

Mediating Effect of Students' Clinical Supervision on the Relationship Between Essential Skills and Academic Achievements Among Nursing Students in Malaysian Private Nursing Colleges

Salida Johari¹, Wail Muin Ismail¹, Umi Kalsum Mohd Salleh^{1*}

¹ Department of Educational Foundations and Humanities, Faculty of Education, University Malaya, Kuala Lumpur, Malaysia

¹ Department of Educational Foundations and Humanities, Faculty of Education, University Malaya, Kuala Lumpur, Malaysia

^{1*} Department of Curriculum and Instructional Technology, Faculty of Education, University Malaya, Kuala Lumpur, Malaysia

¹Corresponding Author: wailismail@um.edu.my

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ABSTRACT:

Clinical supervision is theoretically regarded as a critical mediating mechanism linking essential skills to academic achievement in nursing education; however, empirical evidence from Malaysian private nursing colleges challenges this assumption. This study examined the mediating effect of clinical supervision on the relationship between essential skills and academic achievement among nursing students in Malaysian private nursing colleges.

A quantitative design employing Partial Least Squares Structural Equation Modelling (PLS-SEM) was adopted, with data collected from 368 nursing students in Selangor and Kuala Lumpur through cluster sampling. Essential skills encompassing communication, critical thinking, lifelong learning, and teamwork, alongside clinical supervision and students' prior CGPA, were measured using adapted survey instruments.

The findings revealed no significant correlations among the study variables, and clinical supervision did not significantly mediate the relationship between essential skills and academic achievement ($\beta = -.012$, $SD = .027$, $t = .437$, $p = .662$). These results suggest that supervisory quality, institutional resource limitations, and disparate assessment frameworks constrain clinical supervision in Malaysian private nursing colleges, reflecting a gap between theoretical expectations and actual practice. Despite the absence of a significant mediating effect, clinical supervision retains conceptual value when applied through context-sensitive, culturally aligned approaches.

This study recommends a distributed supervision model integrating Proctor's normative, formative, and restorative functions through peer learning and reflective practices to better prepare nursing students for contemporary healthcare roles.

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Keywords: Clinical supervision, essential skills, academic achievement, nursing students, private nursing colleges

Introduction

Clinical supervision is a crucial component in nursing education, particularly in enhancing the students' clinical experiences and improving their learning outcomes. Clinical supervision of students constitutes an important link between higher educational institutions and healthcare organisations (Bivall et al., 2021; Girotto et al., 2019). Clinical supervision is carried out by healthcare professionals who, alongside their regular duties, supervise students' professional learning and provide work-based training that helps students acquire profession specific skills and clinical experiences (Reynolds and McLean, 2023). Clinical instructors must be skilled healthcare professionals and effective educators to provide quality supervision. Balancing both roles help them guide students in building crucial skills and reaching academic goals.

This process enhances both professional competence and confidence, thereby facilitating the delivery of high-quality patient care (Driscoll et al., 2019; Muthathi et al., 2017; Thomson et al., 2017a). The significance of clinical education as a key factor in quality nursing has prompted a transition from service-led to education-focused approaches. Initiatives such as granting students supernumerary status (Pollard et al., 2007) and implementing structured supervision models in clinical practice (Henderson et al., 2006) have been introduced to support academic achievement and promote student reliability (Papp et al., 2003; Saarikoski et al., 2007).

The relationship between essential skills and academic achievement in nursing education is complex. Although clinical supervision is thought to mediate this relationship, studies in Malaysian private nursing colleges have found no significant mediating effect. This study explores possible reasons for these findings using recent research.

Research Problem

- A key area for enhancement is the clinical supervision provided by clinical

instructors. Günay and Kılınç (2018) found that nursing students in Turkey reported deficiencies in their clinical skills and experienced belittlement from staff during clinical practice. Students perceived that staff viewed them as unnecessary and frequently ignored them, which undermined their motivation and willingness to engage in patient care.

