

Nurse Preceptor Support

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DNP Project Signature Sheet

Nurse Preceptor Support

This Project was presented to the Northern Arizona University School of Nursing Faculty in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice

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Dedication

This project is dedicated to every hardworking nurse who agrees to train a nursing student, new graduate nurse, or new hire. Nurse preceptors are a key part of the nursing profession and deserve all the training, support, and recognition that nurse leaders in practice and academia can provide.

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Abstract

Competence and clinical judgment among new graduate nurses are at a historical low of 9% based on observational performance assessments (Kavanagh & Sharpnack, 2021). This points to a need for collaboration between academia and practice to improve the practice readiness of senior nursing students prior to their transition to practice. The nurse preceptor is well-recognized as a key to success for both senior nursing students and new graduate nurses. Support and training for nurse preceptors are essential aspects of improving practice readiness in novice nurses. A recent review of standard preceptor training and nurse preceptor perception of practice readiness indicates training content must relate to the current needs of students and new graduate nurses. The aim of this project was to improve the self-efficacy and resilience of nurse preceptors who are training senior nursing students, as well as improve the nurse preceptors' satisfaction with the preceptor training experience. Nurses in six healthcare organizations received enhanced preceptor training using self-paced online modules, synchronous Zoom training using scenarios for problem-based learning, and 12 weekly teaching tips. Analysis of surveys conducted at baseline, following training, and at the completion of time spent with a student indicates a significant increase in self-efficacy and sustained resilience. Nurses reported a significant increase in satisfaction with the enhanced preceptor training.

Keywords: preceptor, practice readiness, self-efficacy, resilience, student nurse

Nurse Preceptor Support

Nurse preceptors (hereafter preceptors) are an integral part of nursing student practice readiness during the final semester of a nursing program. Preceptors are experienced nurses who work in a complex environment with the added responsibility of training others. The preceptor influences senior nursing students (SNS) by helping with socialization, facilitating learning, role modeling excellent practice, and aiding in their professional development (Harper et al., 2021). Preceptors often attend a single training course geared toward assessing learning styles and giving feedback without additional education on methods to improve practice readiness or support well-being (Kennedy, 2019).

A pilot program funded by Maricopa County was conducted in the Fall of 2022 to support preceptors and explore the progression of SNS. The purpose of this project was to learn whether a review of preceptor training with enhanced training and ongoing support improves both self-efficacy and resilience in the preceptors. This project contributed to a larger project with the aim of improving practice readiness among SNS.

Background and Significance

Current Trends in Nursing

The nursing profession was experiencing increasing nurse turnover, vacancies, and difficulty recruiting nurses into acute care settings prior to the COVID-19 pandemic (NSI Nursing Solutions, Inc., 2017). Staff nursing shortages increased in 2021 with an estimated 20% of nurses leaving the profession (Bhakta, 2021). The current hospital turnover rate increased by more than 6% from just over 19% to nearly 26% since 2021 (NSI Nursing Solutions, Inc., 2022).

There is a high rate of turnover among nurses with fewer than two years of experience. Statistics from the past decade indicate that one-quarter to one-third of nurses leave their first

position for a new one or leave the profession within two years of being licensed and more than 50% of new graduates meet the criteria for burnout (Dwyer et al., 2019; Laflamme & Hyrkas, 2020). Reports from hospitals around the country show turnover rates among new graduate nurses (NGN) are nearly 50%, although this often-quoted statistic is based on data from prior to 2010 (Unruh et al., 2014). More than 80% of NGN start in acute care settings, which is why retention efforts are focused primarily on these settings (Powers et al., 2019).

Burnout and Resilience

Burnout is becoming a more prevalent issue among nurses who are encountering daily stressors and adversity that are beyond the coping strategies they have previously developed and used (Laflamme & Hyrkas, 2020). High levels of burnout affect nurses' psychological and physical health and their relationships with patients (Slatyer et al., 2018; Wasson et al., 2020). The epidemic of burnout among nurses is leading to decreased presenteeism with patients when at the bedside, increased absenteeism from the workplace, and loss of nurses from healthcare organizations or the profession (Grabbe et al., 2020). The decreased well-being among nurses and shortages of staff create conditions that can have a detrimental effect on patient outcomes.

A key issue for healthcare organizations is how to best support nurses who are currently practicing and create a welcoming environment for new graduate nurses. Researchers indicate that high levels of resilience are associated with lower levels of burnout and compassion fatigue among nurses (Dwyer et al., 2019; Slatyer et al., 2018; Wasson et al., 2020). Resilience is an attribute or quality that allows people to recover from adversity and overcome challenging situations (Andersen et al., 2021). In the past, the emphasis was placed on the individual nurse to practice positive coping skills in order to ameliorate the effects of stress on well-being. The healthcare organizations only provided encouragement to practice self-care and access for

researchers who wanted to study the effects of mindfulness, self-compassion, or other skills (Wasson et al., 2020). There are many studies to support individual practices that improve resilience, but a notable gap exists in the literature to show how healthcare organizations can support nurses to improve resilience. The importance of building resilience in nurses is clear, but the exact method for accomplishing this is still being studied.

The Academic-Practice Gap

Preparation for the transition to practice begins in pre-licensure nursing programs. Nursing students report feeling more competent when they are able to spend more time in the clinical setting practicing the professional role and their skills (Ericson & Zimmerman, 2020). Restrictions on clinical placements and access to technology can limit nursing students' access to policies and electronic medical records creating an ongoing challenge to improving practice readiness and preparation for the profession (Ericson & Zimmerman, 2020). The disparity in theoretical training and clinical hours among nursing programs and degree types also has an impact on the practice readiness of nursing students (Edward et al., 2017). An updated national licensure examination that places greater emphasis on clinical judgment in order to improve practice readiness will be launched in 2023. Schools of nursing were encouraged to update curricula more than a decade ago in order to prepare students for practice in complex organizational systems with high-acuity patients (Benner et al., 2009; Schuelke & Barnason, 2017). There is a lack of evidence regarding how this change will affect clinical education and the role of the preceptor in preparing nursing students for practice.

Significance to Nurse Leaders

The high turnover among nurses, and particularly among NGN, points to a need for efforts to retain nurses and prepare students to be practice-ready. Nurse leaders in both acute care

and community settings can consider creative solutions to reduce turnover and support practicing nurses. Some of the efforts to support nurses include efforts to reduce frequent changes that cause fatigue, ensuring effective leadership, and providing adequate equipment and resources (Brown et al., 2018). Nurse residency programs were implemented by nurse leaders in almost all acute care settings over the past decade in order to support NGN, but the emphasis was placed on providing NGN with support from the healthcare organizational educators rather than the preceptors (Blegen et al., 2015).

Nursing leaders in both academic and practice settings will need to increase collaboration to reduce the academic-practice gap. There is a lack of evidence regarding how preceptor education has evolved to meet key novice nurse needs, such as clinical judgment. This gap exists despite consistent evidence of the preceptors' importance to practice readiness (Powers et al., 2019; Shaw et al., 2018; Schuelke & Barnason, 2017). It is essential for nurse leaders in both practice and education to understand the contributions preceptors are making to nursing student education. Nurse leaders can begin to resolve the academic-practice gap by ensuring preceptors are trained to facilitate learning in SNS as well as NGN. The nurse leaders can also advocate for the preceptors to receive incentives and recognition. The focus of this project was on the education and support of preceptors who were assigned to SNS during their final semester of nursing school as an integral part of creating practice-ready new graduates.

Literature Search

An exhaustive literature search was completed to locate studies relating to preceptors, education, preceptorship, and practice readiness in nursing. Forms of a combination of the terms nurse, nursing student, and preceptorship were used. Terms used in addition to these were preceptor, education, and practice readiness. The literature search was completed using the

Cumulative Index for Nursing and Allied Health Literature (CINAHL), Google Scholar, and Scopus. The three databases were chosen because they contain literature focused on nursing practice and provide the ability to search through a variety of nursing journals.

The first combination of terms used in each search was preceptor, education, and nurse. This was done in order to find current literature on preceptor training programs. The second combination of terms used was preceptor, nursing student, and practice readiness. The third set of terms included preceptorship and practice readiness with nursing. These latter two combinations of terms were used to uncover literature related specifically to preceptors who train pre-licensure students and practice readiness of new graduate nurses. A total of 18 articles were determined to pertain to this project. A diagram that details the search process can be found in Appendix A.

The literature search was limited to peer-reviewed nursing research published between 2017 and 2022 available in full text. Articles written in English from the United States and completed in acute care or hospital settings were included because they will be more generalizable to the project setting. One article relating to preceptor education in community settings was included based on the requirement that this project includes two community settings. Research studies discussing both student and new graduate preceptor training were included in the literature review. Articles that focused on advanced practice nurse preceptors and students, medicine, and allied health preceptors were excluded. Presentations and posters from conferences were excluded due to the lack of detail and available references. Articles that discussed the topic but were not quality improvement projects, evidence-based practice improvement projects, or research studies were also excluded. A total of 17 articles were included to inform this project.

Literature Synthesis

The Senior Practicum

The senior practicum is the clinical experience that occurs in the final semester of nursing school where SNS are most often assigned to a single preceptor for the duration of a clinical rotation. Schools of nursing have various names for the senior practicum including preceptorship, capstone, and transition to practice. There is a link between strong preceptors and the retention of SNS who are hired to the setting where they completed their senior practicum (Liu et al., 2019).

Several issues related to the senior practicum are detailed in the literature. The first is that the senior practicum length is inconsistent between different schools of nursing (Edward et al., 2017). Additionally, the communication and coordination between schools of nursing and healthcare organizations could be improved to better support both preceptors and SNS during the senior practicum. A lack of collaboration among the preceptor, the faculty, and the student is a barrier to creating clear goals and expectations for the senior practicum (Edward et al., 2017; Ericson & Zimmerman, 2020; Schuelke & Barnason, 2017). Inconsistent expectations and miscommunication may cause the preceptor to feel overloaded by the responsibilities and experience burnout (Ericson & Zimmerman, 2020; Liu et al., 2019). There is also evidence that the senior practicum provokes high levels of anxiety in SNS that could be addressed by preceptors and faculty who are trained to empathize and promote reflection practices (Quek & Shorey, 2018; Terblanche & Cilliers, 2021).

There are inconsistencies in the outcome measures used to determine the successful completion of the senior practicum. Faculty ask preceptors to use a variety of different rubrics, goal sheets, and checklists for student evaluation. The best methods for gauging the progress of

SNS were found to be the use of critical thinking and practice readiness as outcome measures at the beginning and end of the senior practicum in conjunction with clear goal-setting in collaboration with preceptors (Rusch et al., 2019; Schuelke & Barnason, 2017; Terblanche & Cilliers, 2021).

Practice Readiness

The definition of practice readiness in nursing varies but often includes the knowledge and skills to safely care for patients without supervision. Practice readiness can also be perceived as the ability to work in teams, manage multiple responsibilities, and exhibit social and emotional intelligence (Edward et al., 2017; Rusch et al., 2019). Additional elements of practice readiness in the literature include critical thinking, confidence, communication skills, prioritization, and time management (Kennedy, 2019; Liu et al., 2019). During the senior practicum, the preceptor takes on the responsibility of developing a student in order to make them practice-ready before graduation from nursing school.

