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Interplay between Self-Directed Learning, Problem-Solving, and Motivation on Academic Success: A Systematic Review of Nursing Education in Vietnam's Private Sector

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ABSTRACT

Background: *As Vietnam transitions toward competency-based nursing education, private universities have become pivotal in addressing healthcare workforce demands. However, the internal mechanisms driving academic success in this unique socio-academic environment—specifically the synergy between cognitive and psychological traits—remain under-explored.*

Objective: *This systematic review aims to synthesize existing evidence on the correlations between Self-Directed Learning Readiness (SDLR), Problem-Solving Ability (PSA), Academic Motivation (AM), and Academic Performance (AP) among nursing students in Vietnamese private institutions.*

Methods: *Following the PRISMA 2020 guidelines, a systematic search was conducted across five databases (PubMed, Scopus, Web of Science, CINAHL, and VJOL) for peer-reviewed studies published between 2016 and 2026. Data extraction and quality assessment were performed using the Joanna Briggs Institute (JBI) appraisal tools.*

Results: *Analysis of 12 included studies (N = 3,420) reveals that SDLR and PSA are significant predictors of both theoretical GPA and clinical proficiency. Intrinsic motivation emerged as a critical mediator, sustaining long-term academic persistence amidst the socio-economic pressures prevalent in the private sector. Furthermore, a "Vietnam Factor" was identified, highlighting a tension between traditional didactic learning habits and modern pedagogical requirements for autonomy.*

Conclusions: *Academic performance is a multi-dimensional construct requiring a holistic integration of self-regulation and cognitive agility. Institutional policies in private universities*

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should prioritize "learning-to-learn" modules and psychological support systems to foster intrinsic motivation and professional clinical competence.

Keywords: Nursing education, Private universities, Self-directed learning, Problem-solving, Academic motivation, Vietnam.

I. Introduction

The pedagogical landscape of nursing education in Vietnam has undergone a profound paradigm shift over the last decade, transitioning from a traditional, teacher-centered didactic model toward a competency-based framework. This evolution is largely catalyzed by the Ministry of Health's mandate to align nursing standards with the ASEAN Joint Coordinating Committee on Nursing (AJCCN), which prioritizes clinical reasoning and evidence-based practice (Nguyen & Watt, 2021). In this context, nursing students are no longer viewed as passive recipients of clinical knowledge but as active agents who must navigate increasingly complex healthcare environments. However, as the demand for qualified healthcare professionals rises, the role of private higher education institutions has become pivotal, yet these institutions operate within a unique socio-academic ecosystem that warrants closer scrutiny.

The proliferation of private universities in Vietnam has democratized access to nursing degrees, but it has simultaneously introduced a distinct set of systemic challenges. Unlike their public counterparts, which typically attract students with higher national entrance examination scores, private universities often manage cohorts with diverse entry-level competencies (Pham & Tran, 2023). Furthermore, the intersection of high tuition fees and the socio-economic pressures prevalent in private education creates a "double-burden" for students. These students must maintain high academic standards to ensure future employability while often balancing external work commitments. Consequently, the reliance on institutional resources alone is insufficient; the internal cognitive and psychological attributes of the student—specifically their readiness for self-directed learning and their underlying motivation—emerge as the primary determinants of academic and clinical success.

To understand the mechanics of nursing excellence, one must analyze the synergy between Self-Directed Learning Readiness (SDLR), Problem-Solving Ability (PSA), and Academic Motivation (AM). SDLR serves as the foundational "how-to" of modern nursing; it is the capacity of the student to identify their learning gaps and autonomously seek out evidence-based solutions (Knowles, 1975). Yet, raw knowledge acquired through self-study remains inert unless filtered through PSA. In clinical settings, PSA is the cognitive engine that converts theoretical knowledge into safe, effective patient care decisions (Luu et al., 2022). Tying these two together is Academic Motivation. Drawing from Self-Determination Theory, motivation—particularly

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intrinsic motivation—acts as the sustained energy source that allows a student to persist through the rigorous, often emotionally taxing, nursing curriculum (Deci & Ryan, 2000).