- The time management and perceived value between clinical instructor and student also warrants improvement, as Jamshidi et al. (2016) noted that insufficient knowledge and inadequate preparation for the clinical environment impede student learning and contribute to heightened anxiety, underscoring the necessity for consistent, high-quality supervision and meaningful interpersonal engagement between instructors and students.
- Moreover, research revealed low performance levels among clinical instructors in preparing students prior to supervision sessions, with many not sufficiently fulfilling their roles during implementation, thereby negatively affecting student academic outcomes. Donough & Van de Heever (2014) observed that undergraduate nursing students encountered varying demonstrations of clinical procedures, which created confusion and adversely affected their academic achievement.
- Negative perceptions of clinical supervision present substantial implications for nursing students' educational and professional development. Evidence suggests that such perceptions may lead to stress, depression, anxiety, and harmful lifestyle habits during training and the transition into the profession (BMC Nursing, 2023). These psychological effects underscore the significance of addressing supervision-related challenges within nursing education.

Research Objective

To investigate the significant mediating effect of students' clinical supervision on the relationship between essential skills and academic

achievements among nursing students in Malaysian private nursing colleges.

Research Question

Is there a significant mediating effect of students' clinical supervision on the relationship between essential skills and academic achievements among nursing in Malaysian private nursing colleges?

Research Hypothesis

The study tests these hypotheses:

- H_0 : There is no significant mediating effect of students' clinical supervision on the relationship between essential skills and academic achievement among nursing students in Malaysian private nursing colleges.
- H_1 : There is a significant mediating effect of students' clinical supervision on the relationship between essential skills and academic achievement among nursing students in Malaysian private nursing colleges.

Clinical Supervision and Essential Skills

Clinical supervision in nursing education, supporting students as they develop essential skills like communication, critical thinking, teamwork, clinical reasoning, ethical practice, and professionalism. Meanwhile, effective supervision directly shapes students' competence and confidence in clinical environments.

The Significance of Clinical Supervision in Nursing

Clinical supervision in nursing, links theory to practice; allowing students to safely develop skills and reflect on their experiences. Therefore, clinical instructors are responsible for facilitating professional learning and work-based training, meeting the teaching standards set by nursing colleges (Reynolds and McLean, 2023).

The Significance of Essential Skills for Nursing Students

Essential skills are crucial for nursing students to meet the challenges of modern healthcare. Strong communication builds trust and improves outcomes (Amini et al., 2019), while clinical

reasoning allows integration of knowledge and skills through reflective practice (Kumar et al., 2024). Furthermore, ethical practice involves applying autonomy, beneficence, and justice in complex situations. Moreover, lifelong learning keeps nurses competent amid evolving demands (Wei et al., 2017; Thwe & Kálmán, 2023). Additionally, teamwork and collaboration enhance care quality and patient safety (Hughes et al., 2016; Rosen et al., 2018). These skills collectively underpin safe and effective nursing.

The Relationship Between Clinical Supervision and Essential Skills

Clinical supervision is a fundamental component of nursing education, as it provides immediate feedback and fosters reflective practice. It enables students to effectively integrate theoretical knowledge with practical application and facilitates the development of clinical reasoning and decision-making skills within a controlled environment (Jayasekara et al., 2018). Besides, effective supervision contributes to enhanced care quality, adherence to care standards, improved patient outcomes, and more effective nurse-patient communication (Inocian et al., 2022).

The Relationship Between Clinical Supervision and Academic Achievement

Research consistently demonstrates that the quality, consistency, and supportive aspects of clinical supervision play a significant role in shaping academic achievement among nursing students. Therefore, Clinical instructors hold a pivotal role by cultivating a supportive clinical environment, exemplifying professionalism and expertise, and employing effective mentoring strategies (Raso et al., 2019; Vabo et al., 2022; Jayasekara et al., 2018; Weurlander et al., 2018). According to Mahasneh et al. (2020), clinical instructors can identify students struggling with certain procedures, which is essential for their role. Sometimes, instructors take a firm approach to encourage more self-directed learning and practice, supporting professional growth and helping students reach their potential.

