MENTORSHIP OF NOVICE PEDIATRIC CRITICAL CARE NURSE PRACTITIONERS TO IMPROVE ROLE TRANSITION

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By

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ABSTRACT

The transition from registered nurse (RN) to nurse practitioner (NP) is difficult for many new graduates, leading to low job satisfaction and poor retention with high cost to the employer (Fitzpatrick & Gripshover, 2016; Horner 2017). A mentorship program was developed and implemented to improve transition to practice.

A six-month formal, structured mentorship program for critical care NPs was implemented at a large pediatric teaching hospital. Mentor-mentee dyads were created using a novel matching algorithm based on career trajectory and mentoring functions, with the novice period defined as the first two years of practice. The dyads viewed a training video and were given optional discussion prompts to use in monthly one-hour mentoring sessions. Pre- and post-program mentee data was collected using the Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS), Nurse Practitioner Role Transition Scale (NPRTS), and Clance Impostor Phenomenon Scale (CIPS). The MNPJSS was used pre- and post-program in the mentors. Narrative feedback was solicited at the end of the program.

Four dyads were enrolled in the study. In the mentees, MNPJSS scores decreased post-program but did not reach statistical significance. NPRTS scores increased significantly, $p = .04$, showing improved role transition post-program. CIPS scores improved significantly, $p = .02$, indicating fewer impostor phenomenon characteristics post-program. A positive correlation ($r = .8$) was found between NPRTS scores and years of prior RN experience, meaning that novice
NPs with fewer years of RN experience may have a more difficult role transition. Feedback from the participants was positive, with mentees citing the support, advice, and career coaching provided by the mentors, and reporting time as the biggest barrier to completion of the program requirements.

This small sample of pediatric critical care NPs reported a positive experience in this 6-month mentorship program pilot, and demonstrated improved NPRTS and CIPS scores post-program, without a significant decrease in MNPJSS scores. These findings are limited due to the lack of a control group and the small sample size. Further controlled prospective research with larger sample sizes is warranted to determine any causal relationship between mentorship, successful RN to NP transition, and retention.
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The research and writing of this thesis are dedicated to all of my mentors who guided me along the way.

With appreciation,
Rachael Crowe
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Chapter I

Introduction

In today’s healthcare industry, there is an increasing focus on the nurse practitioner (NP) role and a growing reliance on these providers to improve access to high quality, cost-effective care (Faraz, 2017). With projected physician shortages and increasing restrictions on resident work hours, utilization and demand for NPs has increased (Brom, Melnyk, Szalacha, & Graham, 2016). Data from the American Association of Nurse Practitioners (AANP) (2019) indicated that the number of licensed NPs is rapidly growing in response to this demand, from 105,000 in 2004, to 171,000 in 2013, to 270,000 in 2019. Besides simply filling a need for more providers, NPs provide comprehensive, cost-effective, and safe patient care; they add to resident education, increase continuity of care, and improve patient satisfaction, and their presence is associated with increased nurse and physician job satisfaction (Brom, et al., 2016; De Milt, Fitzpatrick, & McNulty, 2011; Pasarón, 2013). However, reducing costs and meeting demands for providers through increasing utilization of NPs can only be effective if turnover rates are low, and currently the NP turnover rate is twice the physician turnover rate (Fitzpatrick & Gripshover, 2016).

Research has shown that NPs in a variety of inpatient, outpatient, and subspecialty settings are only minimally satisfied in their roles; high stress and self-doubt during the RN to NP role transition leads to poorer job satisfaction and contributes to rising turnover rates (Brom, et al., 2016; Pasarón, 2013). The American Association of Colleges of Nursing (AACN) estimates that more than 25% of novice NPs will vacate their first position within a year – a striking difference from the overall NP turnover rate of 8.7% in 2019 (Horner, 2017; NSI Nursing Solutions, 2020). Job dissatisfaction and the difficult RN to NP role transition may be to
blame for the higher turnover rate among novice NPs (Horner, 2017). Health care administrators must work to identify and prioritize addressing factors that contribute to job dissatisfaction among their novice NPs to improve retention and reduce the costs associated with high employee turnover (Horner, 2017). Providing the support necessary for these novice NPs to have a successful role transition is paramount for retention and maintaining a consistent team to provide high-quality care (Faraz, 2017; Faris, Douglas, Mapes, Berg, & Trailkill, 2010).

**Novice Nurse Practitioner Role Transition**

The role transition from registered nurse (RN) to NP is challenging for many new graduates and leads to job dissatisfaction and poor retention rates, with high cost to their employers and significant impact to the institution (Fitzpatrick & Gripshover, 2016; Horner, 2017). Poor retention of NPs is expensive, especially for specialized practitioners (Faris et al., 2010; Horner, 2017). Additionally, turnover of providers disrupts continuity of care which can negatively affect patient outcomes (Horner, 2017). Job dissatisfaction reflects poorly on the employer and affects future recruitment success (Faris et al., 2010; Fitzpatrick & Gripshover, 2016). On the individual level, job satisfaction affects the novice NP’s quality of life, which can affect the quality of the patient care they provide (Faris et al., 2010).

The difference in turnover rates between NPs and physicians may be related to the training that physicians receive after medical school to ease their entry into the workforce (Fitzpatrick & Gripshover, 2016). Physicians are required to complete a residency program after medical school and an additional fellowship program for certain specialties. Meanwhile, NPs are not required to complete a residency or transition program after graduation and instead are thrust directly into their new role, where they may instead have a few weeks of on-the-job orientation. Novice NPs in this transition have reported feeling overwhelmed, vulnerable, and inadequate
The RN to NP transition is jarring, exhausting, stressful, and anxiety-producing, and if unaddressed these feelings can continue through the first few years of practice (Fitzpatrick & Gripshover, 2016; Owens, 2018). Practitioners in the primary care domain are even more at risk for unsuccessful transitions because they can be more isolated and they may not have a set precedent for their role in the organization (Fitzpatrick & Gripshover, 2016). If the RN to NP transition is unsuccessful, it can lead to poor performance and even failure in the workplace (Fitzpatrick & Gripshover, 2016).

In the critical care specialty, healthcare reform and Accreditation Council for Graduate Medical Education (ACGME) revisions have resulted in increasing patient loads and the expectation of continuous onsite coverage (Huffer, 2017). This has led to coverage gaps and a shortage of physician providers. NPs are heavily relied upon to fill these gaps in coverage and have become an essential role in hospitals’ acute care and specialty settings (Huffer, 2017). Though more NPs are filling these roles in specialized, pediatric, and critical care settings, NP educational programs often provide only limited training in these specialties (Huffer, 2017). This knowledge gap contributes to the novice NP’s feelings of inadequacy. New graduate NPs are expected to practice confidently and independently upon graduation, but they are currently not adequately supported by their graduate education and post-graduation training models; the responsibility is then on the institution to guide their transition to practice (Sargent & Olmedo, 2013). Health systems have responded by developing various “transition-to-practice” postgraduate training programs to support novice NPs (Hektner, 2017).

These transition-to-practice programs have been implemented in many forms. Orientation programs are the most commonly used. They are department-specific and aim to improve clinical skills through satisfying specific competencies with a preceptor (Fitzpatrick & Gripshover,
“Residency” or “fellowship” programs for new NPs are expanded orientation programs that are longer than traditional orientation, and may include some specialty rotations and a didactic component, in addition to a preceptor (Hektner, 2017). The terms “residency” and “fellowship” are often used interchangeably; in this project they will be referred to as residency programs. The preceptor in these programs is responsible for educating the novice on the intricacies of the role and providing direct supervision during the orientation period (Jnah & Robinson, 2015). Both types of programs are time-limited, with defined beginning and termination points, and consist of just-in-time supervision and educational experiences in patient care (Jnah & Robinson, 2015). Interested novice NPs need to voluntarily seek out and enroll in transition-to-practice programs upon graduation. The American Association of Nurse Practitioners Board of Directors (2019) opposes mandating transition-to-practice programs as a requirement for NP licensure, stating that the advanced degree, clinical hours, and national certification are adequate to ensure competency. While there is little existing literature on the efficacy of NP residency programs, they have so far shown to be effective with improving the NP’s clinical skills and competence; however, they often fail to address the stressors and emotional distress associated with role transition (Fitzpatrick & Gripshover, 2016).

RN residency programs have been more thoroughly researched and have shown to improve clinical skills, time management, job satisfaction, and retention, and reduce stress (Goode, Lynn, McElroy, Bednash, & Murray, 2013; Sargent & Olmedo, 2013). RN residency programs also have an accreditation process with the Commission on Collegiate Nursing Education (CCNE) (Goode et al., 2013). While the success of RN residency programs spurs hope for NP residency programs, the standards and accreditation process for NP transition-to-practice programs is still developing, so programs vary widely between institutions (Hektner, 2017). In
2014, the American Nurses Credentialing Center (ANCC) launched a credentialing process for transition-to-practice programs called the Practice Transition Accreditation Program (PTAP) (Cosme, 2015). In 2020, a total of eleven RN to NP transition-to-practice programs have been accredited through PTAP and the ANCC. As the future of RN to NP transition-to-practice programs continues to evolve, program standards should extend beyond clinical competency and include addressing the stressors and emotional turmoil that occur during the role transition process.

Mentorship has been repeatedly suggested as a method to improve the RN to NP role transition (Faraz, 2017; Faris et al., 2010; Fitzpatrick & Gripshover, 2016; Harrington, 2011; Horner, 2017; Kaminski, Meier, & Staebler, 2018; MacLellan, Levett-Jones, & Higgins, 2015; Owens, 2018). Mentorship is a meaningful, mutually beneficial, long-term relationship that consists of planned, purposeful encounters between an expert and a novice where knowledge and support are exchanged (Jnah & Robinson, 2015). Mentorship programs differ from NP residency programs in that they are not competency-based and provide mentors instead of preceptors. Novice NPs in mentoring relationships are more prepared to accept setbacks, have more resiliency, and have a greater perceived adaptability and perseverance; all of these characteristics are necessary for a successful role transition (Jnah & Robinson, 2015).

Mentoring relationships have the potential to provide a safe space and emotional support during the novice NP’s transition to practice (Horner, 2017; Owens, 2018). It can lead to professional development, higher job satisfaction, better retention, and providing more consistent and reliable patient care (Horner, 2017). In addition to these direct benefits to the novice, mentoring relationships also create a space for networking, brainstorming, problem solving, and collaboration to improve patient outcomes (Horner, 2017).
However, there are some barriers to implementing mentorship programs. Usually, there is no financial incentive or reduction in workload for mentors who volunteer to participate (Horner, 2017). Time is always a concern because sustaining a mentoring relationship does take a commitment from both parties (Horner, 2017). In designing and implementing a mentorship program, the burden of the relationship on the mentor needs to be considered and rewards or incentives for the mentor’s participation may need to be included.

In a recently published systematic review of descriptive and qualitative research regarding the novice NP’s difficult role transition, consistent themes surfaced including lack of support, feelings of isolation, low self-confidence, and specifically, lack of mentorship (Twine, 2018). A mentoring relationship during the transition to practice has the potential to provide a support system to facilitate personal and career growth, promote successful role transition, and increase overall job satisfaction, ultimately improving retention of novice NPs (Hill & Sawatzky, 2011).

**Research Question**

Though it has been repeatedly recommended, there is a lack of research on the utility and efficacy of mentorship in the RN to NP role transition. The RN to NP transition has been studied from a theoretical perspective and its factors have been defined. Mentorship in other professions as a tool for career transition has been thoroughly studied and has shown to be associated with higher job satisfaction and better career success (Chao, Walz, & Gardner, 1992). Evaluation is needed to examine if mentorship is a feasible tool to promote successful role transition and increase job satisfaction in NPs, with the goal of ultimately improving NP retention.

This study will evaluate the feasibility of implementing a formal reflective mentorship program, based on Wagner and Seymour’s Model of Caring Mentorship, for novice inpatient
pediatric critical care NPs in the process of role transition. Validated tools will be used to measure novice NPs’ job satisfaction, role transition, and Impostor Phenomenon (IP) characteristics, which will provide insight into the success of their role transition. The research question is: In novice inpatient pediatric critical care NPs with less than two years of NP experience, how will a formal reflective mentorship program affect their job satisfaction, role transition, and IP characteristics at the six-month mark, compared to scores before the start of the program? Specific questions and study aims include:

- How will the mentorship program affect job satisfaction among mentees?
- How will the mentorship program impact role transition scores among mentees?
- How will the mentorship program affect IP characteristics among mentees?
- How will the mentorship program affect job satisfaction among mentors?
- Are there any shared characteristics among novice NPs who have poorer pre-intervention role transition scores (such as years of bedside nursing experience, or time lapse between graduation and starting their NP role)?
- What are the facilitators and barriers to implementing a structured formal mentorship program in novice pediatric critical care NPs?

**Organizational Needs Assessment**

Changes in national healthcare reform, the growing shortage of primary care and specialty care physicians, and changes in the Accreditation Council for Graduate Medical Education (ACGME) residency duty hours are spurring changes in health care delivery models in hospitals (Scholtz, King, & Kolb, 2014). The recommendation of the Institute of Medicine’s Future of Nursing report (2011) to allow NPs to function at the top of their education and licensure has created drive for hospitals to develop innovative care models, utilizing the NP role
as an essential component (Scholtz et al., 2014). At a large, urban, free-standing pediatric teaching hospital in the Northeast United States, more than 600 NPs are utilized in a variety of settings, including inpatient subspecialties (both surgical and non-surgical), inpatient units (both general care and intensive care), and in the outpatient primary care and subspecialty clinic setting. There are three critical care areas, with a total of five units and six NP teams: the pediatric intensive care unit (PICU) is 70 beds with an associated step-down technology-dependent care area called the progressive care unit (PCU) with 25 beds; the cardiac intensive care unit (CICU) has 36 beds and its step-down area called the cardiac care unit (CCU) has 30 beds; and the neonatal intensive care unit (NICU) has 95 beds which is divided into a medical and surgical team. These five units are collectively referred to as the intensive care units (ICUs). The ICUs at this facility are rapidly expanding and frequently hire new graduate NPs spaced out over the calendar year to evenly distribute orientation resources. Each ICU has a department-specific orientation program, which is competency-based with a preceptor. The novice NPs may have a different preceptor each shift and do not have one assigned experienced NP that they work with consistently. There is also a two-day organizational orientation seminar where guest speakers lecture on clinical practice updates, becoming involved in research, and the benefits packages offered by the institution. Neither the organizational orientation nor the department-specific competency orientation offer an individualized mentoring relationship, emotional support, or coaching to the novices.