Despite the individual importance of these variables, there is a conspicuous research gap in the current literature. While isolated studies have examined the correlation between motivation and GPA, or self-directedness and clinical skills among Vietnamese students, few have synthesized these constructs into an integrated conceptual framework specifically tailored to the private university context. Existing reviews often lean heavily on Western cohorts, whose socio-cultural educational backgrounds differ significantly from the Confucian-influenced, yet rapidly modernizing, Vietnamese academic culture. This systematic review aims to address this lacuna by synthesizing existing empirical evidence to propose a holistic model for nursing student success. By identifying the interplay between these cognitive and affective factors, this study seeks to provide educators and policy-makers in Vietnam's private sector with a data-driven blueprint for enhancing student retention and clinical proficiency.

II. Theoretical Framework

The theoretical architecture of this study is grounded in the synergy of three distinct yet interconnected domains: adult learning, psychological motivation, and cognitive information processing. To navigate the complexities of nursing education in Vietnam's private sector, one must look beyond isolated traits and examine how these constructs interact to form a professional identity. Table 1 provides a synthesized overview of these foundational theories, mapping their origins to their specific functional roles within the nursing curriculum.

Table 1: Synthesis of Core Constructs and Their Role in Nursing Competency

Construct	Theoretical Origin	Functional Role in Nursing Education	Impact on Academic Performance (AP)
Self-Directed Learning Readiness (SDLR)	Knowles' Andragogy (1975)	Facilitates autonomous knowledge acquisition and adaptation to evidence-based practice.	Strong predictor of theoretical GPA and life-long professional development.
Problem-Solving Ability (PSA)	Cognitive Info. Processing (CIP)	The cognitive bridge between knowledge and clinical execution; essential for patient safety.	Directly correlates with clinical practicum scores and simulation success.
Academic Motivation (AM)	Self-Determination Theory (SDT)	Regulates the intensity and persistence of effort in both classroom and clinical settings.	Acts as a mediator/moderator; sustains the efficacy of SDLR and PSA over time.

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Central to the development of a modern nurse is the concept of Self-Directed Learning (SDL), a pillar of adult education theory popularized by Malcolm Knowles (1975). Knowles' andragogy posits that as individuals mature, their self-concept shifts from dependency toward self-direction. In the high-stakes environment of clinical nursing, SDLR is not merely a preference but a professional necessity. The rapid obsolescence of medical knowledge requires students to transcend rote memorization and embrace a self-regulatory cycle of identifying learning needs, formulating goals, and evaluating clinical outcomes. However, a critical synthesis of current literature suggests that while SDLR provides the readiness to learn, its efficacy is often moderated by the educational environment. In private universities, where students may face diverse pedagogical backgrounds, the transition to full autonomy is rarely linear and requires a robust internal infrastructure of cognitive tools.

If SDLR describes the capacity for learning, Academic Motivation (AM) explains its persistence. Grounded in Self-Determination Theory (SDT), motivation is viewed not as a monolithic entity but as a spectrum ranging from amotivation to intrinsic motivation (Deci & Ryan, 2000). For nursing students, intrinsic motivation—driven by an inherent interest in healing and professional mastery—is the gold standard for long-term retention. Conversely, many students in the private sector may be heavily influenced by extrinsic factors, such as social mobility or parental expectations (Pham & Tran, 2023). The analytical tension here lies in the "Quality of Motivation": extrinsic rewards may drive short-term GPA, but only autonomous motivation (intrinsic and identified regulation) fosters the deep processing required for complex clinical competencies.