The concept of practice readiness is not often associated with SNS and the senior practicum because the focus of research has been on new graduate nurses. The amount of time a nursing student spends in the clinical setting throughout nursing school is directly related to improved practice readiness, which is why it is concerning that the senior practicum varies in length among nursing schools (Edward et al., 2017). Nursing students seldom feel confident in their psychomotor skills if they have not spent much time in the clinical setting. They also express discomfort with higher-level skills like delegation without adequate time in clinical settings (Ericson & Zimmerman, 2020). Preceptors who receive high-quality training and ongoing preceptor development have been shown to improve the practice readiness of SNS in both acute care and community settings (Bohnarczyk & Cadmus, 2022; Rusch et al., 2019).

Preceptor Training

Healthcare organizations often train preceptors on content that include the role of the preceptor, learning styles, teaching strategies for adult learners, and quality and safety goals for the organization (Harper et al., 2021; Kennedy, 2019; Wardrop et al., 2019). Many researchers ask preceptors about their perceptions related to the role. The preceptors feel they most often embody the qualities of a role model, leader, or protector when precepting (Harper et al, 2021). Preceptors with training from their organization feel more confident about using appropriate teaching strategies and comfortable giving examples of evidence-based practice. The preceptors who attend ongoing preceptor development classes perceive them to be beneficial in improving expertise and confidence (Kennedy, 2019).

Preceptors are not always required by schools of nursing or healthcare organizations to complete a formal training course prior to precepting SNS during the senior practicum (Edward et al., 2017). Currently, many preceptors of SNS received abbreviated training from online modules due to the COVID-19 pandemic and efforts to reduce costs (Harper et al., 2020; Schuelke & Barnason, 2017; Senyk & Staffileno, 2017; Wu et al., 2020). Researchers discovered that preceptors dislike online modules that emphasize learning theories and contain excessively wordy content (Wu et al., 2020). The researchers also learned that preceptors are open to online or in-person training, although face-to-face training was found to be twice as effective in increasing preceptor knowledge (Senyk & Staffileno, 2017).

Preceptors feel strongly about their training needs. Preceptors are looking for better ways to teach time management, prioritization, and change of condition (Quek & Shorey, 2018; Rusch et al., 2019; Shaw et al., 2018). Methods of preceptor training that are identified as most effective include studying examples of difficult situations or crucial conversations and learning

methods to improve clinical judgment, managing multiple responsibilities, and problem-based learning (Liu et al, 2019; Rusch et al., 2019; Schuelke & Barnason, 2017; Senyk & Staffileno, 2017; Wu et al., 2020). Preceptors feel that teaching knowledge, skills, and abilities is not enough for current practice success. The preceptors want to know how to help SNS think through tough scenarios, seek answers on their own, and apply critical thinking rather than focusing on policies and filling out checklists (Liu et al., 2019; Schuelke & Barnason, 2017). Preceptors perceive their role as more beneficial to their career and the careers of those they orient when ongoing education and support are provided (Frankenberger et al., 2021; Harper et al., 2021; Kennedy, 2019). Enhanced preceptor training will need to focus on the key elements of practice readiness and teach preceptors methods for guiding SNS toward improvement in those areas (Ericson & Zimmerman, 2020).

Preceptor Support

Preceptors are an essential part of helping SNS grow and develop during the senior practicum and help to bridge the gap between education and practice (Shaw et al., 2018). Support from the healthcare organization was found to be essential to the retention of experienced preceptors and reduced turnover among NGN (Dwyer et al., 2019; Quek & Shorey, 2018). A key source of preceptor stress is related to the lack of formal training and support from nursing leadership (Blegen et al., 2015; Liu et al., 2019). The provision of face-to-face or online preceptor training courses and ongoing professional development specifically developed for preceptors is one of the consistent areas of support from healthcare organizations found in the literature (Edward et al., 2017; Frankenberger et al., 2021; Harper et al., 2021; Kennedy, 2019; Senyk & Staffileno, 2017). Additional support for preceptors comes in the form of reduced

workloads, time to teach and discuss goals, and keeping SNS with a single preceptor during the senior practicum (Blegen et al., 2015; Edward et al., 2017).

Researchers found several other methods of support that could be consistently used to support preceptors. Preceptors appreciate having a break between SNS and NGN to focus on their own practice and prevent burnout (Blegen et al., 2015; Frankenberger et al., 2021). There are times when multiple preceptors for a single nursing student are necessary. Preceptors feel that allowing another preceptor to share the burden or observe the student with fresh eyes near the end of the senior practicum is beneficial. However, they would prefer to have standardized communication tools to facilitate smooth handoff between preceptors (Bohnarczyk & Cadmus, 2022). Researchers found that facilitating online discussion forums that allow for sharing and support from peers and organizational educators was a cost-effective method to support and educate preceptors (Bohnarczyk & Cadmus, 2022; Frankenberger et al., 2021; Wardrop et al., 2019). Ultimately, standardized support from leadership and organizational educators can reduce preceptor turnover and prevent burnout (Blegen et al., 2015; Frankenberger et al., 2021; Senyk & Staffileno, 2017).

Literature Analysis

The articles used in this literature review are primarily focused on preceptor training and support. A search of several databases revealed only three articles discussing SNS and the senior practicum. There is clearly a gap in the literature regarding the preparation and practice readiness of nursing students. Discussions of practice readiness were found in the 16 articles related to preceptor training and support and three additional articles focused only on practice readiness in NGN. A single article discussed the needs of preceptors in community settings. The lack of research into the experience of SNS, NGN, and preceptors in community settings leaves a gap in

knowledge about the experiences and needs of those nurses and students. A synthesis matrix can be found in Appendix B.

High levels of evidence were found in the literature search for this topic. There were two systematic reviews related to preceptor training and support. The remaining articles included six quantitative research studies, four qualitative research studies, and one mixed-methods study. The concepts researched include preceptor training needs, preceptor support needs, and practice readiness. Several articles would be considered low levels of evidence and include a literature review and four quality improvement projects.

Significance to Stakeholders

The majority of SNS complete their senior practicum in an acute care setting or hospital. Other options for completing a senior practicum include community settings where patients are cared for by registered nurses. This project focuses entirely on students studying to be registered nurses who will need to complete a senior practicum with a registered nurse (RN) preceptor.

Maricopa County contains the largest metropolitan area in Arizona. The county was the recipient of federal funds that were directed toward healthcare under the American Rescue Plan Act. Nurse vacancies in the county increased by 40% between April 2020 and April 2021 (Maricopa County, 2022). This prompted the Maricopa County Board of Supervisors to offer funding to nurse leaders with solutions to the nursing shortage. Robin Schaeffer applied for funds through her consulting group, Robin Schaeffer Consulting, LLC to improve nurse practice readiness. The Maricopa County Board of Supervisors granted the group 1 year of funding to run a pilot program titled the Nurse Practice Readiness Program (NPRP). Robin recruited three nurse leaders and the student investigator to assist in running the pilot program. The pilot program run

by Robin Schaeffer Consulting, LLC is the practice partner for this project. Please see Appendix C for the DNP project team agreement and Appendix D for the agency agreement letter.

The chief nursing officers for several healthcare organizations in Maricopa County, including Banner Health, Honor Health, Dignity Health, and Valleywise met with the NPRP lead individually before invitations were sent to nurses within their organizations. This was necessary to explain the intent of the program and determine the interest of the leaders of these healthcare organizations. The directors and deans at Arizona State University, the University of Arizona, and Maricopa Community College also met with individual members of the NPRP team before focus group invitations were sent to faculty and recent graduates. This was done to gain support from Arizona State University and the University of Arizona who have established senior practicum curricula and to collaborate with Maricopa Community College which is supported by Maricopa County. The entire NPRP group met with leaders from the Arizona Nurse's Association and the State Board of Nursing to collaborate with and inform those state leaders prior to moving forward with the pilot program.

Several groups of stakeholders maintain interest in this project and were included in focus groups to learn more about the current needs of healthcare organizations and their perception of senior nursing student practice readiness at the end of the senior practicum. Invitations to focus groups were based on involvement with the senior practicum and separated by role. Graduates from 2021 for two bachelor's degree programs and one associate's degree program were invited to share their perception of the senior practicum at their school of nursing and their practice readiness as new graduates. Academic educators from the schools of nursing listed above were invited to share their perception of the senior practicum at their institution and what they feel is missing from preceptor education. Educators from the healthcare organizations

listed above were invited to share their perceptions of the senior practicum and preceptor education at their organization. Managers and directors were included in a separate set of focus groups to share their perceptions. Finally, invitations were sent to preceptors within the healthcare organizations so that the NPRP team could hear their thoughts on the senior practicum, practice readiness, and what was lacking in their preceptor training.

Maricopa County chose the Maricopa County Correctional Health Service and Community Bridges, Incorporated, which is a behavioral health community setting as sites for SNS to use during their senior practicum. Two members of the NPRP group met with the nurse leaders and educators in these community healthcare organizations. This was done to determine their needs, perceptions of preceptor training, and perceptions of the senior practicum because they are different from needs and perceptions in acute care settings. The focus groups and community healthcare organization meetings were completed in order to determine the purpose and objectives of this project.

Intended Improvement

The purpose of this project was to create and implement training and ongoing support for nurse preceptors who were assigned to SNS during the senior practicum. The training contained a review of standard preceptor training based on findings from the literature and the training programs obtained from stakeholders. The training included enhanced content that was identified as crucial to practice readiness in recent focus groups with stakeholders and in a review of the literature. This project worked toward bridging the academic-practice gap by collaborating with healthcare organizations and schools of nursing to support the preceptors who are taking on the responsibility of making SNS practice-ready.

The PICOT clinical question was whether nurse preceptors who educate senior nursing students experienced an increase in self-efficacy and resilience scores from the baseline scores after participating in an evidence-based preceptor training course with ongoing support. The first objective was to evaluate the effectiveness of the preceptor training course and ongoing support on increasing preceptor self-efficacy and resilience over a 3 month period. The second objective was to explore the influence of preceptors' earned degrees and years of experience as a preceptor on changes in self-efficacy and resilience over a 3 month period. The final objective was to determine preceptor satisfaction with the training as compared to previous experiences.

The preceptor training included three components. The first component was asynchronous online modules that were completed in fewer than four hours total. The second component was a synchronous small-group online session. Weekly reminders and tips on how to teach clinical judgment and integrative well-being skills continued for three months after the initial training as the third component.

Discussions with preceptors during focus groups identified a need for review due to the lack of available training over the past two years during the COVID-19 pandemic. The enhanced training included techniques for teaching clinical judgment and methods for improving SNS confidence and communication. Integrative well-being skills for preceptors to use and teach to SNS were woven through the training as these skills have been identified as essential for reducing nurse burnout and improving resilience among nurses (Slatyer et al., 2018; Wasson et al., 2020).

The desired outcomes were that preceptors report a significant improvement in both self-efficacy and resilience scores after the completion of the training and a period of ongoing support. Additional expected outcomes were that the type of nursing degree has no influence on

self-efficacy or resilience, but that years as a preceptor prior to this training will result in a nonsignificant change in self-efficacy and resilience. The final desired outcome was that preceptors were satisfied with the additional training and support methods. The strengths, weaknesses, opportunities, and threats to this project were considered and can be reviewed in Appendix E.