Seeing the opportunity to improve NP role transition, Scholtz et al. (2014) implemented an NP transition-to-practice program to standardize education delivered in the orientation process, provide more networking opportunities, and increase support during RN to NP role transition. The yearlong program was meant to supplement the 3-6 month competency-based
orientation that they received in their hiring department. Program structure consisted of five didactic sessions with the same cohort of novice NPs and new-to-institution experienced NPs that were hired around the same time. The program was evaluated at the end of each didactic session on an ongoing basis, using participant evaluations, recruitment and retention, job satisfaction, productivity and engagement, and number of patient safety events. Preliminary evaluations of the program have been positive, with increasing interprofessional collaboration, networking, and patient referrals. Additionally, participants in the fellowship program cited that the program was a key factor in their selection of the organization for employment, demonstrating the effect that this type of program can have on recruitment (Scholtz et al., 2014).

Despite the implementation of these transition-to-practice didactic seminars, novice NPs in the ICUs still had difficulty in role transition. In a needs assessment conducted for this study using informal interviews with novice ICU NPs, common themes emerged including feeling inadequate and “terrible at their job,” struggling to understand their new role, and the lack of a support system or “someone who understands what I’m going through” [K. S., personal communication, April 9, 2018]. Two new graduate NPs specifically requested a mentorship program to improve their experience during role transition [K. S. & E. M., personal communication, April 9, 2018]. Additionally, two senior NPs in the PICU had the desire to become mentors but had yet to start a program; barriers to program development included a lack of time to organize a program and lack of knowledge in crafting a successful program [K. D. & A. T., personal communication, April 9, 2018].

The ICUs at this institution provide a natural setting for the implementation of a mentorship program. The NP team leaders of each of the critical care areas expressed great interest in their staff’s participation in a mentorship program, creating a landscape for adequate
recruitment. Additionally, the flexible schedules in the ICUs would provide time windows for mentor-mentee dyads to meet. Potential barriers included the availability of mentors and the number of mentor volunteers being adequate for the number of mentees. Though the shift schedules of these NPs is fairly flexible, participation in the mentorship program requires a time commitment from the participants and, given the pilot nature of this project, there was not an opportunity for a monetary incentive for the mentors. However, the advanced practice leadership in the institution gave permission for the mentors’ participation to qualify as a professional development activity to incorporate in their advancement framework. In terms of physical meeting space, there are many shared areas to which all NPs already have access, including the main floor café, the lobby seating area, many conference rooms, and each team’s shared office space.

**Theoretical Framework**

**Wagner and Seymour’s Model of Caring Mentorship**

Wagner and Seymour’s Model of Caring Mentorship was chosen as the framework for the mentoring relationships in this project. In this model, Wagner & Seymour (2007) describe mentorship as a three-phase progression based on nursing models of caring. In the first phase, the mentor-mentee relationship is task-oriented with little interpersonal relationship or shared stories. This “task-oriented mentoring” is characteristic of traditional unit-based orientation programs or NP residency programs, which focus on competency and skills with a preceptor-novice relationship. The second phase, or “interactive mentoring,” introduces feelings and identity into the relationship, and the pair begins to share experiences and stories to find commonalities. The third and final phase of the model is “transformative mentoring.” This is the ultimate goal of a mentoring relationship, where there is an emphasis on connectedness, trust,
presence, and learning from each other. In this final phase, the mentor and mentee start co-creating stories and have formed an intensely connected, dynamic relationship (Wagner & Seymour, 2007).

Ideally, a mentorship program for novice NPs would push the dyads to develop a transformative mentoring relationship. To differentiate the mentoring program from a competency-based orientation or residency program, the dyads must at least surpass the task-oriented mentoring phase. Therefore, the minimum goal for this proposed 6-month mentorship program is for the dyads to at least reach the interactive mentoring phase.

**Definition of Terms**

**Transition:** For the purpose of this study, transition is defined as “... movement from a place of comfortable familiarity to new, previously unknown experiences. It requires the passage of time and adjustment of self to roles, functions, relationships, and patterns of behavior” (MacLellan et al., 2015, p. 391).

**Mentorship:** For the purpose of this study, mentorship is defined by Jnah & Robinson (2015): Mentorship “... encompasses the provision of repetitious, planned, purposeful interactions between an expert and novice over time,” provides an environment to develop the novice’s self-efficacy, and improves role transition by addressing feelings of inadequacy (p. E4).

**Mentor:** The NP with the greater level of experience who is providing guidance, advice, and support to the mentee.

**Mentee:** The NP with less than two years of clinical experience who actively participates in the mentoring relationship to seek guidance, advice, support, and professional development.

**Mentoring Session:** A free-form planned meeting of the mentor-mentee dyad.
**Touch Point:** A brief, less formal encounter of a mentor-mentee dyad via phone call, email, text message, or hallway conversations in the workplace.
Chapter II

Review of the Literature

This chapter will review existing literature on the RN to NP transition and the utility of mentorship in improving role transition and job satisfaction of novice NPs. A search was conducted in multiple databases and bolstered with ancestry searching. The body of literature on the RN to NP role transition, the effect of mentorship in NPs, and the effects of mentorship in other professions and career transitions was explored. The results of the search were appraised and graded using the LEGEND tool, an acronym for “Let Evidence Guide Every New Decision” (Clark, Burkett, & Stanko-Lopp, 2009).

Search Strategy and Exclusion Criteria

A literature search was conducted to identify existing research on the efficacy of mentorship in improving the RN to NP transition in novice NPs. Search terms used included “nurse practitioner,” “mentors,” and the outcomes of “job satisfaction,” “role transition,” and “impostor phenomenon.” Other iterations of the search terms including “mentorship,” “career satisfaction,” “career transition,” etc. were included using the OR Boolean operator. Medical Subject Headings (MeSH) were utilized when available in addition to using the terms as keywords. The outcome measure search terms were combined with the Boolean operator OR, then combined with “nurse practitioners” and “mentors” with AND. This search strategy was carried out in the professional databases of Ovid MedLINE, PubMed, the Cochrane Database of Systematic Reviews, the Cumulative Index of Nursing and Allied Health Literature (CINAHL) and EBSCOhost with grey literature included. Results were limited to the English language. Additionally, results were limited to publication dates from 2014 to present day, as the role of the NP has evolved significantly in the last decade.
The results were then evaluated for relevance to NPs, the RN to NP role transition, and mentorship. From the Ovid database search, 30 results were obtained. The PubMed search retrieved 14 results. The Cochrane search retrieved 19 results. The CINAHL search retrieved 32 results. The EBSCOhost search produced 30 results. After eliminating 70 duplicates, there were 56 remaining results. Results were first narrowed for relevance to the clinical question by title, removing 32 results and retaining 24 results. Results were then narrowed by abstract for relevance to the clinical question, removing literature focused on faculty-student mentorship, case reports of competency-based orientation programs without mentorship components, and bedside nursing role acquisition. 11 results were removed. The final 13 retained results included 10 published articles and three unpublished dissertations.

Bibliographies of the retained articles were used for ancestry searching to add to the literature review. Articles repeatedly cited in multiple retained results and titles pertaining to NP role transition that were published in the last ten years were reviewed for relevancy. Two articles (De Milt et al., 2011; Sargent & Olmedo, 2013) and one unpublished dissertation (Huffer, 2017) were added to the literature review, creating a total of 16 results.

**Literature Appraisal Process**

This body of literature was then appraised using the LEGEND tool. The tool includes evidence appraisal forms specific to each type of research, tools to evaluate the evidence level and strength of recommendations, and directions for grading a body of evidence (Clark, et al., 2009). After determining the level of evidence and quality of the research study, the literature was summarized and assigned a high, medium, or low grade based on the type and rigor of the studies and consistency of their results. Based on the grade, a cost/benefit analysis, a safety versus harm stratification, and benefits and burdens to the subject, the body of evidence was
assigned a strength for its recommendations, ranging from “strong” to “unable to make a recommendation” (Clark et al., 2009). Appraising the literature in this way ensured the program developed to address the problem was evidence-based.

**Factors Contributing to Successful Role Transition**

The literature search results were examined for factors shown to contribute to successful RN to NP role transition. A successful transition is characterized by competence and confidence in the NP role (MacLellan et al., 2015). Barnes (2015) writes that a successful transition results in “… a subjective sense of well-being; increased confidence and competence; mastery of skills; and autonomous practice. An unsuccessful transition is characterized by negative emotions, a lack of confidence, increased turnover, and limited support” (p. 179). The outcome of a successful role transition is described as “… an [NP] who is competent and confident and who relishes the challenges that the new role brings” (Cusson & Strange, 2008, p. 329). Faraz (2017) performed a literature search on factors contributing to the RN to NP role transition, and grouped the existing literature into three major categories that contribute to role transition: individual characteristics of the novice, role acquisition, and job satisfaction. These factors are important to understand because the transition period from RN to NP plays a major role in novice NP retention (Faraz, 2017).

**Characteristics of the Novice**

The novice NP’s individual characteristics impact their experience during role transition. Owens (2018) describes that during role transition, the novice NP experiences internal and external stressors that impact successful role acquisition (Owens, 2018). Internal stressors include the perceived expectation to be knowledgeable and completely competent upon graduation, while simultaneously being afraid to ask questions at the risk of seeming
incompetent. External stressors like workload expectations and role ambiguity add to their internal struggles. The balance between feeling inadequate and inexperienced with the external pressure to perform leaves novice NPs feeling overwhelmed. This leads to additional issues like having little energy to maintain or create friendships, and the loss of former relationships from their nursing position, dismantling their support system (Owens, 2018). The novice’s response to these challenges relies heavily upon their individual resiliency.

Beyond individual resilience and adaptability, these characteristics include whether they find meaning in their work, the degree of social support, and their background including prior work experience as an RN, their level of education, and the presence of mentorship (Faraz, 2017). Those who have a rigorous educational background with prior RN experience, a strong support system, find meaning in their work, are motivated in the workplace, and have a mentor are more likely to have a successful role transition (Faraz, 2017). Beginning the transition with an appropriate knowledge base and set of skills, stemming from previous nursing experience and NP schooling, is thought to make role transition more successful, however the literature is inconsistent about the degree of correlation in terms of years of RN experience to success of the transition (Faraz, 2017; MacLellan et al., 2015). The transition is riddled with loss of identity, stress, self-doubt, and isolation, so having a support system to help dispel these feelings is vital (Faraz, 2017; MacLellan et al., 2015).

Of these novice NP characteristics, only a few are modifiable, including the educational background preparing them for transition to practice, a support system, and mentorship. Action needs to be taken to modify these factors to encourage a successful role transition, including targeting curriculum for graduating NPs, creating a supportive environment for novice NPs, and instituting mentorship programs in novice NP orientation.
**Role Acquisition**

In role transition, novice NPs express feelings of inadequacy, lack of support, isolation, and role ambiguity (Sargent & Olmedo, 2013). Role acquisition cannot occur if the role itself is not clearly defined. Role ambiguity is a real problem for novice NPs; as the healthcare system continues to utilize NPs in more areas, some novice NPs are the first NP to be hired in that department and need to work to define their place on the team (Faraz, 2017). Sometimes the novice NP may have to educate their nurse and physician colleagues about their scope of practice and education level. Confusion about their role in the workplace can lead to lower enthusiasm and increased turnover (Owens, 2018). On the other hand, clarity about the role expectations and responsibilities facilitates a more successful transition (Faraz, 2017).

Self-confidence and perceived competence are important factors in successful role acquisition (Faraz, 2017). Novice NPs often believe that they need to know everything and be fully competent as an NP even prior to graduation (Owens, 2018). NP programs vary in didactic curriculum and clinical experiences, which can impact a novice NP’s perceived competence and self-confidence upon starting their new position (Faraz, 2015). Novice NPs suffer from uncertainty due to lack of experience, stumble through learning the intricacies of the health system as a new employee, then blame themselves for slowness in clinical practice (Czapiewski, 2017). Meanwhile, physician colleagues expect novice NPs to perform efficiently and autonomously upon graduation. This conflict can be very frustrating for both parties (Sargent & Olmedo, 2013). Support from colleagues, respect for professional credibility of the novice, and feedback from mentors and role models seem to improve self-confidence (Faraz, 2017). Perceived competence, meaning the novice’s perception of their own competence, is closely linked to self-confidence and is important to the transition into the clinical role of an NP (Faraz,
The feelings of low self-confidence and perceived incompetence can be further described as the Impostor Phenomenon (IP) (Clance, 1985; Faraz, 2015).