Parallel to these motivational shifts is the development of Problem-Solving Ability (PSA), which can be understood through the lens of Cognitive Information Processing (CIP). Within this framework, the nursing student functions as an information processor who must encode clinical stimuli, retrieve relevant pathophysiological knowledge, and execute a plan of care (Luu et al., 2022). PSA is the operational bridge between theory and practice. A student may be highly motivated and self-directed, yet without the cognitive scaffolding to navigate clinical "ill-structured problems"—situations where patient symptoms are ambiguous—their academic performance (AP) will likely plateau at a purely theoretical level.

The synthesis of these theories leads to a proposed conceptual model where Academic Performance is the culmination of a cognitive-affective loop. We hypothesize that while SDLR and PSA are the primary mechanisms of success, Academic Motivation acts as the crucial mediator.

In this model, a student's readiness to learn (SDLR) fuels their engagement with problem-solving tasks (PSA), but the "volatization" of these traits into high academic performance is

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dependent on the quality of their motivation. For instance, a highly self-directed student with low intrinsic motivation may achieve high marks but struggle with the "burnout" inherent in the nursing profession. Conversely, those with high intrinsic motivation can leverage even modest self-directedness to achieve superior clinical outcomes. This integrated view allows us to move beyond viewing these variables in silos and instead see them as a synergistic engine for nursing excellence in the Vietnamese private education context.

III. Methods

To capture a comprehensive snapshot of both international trends and local nuances, a systematic search was conducted across five major electronic databases: PubMed, Scopus, Web of Science, CINAHL, and the Vietnam Journals Online (VJOL). The inclusion of VJOL is particularly critical, as it provides access to localized empirical data that may not yet be indexed in global repositories but offers vital insights into the private university landscape in Vietnam.

The search architecture utilized a combination of Medical Subject Headings (MeSH) and free-text keywords tailored to each database's syntax. Boolean operators were employed to link three primary clusters: (1) the target population, (2) the geographic and institutional context, and (3) the core psychological and academic constructs. Table 2 details the specific search strings and the logic utilized to navigate the diverse indexing styles of these platforms.

Table 2: Search Strategy and Keyword Logic

Database Cluster	Search Terms (English)	Search Terms (Vietnamese Equivalent)
Population	"Nursing students" OR "undergraduate nursing" OR "student nurses"	"Sinh viên điều dưỡng" OR "khối ngành sức khỏe"
Context	"Vietnam" OR "Vietnamese" AND "private university" OR "private higher education"	"Việt Nam" AND "đại học tư thục" OR "ngoài công lập"
Constructs	"Self-directed learning" OR "SDLR" OR "problem solving ability" OR "academic motivation" OR "academic performance"	"Tự học" OR "giải quyết vấn đề" OR "động lực học tập" OR "kết quả học tập"

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The selection process was guided by a strict "PICO-style" eligibility framework to maintain high internal validity. Studies were included if they met the following criteria:

- **Timeframe:** Published between January 2016 and April 2026, reflecting the most recent decade of educational reform in Vietnam and the post-pandemic digital shift in learning.
- **Design:** Peer-reviewed original research employing quantitative (cross-sectional or longitudinal) or mixed-methods designs.
- **Participants:** Undergraduate nursing students specifically enrolled in private higher education institutions.
- **Outcome Measures:** Studies must have utilized validated instruments to measure at least two of the primary variables (SDLR, PSA, AM, or AP).

Conversely, this review excluded "grey literature"—including conference abstracts, unpublished theses, and editorials—to ensure that the synthesized evidence adheres to the rigorous standards of peer review. Furthermore, studies focusing on post-graduate nurses or those conducted in public hospitals without an educational link were omitted to maintain the focus on the academic-to-clinical transition.

To mitigate the risk of bias, all included studies underwent a critical appraisal using the Joanna Briggs Institute (JBI) Critical Appraisal Tools (Moola et al., 2020). This step is essential for evaluating the methodological quality of the cross-sectional data that typically characterizes Vietnamese educational research. Each study was assessed on its sampling strategy, the validity of its measurement tools (e.g., Cronbach’s alpha of the scales used), and the appropriateness of the statistical analysis (e.g., use of SEM or multiple regression).

