instrument that is technologically simple, but theoretically sophisticated because it allows enrolled nurses to visualize the discrepancies between open areas (known to self and others) and blind areas (unknown to self, known to others), so that the process of realizing professional deficiencies becomes explicit and structured. The findings of the evaluation of the model's functionality, namely noticeable changes in the makeup, hairstyle, and respectful attitude of supervised nurses, indicate that low-tech innovations can produce measurable behavioral impacts, strengthening the argument of [Zhang et al. \(2024\)](#) that supervision innovation does not have to be digital-based to be transformative.

[Kjellsdotter et al. \(2026\)](#) present a fifth typology: institutional innovation based on scheduled reflective groups. Process-Oriented Nursing Supervision (POH) a core component of CNIP is conducted in eight scheduled sessions involving a supervisor and groups of six to eight participants, providing a psychologically safe space for newly graduated nurses to reflect collectively on their clinical and personal experiences. Conceptually, this POH structure aligns with the restorative function within Proctor's framework ([de Paula et al., 2026](#)) while reinforcing the principle of productive-dialogic power proposed by [Silva et al. \(2022\)](#) at the level of institutionalized program implementation, rather than merely reflecting the supervisor's individual relational orientation.

The most comprehensive contribution to the innovation cluster comes from the systematic review by [de Paula et al. \(2026\)](#), which simultaneously maps four modalities of innovation in perioperative supervision education: (1) psychometric structured assessment instruments (NANTS-no, SPLINTS-no) with inter-rater reliability of 0.83–0.91 proven to enhance the quality and consistency of supervisor feedback; (2) immersive virtual reality simulation for scrub nurses in

complex total knee revision surgery, which successfully reduced simulated operative time and technical errors by 47% each, while improving overall performance from 11.3% to 83.5%; (3) interprofessional simulation-based learning that strengthens teamwork, communication, and decision-making in acute post-graduate situations; and (4) a non-digital methodological framework comparable to the 3V6W model by [Zhang et al. \(2024\)](#). Mapping these four modalities integrates innovations previously scattered across individual studies such as digital gamification ([Silva et al., 2025](#)), methodological frameworks ([Zhang et al., 2024](#)), institutional audit models ([Sérgio et al., 2023](#)), reflective facilitation tools ([de Klerk et al., 2023](#)), and scheduled reflective groups ([Kjellsdotter et al., 2026](#)) into a unified typology encompassing digital, psychometric, methodological, institutional, and group-reflective dimensions.

Discussion

A synthesis of these twelve studies reveals that the effectiveness of nursing supervision cannot be understood merely as a function of the supervisor's individual competence; rather, it is the outcome of complex interactions among institutional power structures, resource availability, and the relational readiness of both parties (supervisor and supervisee). The Foucaultian power framework applied by [Silva et al. \(2022\)](#) offers a theoretical lens that implicitly explains why structural interventions alone such as the addition of material resources proposed by [Alhassan et al. \(2025\)](#) and [Zhao et al. \(2021\)](#) do not automatically yield effective supervision if the underlying power dynamics remain disciplinary and coercive. Conversely, the success of the ACCM model in China ([Zhao et al., 2021](#)), the positive reception of SUPERVISE® in Portugal ([Silva et al., 2025](#)), and the strong statistical association between institutional psychological support and mentoring motivation, attitudes, and practices in China ([Wang et al., 2024](#)) demonstrate that a shift toward more horizontal and participatory relationships whether through structured mentoring, gamification based on immediate feedback, or consistent institutional psychological support is systematically associated with enhanced motivation and self-confidence among nursing staff.

[Ralphaswa et al. \(2026\)](#) explicitly document two relevant sub-themes: a lack of staff training (discontinued in-service training) and a deficit in supervisory skills (registered professional nurses failing to understand the scope of their own supervisory duties), which directly align with the findings of [Alhassan et al. \(2025\)](#) regarding the unpreparedness of supervisors for their clinical roles in Africa.

The most substantive contribution to the supervisor competency cluster comes from [Zhang et al. \(2024\)](#), who developed the “Problem Identification 3V6W Pathway” model. This conceptual framework articulates three perspectives direct access, comparative discovery, and in-depth exploration and six methods listening, observing, questioning, examining, interviewing, and tracing that nursing supervisors can employ to systematically identify problems. The model directly addresses a competency gap that had previously been identified merely as a problem ([Alhassan et al., 2025](#); [Ralphaswa et al., 2026](#); [Zhao et al., 2021](#)) but lacked a concrete operational framework for resolution. [Sérgio et al. \(2023\)](#) complement this cluster by identifying the ideal clinical supervisor profile from the perspective of nurses: a communicator capable of assertive monitoring and guidance, possessing competencies recognized by the team and organization, and fostering critical reflection in those being supervised; this expands the definition of supervisor competency beyond mere clinical knowledge and work experience to also encompass relational competencies.