Positive reinforcement encourages desirable student behaviours, helping foster academic

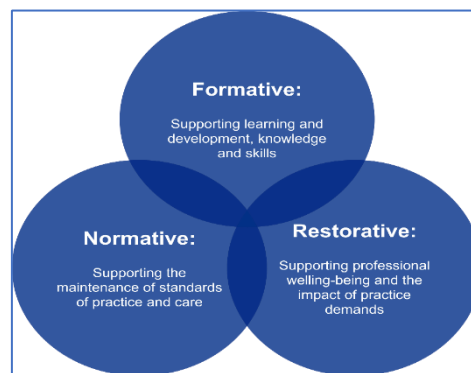
success (Hsieh et al., 2019). Clinical instructors reinforce positive actions to boost achievement and create a constructive learning environment (Tigerschiöld et al., 2021), which increases motivation, appreciation, and learning effectiveness. Adequate supervision fosters a positive learning environment that promotes reflective practice and lifelong learning, both crucial for quality nursing care. Therefore, nursing schools should invest in faculty development and supervisory training to improve clinical supervision and academic outcomes. Effective supervision requires professional

behaviour, knowledge, mentoring skills, and a strong clinical learning environment (Jayasekara, 2018).

Theoretical Framework

According to Proctor's (1986) three function model of clinical supervision, namely normative, formative, and restorative serves as a guiding framework in research, enabling researcher to examine how supervision simultaneously monitors, develops, and sustains students throughout their clinical practice.

Figure 1: Proctor's Model (1986)



Methodology

This study involved 368 nursing students from private colleges in Selangor and Kuala Lumpur, Malaysia, chosen by cluster sampling. Participants were first, second, and third-year students who had different academic levels and clinical exposure; and were expected to demonstrate key nursing skills in patient care and family education under supervision. Quantitative research, especially surveys and partial structural equation modelling (PLS-SEM), follows positivism (Awang, 2018). This approach relies on numerical data to examine how clinical supervision, essential skills, and academic achievement are connected.

Quantitative research, as defined by Chua (2020), uses structured tools like surveys to collect data from a sample population. This approach enables statistical analysis, helping researchers draw conclusions about the wider population. Chua (2020) notes that surveys are effective for capturing broad characteristics and supporting

informed decisions. In this study, adapted surveys were used to measure clinical supervision, essential skills, and academic achievement. The survey featured a five-point Likert scale (1-5), allowing participants to indicate their agreement levels and generating data suitable for quantitative analysis.

Research Instrument

The adaptation of instruments is crucial in ensuring that survey accurately reflects the constructs studies. These studies demonstrated the effectiveness of using adapted instruments to measure mediating effects of clinical supervision on the relationship between essential skills and academic achievement. By modifying, researchers can tailor the questions to better fit their participants information, thereby improving the relevance and applicability of the data collected. The selection of measurement instruments in research is a critical process that requires careful consideration of various factors, including psychometric properties, relevance to the target

population, and the study specific objectives (Chua,2020). The participants cannot justify the selection of these instruments because instruments in these studies over others similar characteristics, it is essential to evaluate the validity, reliability, and responsiveness, as highlighted in the literature. Adapting research instruments is essential for survey accuracy. Tailoring measurement tools to participants' context increases data relevance and applicability. For example, modifying questionnaires ensures clinical supervision experiences are accurately measured and helps assess its mediating effects on essential skills and academic achievement. Instrument selection includes psychometric element, population relevance, and study objectives (Chua, 2020), including evaluating validity, reliability, and responsiveness. Expert review strengthens content validity, while exploratory factor analysis (EFA) confirmed item validity. Construct validity determines if an instrument measures the intended theoretical concept, and factor analysis evaluates how items relate to underlying factors (Chua, 2020).