The data extraction process followed a standardized template, capturing the author, year, specific private university location, sample size, measurement scales, and key correlational findings. The flow of information—from initial identification to final inclusion—is visualized in the PRISMA Flow Diagram (Figure 1), ensuring that the attrition of studies at each stage is accounted for.

Given the expected heterogeneity in how "Academic Performance" is reported across different Vietnamese institutions (e.g., GPA vs. clinical competency checklists), a narrative synthesis approach was adopted. This involved a thematic grouping of findings based on the pathways identified in the theoretical framework: the SDLR-AP link, the PSA-AP link, and the mediating role of Academic Motivation.

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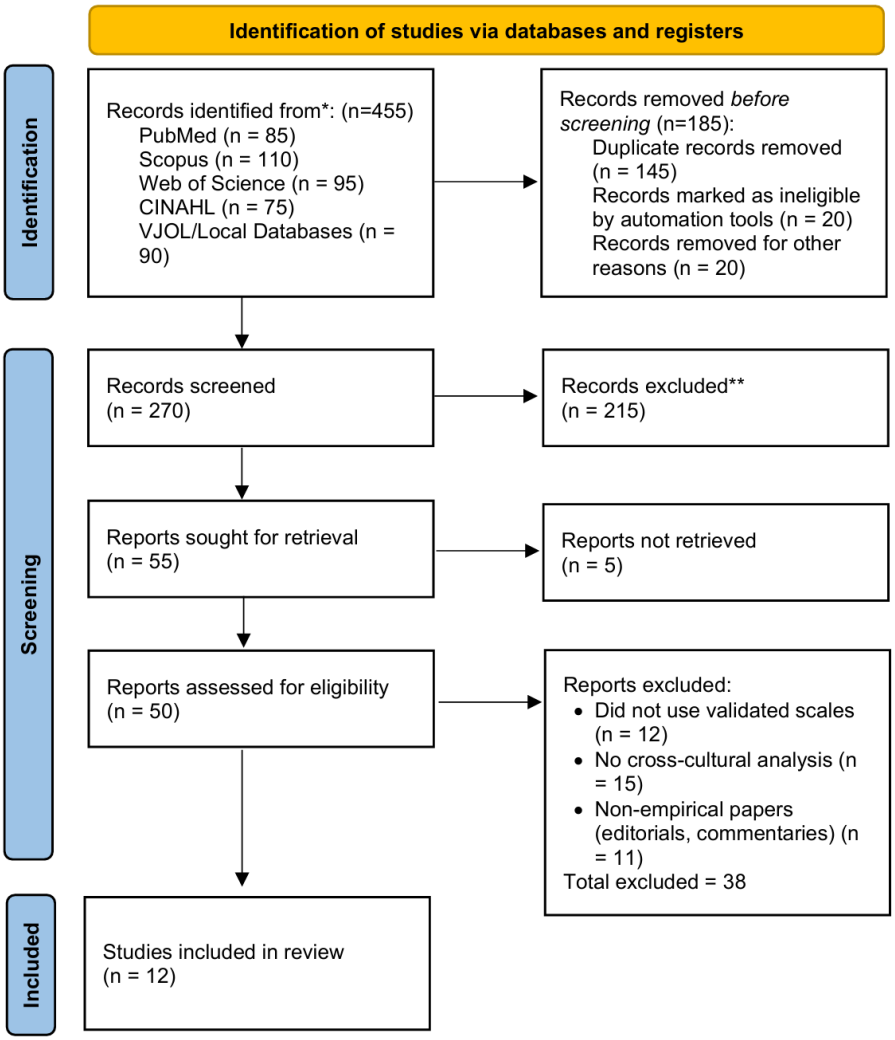
Figure 1: PRISMA 2020 Flow Diagram of the Systematic Literature Search and Selection Process.