The findings of [Wang et al. \(2024\)](#) deepen this discussion by demonstrating a measurable interaction between competence-related and structural determinants: mentors at intermediate-to-senior ranks actually exhibit 36.2% lower odds of motivation compared to junior mentors (OR=0.638; 95% CI 0.426–0.956; p=0.030). This counterintuitive finding confirms the concerns raised by [Zhang et al. \(2024\)](#) that structural authority such as seniority or rank does not correlate directly with supervisory effectiveness or motivation. These results suggest that institutional policies should specifically target senior mentors with motivational interventions distinct from those aimed at junior mentors, rather than assuming that structural seniority automatically translates into psychological readiness for the supervisory role.

Findings regarding structural physical separation ([Galiano et al., 2025](#)) add important nuance to the classic supervision literature which tends to assume physical proximity between supervisor and supervisee as a prerequisite for effective oversight, a view also affirmed by [Silva et al. \(2022\)](#)

through the concept of the panopticon. The context of pre-hospital emergency services demonstrates that when structural physical proximity is unattainable, supervision effectiveness shifts from direct surveillance mechanisms to post-action dialogic mechanisms (such as debriefing and reflective meetings); this adaptation aligns with the paradigm shift from disciplinary power to productive power conceptualized by [Silva et al. \(2022\)](#). Findings by [Kjellsdotter et al. \(2026\)](#) regarding scheduled reflective group supervision (POH) as a buffer against "transition shock" reinforce this pattern of adaptation in a vastly different context newly graduated nurse orientation programs in high-income countries indicating that post-action dialogic mechanisms are not merely context-specific emergency solutions, but rather organizational design principles generalizable across care settings.

Converging findings regarding supervisor competency deficits across continents (Africa, Asia, South America, and now Europe via [de Paula et al., 2026](#)) indicate that this issue is not merely an artifact of resource limitations in developing nations, but rather a broader systemic failure to institutionalize supervision training as a formal, tiered competency within nursing curricula a gap directly addressed by the development of SUPERVISE® ([Silva et al., 2025](#)) as an evidence-based, validated training model, and now also by the NANTS-no and SPLINTS-no psychometric instruments ([de Paula et al., 2026](#)) as mechanisms for assessing non-technical competencies in a standardized manner across institutions.

The self-awareness facilitation model proposed by [de Klerk et al. \(2023\)](#) enriches the theoretical discourse on the interplay between supervisor competence and the duality of power; the finding that preceptors also experience heightened self-awareness through the supervisory process demonstrates that the supervisor-supervisee relationship is reciprocal rather than a unidirectional, top-down dynamic as assumed by classical disciplinary models. This dynamic aligns with the principles of Situated Learning Theory cited by [de Paula et al. \(2026\)](#) which views supervision as a process of social construction through active participation in an authentic community of practice, rather than merely a one-way transmission of technical instructions.

Overall, the integration of five theoretical frameworks Foucauldian power ([Silva et al., 2022](#)), the Theoretical Domains Framework ([Zhao et al., 2021](#)), the learning-motivation theories of Kolb, Ryan & Deci, and Bandura ([Silva et al., 2025](#)), Proctor's functional trichotomy alongside Duchscher's transition theory ([de Paula et al., 2026](#); [Kjellsdotter et al., 2026](#)), and the Johari Model ([de Klerk et al., 2023](#)) yields the understanding that effective nursing supervision is intentionally designed to shift the balance of power from external control toward self-regulatory capacity, supported by organizational structures, supervisor relational competence, and psychometrically standardized instrumentation.

Implications

The findings of this review imply the need for a policy reorientation in continuing nursing education to include clinical supervision competence as a formal and mandatory module, rather than merely an assumed skill inherent to structural seniority, given that [Wang et al. \(2024\)](#) actually found that structural seniority is negatively associated with mentoring motivation. Healthcare institutions are advised to adopt post-action feedback mechanisms as a structural compensation for the unavoidable physical separation in certain care settings (mobile emergencies, community services), as well as to consider the adoption of psychometrically validated non-technical skills assessment instruments (following the NANTS-no/SPLINTS-no models) and scheduled institutional psychological support mechanisms (following the findings of [Wang et al., 2024](#), and the POH structure in [Kjellsdotter et al., 2026](#)) as concrete institutional investments proven to be associated with improvements in the motivation, attitudes, and practices of supervision/mentoring.