Theoretical Framework

The guiding theoretical framework for this project was Albert Bandura's (1977) Self-efficacy Theory. A visual depiction and description of the theory can be seen in Appendix F. Bandura's theory describes self-efficacy as the belief that an individual has in their ability to perform desired skills or behaviors. The belief is derived primarily from mastery experiences where the skill or behavior is performed, but it can also be reinforced by watching others perform (vicarious experiences), receiving encouragement and support (social persuasion), and feeling fewer symptoms of anxiety when performing the skill or behavior (e.g. physiological indicators; Bourne et al., 2021). Resilience training includes education on the skills related to social support, increasing self-efficacy, and mindfulness (Marks et al., 2019). Bandura's theory uses social persuasion to encourage building social support and reflection on mastery experiences and vicarious experiences to build self-efficacy. The theory also discusses methods for managing increases in physiological indicators that are similar to mindfulness training and link back to resilience.

The preceptor training reinforced mastery experiences by allowing discussion and reflection on past SNS assignments among a group of experienced preceptors. Asynchronous and synchronous discussion opportunities among preceptors provided vicarious experiences in the form of case studies and peer discussion. The preceptor training was designed to implement

methods of social persuasion from peers and experienced clinical teachers who were facilitating the synchronous sessions during the period of ongoing support. Integrative well-being content throughout the training and ongoing support taught methods to reduce physiological reactions such as increases in respiratory rate, heart rate, and blood pressure. Self-efficacy and resilience were the two outcomes evaluated in this project. Both measures relate to this theory because they encourage the individual to reflect on past success, learn from others, seek peer support, and practice methods to manage physiological symptoms.

Project Design and Methods

This evidence-based practice intervention was completed using a quasi-experimental pretest-posttest design. There was a single, non-randomized group of preceptors in the project making this a quasi-experimental evidence-based practice intervention. The purpose was to learn whether enhanced preceptor training in addition to a review of standard organizational preceptor training with ongoing support improves both self-efficacy and resilience in the preceptors. Obtaining a baseline score for both measures with a pretest and then obtaining posttest scores on both measures allowed for the evaluation of changes following the training and 3 months after the training.

Setting and Population

The preceptor training took place in an online setting using an application that is available on both computer and mobile devices. This application was designed as a learning management system that also functions in a social media capacity. It allowed for the creation of learning modules with multiple audiovisual learning methods. The application was also used to create discussions and polling of participants.

The project population was made up of nurses working in Maricopa County for at least 1 year. All preceptors were assigned to precept SNS from either Arizona State University, the University of Arizona, or Maricopa Community Colleges during the Fall 2022 semester. The goal was to recruit at least 65 preceptors from four acute care healthcare organizations and two community healthcare organizations.

A nurse educator or placement coordinator from each healthcare organization collaborated with unit nurse managers to select potential preceptors. Unit managers and organizational educators were given a short list of criteria to consider when selecting preceptors. The criteria for selecting and recruiting preceptors included the nurse's prior completion of an organization's preceptor training course, 1 year of nursing experience, a willingness of the RN to complete all additional training, surveys, and availability to work more than 80% of shifts with the assigned SNS. Preceptors who planned extended vacations during the training period or semester were not recruited for the project. Preceptors with less than 1 year of experience or those who had not completed a standard preceptor training course prior to the student rotation were also excluded.

Recruitment and Informed Consent

Preceptors who were identified by the healthcare organization as meeting the recruitment criteria were sent an email by their unit manager or director. The email explained the project and invited them to reach out to the student investigator using personal email in order to participate. After preceptors reached out to the student investigator, a link to the informed consent and baseline survey was sent. This allowed the preceptor to accept or decline the invitation after reviewing the informed consent for participation in the project. Preceptors had the opportunity to download and print the consent form and sign it electronically. The preceptors were also

encouraged to contact the student investigator with questions at any point during the training period and fall semester. The consent explained that the preceptor was entering into a relationship with the NPRP funded by Maricopa County. The preceptor could choose to end this relationship at any time, but incentive pay was prorated based on the portions of the preceptor training, surveys, and student nurse precepting that was completed. Choosing to decline participation in this project at any point would not affect the preceptors' relationship with their employer or Maricopa County. A breakdown of incentive pay is included within the informed consent (Appendix G). The preceptor was required to complete surveys at 3 time points, training modules, a synchronous Zoom, and at least 80% of shifts with a student in order to receive incentive pay for each portion of the project.

The consent form outlined the time obligations, benefits, and risks of participation in the preceptor training course. The time obligations included time spent on surveys, the preceptor training course modules and 2-hour Zoom session, and the anticipated number of shifts spent with the assigned student. Benefits included compensation for the completion of the preceptor training course, shifts spent with an assigned student, and all related surveys. The NPRP team including the student investigator worked with Maricopa County and the healthcare organizations to arrange the incentive pay. Risks included emotional distress during online discussions and potential loss of confidentiality associated with group meetings. The risks also included potential breaches of data, which will continue to be prevented by using an electronic folder on the Northern Arizona University (NAU) password-protected Google Drive. Preceptors were encouraged to share non-identifiable information when reflecting on past experiences and to keep discussions within the preceptor training course private to minimize loss of confidentiality. The preceptors' personal email addresses were linked with a record number as

the only identifier. Any information downloaded to the Google Drive folder was de-identified prior to downloading.

IRB Process

The project narrative for the NAU Institutional Review Board (IRB) was written and approved by Dr. Beth McManis, the student investigator's faculty advisor. Documents submitted in addition to the project narrative included the agency agreement with Robin Schaeffer Consulting, LLC, a waiver for alteration of protected health information in the consent process, a document outlining the personnel who would have access to the data, and a multi-site document adding the NPRP team member who assisted in running Zoom sessions. Additionally, the student investigator submitted documents that outlined preceptor incentive pay, the survey instruments, the recruitment email sent by nurse managers, the online consent form, information about funding from Maricopa County, and an outline of the training modules and weekly tips. The recruitment email can be viewed in Appendix H.

The application was approved as a minimal-risk project by the NAU IRB after minor revisions to several documents as seen in the IRB determination letter from NAU in Appendix I. The student investigator reached out to the professional practice directors and research directors at all clinical partners. The project narrative, consent form, recruitment email, survey instruments, and approval documents were sent to each clinical partner upon request. All clinical partners agreed to defer to NAU and allowed employees to participate in this evidence-based practice project using personal emails and completing the training outside of work hours.

Data Collection

The consent forms and survey data were collected using REDCap with the data stored on the Jefferson server, which is one of the most secure servers at Northern Arizona University

(Harris et al., 2009). The participating preceptors were directed immediately to the baseline survey after informed consent was obtained. Online modules were not available until the baseline survey was completed and a training date for the online session was chosen.

Demographic data gathered in the baseline survey included the preceptor's personal email address, age, number of years of experience as a nurse, number of years of experience in the current specialty, number of years of experience as a preceptor, satisfaction with previous preceptor training courses, and highest degree attained as a nurse. The baseline data gathered included two instruments created to measure self-efficacy and resilience. The validated instruments completed by the preceptors were the Preceptor Self-Efficacy Questionnaire (PSEQ) and the Connor-Davidson Resilience 10-question scale (CD-RISC-10). The demographic survey, PSEQ, and CD-RISC-10 can be viewed in Appendix J and the permissions to use these instruments can be reviewed in Appendix K.

The preceptors were given 2 weeks to complete 10 online modules. A 2-hour Zoom session was held at the end of the 2 weeks. Preceptors were scheduled for one of four sessions based on their availability during August and September. The preceptors completed the PSEQ, CD-RISC-10, and a brief satisfaction survey after completing the asynchronous online modules and a 2-hour Zoom session where they discussed case scenarios with the student investigator, one other project team member, and other preceptors. The satisfaction survey asked the preceptors to rate their overall satisfaction with the preceptor training course on a 5-point Likert scale from extremely dissatisfied to extremely satisfied. They were also asked two questions to obtain qualitative data. The first was what would make the training better and the second was what they liked about the training.

Following the Zoom session, the preceptors received weekly notifications through the online course with tips for training SNS and improving well-being with resilience skills. The preceptors were asked to complete the PSEQ and CD-RISC-10 for a third time 3 months after their Zoom session. Two additional questions were asked to obtain qualitative data. The first was how this training changed their practice as a preceptor and the second was what the training and support meant to them. A project timeline with a description of the project implementation can be viewed in Appendix L.

Instrument Description

The two instruments, the PSEQ and CD-RISC-10 were chosen to measure the proposed outcomes of increasing self-efficacy and resilience. The PSEQ was created by Parsons in 2007 and was adapted from the Community Advisor Self-Efficacy Questionnaire. The 20-item instrument asks preceptors to rate their confidence level on a scale from 1-4 from completely lacking in confidence to very confident. The total score is used to determine changes in self-efficacy. It was initially used with preceptors who were assigned to nursing students and was determined to have a Cronbach's alpha of 0.93 in pilot testing (Parsons, 2007). The initial questionnaire was evaluated for construct validity by a team of experts before use. The instrument has been used by nurse-midwife preceptors and critical care preceptors with consistent reliability of over 0.90 (Chuong et al., 2016; Hauck et al., 2017). The PSEQ also has correlational validity with the Clinical Leadership Survey, which also looks at confidence in nurses (Chuong et al., 2016).

The CD-RISC-10 asks users to rate 10 statements on a 0-4 Likert scale from not true at all to true nearly all the time. This instrument uses the total score to determine an individual's hardiness by asking about flexibility, self-efficacy, ability to regulate emotion, optimism, and

cognitive focus (Davidson, 2021). The 25-item, 10-item, and 2-item versions of this instrument have been used in hundreds of studies since its creation in 2003 (Davidson, 2021). The 10-item scale is regarded as the most reliable and valid of the three versions. It has consistent reliability of greater than 0.80 in a variety of populations and is primarily used to determine resilience in the general population or populations with mental health concerns (Davidson, 2021). There is evidence of convergent validity between the CD-RISC-10 and similar resilience instruments (Rodriguez-Rey et al., 2015; Sarubin et al., 2016). A concern in this project is that preceptors are asked to take on the additional load of training others and this can lead to emotional exhaustion, which is one aspect of burnout (Jun et al., 2021). There is evidence of construct validity in multiple studies comparing CD-RISC-10 scores to burnout in nurses (Guo et al., 2018; Mealer et al., 2012). Several studies have used education on resilience skills with nurses, medical students or other healthcare employees to improve resilience as shown by CD-RISC-10 scores (Blackburn, 2020; Jung et al., 2016; Werneberg et al., 2018). Treatment with medication, cognitive behavioral therapy, and education can improve resilience, which gives this instrument predictive validity (Davidson, 2021).

Statistical Analysis and Interpretation

Descriptive statistics, such as means, standard deviations, frequencies, and percentages were used to report the demographic variables, and the scores of the preceptors' self-efficacy, resilience, and satisfaction surveys.