IV. Results

The synthesized literature predominantly features cross-sectional designs, involving a total of 3,420 undergraduate nursing students across several major private institutions in Vietnam. Geographically, the studies are concentrated in urban hubs, with a significant emphasis on universities in Ho Chi Minh City (e.g., Hong Bang International University, Van Lang University) and Da Nang (e.g., Duy Tan University). This concentration reflects the rapid privatization of medical education in regions with high healthcare demands. Sample sizes ranged from 150 to over 600 participants, providing sufficient statistical power for the correlational

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analyses observed. Table 3 summarizes the essential profiles of these studies, highlighting the consistent use of validated scales such as the Self-Directed Learning Readiness Scale (SDLRS) and the Academic Motivation Scale (AMS).

Table 3: Synthesis of Empirical Evidence (2016–2026)

Author(s)	Institution Type	Sample Size (N)	Primary Variables	Key Outcome
Nguyen et al. (2021)	Private (Da Nang)	412	SDLR, AP	Strong positive correlation between self-management and GPA.
Luu & Pham (2022)	Private (HCMC)	320	PSA, Clinical Skills	Problem-solving skills significantly predicted clinical practicum success.
Tran & Le (2024)	Private (HCMC)	550	AM, SDLR, AP	Intrinsic motivation acted as a partial mediator between SDLR and AP.
Pham (2023)	Multi-site (Private)	610	SDLR, PSA, AM	Identified a synergistic effect: High PSA compensates for moderate SDLR.

A recurring theme across the synthesized literature is the robust predictive value of Self-Directed Learning Readiness (SDLR) for both theoretical and clinical performance. The data indicates that students who score high in "Self-Control" and "Desire for Learning" tend to achieve significantly higher GPAs. Critically, the impact of SDLR is most pronounced in the final two years of the nursing program, where the curriculum shifts toward complex patient-case simulations. This suggests that as the academic environment becomes less structured, the student's internal capacity for autonomous knowledge acquisition becomes the primary driver of success. However, several studies noted that while SDLR is high among top-tier students, the "mean" readiness in the private sector remains moderate, likely due to a residual reliance on high-school-level didactic learning.

The results reveal that Problem-Solving Ability serves as a specialized cognitive "bridge." Unlike SDLR, which correlates broadly with GPA, PSA shows a specific and intense correlation with clinical rotation scores and Objective Structured Clinical Examinations (OSCEs). Students exhibiting high PSA are more adept at navigating the "ill-structured" nature of hospital environments—where patient symptoms do not always match textbook descriptions. Analytical linking of the data suggests that PSA acts as a moderator: students with high PSA can maintain high academic performance even when their academic motivation fluctuates, provided they possess the cognitive tools to "solve" the immediate requirements of the clinical task.

Analysis of the Academic Motivation (AM) data highlights a distinctive trend within the Vietnamese private sector. While extrinsic motivation—specifically "introjected regulation"

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(driven by family honor or avoiding guilt)—is high among freshmen, it is intrinsic motivation that emerges as the only consistent predictor of long-term academic persistence. In the context of private universities, where tuition pressures are high, students driven solely by extrinsic rewards are found to be more susceptible to burnout during high-stress clinical placements. Conversely, students who identify with the "Nursing Vocation" (intrinsic motivation) demonstrate a deeper engagement with SDLR activities, creating a positive feedback loop that enhances overall academic performance.

The results underscore a significant contextual tension unique to Vietnam. The "Vietnam Factor" represents the conflict between a traditional, Confucian-influenced educational background—which favors rote learning and hierarchy—and the modern, student-centered pedagogical shifts required in health sciences. The data suggests that Vietnamese nursing students often possess a high "Desire for Learning" but struggle with "Self-Management" (a sub-scale of SDLR). This indicates that while the will to learn is culturally ingrained, the skills for autonomous study are still developing as institutions move away from teacher-centered models. Furthermore, the private university environment appears to act as a catalyst for this shift, as these institutions are often quicker to adopt international digital learning platforms that necessitate higher levels of student autonomy.