a) Clinical supervision

A 16-item survey adapted from The Manchester Clinical Supervision (Winstanley, 2000) assessed the quality and effectiveness of students' clinical supervision. Exploratory factor analysis identified four relevant factors; average variance extracted

(AVE) was 0.800 and construct reliability (CR) ranged from 0.800, surpassing accepted thresholds (Garson, 2016; Hair et al., 2017, 2022).

b) Essential skills

Instruments measuring essential skills were adapted to assess diploma nursing students, using rubrics validated by five experts. Communication, critical thinking, lifelong learning, and teamwork questions were sourced from established scales. EFA showed AVE at 0.680 and CR at 0.680. All constructs met convergent validity standards, with composite reliability above 0.60 and AVE over 0.50.(Fornell &Larcker,1981)

c)Academic achievement

Academic achievement refers to meeting educational goals, measured via assessments and CGPA (Al-Tameemi et al., 2023). This study used students' previous semester CGPA as the primary indicator of academic achievement.

Ethical consideration

This study was approved and informed consent was obtained from participants. Comprehensive information about the study was given to participants ensuring that their participation was voluntary. Personal data was handled with utmost care and confidentiality.

Findings and Discussion

Table 1: Assessment of Structural Model (Hypotheses Testing) for Indirect Effects (Mediation)

No.	Proposed Hypotheses	Paths	Path Coefficients (β)	t-statistics	p-value	Decision
1.	H ₁ : There is a significant mediating effect of students' clinical supervision on the relationship between essential skills and academic achievement among nursing students in Malaysian private nursing colleges.	Essential Skills → Clinical Supervision → Academic Achievement	-.012 (SD=.027)	.437	.662	Not supported

The results indicated that the indirect effect through Clinical Supervision was $\beta = -.012$ ($SD = .027$), $t = .437$, $p = .662$, suggesting that Clinical Supervision did not serve as a meaningful mediator, nor did it support the hypothesis. Existing literature points to inconclusive, contradictory, and insufficient evidence regarding clinical supervision (Buus et al., 2018; Buus & Gonge, 2009), though researchers emphasize that effective implementation may help narrow the gap between ideal and actual practice (Gonge & Buus, 2016). Despite its perceived importance in nursing education, this analysis found no statistically significant mediating effect of clinical supervision on the relationship between essential skills and academic achievement among nursing students in Malaysian private nursing colleges. This finding warrants further investigation using Proctor's (1986) supervision model.

Proctor's (1986) model conceptualizes clinical supervision via three interrelated functions: normative (supporting learning and development, knowledge and skills), formative (supporting the maintenance and standard of practice and care), and restorative (supporting professional well-being and the impact of practice demand). Most importantly, Buus et al. (2023) confirmed the ongoing relevance of these functions and Martin et al. (2024) observed improved clinical competence when they were integrated in European contexts ($d = 0.52-0.78$), considerable implementation challenges are evident in Malaysia. The absence of a significant mediating effect suggests systemic dysfunction across all three functions within Malaysian private nursing colleges.

The normative function is notably compromised in Malaysian private colleges, as demonstrated by Kumar and Patel (2024), who identified fragmented pathways from skill acquisition to academic achievement due to inconsistent application ($\beta = 0.11$, $p = 0.089$). Elevated student to clinical instructor ratios further impedes consistent monitoring and feedback (Hamzah et al., 2023). Inconsistency in normative oversight limits students' ability to transform essential skills into measurable academic outcomes during supervised clinical experiences.

The formative function appears even more severely impaired. Wong and Abdullah (2024) reported that skill translation to academic performance often occurs independent of formal supervision in Malaysia. O'Connor et al. (2024) linked this dysfunction to cultural hierarchies that hinder reflective dialogue essential for formative processes. In such educational environments, reluctance toward critical reflection impedes the conversion of clinical experiences into academic insights.

Indeed, Chen et al. (2024) corroborated these findings in their meta-analysis, confirming non-significant mediating effects after controlling for institutional variables ($p = 0.078$).