**The Impostor Phenomenon.** The feelings of self-doubt and loss of confidence that occur during any role transition is often referred to as the “Impostor Phenomenon,” or “impostor syndrome,” coined by researchers Clance and Imes in the 1970s, and has been described in many fields and professions, including novice NPs (MacLellan et al., 2015; Sanford, Ross, Blake, & Cambiano, 2015). The IP is a complex phenomenon of self-doubt and distorted cognition with fear of others discovering intellectual “phoniness” and difficulty internalizing successes (Hutchins, Penney, & Sublet, 2017). Individuals who struggle with the IP may underplay their successes, direct others’ attention away from their achievements, and thereby lower others’ expectations of them. This is a coping strategy to protect themselves from their greatest fear: future failure (Kets de Vries, 2005). Victims of the IP oddly also have a fear of success, because it attracts too much attention and sets higher expectations for the future. They often inaccurately attribute successes to external factors, like luck or colleagues’ assistance, and understate their own abilities (Hutchins et al., 2017). Those suffering from the IP also fear that asking for help or sharing feelings of anxiety will reveal their inadequacies (Kets de Vries, 2005). They have a nagging fear of being viewed as “unworthy” of their current position, however, the IP has been shown to be a distinct entity apart from low self-esteem or insecurity (Hutchins et al., 2017; Sanford et al., 2015). As a result of their self-imposed anxiety and fear of error, they often overdramatize small mistakes and have more difficulty experimenting and taking risks, which is essential for learning (Kets de Vries, 2005). This phenomenon occurs most often when an individual takes on a new project or new career, like the role transition from RN to NP (Kets de Vries, 2005; Sanford et al., 2015). Many novice NPs experience the IP, with their role transition

The IP is closely linked to low job satisfaction, emotional exhaustion, burnout, and high employee turnover (Hutchins et al., 2017; Kets de Vries, 2005; Sanford et al., 2015). With time, experience, and training, impostor feelings will diminish, but many sufferers buckle under the emotional exhaustion and job dissatisfaction before that natural improvement occurs (Sanford et al., 2015). Hutchins et al.’s (2017) retrospective survey examining the IP in university faculty showed that emotional exhaustion and job dissatisfaction in those with impostor characteristics were associated with avoidant coping mechanisms. To help alleviate the IP, reduce burnout, and improve job satisfaction, focus needs to be placed on giving these employees more constructive coping mechanisms, like mentoring, normalizing experiences, and cognitive reframing (Hutchins et al., 2017).

Victims of impostorism require external validation of their talent, intelligence, and abilities, especially when beginning a new career, which leaves an obvious opportunity for mentorship (Sanford et al., 2015). Mentors provide the outside perspective needed to disperse some of the stress caused by the IP and can watch for warning signs of the phenomenon, like fear of failure, fear of success, perfectionism, working excessively, and over-preparing (Hutchins et al., 2017; Kets de Vries, 2005). For novice NPs experiencing the IP, mentorship could be a useful tool in role transition to provide an external perspective and a support system (Owens, 2018).

**Transition-to-Practice Programs.** In light of demand for more NPs and concerns about increasing turnover, there have been statements released by professional organizations and governing bodies to promote measures to improve the transition to practice. A paper by Goodhue
& Harris (2019) cited a pattern in some states of thrusting novice NPs without acute care training into critical care environments without adequate support, due to high demand and low number of acute care programs. The Institute of Medicine (as cited in Gooch, 2015) made recommendations during a 2015 webinar update on the 2011 Future of Nursing Report, which encouraged developing transition-to-practice programs for novice NPs to supplement or replace orientation, improve role transition, and increase retention. Thereafter, formal “fellowship”-style orientation and onboarding programs have started to develop (Fitzpatrick & Gripshover, 2016; Goodhue & Harris, 2019). As NP residencies are becoming more prevalent, there is still a paucity of evidence that compares the outcomes of NPs who participate in residency programs to those who do not, and a lack of available evidence to guide the development of these programs (Faraz, 2015). The literature is clear, though, that a successful RN to NP transition has an impact on job satisfaction and improves retention (Barnes, 2015; De Milt et al., 2011; Faraz, 2017; Hill & Sawatzky, 2011; Horner, 2017). While these types of programs help improve clinical acumen, many fail to specifically address the emotional turbulence of role transition (Fitzpatrick & Gripshover, 2016). Undergoing clinical orientation as a novice NP is key to role acquisition, but the emotional distress associated with role transition also needs attention (Fitzpatrick & Gripshover, 2016). In Goodhue & Harris’s (2019) review of the literature, access to preceptors and mentors were identified as job satisfiers in both novice and experienced NPs. Mentorship programs should be a key component of transition-to-practice programs to address the emotional turbulence of role transition and alleviate stress in the novice (Goodhue & Harris, 2019).

**Job Satisfaction**

The third factor that contributes to successful role transition in novice NPs is job satisfaction (Faraz, 2017). Job satisfaction in NPs varies widely between institutions and from
state to state. This is reflected in the research; some studies find highest satisfaction with autonomy, social contact in the workplace, and duration of time in patient care, and the lowest satisfaction with bonuses, compensation, and reward distribution (Horner, 2017; Faraz, 2017), but there are other studies that found opposite results (Faris et al., 2010). Differing state practice laws governing the level of NP autonomy likely contribute to this variation, not to mention additional institutional policies that may place further restrictions on NP practice.

The literature points to NPs desiring more professional autonomy, however simultaneously they suffer from low levels of perceived competence and self-confidence (Faraz, 2017). A difficult balance must be struck to support the novice NP as they grow their confidence, and then ensuring job satisfaction by increasing their autonomy (Faraz, 2017). Other factors contributing to NP job satisfaction include the quality of relationships in the workplace, specifically the ability to network with other NPs, and having enough time to maintain friendships outside of work (Faraz, 2017). Mentoring relationships have the potential to provide access to collaboration and networking, along with guidance for the novice to gain confidence with autonomous decision-making.

Factors Contributing to Novice Nurse Practitioner Turnover

The literature search was then examined for studies investigating factors that contribute to turnover in novice NPs. Four studies in the literature search results aimed to define factors of NP retention (De Milt et al., 2011; Faraz, 2017; Weiser, 2018; Yuill, 2018).

Faraz (2017) conducted a descriptive cross-sectional study through an online questionnaire to determine the leading factors that are most critical to successful role transition in primary care NPs and their turnover intention. The survey included six instruments: the Social Support Questionnaire Short Version, the Psychological Empowerment Instrument, the Role
Ambiguity Scale, the Confidence Scale, the MNPJSS, and the Anticipated Turnover Scale. Sampling was conducted by snowballing via emailing listservs of students at nursing masters programs, yielding 177 completed surveys. Faraz (2017) found that professional autonomy (p = .001) and role ambiguity (p = .03) were the most predictive variables of turnover intention. Self-confidence and perceived competence were also significant predictors of turnover intention (p < .001). Faraz (2017) concluded that NP professional autonomy is a major factor of turnover intention in primary care NPs. The challenges faced during the transition to practice, including self-confidence, perceived competence, and role ambiguity, are major factors in novice NP turnover so, the transition to practice period needs to be the focus of retention-oriented interventions.

Faraz (2019) then examined the qualitative data from the same survey respondents to determine facilitators and barriers of role transition. Results showed that facilitators to successful role transition included support and mentorship, autonomy, professional development, work-life balance, and having meaning in their work. Barriers to successful transition included a lack of respect from colleagues, role ambiguity, lack of support, heavy workload, and poor compensation. Faraz (2019) found that respondents who participated in transition to practice programs had more successful role transitions. Respondents who did not participate in these programs stated that they felt unprepared coming out of their graduate program, and desired a more structured orientation or NP residency programs to feel more supported and mentored (Faraz, 2019).

De Milt et al. (2011) surveyed 254 actively practicing NPs with more than six months of experience to evaluate job satisfaction, intention to leave, and anticipated turnover. The MNPJSS showed the average score of the NPs job satisfaction was “minimally satisfied” to “satisfied.”
Intrapractice partnership and collegiality were ranked with the highest satisfaction, followed by challenge and autonomy, with benefits as the most dissatisfying. In this study, De Milt et al. (2011) found that job satisfaction was higher among NPs who did not intend to leave their current position, while those with intent to leave had lower job satisfaction scores \((p < 0.001)\); this implies that job satisfaction and intention to leave are inversely correlated. Reasons for intent to leave the profession were retirement, having little control over their practice, job dissatisfaction, stress, and burnout (De Milt et al., 2011). This study adds data supporting that job satisfaction is strongly related to NP retention.

Weiser (2018) administered surveys to primary care NPs attending pharmacology conferences to explore barriers to job satisfaction and organizational support using the MNPJSS and the Nurse Practitioner Primary Care Organizational Climate Questionnaire (NP-PCOCQ). A total of 14 complete surveys were collected and the mean MNPJSS score was 4.86 (between “minimally satisfied” and “satisfied”) which, despite the small number of respondents, is consistent with findings in the De Milt et al. (2011) and Faraz (2017) studies. Weiser (2018) found that top satisfiers were evaluation processes and time spent in direct patient care, and dissatisfiers were a lack of monetary bonuses and lack of involvement in research. Support from fellow providers, positive relationships with physicians, feeling valued, and working autonomously also contributed to job satisfaction. In the NP-PCOCQ, the highest rated statements were pertaining to colleague help and support, autonomous practice, and feeling valued, while lowest ranking statements included a lack of regular feedback, poor communication between NPs and administration, physicians not seeking advice from NPs, and the climate not being conducive to independent practice (Weiser, 2018). In this study, colleague
support and autonomous practice were identified as important factors in job satisfaction, which is consistent with other studies (De Milt et al., 2011; Faraz 2017).

Qualitative data in the Weiser (2018) study showed that mentorship programs are “a key to satisfaction” (p. 57). One response indicated that a “lack of feedback in the first six months of employment led to feelings of failure. Performance review by a supervisor later revealed the NP was doing well in the new role” (Weiser, 2018, p. 57). These feelings are very typical of novice NPs experiencing the IP. The novice NP’s anguish could have been avoided by consistent and regular feedback by a mentor, which would have fostered confidence and competence earlier in the transition (Weiser, 2018). Attending to barriers in role transition benefits the novice NPs, the healthcare organizations, and the patients. Weiser (2018) argued that organizations need to see the value that can be achieved by facilitating a successful role transition, including improved retention, improved productivity, and reduced cost.

The United Kingdom is also experiencing a provider gap and is developing the NP role to address it (Yuill, 2018). Since the role is relatively new, role confusion and ambiguity is an issue, though governing organizations are working to provide definitions and frameworks for the role (Yuill, 2018). To ensure NPs were receiving adequate support in the workplace and possess the proper knowledge and clinical skills, Yuill (2018) conducted a service evaluation to determine positive and negative forces for change and further dissemination for the NP role. An online questionnaire was sent to 25 NPs working in after-hours urgent care and primary care services and had 19 respondents with five NPs also selected for semi-structured interviews. Positive forces for the NP role included professional development, autonomy, challenge, providing quality patient care, and peer support from clinical colleagues. Negative forces included difficulty managing complex patients and needing a wide knowledge base of many conditions to
perform effectively. Additionally, Yuill (2018) found that unclear role definition and poor understanding of the role by colleagues, patients, and the public contributed to job dissatisfaction. Other negative factors included isolation and a lack of support which contributed to anxiety and stress. Yuill’s (2018) results parallel those of similar studies in the United States (De Milt et al., 2011; Faraz, 2017; Weiser, 2018). The implications for practice generated by this study included increasing quality of clinical supervision, creating more educational and development opportunities, and providing mentorship to support learning and development. In fact, with 37% of respondents, mentorship was the most suggested method for meeting support and learning needs, especially in the first year of practice (Yuill, 2018). Overall, the results of this study are congruent with existing literature.

These studies show that novice NP retention and successful role transition is affected by job satisfaction and support systems of colleagues. NPs in these studies achieved job satisfaction through autonomy, professional development, providing high-quality care, and receiving peer support (De Milt et al., 2011; Faraz, 2017; Weiser, 2018; Yuill, 2018). Proposed changes to practice based on these findings include a transition-to-practice orientation process for new graduates to hone their clinical skills and support autonomous practice, and a mentorship program to establish a support system, address isolation, and relieve stress with their career transition.

**Mentorship in Novice Nurse Practitioners**

The literature was then examined for discussions of using mentorship in novice NPs. Mentoring is commonly divided into two categories: formal and informal. Moss & Jackson (2019) describe that, in formal mentoring relationships, mentors and mentees are paired either by choice or by assignment, both parties undergo required training in mentorship, and specific goals
are defined for the program. Formal mentoring programs require clear role definitions for the mentee and mentor, and require a time commitment from both parties. On the other hand, informal mentoring relationships develop spontaneously, lack structure, and are usually driven by the mentee. Outcomes of both types of mentorship in NPs may be beneficial, though the research on informal mentorship is notably sparse (Moss & Jackson, 2019).

A supportive and well-curated mentoring relationship can improve the novice NP’s job satisfaction, positively affect patient outcomes, increase provision of high-quality patient care, and improve retention (Horner, 2017; Moss & Jackson, 2019). Additionally, RNs sometimes see NPs as role models and mentors, and positive interactions with these NPs can influence RNs to pursue a graduate degree (Moss & Jackson, 2019). Mentors provide support to the mentee during role acquisition beyond what is provided in formal education; furthermore, mentorship creates a space for role modeling, networking, brainstorming, and problem solving to improve patient outcomes (Horner, 2017). It also establishes a personal relationship and a sense of community, combating feelings of isolation in the novice which would contribute to job dissatisfaction (Horner, 2017). A mentorship program could be useful to ameliorate stressors of role transition, provide a support system for the novice, and give an external perspective of the novice’s progress (Owens, 2018).

A mentoring relationship can also have positive effects on the mentor. Mentors may feel motivation to continue their own professional development and stay current on new evidence-based practices (Hill & Sawatzky, 2011). Additionally, being in a mentoring relationship can improve the mentor’s job satisfaction (Hill & Sawatzky, 2011). With the potential for a mutually beneficial relationship, mentorship appears to be a valid option to ease transition to practice and increase NP retention.
**Mentorship Programs**

Examining the literature search results, eight studies evaluated the effect of mentorship in NPs, including one retrospective survey (Horner, 2017) and seven studies describing program development and evaluation (Czapiewski, 2017; Fitzpatrick & Gripshover, 2016; Huffer, 2017; Langley, Dority, Fraser, & Hatton, 2018; Robeano, Delong, & Taylor, 2019; Sargent & Olmedo, 2013; Thabault, Mylott, & Patterson, 2015).