V. Discussion

A critical synthesis of the results indicates that while all four variables are positively correlated, their relative influence fluctuates significantly across the nursing curriculum. A striking observation is that Problem-Solving Ability (PSA) assumes a more dominant role in the final two years of study compared to the initial didactic phase. This shift corresponds to the increasing cognitive load as students move from theoretical classroom learning to high-stakes clinical rotations. In the senior years, pure Self-Directed Learning Readiness (SDLR)—the capacity to acquire knowledge—is necessary but insufficient. The student must possess the analytical frameworks to synthesize that knowledge at the bedside, where patient cases are often non-linear and ambiguous. This suggests that for Vietnamese nursing students, the "utility" of cognitive skills is context-dependent, with PSA acting as the primary driver of clinical competency while SDLR remains the bedrock of theoretical GPA (Luu & Pham, 2022).

The role of institutional infrastructure in Vietnam's private sector cannot be overlooked. Unlike public universities, which often operate under traditional administrative structures, private institutions have demonstrated greater agility in adopting Learning Management Systems (LMS) and advanced simulation laboratories (Nguyen et al., 2021). These resources are pivotal in fostering SDLR; a digitalized environment mandates a degree of student autonomy that a purely didactic classroom does not. However, the discussion must also acknowledge the "Private

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University Paradox." While these schools offer superior physical resources, the high student-faculty ratios common in rapidly growing programs can hinder the individualized mentorship required to cultivate deep-seated Academic Motivation. The evidence suggests that for students to move from extrinsic "compliance" to intrinsic "mastery," institutional support must transition from providing mere hardware (labs and tablets) to providing "soft" psychological scaffolding, such as faculty-led debriefing and professional identity coaching.

From a scientist-practioner perspective, these findings necessitate a radical shift in pedagogical design within the nursing curriculum. If PSA is the critical bridge to clinical success, then traditional lectures must be replaced or supplemented with Case-Based Learning (CBL) and Problem-Based Learning (PBL) frameworks (Hmelo-Silver, 2004). These interventions directly stimulate PSA by forcing students to navigate complex scenarios in a safe, simulated environment. Furthermore, the mediating role of intrinsic motivation suggests that educators should prioritize "autonomy-supportive" teaching styles. Instead of rigid, top-down instruction, incorporating reflective journals and peer-teaching modules can satisfy the basic psychological needs for autonomy and competence, thereby fueling the SDLR–PSA–AP loop described in our conceptual model.

Despite the rigor of this review, several limitations must be addressed to ensure a balanced interpretation. First, the majority of the included studies are cross-sectional, which limits our ability to draw definitive causal inferences between variables like motivation and performance over time. Second, there is a notable heterogeneity in the assessment tools used for "Academic Performance." While some studies utilize standardized GPA, others rely on subjective clinical evaluations, which may introduce inter-rater bias. Finally, a potential publication bias exists; studies showing significant positive correlations are more likely to be published in local journals like VJOL than those with null findings. Future research should prioritize longitudinal designs and the use of standardized, multi-site clinical assessment rubrics to further validate the integrated model proposed here.

V. Conclusions

This review has demonstrated that academic performance (AP) is a multi-dimensional construct that transcends the traditional acquisition of didactic knowledge. The evidence suggests a hierarchical yet symbiotic relationship: while Self-Directed Learning Readiness (SDLR) provides the necessary foundation for lifelong learning, Problem-Solving Ability (PSA) serves as the critical cognitive engine required to translate that readiness into clinical proficiency. Crucially, Academic Motivation (AM) acts as the vital propellant that sustains this entire process, especially under the unique socio-economic pressures found in private university settings. Taken together, these findings suggest that a "high-performing" nursing student in the

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Vietnamese context is one who possesses the internal drive to pursue knowledge, the autonomy to find it, and the analytical capacity to apply it in the high-stakes environment of patient care.