A paired *t* test was used to determine whether preceptors' satisfaction with the online preceptor training course was higher than with previous preceptor training courses offered by healthcare organizations. The satisfaction scores and qualitative data provided feedback on the course for future improvement. A repeated-measures analysis of variance (RM-ANOVA) test

was used to determine significant changes in total scores for self-efficacy and resilience. The scores were gathered from preceptors at baseline, prior to the preceptor training course, at training completion, after completion of online modules and a synchronous Zoom session, and final, 3 months after the synchronous Zoom session and after working with a student and having the opportunity to review 12 weekly teaching tips. Individual items within the instruments were not analyzed as both instruments were designed to report a total score (Davidson, 2021; Parsons, 2007). One-way ANOVAs was used to compare PSEQ and CD-RISC-10 total scores to levels of education at baseline and final time points. Linear regressions and multiple linear regressions were used to determine relationship to total scores for self-efficacy and resilience by age, years of experience, and years of experience as a preceptor at all time points. Years of experience as a nurse and preceptor were not categorized into groups. The level of significance for each test was set at .05.

Results and Discussion

Quantitative Results

A total of 64 preceptors were recruited for this project that took place from July to December 2022. There were two preceptors who withdrew due to needs on their unit and seven who did not complete all surveys. Several preceptors were recruited as alternates and did not complete any shifts with students or complete the final survey. Data were analyzed using Excel and IBM SPSS (Version 29.0) from 55 preceptors who completed surveys at baseline, after training, and after working with a student and having the opportunity to review 12 weekly teaching tips.

Demographic data were gathered from preceptors at the baseline survey. The majority of preceptors were under the age of 40 ($n = 37$), female ($n = 54$), and had earned a bachelor's

degree in nursing ($n = 41$). Nearly half the preceptors had been a nurse for fewer than 5 years and in their current specialty for fewer than 3 years. At least 30 of the 64 recruited nurses were brand new to precepting or had less than 1 year of experience in that role. Preceptor demographic data can be found in Table 5 in Appendix M.

Self-efficacy

The preceptors' total score on the PSEQ was used to evaluate the perception of self-efficacy in precepting on the baseline, training completion, and final surveys. RM-ANOVA was performed to compare the effect of the training on self-efficacy. The RM-ANOVA results showed a statistically significant increase in self-efficacy from baseline to training completion and final time points ($F(2, 108) = 6.12; p < .003$). Bonferroni post hoc testing indicated a significant change ($p < .016$) only between baseline and final PSEQ survey scores. Descriptive statistics can be viewed in Appendix M, Table 6. This result meets the objective of determining whether enhanced training increases preceptor self-efficacy.

Linear regressions and multiple linear regression were used to determine if age, years of experience as a nurse, or years of experience as a preceptor significantly predicted self-efficacy scores at baseline and final time points. The linear regression tests found that age, years of experience as a nurse, and years of experience as a preceptor did not significantly predict self-efficacy at either baseline or final time points. The descriptive statistics can be reviewed in Appendix M, Table 7. The overall multiple linear regression was statistically significant ($R^2 = .17; F(3,51) = 3.70, p = .017$). It was found that the combination of years of experience as a nurse and preceptor significantly predicted self-efficacy scores at baseline ($\beta = -.54; p = .008$ and $\beta = .91; p = .011$). However, it was found that age did not significantly predict self-efficacy scores at baseline ($\beta = .21; p = .118$) and none of the variables predicted self-efficacy scores at

the final time point. There may be other variables affecting self-efficacy that are not accounted for in this model. Descriptive statistics for the multiple linear regression model can be viewed in Appendix M, Table 8. The intervention could potentially have minimized the effect of these variables by increasing the self-efficacy among preceptors with less experience. One-way ANOVA was used to analyze self-efficacy scores and levels of education. There were no significant differences in self-efficacy between levels of education at either time point. These results meet the objective of exploring the influence of years of experience and level of education on self-efficacy.

Resilience

The preceptors' total score on the CD-RISC-10 was used to evaluate resilience on the baseline, training completion, and final surveys. RM-ANOVA was performed to compare the effect of the training on resilience. The RM-ANOVA results did not indicate a statistically significant change in resilience scores ($F(2, 108) = 2.65, p < .075$). The RM-ANOVA results showed wide variance in scores with only a slight increase over time ($M = 33, 33.55, 34.14$). This result shows that the objective of determining whether enhanced training increases preceptor resilience was not met.

Linear regressions and multiple linear regression were used to determine if age, years of experience as a nurse, or years of experience as a preceptor significantly predicted resilience scores at baseline and final time points. The linear regression tests found that age and years of experience as a nurse did not significantly predict resilience at either baseline or final time points. It was found that years as a preceptor significantly predicted resilience ($R^2 = .07, F(1, 54) = 4.60, p < .036$) at baseline, indicating that more experienced preceptors may have higher levels of resilience. The linear regression did not find that years of experience as a preceptor

significantly predicted resilience at the final time point. The overall multiple linear regression model was not statistically significant and did not significantly predict resilience scores when age, years of experience as a nurse, and years of experience as a preceptor were combined. The descriptive statistics for all linear regression and multiple linear regression models can be viewed in Appendix M. One-way ANOVA was used to analyze resilience scores and levels of education. There were no significant differences in resilience between levels of education at either time point. These results meet the objective of exploring the influence of years of experience and level of education on resilience.

Satisfaction

Preceptor satisfaction with the enhanced preceptor training course was compared to their previous training experience. A paired *t* test was used to determine if there was a change in the preceptors' level of satisfaction with the training. The results from responding preceptors (*n* = 59) indicate a significant rise in satisfaction was reported between preceptors' previous training experience and their experience with the enhanced preceptor training course ($M = 4.05$; $SD = 1.04$ to $M = 4.85$; $SD = .48$; [$t(58) = -6.25$; $p < .001$]). A table of statistics can be viewed in Appendix M, Table 9. The objective of determining preceptor satisfaction with the enhanced training course was met.

Qualitative Results

The training completion and final surveys each included two questions that allowed preceptors to provide feedback. The training completion survey asked preceptors what would make the training better and what they liked about the training. The final survey asked preceptors what the training meant to them as a preceptor and how would the training change their practice as a preceptor.

Training Completion Survey Results

The survey responses to each question were analyzed for themes. In response to the question about what would make the training better, 26 respondents said nothing. Several preceptors said they would appreciate handouts and others would prefer in-person training or more robust role-play activities. At least six preceptors wanted more information on the readiness to practice indicators that were used to evaluate students and several thought the platform could be more robust and user-friendly. Thematic phrases that were consistent among comments about what preceptors liked included that the training was organized, informative, engaging, goes beyond simple skills, is not time-consuming, and that they liked learning from other preceptors. One preceptor noted that the training was “...detailed enough but also straightforward and practical. The information was everything needed and nothing unnecessary. The tips and strategies were very applicable to real-world applications”.

Final Survey Results

The preceptors were asked what the training meant and 23 respondents said that it was supportive or useful with another nine who felt that it was an honor to participate in the pilot. Overall themes included statements about the structure and progression noted with the use of the readiness to practice indicators for students, the value of connecting with other preceptors in the course, and the usefulness of provided resources. The preceptors were also asked how the training would change their practice. The themes that emerged from the final survey included the awareness of a need for structure and specific metrics to determine practice readiness in students. Additional themes included the incorporation of feedback methods learned in the training, a feeling of growth in precepting skills, and a need to incorporate wellbeing in self and students in the future. One preceptor relayed that, “...I was concerned about how or where to start; what to

do if something went wrong. But with the class, I felt more confident in my skills and that I can provide the student education in a meaningful way”.

Outcomes and Impact on Population

The purpose of this project was to create and implement training and ongoing support for nurses who precept SNS. The objectives were to increase preceptors' self-efficacy, resilience, and satisfaction with the training experience. A secondary objective was to explore the effect of preceptors' level of education and years of experience on self-efficacy and resilience.

Self-efficacy

Statistically significant increases in self-efficacy were seen immediately following training and after the application of knowledge. There was a significant increase in self-efficacy from baseline to final scores ($p < .0166$). The increased self-efficacy overall and lack of strong relationship between self-efficacy and demographic variables could indicate that consistent training for all preceptors resulted in improved confidence for all and a less variable experience for SNS. Qualitative data indicate an appreciation for the resources and practical examples provided in the training course. Preceptors also reported a desire for more problem-based learning and the opportunity to learn from each other. The comments point to specific aspects of the training that may have contributed to increased self-efficacy, including content on structuring difficult conversations, asking prompting questions to improve clinical judgment, and learning methods for approaching challenging situations.

Resilience

The training did not have a significant impact on preceptors' resilience levels. There was wide variability and inconsistency in levels of resilience among individual preceptors at each survey point. The average level of resilience was sustained and slightly increased throughout the

3-month project. A significant difference in levels of resilience was found between new preceptors and experienced preceptors at baseline. However, there was wide variance and fewer than 10% of resilience scores are related to years of experience as a preceptor.

Reasons for the lack of change in resilience could be related to having only one of the 10 modules specifically geared toward improvements in wellbeing. There were six teaching tips that included ideas for improving wellbeing of preceptors and students. These teaching tips were delivered in a general email from the training platform to preceptors' emails each week. Several preceptors never linked from email to the platform to engage with the weekly teaching tips and there were fewer than 12 preceptors who engaged with all the teaching tips. However, some qualitative feedback indicates an increased awareness of the need to include wellbeing tips as part of training a student or novice nurse.

Satisfaction

Preceptors reported increased satisfaction with this training course as compared to previous preceptor training experiences. Nearly half of the preceptors had fewer than 2 years of experience and had recently gone through organizational training. This enhanced preceptor training was specifically created to go beyond standard preceptor training that often includes only learning theory, teaching strategies, learning styles, and goals of the organization. The enhanced training included information on how to teach prioritization, give feedback, teach a student to begin crucial conversations, and help a student increase clinical judgment. The training was also self-paced and could be completed on a mobile device. These factors may have led to increased satisfaction.

Limitations

The preceptors who participated in this study were located throughout Maricopa County and worked for six different healthcare organizations. All training was completed online using the Mighty Networks platform and Zoom to avoid logistical challenges. Several preceptors noted that an improvement might be to have more Zoom sessions or offer in-person training. The preceptors also reported that ensuring the completion of all modules and activities was challenging for the user. This led to a decision to move the training to a new platform for future iterations of the program.

The sample size for this project was determined by a grant application that was submitted prior to the student's participation. Only 64 preceptors were recruited with two withdrawing from the project. There was a high response rate due to incentives provided, but only 55 preceptors completed all surveys. The low numbers make it difficult to draw conclusions, particularly about the relationship between demographic variables, self-efficacy, and resilience. Similarly, there were only six preceptors with a master's degree and 14 preceptors with an associate's degree. This made the comparison of scores by degree type very challenging. Replicating this process with a larger sample will be important in the future.

Implications and Conclusions

Implications for nursing practice

Nurse preceptors are a key part of the team responsible for preparing nursing students for the transition to practice. They are valued for their role in training new employees and orienting new graduate nurses. However, they are rarely supported, compensated, or recognized for taking on the responsibility of training SNS. Many preceptors report a need for more support and training to cope with the expectations of nursing leadership and academic educators (Blegen et

al., 2015; Edward et al., 2017; Frankenberger et al., 2021). Enhanced training for the preceptors of SNS has the potential to assist in bridging the academic-practice gap.