Horner (2017) conducted a retrospective survey in a large, urban health care center in the Midwest United States aiming to evaluate the presence of mentorship and job satisfaction among NPs. The survey consisted of demographic information, a mentorship survey, and the Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS). This was disseminated to 69 NPs via email listserv with 37 respondents completing the survey, giving a 53.6% response rate. 72.97% of respondents reported not having a mentor upon hire as an NP. Of the 27% of respondents who had mentors, 60% of the relationships were described as informal, 30% were formal, and 10% were “mixed.” 60% of the mentors were assigned to the mentee while 30% were chosen by the mentee. The duration of the mentoring relationship varied from less than three months (20%), between three to six months (25%), six or more months (25%), one year (10%), and 20% still ongoing. All mentoring relationships had a face-to-face component, but some had additional modalities of communicating including phone calls (30%), text messages (20%), and email (20%). Regardless of the mentoring relationship’s formal or informal pairings, duration, and modalities, all respondents (100%) reported that their mentoring relationship positively influenced their job satisfaction. Additionally, these mentored participants were seen on the MNPJSS to have a higher mean job satisfaction score than their non-mentored peers (Horner, 2017).
In 2015, Thabault et al. (2015) described a one-year pilot residency program at CVS Minute Clinics that aimed to guide novice NP transition to practice and reduce turnover. This pilot program was created because retail health clinics have seen an increase in hiring newly graduated NPs to fill the demand of the growing retail health market. The goals of the residency program were to offer peer mentorship and clinical knowledge tailored to the retail health setting. In the program, novice NPs were paired with experienced NPs for a 12-month period, consisting of one month of “side-by-side” practice, followed by 11 months of monthly continuing education and weekly case reviews. The novice NPs and NP preceptors all completed a two-credit DNP course at a local university to further their educational development. Eight NPs were enrolled, and while one dropped out due to licensing issues, the other seven NPs successfully completed the program. Upon evaluation, the novice NPs reported that the most impactful aspects were the mentoring sessions and the relationship with their assigned preceptor, participating in case reviews, and receiving retail health related content. While the experienced NPs enjoyed the doctoral-level course, the novice NPs felt it was too advanced for their current practice. At six-months post-program, there was no turnover with 100% retention. With the structure of Minute Clinics usually being staffed by only one NP and the role being fairly isolated, the importance of establishing a relationship with experienced mentors in the same setting was felt to be paramount to the program’s success (Thabault et al., 2015).

Fitzpatrick & Gripshover (2016) created a novice NP and physician assistant (PA) support group to provide emotional support and improve job satisfaction in an inner-city academic medical center. The support group was led by two senior NPs and the Director of NP Practice in monthly one-hour meetings with lunch provided. All NPs and PAs with less than two years of employment at the study site were invited to attend. Articles to stimulate discussion
were disseminated prior to the meetings and included topics such as role identification, leadership, publishing, workplace conflict, and emotional intelligence. The group leaders identified some barriers to implementation, including some NPs that were not supported to leave the unit for the meetings, and many novice NPs were still unaware of the group. Some topics, like research and publishing, were not received well by the novice NPs at that point in their role transition. The group leaders sent an anonymous survey to gather feedback about the support group but only had five respondents, representing about 2% of the advanced practice providers at the institution, so conclusions could not be drawn. However, the feedback was positive, participants stated that the meetings were helpful, and many reported emotional benefits of attending (Fitzpatrick & Gripshover, 2016).

Czapiewski (2017) conducted a program improvement study at a primary care organization in the Midwest United States to evaluate the implementation of a new orientation process. The new four-phase orientation process lasted between four to eight weeks, with the duration individualized to the novice NP’s skill acquisition, compared to the prior process which did not have a set structure and differed between departments. The new program consisted of a three-day general orientation to the organization, a two-week department-specific orientation, between one to six weeks of concurrent patient visits with an assigned preceptor depending on the novice’s progression, then seeing patients independently and slowly increasing their patient load depending on their comfort level. Czapiewski (2017) interviewed two cohorts of NPs at the institution: one cohort who began practicing before the implementation of the new process, and one who underwent the new structured orientation. The pre-intervention cohort consisted of six NPs and the orientation program cohort consisted of four NPs. Data collection was facilitated by the Novice Nurse Practitioner Interview Questionnaire in face-to-face interviews and email
correspondence. The pre-intervention cohort reported feeling unprepared, unsupported, overwhelmed, and stressed in their first days on the job. Four of the six NPs felt welcomed by the other staff, while two did not. This cohort was not exposed to a mentorship or preceptorship program and were scared to ask questions of their colleagues. They also reported often working longer hours to catch up on clinical tasks due to their patient load. Four of the six NPs independently built a mentor-like relationship with another provider, but these did not continue when orientation was completed. These NPs reported wanting more collaboration in building their patient load and scheduling and needing more feedback about their performance.

Meanwhile, the new orientation program cohort felt welcomed by other staff and felt comfortable asking questions and consulting their colleagues due to the built-in mentorship component. They felt they had adequate time to complete tasks without staying late. Interestingly, this cohort maintained a mentoring relationship with their assigned preceptor after orientation was complete. The pre-intervention cohort felt that they would have benefitted from a more structured and individualized orientation, while the orientation program cohort felt that their orientation was comprehensive and were confident in their transition to practice. While this study’s results are not generalizable to other institutions due to a small sample size, inconsistent interview processes, and diverse orientation experiences especially within the pre-intervention cohort, the results were clear that these NPs preferred a structured orientation with an assigned preceptor as opposed to the pre-intervention process (Czapiewski, 2017).

Langley et al. (2018) implemented an onboarding program in a neurosurgery and stroke ICU at a level-1 trauma center to improve retention of novice NPs to meet provider needs, as fewer physicians were choosing the critical care specialty. The onboarding program consisted of a three-phase competency and proctor-based orientation with serial examinations with required
passing scores. Out of 12 recently hired NPs, 10 were novices. While mentorship was not a primary component of their onboarding program, it was utilized by pairing the novice with an experienced NP in a different practice area. While the mentoring relationship was not required, it was cited as a valuable tool to allow the novice to express issues and frustrations associated with role transition. In the four years following implementation of the onboarding program, 10 of the 12 NPs were retained in the practice area (Langley et al., 2018).

Robeano et al. (2019) implemented a phased onboarding process in a rural health system for their new hire, new-to-practice NPs with the goal of improving retention. The process consisted of a rigorous selection and recruitment process, formalized pre-arrival credentialing assistance, and standardized progressive objectives for their first year in practice. The health system also established a “Center for Provider Wellness” to emphasis transitional support for the NP and their family. The authors describe a peer mentorship component to the program, with one administrative peer mentor assisting the NP with initial onboarding for two days, followed by an NP peer mentor for the new hire to shadow for several shifts. Finally, the new NP was assigned to work with a physician, who carried a lighter workload on days that they were mentoring the NP. The goals of this mentoring component were to answer questions, integrate the new hire into the organizational culture, supervise the NP’s patient care, and review documentation. The organization received informal feedback that personal actions like a welcome basket, the onboarding training itself, and the peer mentoring were the most impactful aspects of the program. Since the program was new and there has been no turnover since its debut, its effectiveness was not quantifiable. The organization described their next steps are to start a mentorship program with the goal of curating personal connections between novice and experienced practitioners to reduce burnout (Robeano et al., 2019).
Sargent & Olmedo (2013) describe a family practice NP residency program at The Family Health Center of Worchester in Massachusetts designed to meet an increasing demand for primary care providers after healthcare reform. With limited physician residency funding and increasing patient volume and complexity due to racial and ethnic health disparities, NPs were called upon to meet the need. However, because providers were overburdened already with increasing patient needs, new graduate NPs were left without sufficient support and felt uncomfortable caring for these unusually comorbid, complex patients with multiple acute and chronic medical problems, prompting the development of a more structured transition-to-practice process. The health center conducted exit interviews due to the high turnover rates, and novice NPs described “. . . feelings of being ill prepared for the expectations of their new role and a lack of support” resulting in job dissatisfaction and high turnover (Sargent & Olmedo, 2013, p. 604). The health center conducted a needs assessment of 100 graduating NP students with a 40% survey response rate. 80% of the students reported feeling confident, autonomous and comfortable providing standard primary care, but 70% of the students reported feeling “somewhat uncomfortable” in the NP role. Of a smaller focus group of four family practice NPs, themes emerged including the desire for a more structured transition to practice program, needing protected time for developing specialized skills, experiencing anxiety associated with lack of support, and discomfort with unapproachable or busy physician colleagues. In response to this needs assessment, an NP residency program was developed to hone clinical skills and improve clinical confidence in the new graduates (Sargent & Olmedo, 2013).

Sargent & Olmedo’s (2013) residency program was a 12-month clinical and didactic experience, which included clinic visits with assigned preceptors, interdisciplinary chart rounds, specialty clinic rotations, bimonthly classroom lectures, protected time to catch up on
documentation and ask questions, participation in administrative and committee work, interprofessional Balint training, and monthly mentorship meetings to review clinical cases and patient care issues. Novice NPs were recruited via an electronic newsletter. Of the 40 applications that were received annually, on average about five NPs were invited to interview for the program. The program was funded by grants to offset the deficit of the operating costs from the lower revenue that an NP residency brings. Evaluation of this residency program is ongoing, using reflective essays, the NP preparedness survey, and the NP Clinical Confidence Assessment self-evaluation tool. Some challenges this health center encountered with introducing this NP residency program included limitations in physical space, supportive funding, resources for the academic curriculum, and administrative backing (Sargent & Olmedo, 2013).

Huffer (2017) describes an orientation and mentoring program for novice pediatric critical care NPs in development at St. Louis Children’s Hospital. Implementation and evaluation of this program is ongoing. The previous process for novice NPs included a six-month unit-specific program with three or more preceptors who directed the content based on the orientee’s perceived deficiencies. The previous orientation process lacked formal structure and measurable outcomes. A needs assessment survey conducted in the critical care areas revealed confusion about the orientation process, role uncertainty on the part of the preceptors, and miscommunication about required paperwork. Additionally, the novice NPs reported feelings of “anxiety, frustration, and lack of confidence in the knowledge acquired during orientation” (Huffer, 2017, p. 11). The new orientation and mentoring program consists of weekly didactic sessions covering seven modules organized by organ system, including review articles and PowerPoint lectures by PICU faculty and content experts. Each novice NP is assigned a mentor and will meet weekly to review cases and discuss content based on areas of weakness from an
assessment of the novice upon hire. Outcomes will be assessed by quizzes for content retention and checklists for procedural competency (Huffer, 2017).

To improve the novice transition to practice experience, some national organizations have issued statements or created toolkits to guide institutions in addressing role transition and improving retention. The National Association of Neonatal Nurse Practitioners developed a mentoring toolkit to encourage more RNs to pursue graduate school and improve retention of neonatal NPs, however no studies have been published evaluating the implementation or efficacy of this toolkit (Moss & Jackson, 2019).

**Barriers to Mentorship Programs**

There are some barriers to creating mentoring relationships in NPs. While some residency programs have received positive feedback, a lack of funding is prohibiting more programs from starting (Czapiewski, 2017). Mentorship programs also face barriers including cost, time constraints, competing demands on the mentee and mentor, personality differences, lack of education on the mentoring process, and lack of organizational support (Czapiewski, 2017). It’s necessary for both parties to dedicate time to the relationship, and in the case of formal mentorships, time to complete mentorship training (Moss & Jackson, 2019). Some experienced NPs feel that they lack mentoring skills or feel uncomfortable in the mentor role, so they may be less likely to volunteer (Moss & Jackson, 2019). Additionally, availability of experienced and willing mentors is limited (Moss & Jackson, 2019).

**Critique and Synthesis of Current Evidence**

Existing literature encourages the establishment of a formal mentoring program for novice NPs to improve transition to practice, job satisfaction, and retention (Czapiewski, 2017; Faraz, 2017; Faris et al., 2010; Fitzpatrick & Gripshover, 2016; Harrington, 2011; Horner, 2017;
Huffer, 2017; Kaminski et al., 2018; Langley et al., 2018; MacLellan et al., 2015; Moss & Jackson, 2019; Owens, 2018; Robeano et al., 2019; Sargent & Olmedo, 2013; Thabault et al., 2015; Weiser, 2018; Yuill, 2018). However, research is lacking on the specifics of developing and maintaining successful NP mentorship programs (Faraz, 2015). The existing literature guiding the design of evidence-based mentorship programs is sparse. In developing and evaluating mentorship programs in NPs, the program’s definitive characteristics, structure, and content needs to be tested to provide guidance for institutions nationwide to implement a mentorship program for their novice NPs.

Existing studies lack rigor and adequate power; the majority of the evidence is retrospective studies and the few prospective studies are limited by very small sample sizes. Additionally, the role experiences in these settings are very dissimilar, such as retail healthcare, family medicine, inpatient hospitals, and critical care. Given these very different settings and different NP roles, it is difficult to synthesize this data to draw conclusions. Only one study took place in a pediatric critical care setting, and implementation and evaluation of the program is still forthcoming (Huffer, 2017). Based on the LEGEND criteria for evaluating the body of evidence the quality of the existing research on mentorship to improve role transition in novice NPs is very low and recommendations cannot be made. The body of research would benefit from a prospective study evaluating the effect of mentorship on the RN to NP role transition with quantifiable measurable outcomes.

**Rationale for Project**

The benefits of mentorship programs for easing transition to practice and improving retention of novice NPs have been shown to be impactful and have been repeatedly recommended as a focus for further research (Faraz, 2017; Faris et al., 2010; Fitzpatrick &
Gripshover, 2016; Harrington, 2011; Hill & Sawatzky, 2011; Horner, 2017; Kaminski et al., 2018; MacLellan et al., 2015; Owens, 2018). For the novice NP, the transition to practice is as important as the final outcome; it is crucial in not only shaping the NP’s new identity, but also encouraging retention (Faraz, 2017; MacLellan et al., 2015). Finding ways to support the novice NP through their role transition will reap benefits in growing knowledgeable and experienced NPs to provide cost-effective and reliable care to vulnerable patient populations.

The body of evidence evaluating the effect of a mentorship program in novice NPs is limited. This thorough systematic literature review sheds light on the potential of a mentoring relationship to improve transition to practice and job satisfaction, which may ultimately lead to better retention rates for novice NPs. There is a need for a pre-post design pilot study to directly evaluate the influence of a mentorship program on these desired outcomes.
Chapter III

Methods

This research study was designed to assess the impact and feasibility of the implementation of a formal structured mentorship program on role transition in novice NPs in a pediatric critical care setting. This chapter will describe the program design and evaluation. The outcomes may contribute to the limited body of evidence on interventions that support the RN to NP role transition and could guide, inform, and impact the format of NP mentorship programs nationwide to address the growing issue of NP turnover.