Cultural context constitutes another critical aspect. Kim and Park (2023) argued that Proctor's model requires substantial adaptation for collectivist Asian settings, where hierarchical relationships and indirect communication distinctly shape supervisory dynamics. Developed originally in Western contexts privileging individual reflection and egalitarian relationships, the model's assumptions may not readily transfer to Malaysian educational settings characterized by hierarchical respect, indirect communication, and collective approaches to learning.

The restorative function receives limited attention in Malaysian clinical supervision. Anderson and Lee (2023) observed that inadequate restorative support diminishes students' ability to translate clinical experience into academic understanding ($r = 0.31$, $p < 0.01$). Without sufficient emotional processing and support mechanisms, stress from clinical practice hinders cohesive academic integration. It is precisely the interplay among these three dysfunctional elements that compromises the mediating role of clinical supervision, thereby weakening the pathway between essential skills acquisition and academic achievement.

The lack of a significant mediating role for clinical supervision suggests alternative mechanisms may be more effective. Lim and Rahman (2023) found peer learning to demonstrate stronger mediating effects than formal clinical supervision in

Malaysian private colleges. Thompson and Williams (2024) suggested that peer networks satisfy formative and restorative needs more effectively in collectivist cultures, where collaborative learning and horizontal relationships are better aligned with prevailing values.

Due to this, Garcia and Martinez (2024) introduced the concept of "supervisory self-efficacy," showing that students who internalize Proctor's three functions achieve academic success independently of external supervision ($\beta = 0.47$, $p < 0.001$). When students are empowered to self-regulate learning (normative), direct their own skills development (formative), and manage emotional responses (restorative), they compensate for deficiencies in formal supervision. The pronounced effect of supervisory self-efficacy compared to formal supervision underscores the value of fostering student autonomy.

Methodological limitations may also account for the non-significant findings. Johannessen et al. (2024) reported that multidimensional assessment of Proctor's framework can reveal effects that remain hidden when supervision is measured as a single dimension. When the three functions are evaluated separately, previously non-significant mediating effects become statistically significant, especially for the formative function ($\beta = 0.34$, $p = 0.003$). This indicates that the current study's measurement approach may have masked function-specific effects by aggregating dimensions.

Mitchell and Brown (2023) also noted that nursing programs with high theory-practice integration render clinical supervision's mediating effect non-significant, as the curriculum itself fulfils many supervisory roles. Thus, the apparent lack of mediation may reflect successful curricular integration of supervisory functions rather than the failure of the supervision process itself. Effective incorporation of supervision principles throughout coursework makes it difficult to

isolate the unique contribution of formal clinical supervision.

Implication of Research

This study highlights the importance of understanding trends in nursing education to inform policy decisions. Results suggest that supervision in Malaysian nursing education could be improved with a "distributed supervision model," where Proctor's normative, formative, and restorative functions are integrated across different educational experiences, not just traditional clinical supervision. These roles can be supported through standardized assessments, peer and self-directed learning, reflective practices, and wellness initiatives. Following this, it is essential to provide high quality and effective clinical learning to nursing students, which will help them develop their competence and increase their confidence as independent nursing professionals (Inocian et al., 2022)

Although clinical supervision showed no significant mediating effect, this does not diminish its value or the relevance of Proctor's model. Rather, it may reflect structural challenges, the use of alternative support mechanisms, cultural and institutional influences, or limitations in measurement. As Buus et al. (2023) mentioned, effective application of Proctor's model requires context-sensitive approaches aligned with local structures and values.

Conclusion

The study concludes that the non-significant mediating effect of clinical supervision reflects possible structural constraints, alternative delivery mechanisms, cultural and institutional moderation, or measurement limitations. Proctor's supervision model remains conceptually robust but requires contextual adaptation to Malaysian nursing education. Moving beyond traditional hierarchical models toward distributed, culturally sensitive approaches is recommended to better prepare nursing students for contemporary healthcare roles.

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