Implications for quality, policy, and education

Feedback from preceptors and students indicates that the topics included in the enhanced modules are important for all preceptors. The evidence consistently notes gaps in communication, prioritization, and clinical judgment among new graduates (Masso et al., 2022). Additionally, the high levels of burnout and high rate of turnover among nurses in the first two years after graduation indicate a need for improved policies to support NGN and preceptors (Durkin et al., 2022). The results of this project can inform organizational educators and nurse leaders on methods to best train and support preceptors. The enhanced preceptor training course is being revised and moved to a more robust platform. It will be offered as an option for all hospitals in Arizona as part of healthcare workforce legislation that was approved in 2022. This will give nurses across the state access to the training and have a greater effect on the profession of nursing.

Plans for dissemination

The results of this project will be presented at the Western Institute of Nursing (WIN) conference in April 2023 via a poster presentation. An article reporting the results of this project is being written with the goal of submission to the Journal of Nursing Professional Development by end of April 2023. The enhanced training course is part of a larger project with the overarching goal of improving practice readiness among new graduates. A podium presentation of the entire program will be given at the international Sigma conference in November 2023.

The NPRP was approved by the Maricopa County board of supervisors for an additional 4 years. Efforts to study self-efficacy, wellbeing, satisfaction, job engagement, and turnover are

underway with three of the clinical partners in Maricopa County. This will replicate the project with larger sample sizes and give a better picture of the long-term effects of the training.

Conclusion

This preceptor support project was designed to improve the self-efficacy and resilience of preceptors who train senior nursing students. The enhanced training course included evidence-based content essential to improving the practice-readiness of new graduate nurses. The results of the project indicate an increased satisfaction with this training as compared to previous experiences. The preceptors reported increased self-efficacy, sustained levels of resilience, use of resources to communicate with students, and a renewed engagement with the role of a preceptor. This project has the potential to model enhanced content that is consistent with recent evidence and supports nurse preceptors who train senior nursing students.

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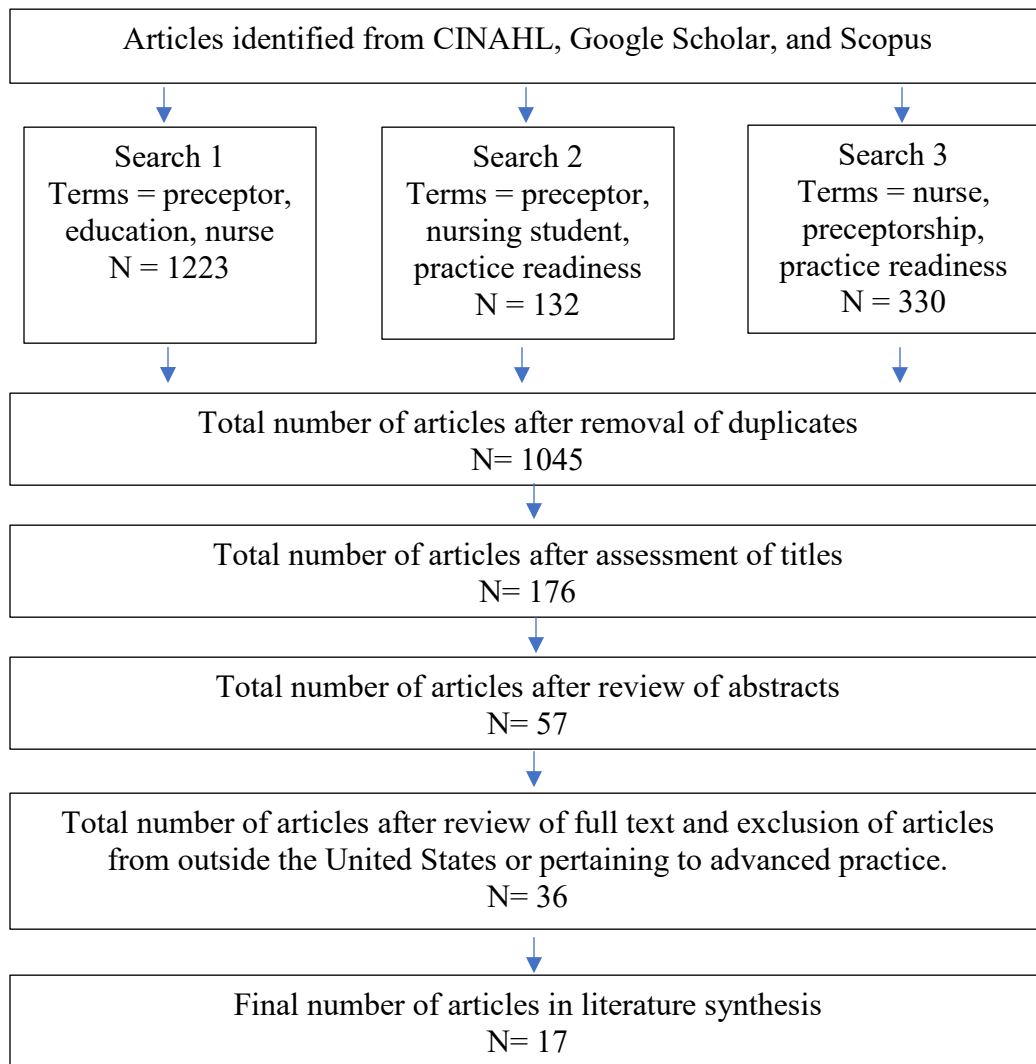
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<https://doi.org/10.1016/j.nedt.2019.104215>

Appendix A**Literature Search Diagram****Figure 1***Literature Search Flow Diagram*

Appendix B

Literature Evidence Table

Table 1

Evidence Table of Selected Articles

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied	Measure	Data Analysis	Findings	Application to Practice
Blegen et al., 2015	Based on NCSBN study	Intervention vs control of transition to practice	Preceptors and new graduate nurses 82 hospitals	NGN competence, retention, preceptor experience	New grad competence by NGN and preceptor at multiple time points. Preceptor experience and NGN retention	Variance of χ^2	Experience and retention higher in high preceptor support hospitals. HPS preceptors also rated NGN competence higher at 9 and 12 months	Allowing preceptors and NGN to work shifts together consistently with slightly lower workloads helps. Also keeping the number of orientees for preceptors low is supportive (reduces burnout)

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied	Measure	Data Analysis	Findings	Application to Practice
Bohnarczyk & Cadmus, 2022	Donabedian Model	Qualitative with focus groups	Seven nonhospital preceptors, Two virtual focus groups	Perception of preceptor role pre and post pandemic, benefits, challenges to new graduate nurse	Themes from three questions	Themes and subthemes of working relationship, pandemic impact, benefits and challenges	Make a weekly transition plan and tools for handing off orientees if preceptors need to be changed. Asynchronous modules allow for easy changes and updates when things are in flux. Virtual discussions with educators can occur on many platforms if preceptors need support or guidance	Sharing some precepting duties can relieve the preceptor's burden and make the orientee more flexible and adaptable.

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied	Measure	Data Analysis	Findings	Application to Practice
Dwyer et al., 2019	Kanter's Structural Theory of Organizational Behavior and the Social Ecology Model	Quantitative , cross-sectional exploratory online survey	136 BSN NGN in NE United States between 6 mos to 3 years of practice	Effect of intrapersonal, interpersonal, and organizational factors on burnout and turnover intent	Demographics, Conditions for Workplace Effectiveness Questionnaire, Authentic Leadership Questionnaire, Psychological Capital Questionnaire, Maslach Burnout Inventory, Anticipated Turnover Scale	Descriptive statistics, Pearson product correlation coefficients, hierarchical multiple regression	Workplace social support is one aspect of NGN turnover and preceptors are the key support person in the first year. More than 50% of new grads met criteria for burnout One-third of nurses under 2 yrs want to leave their job	Healthy work environments and investment into interventions that improve psych capital like resilience skills are key to preventing burnout. Skills that can be developed are vital to wellbeing

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied	Measure	Data Analysis	Findings	Application to Practice
Edward et al., 2017	Cochrane PRISMA flowchart using CASP checklists	Integrative systematic review	15 articles from Western culture/English speaking countries	Work readiness and support provided in pre and post licensure nurses	Inclusion – peer-reviewed, 1980-2017, quantitative or qualitative primary research	Themes: importance of preceptors and clinical exposure 8 qualitative, 3 quantitative, 4 mixed method	Students and new grads need support and socialization, formal training and support for preceptors is essential, provide time for preceptors to teach	Preceptors are key to improving practice readiness but need training and support. Improve comm between schools and organizations Important to collaborate between preceptor, student, and faculty.
Ericson & Zimmerman, 2020	Benner's Novice to Expert theoretical framework	Quantitative Retrospective study of existing data	23 ADN students and 34 RN preceptors from a Midwest comm college	Readiness to practice, student confidence, professional identity	Casey Fink Readiness to Practice Survey	Students were more confident in managing multiple patients than preceptors felt they were	Students were uncomfortable delegating, felt clinical instructors were not supportive, and were not confident performing skills	Help preceptors guide students toward readiness in areas where they struggle

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied	Measure	Data Analysis	Findings	Application to Practice
Frankenberg et al. 2021	Used the Oldenburg Burnout Inventory as a framework for designing the questions	Prospective qualitative descriptive design	Key informant interviews of pediatric nurses in an urban level one trauma center	Focus on aspects of burnout such as exhaustion and disengagement	Interview questions based on the Oldenburg Burnout Inventory	5 themes from 8 interviews. Ultimately, preceptors need support from leadership/preceptors/ongoing education. Difficult to ensure tasks are completed when monitoring someone new (cognitive overload)	Nurses need breaks between precepting and should have a passion for it rather than feeling an obligation. New preceptors want support and try to use other preceptors to discuss problems	Precepting is challenging and helps the preceptor grow in knowledge and stay current. Helpful to have support from leadership (alt preceptor as second set of eyes, reduced load for teaching)

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied	Measure	Data Analysis	Findings	Application to Practice
Harper et al., 2021	Ulrich Precepting Model	Cross-sectional descriptive	3863 preceptors of at least 1 nurse in 2019	Preceptor competencies and qualities	Likert scale of evidence-based preceptor qualities	High Cronbach's alpha indicate some redundancy in the survey,	Most were direct care RNs, 84% in hospitals 84% of preceptors had prep for the role. 78% took a class through their org. Highest qualities were role model, leader, and protector. Experienced	Roles identified aligned with roles in Ulrich precepting model. Finds that there should be more focus on preceptor development.
Kennedy, 2019	None identified	Descriptive quantitative questionnaire	88 preceptors, convenience sample of members of the Academy of Medical-Surgical Nurses	Preceptors' perception of benefits and rewards, perception of support, commitment to the preceptor role	30-item Questionnaire modeled on one from Dilbert and Goldenberg and including demographics	Preceptors with more education scored ability to use EBP and appropriate teaching strategies higher	nurses had minimal ongoing preceptor training. Role is beneficial and fulfilling. Still felt education was lacking	Ongoing preceptor education helps perception of role, perceived benefits, and expertise