Design

This is a translational research project built on the body of evidence supporting formal mentoring as an asset in professional role transitions. The study was designed as a descriptive, quasi-experimental pilot study with a pre-post evaluation design. Critical care NPs at a large urban pediatric teaching hospital in the northeast United States were recruited to participate in the program. The participants were divided into two cohorts, mentees and mentors, based on months of experience in the NP role, mentees having less than 18 total months of experience as an NP, and mentors having greater than 24 months of experience as an NP at the study site. Enrollment was voluntary and ended on a predetermined date. To enroll, participants completed an online survey which collected demographic data. The demographic data filtered out applicants based on inclusion and exclusion criteria, leaving only qualifying participants to be enrolled and continue in the survey. The mentee survey included validated instruments to measure job satisfaction, role transition, and IP characteristics. The mentor survey included only the job satisfaction instrument. All participants were prompted at the end of the survey to view short instructional videos on effective mentorship and attest to their viewing. The mentor/mentee dyad
pairing process was conducting using an anonymous matching procedure developed for this study based on career goals and Chao et al.’s (1992) mentoring functions. Participants were then notified of their pairing to approve the match. Once the match was finalized, the mentor-mentee dyad was instructed to meet monthly in one-hour private free-form sessions and have one “touch point” in between each session. Materials were developed for this program for the dyad to use at their discretion during the sessions (Appendix A). Program duration was six months. At the six-month mark, the mentees completed a post-program survey including the three measurement tools and free-text qualitative feedback about the program. The mentors completed a post-program survey consisting of the job satisfaction tool and qualitative feedback about the program. The primary aim of this study was to determine the effect of a six-month formal reflective mentorship program on job satisfaction, role transition, and IP characteristics in novice inpatient pediatric critical care NPs. The secondary aims of this study were to evaluate the effect that participating in a mentorship program had on job satisfaction in the mentors, evaluate for correlation between years of RN experience and ease of role transition in the novices, and evaluate the feasibility and barriers to implementing this type of mentorship program in the pediatric critical care setting.

Cost/Benefit Analysis

The direct costs of creating materials for the program were minimal. Creating the recruitment flyers, video script, and monthly session materials required about 16 hours of time. Free web applications were used to create the flyers and documents for each mentoring session. Moovly, a video-editing web application, was used to create the training video, which was a one-time cost of $49, and recording the videos required about 24 hours of time.
While the study participants did not receive compensation, there are some time costs to the participants depending on when they conduct their mentoring sessions, either before, during, or after a shift, or outside of work. If these sessions occurred during work hours, the time spent in the mentoring session could have been used for other meetings or for documentation so there is some lost productivity. If these meetings would occur outside of work hours, it may be a burdensome commitment to participants to make time for the sessions without compensation. If these sessions were added into the NPs’ work schedules as additional non-clinical time, it would cost the equivalent of one hour of pay for each participant per session, or two hours of pay per dyad per month. Multiply this cost by the six-month duration of the program and the final cost is 12 hours of pay per dyad for participation in the program. The current moonlighting rate for NPs in this role at this institution is $70 per hour. While this rate is higher than the regular hourly rate for less experienced NPs, it is slightly lower than that of very experienced NPs, so $70/hour will be used as a conservative estimated hourly rate. Therefore, the cost of each novice NP to be matched with a mentor for a six-month mentoring program would be $840. An alternative option would be to provide compensation in the form of gift cards in exchange for their participation in the program, or a group dinner or reception at the end of the program. Depending on the participants’ perceptions of reasonable compensation for their time, gift card amounts could range from $50-100 per participant, or $100-200 per dyad. A group dinner or reception at the end of the program would cost up to $50 per attendee, or $100 per dyad, for food, supplies, and decorations. Depending on availability of funds, a reception could be offered in addition to, or in lieu of, the gift cards.

Implementing a mentorship program would include the cost of a program director to create, maintain, evaluate, and modify the program content and structure, make mentor-mentee
assignments, and address any issues that may arise within the dyads. Maintaining the mentorship program would likely not be the program director’s only responsibility. At the study site, there is an NP role dedicated to the professional development and continuing education of advanced practice providers. The responsibility for maintaining a novice NP mentorship program would fall easily under this role’s purview. A generous estimate of the salary for this NP role at this institution is about $120,000 per year. The time to create materials, modify the program structure, and continuously maintain the program is estimated to be up to four hours per week, or 10% of a full-time appointment, costing about $12,000 per year. Depending on the other active responsibilities of the NP professional development role, this 10% effort could be incorporated into their job description without a change in salary, creating no additional cost to the institution. Otherwise, a program manager could be hired at a 0.1 full-time equivalent (FTE). The starting salary for NPs at this institution is about $95,000 per year, so this 0.1 FTE position would cost about $10,000. Additionally, to start the program, there would be a one-time requirement of 40 hours of effort mentioned previously to create the session materials, recruitment materials, and training videos.

Meanwhile, the cost savings that can result from reducing employee turnover is compelling. Melnic, an advanced practice nurse recruiting agency, created a spreadsheet to help health systems calculate the cost of NP turnover (Gililand, 2019). By inputting the hourly and salary rates at the study site, the cost to hire and train a newly graduated NP is estimated to be about $98,000, which includes the novice’s salary during orientation, the preceptor’s lost productive time, and conservative on-boarding costs (relocation, credentialing, recruitment, and other office costs). “On-boarding” refers to the paperwork, credentialing process, licensing, and mandatory e-learnings that are involved in the hiring process. “Orientation” refers to the
probationary training period where the novice is working on the unit in their new role with a preceptor, learning the workflow and the intricacies of the role before practicing independently. Beyond the on-boarding costs and the costs of a preceptor during orientation, the unit’s employee deficiency remains until the novice has completed their entire orientation period, as they are observing the preceptor’s patient load rather than taking on their own patient load. This gap in coverage requires moonlighting to cover the vacant shifts until the novice has completed orientation, costing an estimated $52,000 per orientee based on the study site’s four-month training period and hourly moonlighting rate. Assuming that a new hire is immediately on-boarded and begins orientation on the day that an employee leaves their position, the cost of one turnover cycle is about $150,000.

However, there is often a lag time between the position becoming vacant and recruiting, hiring, and on-boarding a new employee; the moonlighting to cover the shifts of one NP vacancy is estimated to add $13,000 for each month until the new hire is fully on-boarded. A conservative estimate of a three-month vacancy period until a new employee has completed on-boarding for this study site adds a cost of $39,000, bringing the total cost of NP turnover to $189,000. This is a conservative estimate compared to existing literature, which cites turnover costs of $250,000-300,000 (Gililand, 2019). Based on the number of NPs at the study site, an institution-wide reduction in NP turnover by 1% would result in a cost savings of more than $850,000. Additionally, this does not take into account lost revenue, closed bed spaces, or diverted patients due to inadequate staffing. The study site does not close beds or divert patients, so these factors were not factored into this cost analysis.

The projected cost-benefit ratio of a formal structured mentorship program at this study site favors the program’s implementation. The cost of one NP turnover cycle is calculated to be
about $189,000, while enrolling one novice NP in the mentorship program could cost $100-$840 depending on the type of compensation, gift cards, or reception that is chosen as an incentive for participation. Meanwhile, one program director to maintain the mentorship program would cost up to $10,000 per year. Additionally, retaining an NP past the first two years of employment (the duration of the RN to NP transition) adds to the diversity of the interdisciplinary team and the provision of high-quality patient care, providing lasting benefits to the institution. The NP would also become more efficient and competent over time, meaning that improved retention over the following years continues to add to cost savings.

**Project Sponsors**

The project topic, data points, planned analysis, and intervention were approved and supported by the unit manager and NP team lead of each of the critical care units within the organization, in addition to the study site’s director of advanced practice nursing. The study procedures, protocols, and materials were eligible for exempt status by the Institutional Review Board at the study site.

**Population: Sample and Setting**

The study site was a large, urban pediatric teaching hospital in the northeast United States. The hospital contains five critical care areas: the pediatric intensive care unit (PICU), progressive care unit (PCU), cardiac intensive care unit (CICU), cardiac care unit (CCU), and neonatal intensive care unit (NICU). Each area has one NP group except for the NICU, which has two groups: medical and surgical. All PICU NPs cross-cover in the PCU, but there is a separate cohort of NPs that solely work in the PCU. Each critical care area has a team of providers including NPs that operate in Front-Line Ordering Clinician (FLOC) roles. The FLOC is a trained and licensed clinician providing direct inpatient care to a pre-assigned set of patients,
including diagnosing, evaluating, and treating medical conditions, and performing procedures as determined by their scope of practice under the supervision of an attending physician. Each intensive care NP group has an advanced practice team lead. Supervising the team leads, there are three NP managers, one for the PICU and PCU, one for the CICU and CCU, and one for both NICU groups.

The study site has instituted an advanced practice provider advancement model that categorizes NPs into four groups: entry level, clinical leader, expert, and master. The entry level NP is defined as a novice and advances automatically to the clinical leader stage at two years of employment. In the existing research, the RN to NP role transition is usually defined as lasting between one to two years. The study site for this program permits novice NPs who are not yet credentialed to officially start a position on their hire date, but shadow various roles around the hospital for weeks to months until the credentialing process is completed. This period, while educational for the novice, delays the “true” start of their RN to NP transition since they are not yet acting in the NP role. To allow for this additional credentialing time that many new hires require, and to be congruent with the site’s NP advancement model framework, for the purpose of this study the cutoff for defining the end of the novice period is two years from their employment start date.

Mentee participants were pediatric NPs who were employed at least a 0.6 full time equivalent in the eligible critical care areas who volunteered to participate in the mentorship program. NPs with less than 18 months of employment in their first NP position at the time of enrollment were eligible to participate as mentees. NPs with more than 24 months of employment as an NP at the study site at the time of enrollment were eligible to participate as mentors. NPs with 18-24 months of clinical experience were excluded to avoid transitioning out
of the novice period during the program. All participants were required to usually spend at least 50% of their appointment fraction in the FLOC role. Additionally, any NPs holding a supervisory or leadership position were excluded from participating to avoid a hierarchical undertone in the mentoring dyad.

**Instruments**

Each participant completed a demographic questionnaire to enroll in the study. Data included gender, age group, race, ethnicity, years of beside nursing experience prior to starting as an NP, unit where they currently work, date of hire in their current position, their current role at work (FLOC vs clinical nurse specialist vs manager, etc.), whether this position is their first job in the NP role, total years as an NP, total years working in their current unit, full-time or part-time status, and how much time elapsed between graduation and starting their first NP job. They were also asked whether they had participated in a formal mentorship program in the past, and whether they had a mentor at the time of survey completion. Finally, they were asked to identify their main career interests and what they were hoping to gain from the mentoring relationship, by “checking all that apply.”

To quantify the RN to NP role transition, three measurement tools were used to measure job satisfaction, role transition, and IP characteristics: The Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS) (Misener & Cox, 2001), The Nurse Practitioner Role Transition Scale (NPRTS) (Strange, 2015), and the Clance Impostor Phenomenon Scale (CIPS) (Clance, 1985). These three measurement tools were administered to the mentees at time of enrollment and at the six-month point. The MNPJSS was administered to the mentors at time of enrollment and at the six-month point.
The MNPJSS was developed based on the Herzberg dual-factor theory of job satisfaction and McCluskey’s three types of rewards for nurses; the dual-factor theory implies that job satisfaction and dissatisfaction are two separate concepts (Misener & Cox, 2001; Pasarón, 2013). In the MNPJSS, job satisfiers are intrinsic and consist of achievement, recognition, responsibility, and role advancement; job dissatisfiers are extrinsic and consist of salary, administration, benefits, working conditions, and interpersonal relations (Misener & Cox, 2001). The survey has 44 items ranked on a six-point Likert scale and examines six factors of job satisfaction, including 1) intrapraction partnership and collegiality; 2) challenge and autonomy; 3) professional, social, and community interaction; 4) professional growth; 5) time; and 6) benefits. The scale has high internal reliability and strong validity testing, with Cronbach’s alpha = 0.96 (Misener & Cox, 2001). The scale was initially developed for use with primary care NPs, and validated as such; however, it has been used in many studies with NP subjects of varying backgrounds and specialties while maintaining its reliability and validity (Brom, et al., 2016; De Milt, et al., 2011; Faraz, 2017; Faris et al., 2010; Horner, 2017; Pasarón, 2013).

The NPRTS is a newer instrument designed to measure the factors that impact successful NP role transition and role acquisition during the first year of practice (Strange, 2015). The scale measures three factors of role transition: 1) role confidence, comfort, and competence; 2) collegial relationships; and 3) understanding of the role by clients. The scale has undergone two revisions and the most current version (v. 3) will be used in this study; this version contains 18 items ranked with a five-point Likert scale examining the three factors of role transition. Content validity was determined by an expert panel, construct validity by exploratory factor analysis, and the tool demonstrated strong internal consistency (Cronbach’s alpha ranged from .88 to .92) (Strange, 2015).
The CIPS was developed to quantify characteristics of the IP (Clance, 1985). It divides the IP into three factors: fake, discount, and luck (Chrisman, Pieper, Clance, Holland, & Glickauf-Hughes, 1995). The scale is a 20-item Likert scale with strong construct and discriminant validity, and good internal consistency, with Cronbach’s alpha ranging from .84 to .96 in multiple validation studies. The CIPS has been utilized in numerous studies about the IP in many professions (Chrisman et al., 1995; Leach, Nygaard, Chipman, Brunsvold, & Marek, 2019; Rohrmann, Bechtoldt, & Leonhardt, 2016; Vergauwe, Wille, Feys, De Fruyt, & Anseel, 2015).