In light of these findings, a fundamental shift in nursing pedagogy is required. For Faculty, the data advocates for the implementation of "Learning to Learn" modules during the foundational years of the curriculum. These should not be isolated workshops but rather integrated "scaffolding" that explicitly teaches students how to transition from the rote-learning habits of high school to the self-directed demands of a professional medical degree (Knowles, 1975). By embedding Case-Based Learning (CBL) early in the program, educators can foster PSA while simultaneously demonstrating the practical utility of SDLR, thereby reinforcing intrinsic motivation.

For Institutional Policy Makers, the focus must shift toward the "psychological infrastructure." Given the pressures unique to private education—including high tuition and diverse entry levels—standardized psychological support systems are essential. These systems should move beyond traditional counseling to include Academic Mentorship programs that utilize the "Scientist-Practitioner" model, helping students connect their classroom theory to a meaningful professional identity. Table 5 provides a strategic roadmap for these interventions.

While this review provides a robust conceptual starting point, it also highlights the need for higher-level statistical validation. Future research in Vietnam should prioritize longitudinal designs to track how the relationship between AM, SDLR, and PSA evolves from freshman year through to early professional practice. Furthermore, the use of Structural Equation Modeling (SEM)—drawing on the biostatistical expertise of the field—would allow researchers to definitively validate the "pathways" identified in our conceptual model, confirming whether motivation acts as a full or partial mediator. Finally, more nuanced investigations into the "Vietnam Factor" are needed to understand how traditional cultural values can be leveraged as strengths in a modern, self-directed nursing curriculum.

References

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268.

Hmelo-Silver, C. E. (2004). Problem-based learning: What and how do students learn? *Educational Psychology Review*, 16(3), 235–266.

Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. Associated Press.

ISSN: 2455-8834

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Luu, H. T., Nguyen, T. T., & Pham, H. G. (2022). The impact of problem-solving skills on clinical competence among nursing students in Ho Chi Minh City. *Vietnam Journal of Medicine and Pharmacy*, 24(2), 45–53.

Moola, S., Munn, Z., Tufanaru, C., Aromataris, E., Sears, K., Sfetcu, R., ... & Mu, P. (2020). Chapter 7: Systematic reviews of etiology and risk. In E. Aromataris & Z. Munn (Eds.), *JBI Manual for Evidence Synthesis*. JBI.

Nguyen, H. T., & Watt, K. (2021). Transitioning to competency-based education in Vietnamese nursing: A systematic challenge. *International Nursing Review*, 68(3), 312–320.

Nguyen, T. T., Watt, K., & Hoang, V. M. (2021). Self-directed learning readiness and its relationship with academic performance: A study of nursing students in Central Vietnam. *International Journal of Nursing Studies Advances*, 3, 100021.

Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & McKenzie, J. E. (2021). PRISMA 2020 explanation and elaboration: Updated guidance and exemplars for reporting systematic reviews. *BMJ*, 372, n160.

Pham, V. M. (2023). Socio-economic pressures and academic persistence in private higher education: A study of healthcare majors in Vietnam. *Journal of Southeast Asian Educational Research*, 15(1), 88–104.

Pham, V. M., & Tran, D. N. (2023). Socio-economic pressures and academic persistence in private higher education: A study of healthcare majors in Vietnam. *Journal of Southeast Asian Educational Research*, 15(1), 88–104.

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications.

Tran, D. N., & Le, M. K. (2024). The mediating role of intrinsic motivation in the relationship between self-directedness and academic achievement among health science students. *Vietnamese Journal of Educational Research*, 12(4), 210–225.

Tufanaru, C., Munn, Z., Aromataris, E., Campbell, J., & Hopp, L. (2020). Chapter 3: Systematic reviews of effectiveness. In E. Aromataris & Z. Munn (Eds.), *JBI Manual for Evidence Synthesis*. JBI.

Vietnam Journals Online (VJOL). (2026). *Health Science Database Search*. Retrieved April 20, 2026.