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied	Measure	Data Analysis	Findings	Application to Practice
Liu et al., 2019	Kirkpatrick levels of evaluation	Quantitative evaluation of redesigned preceptor workshop. Surveys at baseline and 3 months post workshop	96 preceptors in one hospital across 7 cohorts	Preceptor satisfaction, learning and behavior change	Quantitative Likert questions on confidence/ comfort level, perception of precepting roles, satisfaction with added KSAs	Normality testing and Shapiro-Wilk test	Improved KSAs, but need more examples to increase critical thinking. Consistency across cohorts achieved.	KSAs aren't enough. Preceptor want examples of how to think through tough scenarios. Get follow up surveys on the spot.
Quek & Shorey, 2018	PRISMA search strategy	Integrative literature review	20 articles 9 quantitative 9 qualitative 2 mixed method	Role of the preceptor, preceptor preparation and support, challenges, preceptorship significance for NGN, needs of NGN, factors affecting relationships	Inclusion – English, 2006-2018, full text	Narrative analysis due to wide variety of outcomes variables	Preceptors need education/ practice with skills NGN retention r/t a successful orientation. Precepting can be a burden. Org support for reduced workload improves experience.	Preceptors function as psychological support when socializing. Preceptors should be similar age and degree to avoid conflicts. Preceptors with more empathy are more successful


Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied	Measure	Data Analysis	Findings	Application to Practice
Rusch et al., 2019	None identified	Descriptive, exploratory study	Private Midwestern university with BSNs, 569 preceptor responses	Readiness for practice	Readiness for Practice Survey tool (33 items based on QSEN)	Affective domain was most highly rated with psychomotor skills the lowest rated	Consistent with other studies showing deficits in critical thinking, prioritization, mgmt. of multiple responsibilities	Input from preceptors at the beginning and end of preceptorship can be valuable in gauging progress of students
Schuelke & Barnason, 2017	Standard systematic review guidelines not used, Tanner used for definition of clinical judgment in article selection	Systematic review searching for forms of preceptor, practice readiness, critical thinking, and NGN	Nine studies including single descriptive or qualitative with convenience samples	Preceptor teaching interventions for NGN especially related to clinical judgment	Included full-text, other eligibility criteria not stated	Preceptor education and critical thinking teaching interventions were analyzed in all studies	Learners wanted more interaction from course. Concept mapping and PBL were found to improve critical thinking. Preceptor prep for teaching is essential	Tools like PBL and concept mapping with a preceptor improve CT and ability to seek answers on own. Goals can be created based on evaluation at beginning of preceptorship

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied	Measure	Data Analysis	Findings	Application to Practice
Senyk & Staffileno, 2017	Lewin's Model of change	Quality improvement	Minnesota with 69 preceptor responses Needs assessment done with sat survey prior to course.	Preceptor satisfaction, cost savings	26 item preceptor satisfaction survey and knowledge self-assessment pre-post	Chi-square analysis of knowledge scores. Cost savings calculation between online and f2f class	53% increase in knowledge after f2f class and 25% increase after online class	A standardized process can support preceptor knowledge and decrease turnover rate among preceptors. Role playing and PBL sessions are found to be beneficial. Prioritization will help with NCLEX. Ask questions like first action, most important, consequence of not acting, patient priorities
Shaw et al., 2018	None identified	Mixed methods, descriptive	42 preceptors in acute care in Columbus, Ohio	Preceptors' perception of student preparation for practice and value of NGN competencies	10 question survey to assess NGN readiness for practice on Likert scale with short answer questions	NGN need more exp with prioritization and time mgmt. NGN are task focused	Teach preceptors to work with SNS on managing stressful situations and recognizing change of condition	

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied	Measure	Data Analysis	Findings	Application to Practice
Terblanche & Cilliers, 2021	Hermeneutic phenomenology	Qualitative and descriptive	Canadian university with 41 students responding	Experience of preceptorship	Used empathic listening and critical interpretive content analysis	Psychodynamic themes of anxiety, defense mechanism, boundaries, authorization, and role dynamics	Students have high expectations of self, relied on self rather than support system with some evidence of regression to cope. Appreciated preceptors for support, but found hospital, providers, and comparison to experienced nurses difficult	The abrupt cultural transition to nursing can cause separation anxiety from past life. Students need support to reflect on experiences. Preceptors can help with role identity and reduction in anxiety

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied	Measure	Data Analysis	Findings	Application to Practice
Wardrop et al., 2019	None identified Data saturation determined by Ogden and Cornwell five dimensions of richness	Interpretive phenomenological qualitative	Seven nurse preceptors of NGN working in acute care. All but one with less than 3 years' experience	Preceptor role and past experience with NGN training, NGN expectations, NGN essential elements for success	30-minute face to face semi-structured interviews until data saturation reached	Three themes of balancing preceptor role, current preceptor expectations, developing relationships	Preceptors need ongoing education and support so that they can best support new graduates. NGN expect lots of support	Preceptors lack confidence in NGN competency, expect some critical thinking and safe practice with patient centered care and communication abilities Ask preceptors to share their experiences.
Wu et al., 2020	Bandura's self-efficacy theory	Pilot program evaluation of web-based training.	Feedback from 10 nurse preceptors	Applicability, content, usability, time to complete	Content validity of all modules	CV score of 0.87 overall with a goal of over 0.80 for all modules	The training was determined to be easy to use with valid content and timely to complete	Theories may be too abstract if not applied with a scenario. Reduce wordy content in online programs

Appendix C**DNP Project Team Agreement**

Full Title of DNP Project: Nurse Preceptor Support
DNP Student Information: Name: Heidi Kosanke Email: hrk5@nau.edu Phone: 520-820-1425 <input checked="" type="checkbox"/> I have reviewed the NAU DNP Project Requirements and understand my responsibilities Signature: 
Other Team Member Information: Name: Robin Schaeffer Credentials: MSN, RN, CAE Email: robin@rnconsulting.org Phone: 480-296-8904 <input checked="" type="checkbox"/> I have reviewed the NAU DNP Project Requirements and understand my responsibilities Signature:
Name: Credentials: Email: Phone: <input checked="" type="checkbox"/> I have reviewed the NAU DNP Project Requirements and understand my responsibilities Signature:
Comments:

Appendix D

Agency Agreement Letter

ROBIN SCHAEFFER CONSULTING, LLC

<https://rnconsulting.org/>

January 30, 2022

To Whom It May Concern:

The Maricopa County Pilot Program to Increase Practice Readiness for New Graduate Nurses (NGN) has been approved and funded by the Maricopa County Board of Supervisors for January – December, 2022. Short- and long-term objectives include; increasing NGN practice readiness, increasing nurse retention and improving patient safety.

As part of a new pilot program funded through the American Rescue Act Plan, Maricopa County will partner with nursing schools and employers to create and implement a contemporary gold-standard senior student preceptorship experience so NGNs have the knowledge, confidence, and skills to be considered *practice ready*. It is the hope of Maricopa County that this pilot can then be rolled out county and state-wide to address NGN practice readiness.

Robin Schaeffer, a respected nurse leader has been named Pilot Project Manager. As president of Robin Schaeffer Consulting, LLC, Schaeffer received a \$738,000 contract to build and implement the pilot program. To achieve the pilot goals, Ms. Schaeffer recruited a team of nurse leaders and subject matter experts to include Heidi Kosanke. Robin Schaeffer Consulting, LLC agrees to act as the agency for Heidi Kosanke's DNP project.

The primary goal of this student's DNP project will be to create a preceptor course based on the best evidence and needs of facility stakeholders. Heidi will participate in the stakeholder interviews and analysis of findings. She will also work with the group to review literature and build both face-to-face and online versions of a preceptor course.

Framing the Problem:

- Healthcare organizations in Arizona are reporting a high nurse vacancy rate similar to many other states. Nurse vacancy rates can directly impact patient safety. In April, 2021 there were 5,685 RN job vacancies in Maricopa County, a 40% increase in the vacancy rate compared to April, 2020. Vacancies can be attributed to a convergence of aging and retiring nurses working in hospitals and the community, aging and retiring nursing faculty, an aging population requiring a higher level of nursing care, and most recently, the COVID-19 pandemic.
- Maricopa County graduates over 1,000 New Graduate Nurses (NGNs) per year however, Nurse leaders continue to report significant NGN job turnover, with NGNs often leaving their first job or the profession permanently within the first 2 years of graduation. Some reported reasons include: emotional exhaustion, understaffing, burnout, and moral distress.
- Employers are responsible for onboarding newly hired NGN, often utilizing nursing preceptors to oversee the orientation phase of a newly hired nurse. Best practice models

for onboarding NGNs include Nurse Residency or Transition to Practice programs, however these models are not standardized, and not available at all organizations. Challenges to these programs include: cost of program, available nurses to precept the NGN, staffing challenges and strategies to bridge the education-practice gap.

- The education-practice gap is a well-documented challenge facing the nursing workforce. Even before the COVID-19 pandemic, nursing schools in Arizona and across the nation were challenged to find clinical placements for nursing students. COVID-19 has amplified clinical placement challenges.
- Lack of hands-on clinical experiences can lead to the NGN lacking the knowledge, confidence and skills to be considered *practice ready*. As a result of the COVID-19 pandemic, Arizona employers now report an even larger education-practice gap, recognizing a growing deficit in practice readiness. This has forced many employers to extend the onboarding timeframe of NGNs to assure patient safety. The average cost of onboarding each NGN prior to COVID-19 was approximately the cost of their annual salary (2020 median salary was \$75,330 per year: source, Bureau of Labor Statistics). Extending the onboarding timeframe negatively impacts the financial bottom line of the health care institution.
- Nursing schools and employers are currently exploring new ways to educate NGNs to address this growing gap. Both nursing schools and health care employers agree that hands-on clinical experience, including those provided by nursing preceptors, yields the highest probability of producing a practice-ready nurse.

An Opportunity for Maricopa County:

There is an opportunity for Maricopa County to increase the practice readiness of NGNs by creating and implementing a nursing workforce practice readiness program for senior nursing students. This model would enhance the partnership between education and practice using nursing faculty and specially trained practice-based nurse preceptors. These preceptors would work one on one with senior nursing students during their last 6 weeks prior to graduation.

- Benefits of implementing the nursing workforce practice readiness program are:
 - Increasing the practice readiness of the NGNs yielding a more confident and practice-prepared nurse
 - Increase employer retention rate of NGNs
 - Protect patient safety
 - Benefit fiscal outcomes
- Building the foundation in early 2022 and implementing a pilot in spring semester 2022 to test the nursing workforce practice readiness program would allow for adjustments before this plan is implemented at a larger scale.
- **The pilot would be planned and implemented over a 1-year period and include:**
 - 50 senior nursing students from 2 to 3 schools of nursing
 - 5-6 employers of RNs to include hospitals and community settings

Benefits to stakeholders:

- Provide support for health care organizations to offer clinical placements for students.

- Offset the cost burden to health care organizations.
 - Provide financial incentives for nurses who work in the preceptor role.
 - Build a pool of NGN ready to hire upon graduation.
- Provide support to schools of nursing to re-visit transition to practice courses to all senior students to provide a more robust preparation as they prepare to transition to the NGN role after graduation.
 - Offer a tuition grant to senior nursing students to participate on this program.
 - Offset the cost burden on nursing faculty to schools of nursing.
 - Preceptors may become interested in becoming nursing faculty.

If you have questions or need any more information, please do not hesitate to contact me.