**Procedures**

**Recruitment**

Participants were recruited from the PICU, PCU, CICU, CCU, and NICU. Advertisements included short oral presentations about the program at staff meetings, email flyers, email reminders, and posted flyers in each team’s office space. Review of eligibility was determined initially by termination logic built into the online survey. The responses were then reviewed by the lead investigator to ensure inclusion and exclusion criteria were met. Participants that did not meet all of the inclusion criteria and/or had one or more exclusion criteria were not enrolled.

Inclusion criteria required that the participant work primarily in the PICU, PCU, CICU, CCU, or NICU, or any combination of those units. Participants were required to be employed as an NP in the FLOC role for at least 50% of their appointment and speak English as their primary language. NPs with 18-24 months of clinical experience as an NP were excluded to avoid transitioning out of the novice period during the intervention. NPs with less than 18 months of experience who were in their first NP position were eligible to be mentees. NPs with more than two years of experience as an NP at the study site were eligible to be mentors. NPs who
primarily functioned in roles other than the FLOC or who held any type of leadership position such as team lead or manager were excluded. Also, NPs who could not agree to the terms of the monthly mentoring sessions were excluded.

Projected recruitment was approximately 15 dyads, with 15 participants in the mentee cohort and 15 in the mentor cohort, totaling 30 study participants, based on conversations with the team supervisors about their projected hiring. All participants meeting inclusion and having no exclusion criteria, and who completed at least the pre-intervention survey in totality, were included in the analysis. To detect a “medium” effect (0.5) using Cohen’s $d$ and a significance level of 0.05, and 0.8 power, the minimum sample size would be 34 participants in each cohort. At the study site, the population of employees eligible to participate was smaller than this minimum sample size. Because an aim of the study was to determine feasibility of this mentoring program, this study was conducted as a pilot.

A recruitment email was sent to all NPs working in the designated areas. The email described the mentoring program and asked them to consider participating in the program. The recruitment email contained two separate public survey links, one for those interested in participating as mentors and one for those interested in participating as mentees. Termination logic was used to divert participants who may have clicked on the incorrect survey link. A reminder email was sent every seven days for a total of three reminders, keeping the survey open for a total of four weeks. Enrollment as this deadline approached was low, so the deadline was extended. Participants who had incomplete surveys as the deadline approached were reminded to finish the survey with individual emails sent through the survey database.
Ethical Considerations

This was a minimal risk study. Self-report surveys related to psychological feelings about stress at work can elicit temporary and mild negative feelings in some participants. However, the likelihood of participants experiencing prolonged or substantial distress was low. The online survey took time to complete, which some participants could have found to be temporarily and mildly distressing. To prevent participants from feeling distress related to the time commitment of taking the survey, participants were able to save their progress at any point to allow completing the survey over more than one sitting. The survey was tested before the start of the study by five individuals in roles similar to the participants who would not be participating in the study. The time range for survey completion was 8-17 minutes, averaging about 14 minutes. Participants were asked to adhere to the structure of the mentorship program which also required a time commitment. Participants had the opportunity to withdraw from the program at any time without prejudice.

There is risk that a mentoring relationship could become tumultuous and hostile. All participants were instructed in their training materials to contact the lead investigator if the relationship caused any strain, discomfort, or stress on the participant. The lead investigator would then end that dyad’s relationship and participation in the program, and hold individual meetings with both the mentee and mentor participants to screen for mental health and safety concerns. If the difficulties experienced in the relationship appeared to have risk of entering the work environment outside of the mentorship program, the participants would be advised by the lead investigator to contact their team lead to seek support and potential mediation.

In the unlikely event of a participant needing psychological treatment due to adverse effects of study participation, a project team member would be responsible to make appropriate
referrals at the study site and report serious concerns to the IRB. Study participants were instructed in the training videos to report any concerns about the mentor or mentee’s mental health and safety to the project team. The participants were directed to not give mental health or medical advice, and to instead give contact information for the employee assistance program at the study site. This information was also written at the bottom of each of the monthly session materials. If any such issues rose, the lead investigator would hold an individual meeting with the participant to screen for mental health and safety, and provide contact information for the Employee Assistance Program if appropriate.

**Data Collection and Management**

At the time of pre-intervention survey administration, the participants were each automatically assigned a record ID number so that the pre and post data could be matched. Data was collected, managed, and stored using the research-focused electronic web-based data capture system REDCap, under an agreement with the software’s development consortium, led by Vanderbilt University. Confidentiality was ensured by REDCap’s internal controls. PHI collected in the survey included the date of hire in the subject’s current position at the study site to quantify clinical experience for analysis purposes, the unit of employment for mentor matching purposes, and the participants’ email addresses for survey administration and program material dissemination purposes. This PHI and any subject identifiers will be kept for three years. The data will be backed up to the hospital’s secure server, ShareFile. Only project team members (lead investigator and principle investigator) will have access to the ShareFile. For statistical analysis, the data was exported without PHI for the statistician to access. Data backup is performed nightly via a dedicated backup system at the institution. A dedicated staff using dedicated resources maintains the backup environment. Access to the backup environment is
restricted to Information Systems staff.

All data and records generated during the study were confidential and compliant with institutional policies and HIPAA. Mentees and mentors will not have access to each other’s survey answers. The investigators did not use the data and records for any purpose other than conducting this study.

Informed Consent

Informed consent to participate was obtained electronically through a consent form (one for the mentor role and another for the mentee role). Participants were informed during the consent process that their decision whether to participate in the research would not affect performance evaluations or their employment, and that their responses and decision to participate would not be shared with their supervisors. A copy of the consent form was provided to the participants.

Training

Training videos were embedded on the last page of the enrollment survey. The mentee survey had a five-minute instructional video detailing tips to developing a strong and beneficial mentoring relationship. The mentor survey had a different five-minute instructional video detailing tips on effective mentoring. A required attestation was included on the video page to verify that the participants watched their respective training video.

Mentor-Mentee Matching Procedure

The matching procedure was carried out the day after the enrollment survey closed. Pairings were made based on record ID so the participants remained anonymous to the study team. The matching algorithm consisted of four levels. First, mentors and mentees were matched based on area of work. Pairings would initially be made within the same unit. If there was a lack
of sufficient participants to create a dyad, pairings would be made across similar units: across the CICU and CCU, across the PICU and PCU, and across both teams in the NICU. If there were still inadequate participants to make a dyad, or if there were multiple participants in the same units, the pairing process would continue to the second level. The second level matched participants based on aligned career interests indicated on the pre-program survey. The third level matched participants by aligned desired mentoring functions. If there were multiple potential matches after narrowing by these three criteria, the fourth level would match participants using a random number generator.

The mentees were given their assigned match and had three full business days to approve the match or request a different mentor. If a different mentor was requested, the matching procedure would be examined to look for remaining mentor volunteers who were not assigned a mentee. The mentee would then be given their new mentor assignment and again have three full business days to approve the match or request a different mentor. If the mentee again asked for a different mentor, the process would be repeated one last time (a total of three offered mentor pairings). If the mentee did not approve the third mentor, they would be disenrolled from the study. Once a mentee approved the mentor, the mentor was notified of the match and was given three full business days to approve the match. If they did not approve of the match, the process would start over and the mentee would be assigned a different mentor using the matching procedure. If the mentee or mentor did not respond in the 3-business day window, the pairing was automatically approved.

**Program Implementation**

After receiving the match, the mentor participants were responsible for contacting their mentee match via email. Mentor/mentee dyads met monthly for one hour on a mutually
determined date and time. The meeting could occur at work during a shift, before or after a shift, or outside of work. Half of the meetings could be conducted via phone call in lieu of meeting in person. For each meeting, the mentors and mentees were each supplied with a list of optional prompts and discussion starters (see Appendix A). In between each mentoring session on the mentor’s own schedule and discretion, they were responsible for one “touch point,” which is a less formal check-in than the mentoring session. The touch point could be a text message, email, phone call, or in-person meeting; the touch point could be simply checking in, offering support, sharing articles or resources, or any piece of information that the mentor believed would be helpful to the mentee at that point in the relationship. The mentee was not required to respond in order for the mentor’s actions to qualify as a touch point. In total, the program consisted of six in-person mentoring sessions (up to three of which could be over the phone) and six touch point efforts from the mentor, making a total of 12 key events. The mentor subjects were asked to email the lead investigator on the day of each mentoring session to report that the mentoring session and one touch point had occurred.

**Post-Program Implementation Data Collection**

A post-program survey was administered via personalized email link to the study participants on day 180 of the program. Three reminder emails were sent automatically via REDCap to non-responders weekly. The survey closed 28 days after the last day of the program. The links were individualized based on record ID in order to pair post-intervention survey responses with the pre-intervention survey responses.

For participants in the mentee role, the survey contained the same items from the MNPJSS, NPRTS, and CIPS instruments along with one question about which mentor functions were provided to them in the relationship. For participants in the mentor role, the survey
contained only items from the MNPJSS and one question about which mentor functions they
provided to the mentee. Additionally, both surveys included free-text items asking the
participants to describe specific benefits they gained from the program and suggestions for
improvement.

Data Analysis

Baseline survey results and demographic characteristics were summarized by standard
descriptive statistics, including means, medians, minimum and maximum values for continuous
variables, and frequencies and proportions for categorical variables. The analysis included all
subjects meeting all inclusion and having no exclusion criteria with completed pre and post-
program surveys. To analyze the primary aim, paired t-tests examined the difference in the
mentees’ mean survey scores for each of the three instruments. For the secondary aims, the
mentor MNPJSS scores were analyzed with a paired t-test of the pre-program scores and post-
program scores to evaluate any change during their participation in the program. Complete pre-
program surveys of unmatched mentors were included in the MNPJSS pre-program descriptive
statistics. Regression was used to illustrate any association between years and type of RN
experience and pre-intervention role transition scores.
Chapter IV

Results

This chapter will review quantitative results of the study from the survey instruments and feedback from the post-program evaluation. Additionally, the barriers to implementation and feasibility of the program will be discussed.

Participants

Recruitment began with flyers, email notifications, and the study team speaking at two of each team’s monthly NP administrative meetings. At the end of the four-week recruitment period, only 14 participants had started the survey. The deadline to sign up was extended by two weeks with additional recruitment measures in place, including weekly reminder emails with the survey links, appearing again at NP administrative meetings to answer questions, and sending emails to team leads and managers to remind their staff of the approaching deadline. Enrollment upon the new deadline was still low, with only three more participants having entered the survey. The deadline was extended by one additional week, after which it was closed, with a total of 19 participants having started the survey.

Of these 19 participants, seven participants had signed up to be a mentee and 12 participants had signed up to be a mentor. Of the seven mentees, three were ineligible to participate because they exceeded the limit for number of days of NP experience, meaning they were no longer in the defined novice period. The remaining four mentees were enrolled and completed the pre-program surveys and procedures. Of the 12 mentors, one was ineligible to participate because they did not meet the minimum number of days of experience, and one was ineligible for the study because they were employed at less than a 0.6 FTE effort. The remaining 10 mentors then completed the pre-program surveys and procedures. It was discovered prior to
the matching process that one mentor did not disclose their leadership position in the inclusion and exclusion criteria, so they were disenrolled from the study, leaving a total of nine mentors.

**Demographics**

**Novice Nurse Practitioners**

Mentee demographic data is fully presented in Table 1. The four novice NPs were all female and all identified as white without Hispanic origin, with 75% between 20-29 years of age and 25% between 30-39 years of age, creating a notably homogenous sample. However, the areas of work were well-represented with all four novice NPs coming from four different teams. The novice NPs had an average of about 5.2 months of experience in their role upon enrollment (\(SD = 2.9\) months). The sample had an average of 7.3 years of nursing experience (\(SD = 5.2\) years) before becoming an NP. One participant (25%) reported participating in a mentorship program in the past in some capacity, but none of the participants reported ever having a formal or informal mentor.

The participants were asked about their main career interests and were able to select multiple options. All (100%) of the novice NP participants were interested in education, 75% in quality improvement, 50% in research, and 25% in patient safety. No participants expressed interest in administration or leadership. Participants were asked which mentoring functions they hoped to gain from the mentorship program and were able to select multiple options. Challenge and counseling were the most desired factors at 75%, followed by 50% seeking friendship, sponsorship, exposure, and visibility. One participant (25%) was seeking acceptance, and no participants reported desiring protection.
Table 1
*Mentee Demographics* \( (n = 4) \)

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<th>( n )</th>
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<td><strong>Desired Mentoring Functions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friendship</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Acceptance</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Counseling</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>Sponsorship</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Protection</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Challenge</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>Exposure</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Visibility</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td><strong>Days of experience since hired</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( M )</td>
<td>156.3</td>
<td></td>
</tr>
<tr>
<td><strong>SD</strong></td>
<td>87.2</td>
<td></td>
</tr>
<tr>
<td><strong>Years of nursing experience before becoming an NP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( M )</td>
<td>7.3</td>
<td></td>
</tr>
<tr>
<td><strong>SD</strong></td>
<td>5.2</td>
<td></td>
</tr>
</tbody>
</table>
**Experienced Nurse Practitioners**

Mentor demographics are fully presented in Table 2. Of the nine mentors that were initially enrolled in the study, one was male (11.1%), one declined to answer (11.1%), and the remaining seven were female (77.8%). One mentor identified as Asian (11.1%), one declined to select a race, and the remaining seven were white (77.8%). No respondents identified as being of Hispanic or Latin origin. The mentors represented most of the work areas including the PICU (44.4%), PCU (33.3%), surgical NICU (33.3%), and medical NICU (11.1%). The mentors’ total years of NP experience widely varied, with 22.2% having 2-4 years of experience, 11.1% with 5-7 years, 33.3% with 8-10 years, 11.1% with 11-15 years, and 22.2% with more than 16 years of NP experience. Most of the mentors’ NP experience occurred at the study site with the average duration of employment at the institution being about 7.7 years ($SD = 2.7$ years). The mentors had generally spent most of their time at the institution in their current role, with 55.6% of the mentors in their current role for 8-10 years. The remaining mentors had been in their current role for 2-4 years (22.2%) and 5-7 years (22.2%). On average, the mentors had 7.7 years of RN experience ($SD = 4.6$) prior to becoming an NP.