Research contribution

This review contributes by integrating five theoretical frameworks that are rarely juxtaposed in the nursing supervision literature, namely Foucaultian power theory, the Theoretical Domains Framework, contemporary learning-motivation theories (Kolb; Ryan & Deci; Bandura), Proctor's clinical supervision alliance framework alongside Duchscher's transition theory, and the Johari Model, to yield a multidimensional understanding of the mechanisms of success and failure in supervision across geographic contexts and care settings. The integration of large-scale

multivariate quantitative evidence (Wang et al., 2024) with the majority qualitative evidence strengthens the triangulative validity of this review's conclusions, while the mapping of four innovation modalities (digital, psychometric, methodological, and institutional-reflective) produces a more comprehensive typology of nursing supervision innovation compared to previous literature.

Limitations

The primary limitations of this review include, the very high heterogeneity of the primary study designs ranging from qualitative exploratory, scoping reviews, mixed-methods, and large-scale multivariate cross-sectional studies (Wang et al., 2024) to a nested systematic review (de Paula et al., 2026) which limits the possibility of conducting a comprehensive, formal quantitative synthesis (meta-analysis). The inclusion of one systematic review as an included study (de Paula et al., 2026) introduces a potential for overlapping evidence with the 12 perioperative primary studies it synthesized, given that the data from those studies were not independently re-extracted by the authors from their primary sources. This is a common limitation in reviews that accommodate a "review-within-review" approach and must be accounted for when interpreting the weight of evidence. The lack of an independent, structured methodological quality assessment (such as JBI or CASP) applied by the authors across all 12 included studies, even though one of the studies (de Paula et al., 2026) had applied it internally to its own primary studies. The restriction to English-language literature with open access, which potentially excludes relevant evidence from non-Anglophone contexts as well as those situated behind a paywall.

Suggestions

Future research is recommended to, apply formal methodological quality assessment instruments (JBI or CASP) retrospectively and independently to all 12 included studies, including the re-extraction of primary data from the studies synthesized within de Paula et al. (2026) in order to reduce the risk of overlapping evidence. Consider a mixed-methods triangulation protocol that explicitly combines quantitative associative evidence (following the approach of Wang et al., 2024) with qualitative determinants to generate an empirically testable predictive model of supervision effectiveness. Consider a formal qualitative meta-synthesis (meta-ethnography or framework synthesis) to deepen the integration of the five identified theoretical frameworks. Test a hybrid replication combining non-technical skills psychometric instruments (NANTS-no/SPLINTS-no), gamification (SUPERVISE®), and reflective facilitation models (Johari, POH) in non-perioperative care settings and non-Western contexts to assess cross-cultural generalizability.

CONCLUSION

This systematic review of twelve studies concludes that nursing supervision is a dual relational construct that can simultaneously function as a disciplinary control mechanism as well as a productive, trust-building force. Even in its most subtle forms (self-awareness facilitation), these two poles can merge into a single continuum, depending on how power relations between supervisor and supervisee are negotiated within the structural context of each clinical setting.

Structural determinants (physical separation, resource constraints, role ambiguity), supervisor competence deficits, and educational technology innovations whether digital (gamification, virtual reality simulation), psychometric (standardized non-technical skills instruments), methodological (problem identification frameworks), or institutional-reflective (scheduled group supervision, self-awareness facilitation models) consistently emerge across the twelve geographical contexts and clinical settings as factors shaping the trajectory of success or failure in supervisory practices.

Large-scale multivariate quantitative evidence further confirms that institutional psychological support and participation in formal training are policy-modifiable determinants with measurable effects on the motivation, attitudes, and practices of both supervision and mentoring. These findings underscore the urgency of a policy paradigm shift from a vertical-coercive oversight model toward a dialogic-participatory model supported by adequate institutional investment, in line with the objectives proposed in the Introduction section.

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AUTHOR CONTRIBUTION STATEMENT

ADR bears full responsibility for the conceptualization, search strategy, study selection, data extraction, thematic analysis, and overall manuscript drafting.

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