Robin Schaeffer, MSN, RN, CAE
President, Robin Schaeffer Consulting, LLC
<https://rnconsulting.org/>
robin@rnconsulting.org
480-296-8904

Appendix E

SWOT Analysis

Table 2*SMART Outcomes and SWOT Analysis*

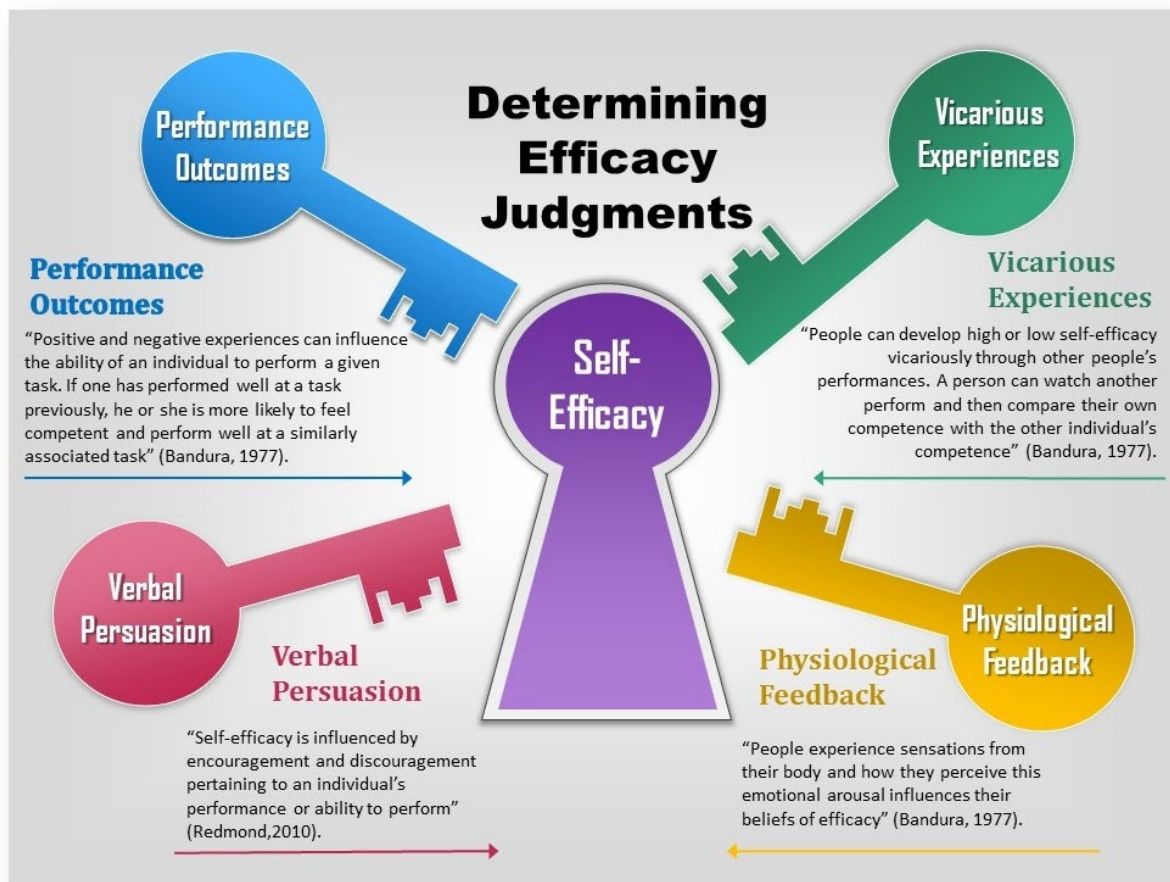
Nurse Preceptor Support	
<p>Evidence-based practice project aims</p> <ol style="list-style-type: none"> 1. Preceptors' self-efficacy and resilience will increase significantly from baseline surveys to final surveys. 2. The preceptors' years of experience will influence self-efficacy and resilience scores, but preceptors' level of education will have no influence on self-efficacy and resilience scores. 3. Preceptors' satisfaction with the enhanced training will increase significantly from baseline surveys to training completion surveys 	
Strengths	<ul style="list-style-type: none"> • Funding from Maricopa County to provide incentive pay to preceptors • High levels of interest in project participation from stakeholders • Team of nurse leaders with expertise in education, leadership and practice in healthcare organizations, collaboration with nurse executives and organizational educators
Weaknesses	<ul style="list-style-type: none"> • Multiple healthcare organizations requiring clear and consistent communication • Preceptors located at seven different healthcare organizations necessitating online only methods of training • Change in timeline for healthcare organizations to assign preceptors for Fall 2022 earlier than normal • Potential for students to be reassigned or for preceptors to change positions prior to Fall 2022.
Opportunities	<ul style="list-style-type: none"> • Desire for preceptors to participate in the training course based on incentives provided • Recruiting and training more than a minimum number of preceptors to mitigate dropout will offer incentive and training to a larger population
Threats	<ul style="list-style-type: none"> • The potential for contacts at healthcare organizations to change positions requiring need for collaboration with a new contact • The possibility of missed contract deadlines when coordinating with healthcare organizations and Maricopa County • The potential for Maricopa County to deliver payments to healthcare organizations later than intended.

Appendix F

Bandura's Self-Efficacy Model

Figure 2

Four sources used to determine individual self-efficacy



Note: Four sources of information from Bandura's Self-efficacy Theory. Pennsylvania State University. (n.d.). *Self-efficacy and social cognitive theories - psych 484: Work attitudes and job motivation - confluence*. Retrieved March 14, 2022, from <https://wikispaces.psu.edu/display/PSYCH484/7.+Self-efficacy+and+Social+Cognitive+Theories>. In the public domain

Appendix G

Informed Consent

You are being invited to participate in a research study titled Nurse Preceptor Support. This study is being done by Heidi Kosanke, a doctoral student, and Beth McManis, the faculty advisor, from Northern Arizona University. Salina Bednarek, a faculty member from Arizona State University, will assist in facilitating the preceptor training.

The purpose of this research study is to provide additional training and ongoing support for nurse preceptors. If you agree to take part in this study, you will be asked to complete online surveys and participate in online training. The training will include up to 4 hours of online modules completed over 2 weeks. There will be a 2-hour Zoom session with additional training using case studies at the end of the 2 weeks. Preceptors will receive a weekly teaching tip for 3 months after the online training.

The surveys will be completed three times during the training. The two surveys address confidence and resilience. In the first set of surveys, you will be asked for some demographic information. The last two times the surveys are completed, you will also be asked about your satisfaction with the training. The surveys will take you approximately 15 minutes to complete each time you take them.

Incentive pay will be provided as a benefit for completing the surveys, participating in all portions of the online preceptor training course, and completing at least 80% of assigned shifts with a senior nursing student. Please review the table below that contains details on preceptor incentive pay. The pay will be based on the type of nursing student to whom you are assigned.

Type of Student	Incentive Pay <i>Prorated Pay Details</i>	Date of Payment
All preceptors	Online Training plus baseline/post training surveys– \$1000 <i>\$500 for any partial completion of modules, not attending Zoom session, only completing one set of surveys</i>	September 1
BSN <i>Potential total for preceptor of BSN student = \$2200</i>	Eleven 12-hour shifts with a student from ASU or U of A plus final survey- \$1200 <i>\$600 for spending fewer than 9 shifts with student or not completing final survey</i>	December 15
AND <i>Potential total</i>	Four 12-hour shifts with a student from MCC plus final survey- \$500	December 15

<i>for preceptor of ADN student = \$1500</i>	<i>\$250 for spending fewer than 3 shifts with student or not completing final survey</i>	
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We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach of confidentiality is always possible. To the best of our ability your answers in this study will remain confidential. We will minimize any risks by removing participants who drop out from the online platform and will not record Zoom sessions. The data will be stored on a high security server accessed only by the investigators.

Your participation in this study is completely voluntary and you can withdraw at any time without penalty. You are free to skip any question that you choose. If you choose not to participate it will not affect your relationship with your employer, Maricopa County, Northern Arizona University, Arizona State University, or result in any other penalty or loss of benefits to which you are otherwise entitled. Incentive pay will be prorated based on completion of the online training, surveys, and shifts with a senior nursing student.

If you have questions about this project or if you have a research-related problem, you may contact the researcher(s), Heidi Kosanke at hrk5@nau.edu or Beth McManis at Beth.McManis@nau.edu. If you have any questions concerning your rights as a research subject, you may contact Northern Arizona University IRB Office at irb@nau.edu or (928) 523-9551.

By submitting this survey, I affirm that I am at least 18 years of age and agree that the information may be used in the research project described above.

Appendix H

Recruitment Emails

Recruitment Email (sent to nurses assigned to senior nursing students from ASU, U of A, or MCC who meet criteria)

Subject line: Pilot project focused on support for nurse preceptors

Nurse preceptor,

The responsibility of ensuring nursing students are prepared for practice is shared by academic educators and nurse preceptors. We recognize that nurse preceptors are an integral part of preparing senior nursing students for practice. We would like to offer you an opportunity to participate in a pilot project that was developed after receiving feedback from focus groups that showed the importance of supporting preceptors.

Most importantly, this pilot project was created to support you! We want to offer additional training and incentive pay for preceptors who are assigned to senior nursing students that are completing their final rotation in nursing school. The additional training will occur online with self-paced modules and a single Zoom session at the end of two weeks. Preceptors will receive weekly tips for teaching and supporting students for 3 months after the Zoom session.

Participation in this pilot project is voluntary and will have no effect on your relationship with your employer, the schools of nursing, or Maricopa County. An Institutional Review Board responsible for human subjects' research at Northern Arizona University reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

If you would like to participate in this project or have any questions, please contact Heidi Kosanke at hrk5@nau.edu or 520-820-1425.

Reminder Email (sent one week after the first email)

Subject line: Opportunity to participate in a pilot project focused on support for nurse preceptors

Dear nurse preceptor,

We recognize that nurse preceptors are an integral part of preparing senior nursing students for practice. We would like to offer you an opportunity to participate in a pilot project that was developed after receiving feedback from focus groups that showed the importance of supporting preceptors. We want to offer additional training and incentives for preceptors who are assigned to senior nursing students during their final rotation in nursing school. The additional training will occur online with self-paced modules and a single Zoom session at the end of two

weeks. Preceptors will receive weekly tips for teaching and supporting students for 3 months after the Zoom session.

Participation in this pilot project is voluntary and will have no effect on your relationship with your employer, the schools of nursing, or Maricopa County. An Institutional Review Board responsible for human subjects' research at Northern Arizona University reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

If you would like to participate in this project or have any questions, please contact Heidi Kosanke at hrk5@nau.edu or 520-820-1425.

Appendix I

NAU IRB Determination Letter

To: Heidi Kosanke, MSN/Ed
From: NAU IRB Office
Approval Date: June 2, 2022
Project: Nurse Preceptor Support
Project Number: 1865494-1
Submission: New Project
Action: APPROVED
Project Risk Level: MINIMAL RISK
Approval Expiration Date: June 2, 2025
Review Category/ies: **The project is not federally funded or supported and has been deemed to be no more than minimal risk.**

This project has been reviewed and approved by an IRB Chair or designee.