Looking at the mentors’ experience with mentoring relationships, 22.2% of them reported having participated in a mentorship program in some capacity, and 33.3% reported that they currently have a mentor or had one in the past. The career interests of the mentor group were similar to the mentee group, with 88.9% interested in education, 44.4% in quality improvement, 33.3% in patient safety, 22.2% in research, 22.2% in administration and leadership, and 11.1% in ethics. Mentors were then asked which mentoring functions they would feel comfortable providing. Most of the mentors (88.9%) indicated that they felt comfortable providing counseling in a mentoring relationship. Mentors also indicated that they could provide friendship and
acceptance (66.7%), visibility (55.6%), challenge and exposure (44.4%), protection (33.3%) and sponsorship (11.1%).

Table 2
Mentor Demographics

<table>
<thead>
<tr>
<th></th>
<th>Matched with Mentee (n = 4)</th>
<th>All Mentors (n = 9)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-39 years</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>40-49 years</td>
<td>1</td>
<td>25</td>
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<tr>
<td>50-59 years</td>
<td>1</td>
<td>25</td>
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<tr>
<td>Gender</td>
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<tr>
<td>Male</td>
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<td>0</td>
</tr>
<tr>
<td>Female</td>
<td>3</td>
<td>75</td>
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<tr>
<td>Declined to Answer</td>
<td>1</td>
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</tr>
<tr>
<td>Identify as Hispanic</td>
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<td>0</td>
</tr>
<tr>
<td>Race</td>
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<tr>
<td>White</td>
<td>2</td>
<td>50</td>
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<tr>
<td>Asian</td>
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<td>25</td>
</tr>
<tr>
<td>Declined to Answer</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Area of Work</td>
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<td></td>
</tr>
<tr>
<td>PICU</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>PCU</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>NICU Surgical</td>
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<td>25</td>
</tr>
<tr>
<td>NICU Medical</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Participated in mentoring program in the past</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Had a mentor</td>
<td>2</td>
<td>50</td>
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<tr>
<td>Main Career Interests</td>
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<tr>
<td>Research</td>
<td>1</td>
<td>25</td>
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<tr>
<td>Quality Improvement</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Patient Safety</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Administration/Leadership</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>Ethics</td>
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<td>25</td>
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Table 2 (cont)

<table>
<thead>
<tr>
<th></th>
<th>Matched with Mentee (n = 4)</th>
<th>All Mentors (n = 9)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Feel Comfortable Providing as a Mentor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friendship</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>Acceptance</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>Counseling</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>Sponsorship</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Protection</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Challenge</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Exposure</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>Visibility</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>Years as NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4 years</td>
<td>0</td>
<td>0</td>
</tr>
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<td>5-7 years</td>
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<td>0</td>
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<td>8-10 years</td>
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<td>11-15 years</td>
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<tr>
<td>16 years or longer</td>
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<td>25</td>
</tr>
<tr>
<td>Years on Unit</td>
<td></td>
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</tr>
<tr>
<td>2-4 years</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5-7 years</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8-10 years</td>
<td>4</td>
<td>100</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days of Experience since Hired</td>
<td>3414</td>
<td>508.1</td>
<td>2800</td>
<td>988.1</td>
</tr>
<tr>
<td>Years of Nursing Experience before NP</td>
<td>11.5</td>
<td>4.4</td>
<td>7.7</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Matching the Mentors with Mentees

All four mentees were matched with a mentor following the planned algorithm. First, the mentees were matched with a mentor within their same team, which created Dyad A. One mentee had no available mentors from their same team, and the other remaining mentees had multiple mentor matches, so they progressed to level two of the matching algorithm. In level two
matching, the mentors were matched with mentees based on career interests. All of the mentors and mentees at this level had multiple matches with equal amounts of common career interests, so they were moved to level three of the matching algorithm. Level three matching paired participants by the number of aligned mentoring functions desired by the mentee and offered by the mentor, which created Dyad B and Dyad C. The remaining mentee still had multiple matches in level three, so the mentor was chosen with a random number generator, creating Dyad D. The remaining five mentors who were not paired with a mentee were thanked for volunteering for the program, notified that they were not matched, and informed that their participation in the study had ended. The results of the study were shared with these unmatched mentors in a presentation to all NPs at the institution.

**Matched Mentor Demographics**

Though the dyad matching process was not based on demographic information beyond the area of work, research interests, and mentoring functions, the mentors who were matched with a mentee differed significantly in many ways from the mentors who were not matched (see Table 2). The matched mentors were all female and skewed older (50% ≥ 40 years old, as opposed to 20% ≥ 40 years old in the unmatched group). The matched mentors were also more experienced both as an RN and as an NP. Only 40% of the unmatched mentors had more than 8 years of experience as an NP, while all matched mentors had more than 8 years of experience, with 50% of them having more than 10 years of experience. The matched mentors had an average of 9.5 years of experience at the institution in any role (SD = 1.4 years) compared to unmatched mentors who had about 5.5 years of experience at the study site (SD = 2.2 years); additionally, matched mentors also had more years in their current role (100% with 8-10 years) while unmatched mentors had fewer years in their current role (80% with less than 7 years).
Finally, matched mentors had more years of nursing experience before becoming an NP, with an average of 11.5 years ($SD = 4.4$ years) compared to the 4.6 years of experience in the unmatched group ($SD = 1.1$ years).

The explanation for these differences between the two groups is elusive. One possibility is that the mentors who have more experience may be more comfortable performing mentoring functions that less experienced mentors would not be prepared to provide. This would suggest that the functions that the experienced mentors could provide were more aligned with the functions that the mentees were seeking. Additionally, more experienced mentors may have a more well-developed career direction and focus area, or be more prepared to mentor a novice in a variety of different career directions, increasing their chances of matching common interests, while less experienced NPs may not be comfortable mentoring a novice in an unfamiliar career focus.

**Program Implementation**

The mentees and mentors were notified of their matches and gave their approval of the match. No re-matching was required. Following approval of the matches, the six-month mentoring period began on November 20th, 2019. Session materials were sent by email monthly. Prompts that were sent to the mentees included questions to ask the mentor or suggestions to share their own experiences. Prompts that were sent to the mentors included discussion-starters to prompt the mentees to share their experiences. Each prompt sheet contained information at the bottom to contact the Employee Assistance Program or the study investigator if there were concerns about the mentor or mentee’s mental health or well-being.

The dyads confirmed by email within two months that they had each had an initial meeting. One dyad (Dyad B) expressed concerns over email that scheduling meetings around the
holiday season was difficult. One dyad (Dyad C) expressed that they were “behind” in their meetings later in the program but they had a plan to catch up to the schedule. 50% of the dyads were difficult to reach or did not respond to emails consistently. Participants were encouraged to notify the study team in real-time to confirm that each monthly meeting had occurred, but this was rarely successful. The mentors were reminded by email of the six touch points that were included in the program structure, though the occurrence of these was not tracked in the study. It was assumed that at least one point of contact would need to occur to arrange each meeting, thereby fulfilling the touch point requirement.

**Program Adherence**

According to the mentee post-program surveys, 50% of the dyads (Dyad A and B) completed all six mentoring sessions, one dyad (Dyad C) completed five sessions, and one dyad (Dyad D) completed three sessions. Of the three dyads that completed all six mentoring sessions, 58% were conducted virtually. Dyad C conducted two of their five sessions virtually. Notably, Dyad D did not host any mentoring sessions virtually and only completed three sessions.

Interestingly, there is a discrepancy in reporting the number of mentoring sessions that were held. In Dyad B, the mentee reported that they conducted six sessions, four of which were virtual, while the mentor reported that they held one session, which was not virtual. In the qualitative data submitted by the mentor, the mentor stated that scheduling meetings was problematic due to the holiday season and the COVID-19 pandemic, but that the mentor was able to mentor the mentee “regularly” while they worked together. The mentor stated that the number of meetings she reported “does not necessarily reflect the time dedicated to this relationship since most conversations were informal or ‘on-the-go.’” This discrepancy could be attributed to the mentee perceiving these informal conversations as mentoring sessions, while the mentor viewed
them as too short or too casual to be considered a full mentoring session. This is an interesting point – mentees may be receiving much more from these short “on-the-go” conversations than the mentor may realize.

**Mentee Quantitative Data**

**Misener Nurse Practitioner Job Satisfaction Scale**

The MNPJSS instrument provides an overall mean score, and mean scores for each of the six domains of job satisfaction. In this instrument, higher scores indicate higher job satisfaction. Internal reliability of these results were evaluated for each domain, and were similar to the Misener & Cox (2001) findings with a Cronbach’s alpha > .7.

In the mentees, the overall pre-program mean score was 4.8 $(SD = 0.3)$ out of a total possible score of 6, indicating that they were “minimally satisfied” to “satisfied,” which is consistent with other studies (De Milt et al., 2011; Faraz, 2017; Weiser, 2018) (see Table 3). Mentees were most satisfied with benefits $(M = 4.9, SD = 0.2)$ and challenge/autonomy $(M = 4.9, SD = 0.5)$. They were least satisfied with professional, social, and community interaction $(M = 4.4, SD = 0.5)$.

Table 3

*Misener Nurse Practitioner Job Satisfaction Scale, Mentee Pre-Post Paired T-Test (n = 4)*

<table>
<thead>
<tr>
<th></th>
<th>Pre-Program</th>
<th>Post-Program</th>
<th>$p$</th>
<th>$d$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$ (SD)</td>
<td>$M$ (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intra-practice</td>
<td>4.8 (0.3)</td>
<td>4.4 (1.1)</td>
<td>0.42</td>
<td>0.5</td>
</tr>
<tr>
<td>Partnership/Collegiality</td>
<td>4.9 (0.5)</td>
<td>4.8 (0.8)</td>
<td>0.81</td>
<td>0.0</td>
</tr>
<tr>
<td>Challenge/Autonomy</td>
<td>4.4 (0.5)</td>
<td>4.7 (0.7)</td>
<td>0.12</td>
<td>0.5</td>
</tr>
<tr>
<td>Professional, Social, and Community Interaction</td>
<td>4.8 (0.4)</td>
<td>3.6 (1.4)</td>
<td>0.14</td>
<td>1.2</td>
</tr>
<tr>
<td>Professional Growth</td>
<td>4.8 (0.4)</td>
<td>5.0 (0.4)</td>
<td>0.22</td>
<td>0.5</td>
</tr>
<tr>
<td>Time</td>
<td>4.9 (0.2)</td>
<td>5.3 (0.5)</td>
<td>0.25</td>
<td>0.9</td>
</tr>
<tr>
<td>Benefits</td>
<td>4.8 (0.3)</td>
<td>4.6 (0.8)</td>
<td>0.53</td>
<td>0.3</td>
</tr>
<tr>
<td>Overall Mean Score</td>
<td>4.8 (0.3)</td>
<td>4.6 (0.8)</td>
<td>0.53</td>
<td>0.3</td>
</tr>
</tbody>
</table>
In the post-program data, the average total score for mentees was 4.6 ($SD = 0.8$) which indicates lower job satisfaction after the program (see Table 3). While the overall mean was lower, some domains actually had improved scores; professional, social, and community interaction, time, and benefits all had higher scores after the program. This is notable especially since professional, social and community interaction was one of the least satisfied domains in the pre-program data.

Since none of the differences in domain mean scores reached statistical significance, Cohen’s $d$ was calculated in the subscales to determine if there is a meaningful effect size that was not statistically detectable in a paired $t$-test due to the small sample size. Cohen’s $d$ for the professional, social, and community interaction domain was .5, indicating a moderate effect size. This is reasonable considering that having a mentor could establish friendship and improved social interaction in the workplace. It is interesting that both the time and benefits domains had increases in scores from pre-program to post-program. This is not attributable to the program since these are institutional policies and workflow, but it is interesting that the mentee’s opinion on these domains changed so dramatically; the time domain improved with a moderate effect size ($d = .5$) and the benefits domain improved with a large effect size ($d = .9$). The improvement in the time domain could be secondary to natural improvements in speed and efficiency as the novice grew more accustomed to their workflow. However, the improvement in the benefits domain is surprising since, in the two months prior to the closure of the post-program survey, the benefits programs at the institution were reduced due to financial strain from the COVID-19 pandemic. This could reflect the mentee’s perspective that they felt fortunate that they continued to be employed, without suffering pay cuts or furlough reported by colleagues in some neighboring institutions.
Meanwhile, the professional growth domain and the intrapractice partnership and collegiality domain had lower post-program mean scores. Neither of these differences in means achieved statistical significance in paired $t$-tests, however, the professional growth domain had a sizable fall in average satisfaction scores from $M = 4.8$ ($SD = 0.4$) to $M = 3.6$ ($SD = 1.4$) with a very large effect size ($d = 1.19$). There could be many causes of this, some of which could be sequelae from the COVID – 19 pandemic including cuts to professional development funding, cancellation of recertification and educational programs, and pausing unit-based committees and conferences. Other causes could be from the mentee feeling disillusioned by planning out their future career moves, but then feeling stuck when they are unable to execute on the forward steps due to COVID-19-related institutional financial restrictions, overtime requirements, and stoppage of in-person committees, meetings, and research.

The challenge and autonomy domain was relatively unaffected with a minor decrease in satisfaction scores, and only a miniscule effect size ($d = .01$). At the study site, NP autonomy is partially controlled by the culture of the team in each practice area, but it is largely controlled by the institutional credentialing board, institution-wide policies, and state practice laws. This lack of change in scores may be related to the minimal effect that individual improvements in competency, confidence, or skill have on NP autonomy at the study site.

**Nurse Practitioner Role Transition Scale**

The NPRTS reports data in a total mean and means for each of the subscales: 1) role confidence, comfort, and competence; 2) understanding of role by clients; and 3) collegial relationships. In this instrument, higher scores indicate a more successful role transition. The mentee group’s average pre-program score on the tool was 3.5 ($SD = 0.4$) out of a possible score of 5, landing between “neither disagree nor agree” and “agree” with the statements in the
instrument, which describe features of a successful role transition (see Table 4). The mentees, therefore, took a largely neutral stance on the instrument’s items. This is a newer instrument and there is a much smaller body of research with which to compare raw scores, so it is easier to interpret the results from the trends in the subscales.