- Northern Arizona University maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00000357).
- All research procedures should be conducted in full accordance with all applicable sections of the guidance.
- The Principal Investigator should notify the IRB immediately of any proposed changes that affect the protocol and report any unanticipated problems involving risks to participants or others. Please refer to Guidance Investigators Responsibility after IRB Approval, Reporting Local Information and Minimal Risk or Exempt Research.
- All documents referenced in this submission have been reviewed and approved. Documents are filed with the HRPP Office within IRBNet. If subjects will be consented, the approved consent(s) are available within IRBNet upon approval notification from the HRPP Office.

Important

The principal investigator for this study is responsible for obtaining all necessary approvals before commencing research. Please be sure that you have satisfied applicable external and University requirements, for example (but not limited to) data repositories, listserv permission, records request, data use agreement, [conducting University surveys](#), [data security](#), [international](#), [conflicts of interest](#), [biological safety](#), [radiation safety](#), [HIPAA](#), [FERPA](#), [FDA](#), [sponsor approval](#), [clinicaltrials.gov](#), [tribal consultation](#), or [school approval](#). IRB approval does not convey approval to commence research in the event that other requirements have not been satisfied.

Appendix J**Survey and Instruments****Figure 3***Demographic Survey*

Preceptor email address _____

1. Age _____
2. Gender _____M _____F

Note: Please designate as whole and fractions of years; for example, if you have been a preceptor for 3 months, this is considered 0.25 years, if you have been a preceptor for 1 year and 3 months, this is considered 1.25 years

3. Years as a nurse _____
4. Years as a nurse in current specialty area _____
5. Years as a preceptor _____
6. Previous formal preceptor education _____Yes _____No
7. Highest level of nursing education completed:

_____Baccalaureate degree _____Master's degree _____Doctoral degree

Figure 4*Preceptor Self-Efficacy Questionnaire*

Please circle the most appropriate response for each item below.

Using the following scale:

1 = Completely lacking in confidence

2 = Somewhat lacking in confidence

3 = Somewhat confident

4 = Very confident

HOW CONFIDENT ARE YOU THAT:

1.	You have the ability to carry out your role as preceptor.	1	2	3	4
2.	You have the necessary knowledge to work with a baccalaureate nursing student.	1	2	3	4
3.	You have the necessary knowledge of the preceptor role to perform effectively as a preceptor.	1	2	3	4
4.	You can maintain effective communication with students.	1	2	3	4
5.	You can balance the multiple demands of students and your workload simultaneously.	1	2	3	4
6.	You can assume a facilitative rather than a directive role with students.	1	2	3	4
7.	You can effectively assess students' learning needs.	1	2	3	4
8.	You can adapt your clinical teaching to meet a student's learning style.	1	2	3	4
9.	You can select learning experiences that are congruent with course objectives.	1	2	3	4
10.	You can promote the integration of skills learned in the classroom to the practice setting.	1	2	3	4
11.	You can assist students to develop problem-solving skills.	1	2	3	4
12.	You can assist students to develop critical thinking skills.	1	2	3	4
13.	You can challenge students to use critical thinking skills.	1	2	3	4
14.	You can deal effectively with unexpected events or unforeseen problems.	1	2	3	4
15.	You can deal effectively with a challenging student.	1	2	3	4
16.	You can deal effectively with conflict in the student/preceptor relationship.	1	2	3	4
17.	You can support student ideas even when they are incongruent with your own.	1	2	3	4
18.	You can provide verbal feedback to students about their performance.	1	2	3	4
19.	You can provide a written final evaluation of student performance.	1	2	3	4
20.	You can provide constructive feedback.	1	2	3	4

Figure 5*CD-RISC-10***Connor-Davidson Resilience Scale 10 (CD-RISC-10) ©**

initials ID# date visit age

Please indicate how much you agree with the following statements as they apply to you over the last **month**. If a particular situation has not occurred recently, answer according to how you think you would have felt.

	not true at all (0)	rarely true (1)	sometimes true (2)	often true (3)	true nearly all the time (4)
1. I am able to adapt when changes occur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I can deal with whatever comes my way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I try to see the humorous side of things when I am faced with problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Having to cope with stress can make me stronger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I tend to bounce back after illness, injury, or other hardships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I believe I can achieve my goals, even if there are obstacles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Under pressure, I stay focused and think clearly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I am not easily discouraged by failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I think of myself as a strong person when dealing with life's challenges and difficulties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add up your score for each column 0 + ____ + ____ + ____ + ____

Add each of the column totals to obtain CD-RISC score = _____

Table 3*Satisfaction Survey*

Questions	1	2	3	4	5
Please rate your satisfaction with previous preceptor training					
Please rate your satisfaction with the online preceptor training course provided by the Nurse Practice Readiness Project					

Appendix K

Permission to Use Survey Instruments

PSEQ Permission to Use:

Hi Heidi,

Thank you for reaching out to me regarding the use of the instrument I developed. There is no fee for using this instrument. I do not have further psychometric data on this instrument, however, several researchers have since used this instrument, so I would imagine there would be others who have discussed reliability and validity of the instrument in their publications. Attached are the instrument and demographic questions. In any publication of your study, please do not publish the entire instrument. You can however include sample questions from the questionnaire. Best of luck on your research.

Rachelle

Rachelle Larsen, PhD, RN

Professor, Nursing Department

College of St. Benedict/St. John's University

37 S. College Avenue

St. Joseph, MN 56374

rlarsen@csbsju.edu

320-363-5192

Pronouns: she, her, hers

CD-RISC-10 Permission to Use:

Hello Heidi:

Thank you for your response and payment. Please find attached the CD RISC-10 and related materials. Thank you also for returning the signed agreement.

With best regards,

Jonathan

Jonathan.davidson@duke.edu

Appendix L

Project Timeline

Table 4*Final Project Timeline*

<ul style="list-style-type: none"> Increased RN vacancy rates and turnover identified by Maricopa County in Arizona Grant for improved practice readiness of SNS and preceptor training 	December 2021
<ul style="list-style-type: none"> Creation of Nurse Practice Readiness Program 	January 2022
<ul style="list-style-type: none"> Recent literature on preceptor training and support needs Focus groups conducted with stakeholders 	February-March 2022
<ul style="list-style-type: none"> Preceptor Support proposal written Proposal approved and training course outline created based on literature and curriculum from stakeholders 	March-April 2022
<ul style="list-style-type: none"> Training course built and finalized. IRB application approved Preceptors recruited in collaboration with healthcare organizational educators 	April-July 2022
<ul style="list-style-type: none"> Preceptors complete informed consent and baseline PSEQ/CD-RISC-10/demographics completed. Preceptors scheduled for training courses based on availability Training courses conducted x 5 and PSEQ/CD-RISC-10 repeated. Satisfaction survey completed. 	July-September 2022
<ul style="list-style-type: none"> Ongoing support with weekly tips sent to preceptors based on date of training completion. PSEQ/CD-RISC-10 repeated 	August-November 2022
<ul style="list-style-type: none"> All preceptor data collected 	November-December 2022
<ul style="list-style-type: none"> Data analysis conducted and final paper written. 	January-April 2023

Appendix M
Data Analysis Tables

Table 5*Preceptor Demographic Data*

Variable	<i>n</i>	%*
Age		
20-30	23	36
30-40	14	22
40-50	17	27
50-60	7	11
60-62	2	3
Decline to answer	1	2
Identified gender		
Female	54	84
Male	9	14
Decline to answer	1	2
Years of experience as a nurse		
0-2	18	28
3-9	31	48
10-42	15	24
Years of experience in current specialty		
0-2	27	42
3-9	27	42
10-17	10	16
Years of experience as a preceptor		
0-2	45	70
3-9	14	22
10-15	5	8
Level of education		
Associate's degree	17	27
Bachelor's degree	41	64
Master's degree	6	9

Note: *N* = 64

*percentages rounded to the nearest whole number

Table 6*RM-ANOVA Descriptive Statistics for Project Variables*

Variable	<i>M</i>	<i>SD</i>	<i>F</i>	<i>df</i>	<i>p</i>
Self-efficacy			6.128	2,108	.003*
Baseline	71.65	8.45			
Training Completion	73.8	5.96			
Final	75.01	5.29			
Resilience			2.65	2,108	.075
Baseline	33	4.25			
Training Completion	33.55	4.29			
Final	34.14	4.44			
Bonferroni self-efficacy					
Baseline-Training Completion			2.36	1,108	.127
Training Completion-Final			1.28	1,108	.26
Baseline-Final			6.25	1,108	.013*

Note. * denotes a significant result**Table 7***Linear Regression Descriptive Statistics for Project Variables*

Variable	β	<i>F</i>	<i>SE</i>	<i>p</i>	95% CI	
					LL	UL
Self-efficacy						
Baseline age	.07	.55	8.49	.460	-.13	.29
Final age	.02	.16	5.33	.684	-.10	.16
Baseline years as nurse	-.10	.51	8.49	.474	-.39	.18
Final years as nurse	.05	.33	5.32	.562	-.12	.23
Baseline years as preceptor	.55	3.33	8.27	.073	-.05	1.15
Final years as preceptor	-.01	.00	5.34	.921	-.41	.37
Resilience						
Baseline age	.05	1.13	4.24	.291	-.04	.16
Final age	.08	2.21	4.39	.142	-.02	.18
Baseline years as nurse	.04	.44	4.27	.505	-.09	.19
Final years as nurse	.06	.80	4.45	.374	-.08	.21
Baseline years as preceptor	.32	4.60	4.11	.036*	.02	.62
Final years as preceptor	.17	1.22	4.43	.272	-.14	.50

Note. * denotes a significant result; LL = lower limit; UL = upper limit

Table 8*Multiple Linear Regression Descriptive Statistics for Project Variables*

Variable	β	F	SE	p	95% CI	
					LL	UL
Baseline self-efficacy		3.70	7.88	.017*		
Age	.21			.118	-.05	.49
Years as nurse	-.54			.008*	-.95	-.14
Years as preceptor	.91			.011*	.21	1.61
Final self-efficacy		.19	5.41	.899		
Age	.00			.955	-.18	.19
Years as nurse	.07			.573	-.19	.35
Years as preceptor	-.12			.616	-.60	.36
Baseline resilience		1.74	4.16	.169		
Age	.04			.543	-.09	.18
Years as nurse	-.08			.404	-.29	.12
Years as preceptor	.37			.049*	.00	.74
Final resilience		.84	4.46	.476		
Age	.08			.277	-.06	.23
Years as nurse	-.04			.714	-.26	.18
Years as preceptor	.11			.552	-.27	.51

Note. * denotes a significant result; LL = lower limit; UL = upper limit**Table 9***Preceptor Satisfaction*

Variable	Baseline		Training Completion		t (58)	p	Cohen's d
	M	SD	M	SD			
Preceptor Satisfaction	4.05	1.04	4.84	.48	-6.25	< .001*	.97

Note. * denotes a significant result

Appendix N

IRB Closeout Letter

Institutional Review Board for the Human Research
Protection Program

525 S Beaver St PO Box: 4062

Flagstaff AZ 86011

928-523-9551

<https://www.nau.edu/IRB>



Office of Research Compliance

To: Heidi Kosanke, MSN/Ed
From: NAU IRB Office
Date: April 13, 2023

Project: Nurse Preceptor Support
Project Number: 1865494-2
Action: CLOSED
Project Status: CLOSED - PROJECT COMPLETE

- **The project listed has been concluded as of the Principal Investigator signature date on the HRPP form. IRB File to be archived.**