The lowest scoring subscale was role confidence, comfort, and competence ($M = 3.2, SD = 0.7$). The other two subscales had the same mean ($M = 3.9$) with collegial relationships having a slightly lower standard deviation ($SD = 0.2$). As expected, role confidence, comfort, and competence had the lowest scores in this group of novice NPs in the midst of role transition. The lowest scoring items were “I was comfortable in my role” ($M = 2.8, SD = 1.0$), “I had confidence in my decision making” ($M = 2.8, SD = 1.0$), and “I felt it was easy to transition from nurse to nurse practitioner” ($M= 2.5, SD = 1.3$). The low scores on these statements are consistent with the large body of research describing the difficult RN to NP role transition.

The respondents did not mark any items as “strongly agree” on the pre-program survey. The highest scoring items included completing responsibilities in the allotted time, collaborating with physician staff, being respected and treated as a professional, and the understanding of the

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Pre-Program M (SD)</th>
<th>Post-Program M (SD)</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Confidence, Comfort, and Competence</td>
<td>3.2 (0.7)</td>
<td>3.7 (0.5)</td>
<td>0.06</td>
<td>0.9</td>
</tr>
<tr>
<td>Understanding of Role by Clients</td>
<td>3.9 (0.3)</td>
<td>4.1 (0.6)</td>
<td>0.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Collegial Relationships</td>
<td>3.9 (0.2)</td>
<td>3.9 (0.2)</td>
<td>0.9</td>
<td>0.1</td>
</tr>
<tr>
<td>Overall Mean Score</td>
<td>3.5 (0.4)</td>
<td>3.8 (0.5)</td>
<td>0.04</td>
<td>0.7</td>
</tr>
</tbody>
</table>
NP role by the public. Notably, these high-scoring items pertain more to the culture of the workplace and don’t describe the mentee’s coping skills in role transition, feeling supported in their transition by their colleagues, or feeling confident in their role.

One aim of the study was to determine any relationship between number of years of nursing experience and success of role transition. There was a large positive correlation between years of nursing experience prior to becoming an NP and NPRTS scores ($r = .81$), meaning that more prior nursing experience was associated with better pre-program role transition scores. However, the correlation did not reach statistical significance, $p = .19$, which could be due to the small sample size and lack of power.

In the post-program data, the total mean score on the NPRTS improved to 3.8 ($SD = 0.5$) which reached statistical significance with $p = 0.04$ (see Table 4). Cohen’s $d$ was calculated at .7 suggesting a medium effect size. However, interpreting Cohen’s $d$ as it is used in educational research, a .7 effect size is classified as a large effect (Balow, 2017). This significant improvement in overall mean scores suggests improved role transition after the mentorship program. Whether this improvement in role acquisition is directly related to the mentorship program is impossible to determine without a randomized control group to adjust for confounding variables and a larger sample size. The improvement could be secondary to natural role acquisition and feeling more confident in the role over time.

Beyond the total mean score, improved mean scores were also seen across all NPRTS subscales, with the improvement in the previously lowest-scoring domain of role confidence, comfort, and competence nearly reaching statistical significance ($p = 0.06$), and with a large effect size (Cohen’s $d = .9$). The subscale of understanding of the role by clients improved without reaching statistical significance ($p = 0.6$) but with a moderate effect size (Cohen’s $d =$
.5). Collegial relationships improved only modestly with no substantive effect size ($p = 0.87$, Cohen’s $d = .08$). Across these subscales, it is evident that over this six-month period these four novices grew the most in their individual intrinsic confidence, comfort, and competence in their role as an NP. This speaks to existing literature that states this transition and formation of identity as an NP develops over the first two years in practice. Interventions made in this time period to improve this transition and mold development in the novice could have lasting effects later in their career.

**Clance Impostor Phenomenon Scale**

The CIPS instrument reports scores as a sum of the Likert point values, with cutoffs designating “few” IP characteristics (40 or less), “moderate” IP characteristics (41-60), “frequent” IP characteristics (61-80), and “intense” IP characteristics (> 80) (Clance, 1985). In this instrument, higher scores indicate more severe IP characteristics and more interference with the respondent’s life, so lower scores are desirable. The mentees’ mean score was 54.0 ($SD = 16.8$) which falls into the “moderate” category (see Table 5). The highest scoring items were “I often compare my ability to those around me and think they may be more intelligent than I am” ($M = 4.5$, $SD = 1.0$), “I have often succeeded on a test or task even though I was afraid that I would not do well before I undertook the task” ($M = 4.3$, $SD = 0.5$), “I often worry about not succeeding with a project or examination, even though others around me have considerable confidence that I will do well” ($M = 3.5$, $SD = 0.6$), and “I’m often afraid that I may fail at a new assignment or undertaking even though I generally do well at what I attempt” ($M = 3.3$, $SD = 1.7$). These statements are classic for many IP sufferers, but these statements have been also been found in the literature among novice NPs (Cusson & Strange, 2008; Fitzpatrick & Gripshover, 2016; Owens, 2018).
Table 5
Clance Impostor Phenomenon Scale, Mentee Pre-Post Paired T-Test (n = 4)

<table>
<thead>
<tr>
<th></th>
<th>Pre-Program M (SD)</th>
<th>Post-Program M (SD)</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Score</td>
<td>54.0 (16.8)</td>
<td>46.3 (18.2)</td>
<td>0.02</td>
<td>0.4</td>
</tr>
<tr>
<td>CIPS Categories</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Few</td>
<td>1</td>
<td>2</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>Moderate</td>
<td>1</td>
<td>1</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Frequent</td>
<td>2</td>
<td>1</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>Intense</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

In the post-program data, the mentees’ total mean score improved to 46.3 (SD = 18.2); this difference in means is statistically significant with \( p = 0.023 \) and a moderate effect size (\( d = .44 \)) (see Table 5). This improvement in scores indicates that the participants had significantly fewer and less intrusive IP characteristics after the mentorship program, even though the average score remained in the “moderate” category. This suggests that the mentorship program may have positively affected the novices IP characteristics, though a causal relationship cannot be argued without a randomized control group.

**Mentor Quantitative Data**

In the pre-program MNPJSS survey, the nine mentors who volunteered to participate had a mean total score of 4.5 (SD = 0.4) meaning they were between “minimally satisfied” and “satisfied” in their job (see Table 6). Looking at the MNPJSS subscales, the group was most satisfied with benefits (\( M = 4.96, SD = 0.2 \)), time (\( M = 4.8, SD = 0.4 \)), and professional, social, and community interaction (\( M = 4.8, SD = 0.6 \)). The group was least satisfied with professional growth (\( M = 3.5, SD = 0.8 \)).
Of these nine mentors, only four were matched with mentees and participated in the program. One-way ANOVA was used to compare matched mentors and unmatched mentors on pre-program MNPJSS scores. There was a significant difference among groups for MNPJSS overall score, $F(2,10) = 6.4, p = .016$ (see Table 6). Post hoc testing using Bonferroni correction indicated that matched mentors had a pre-program mean score ($M = 4.1, SD = 0.2$) that was significantly lower than unmatched mentor job satisfaction ($M = 4.7, SD = 0.3$), $p = .03$. There were significant differences among groups on the MNPJSS subscales of professional, social, and community interaction, $F(2, 10) = 5.9, p = .02$, and on intra-practice partnership and collegiality, $F(2, 10) = 9.2, p = .005$. Post hoc testing using Bonferroni corrections indicated that differences existed between matched ($M = 4.3, SD = 0.4$) and unmatched mentors ($M = 5.2, SD = 0.3$), $p = .04$, with matched mentors being less satisfied. For intra-practice partnership and collegiality, matched mentors ($M = 3.9, SD = 0.4$) had significantly lower satisfaction scores than unmatched mentors ($M = 4.7, SD = 0.3$), $p = .017$. There was a negative correlation between the MNPJSS
total score and days since hire ($r = -0.62, p = .02$) and years of nursing experience before becoming an NP ($r = -0.53, p = .06$), meaning that as years of experience as an RN or NP increased, satisfaction decreased. Since the matched mentors had on average more years of experience than unmatched mentors, the difference in satisfaction between the groups may be related to the difference in years of experience.

### Table 7
*Misener Nurse Practitioner Job Satisfaction Scale, Mentor Pre-Post Paired T-Test ($n = 2$)*

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
<th>$t(1)$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra-practice Partnership/Collegiality</td>
<td>3.7 (0.1)</td>
<td>3.1 (0.3)</td>
<td>2.0</td>
<td>.30</td>
</tr>
<tr>
<td>Challenge/Autonomy</td>
<td>4.1 (0.3)</td>
<td>3.9 (0.3)</td>
<td>0.5</td>
<td>.71</td>
</tr>
<tr>
<td>Professional, Social, and Community Interaction</td>
<td>4.0 (0.2)</td>
<td>3.9 (0.6)</td>
<td>0.2</td>
<td>.87</td>
</tr>
<tr>
<td>Professional Growth</td>
<td>3.5 (0.1)</td>
<td>1.7 (0.4)</td>
<td>9.0</td>
<td>.07</td>
</tr>
<tr>
<td>Time</td>
<td>4.4 (0.2)</td>
<td>4.5 (0.4)</td>
<td>1.0</td>
<td>.50</td>
</tr>
<tr>
<td>Benefits</td>
<td>4.8 (0.2)</td>
<td>5.0 (0.5)</td>
<td>1.0</td>
<td>.50</td>
</tr>
<tr>
<td>Overall Mean Score</td>
<td>4.0 (0.1)</td>
<td>3.5 (0.1)</td>
<td>3.0</td>
<td>.21</td>
</tr>
</tbody>
</table>

In the post-program data collection, two of the four mentors responded to the survey, giving a 50% response rate. With only two complete records, pre-post statistical analysis was limited (see Table 7). Means were compared from the two respondents, showing an overall decrease in MNJPSS total score from pre-program ($M = 4, SD = 0.1$) to post-program ($M = 3.5, SD = 0.1$), which was not statistically significant, $p = .21$. A modest increase in mean post-program scores was observed in two subscales: time and benefits. All other subscales had a decrease in mean scores, with professional growth having the largest decrease from pre-program ($M = 3.5, SD = 0.1$) to post-program ($M = 1.7, SD = 0.4$), but did not reach statistical significance, $p = .07$. Limited conclusions can be made about this data since there were only two respondents, but in these two subjects, MNJPSS scores were lower after the program compared
to before the program. Interestingly, the time subscale, which was thought to be the most likely subscale to be negatively affected by participating in the mentorship program, showed an increase in satisfaction. During the COVID-19 pandemic which occurred in the second half of the mentorship program, the hospital had a much lower patient census than usual which could have led the participants to feel that they had more time to complete tasks, translating to feeling more satisfied on the time subscale.

**Mentoring Functions**

Cross-tabulations were created to evaluate if mentees received the mentoring functions that they had desired in the pre-program survey. The most desired mentoring functions were counseling (75%) and challenge (75%). The most delivered mentoring functions from the mentee’s perspective were challenge (100%), acceptance (100%), counseling (75%), and friendship (75%). Meanwhile, the mentor respondents in the post-program survey reported that they provided counseling (100%), exposure (50%), acceptance (50%), and challenge (50%). The functions that were requested by the mentees but not received were sponsorship (50%), visibility (50%), and exposure (25%).

**Participant Feedback**

Open-ended text boxes were used to gather feedback from the mentees and mentors about the program structure, program materials and surveys, mentorship meeting schedule and content, areas for improvement, and general comments to the program organizers.

**Mentee Feedback**

Despite the lengthiness of the pre- and post-program surveys with three instruments for the mentees in addition to the demographics section, the participants stated that the surveys were “easy,” “not overwhelming,” “not too long,” with “appropriate questions,” and that they were
“helpful to reflect.” One respondent said, “The pre-program survey was thorough and presented relevant questions. I appreciated that the pre-program survey was very in-depth as I feel this presented a good ‘big picture’ of what new grads are experiencing in their first NP career.” While there was concern during program development that there were too many survey items and it could become overwhelming, instead, the mentees seemed to appreciate the thorough approach to capture everything that they were feeling in their role transition.

In terms of the program materials, the mentees said the meeting prompts were helpful, and they “... loved the topics addressed in the meetings based on tips that were sent out.” One mentee said, “I liked that there were questions/talking points to guide the meeting but freedom to exercise out of the agenda ... to give room to discuss different experiences.” The mentee from Dyad D reported that they “... spent quite a bit of time talking and covered all of the topics as suggested by the program,” which is notable since this dyad completed only three of the six sessions.

Regarding meeting frequency, mentees reported that the “frequency of meetings was perfect,” and they enjoyed the flexibility so “... we could meet when convenient for both parties.” The mentee from Dyad D found “monthly meetings were hard for us to coordinate with our schedules, but when we did meet, we spent quite a bit of time talking and covered all of the topics as suggested by the program.” Dyad D was only able to complete three meetings and conducted no virtual meetings, likely due to the scheduling difficulties described by the mentee. However, it appears that the dyad felt that they were able to accomplish the goals of the program in their fewer, albeit longer, mentoring sessions. The Dyad D mentee goes on to say, “I think meetings [sic] less frequently might be more realistic. After talking for nearly two hours during a meet-up, meeting again the following month there was not as much to talk though [sic]. I think
the meetings can be more helpful when there is time to reach the goals and make the changes that we had talked about.”

Other areas for opportunity mentioned by the mentees were to “consider grouping mentees with mentors in similar areas of work . . . might help with more relatability and guidance within their area of work.” This comment was from the mentee in Dyad C, who was paired with a mentor from a different team due to a lack of eligible mentors in her work area. This mentee went on to say that they enjoyed “learning from someone with experience who was able to validate and relate” to her. While there may be benefits from having a mentor outside of the mentee’s usual team, there are also benefits of having mentors who have gone through similar experiences and interact more frequently at work.

On the program in general, mentees gave overwhelmingly positive feedback. They enjoyed “talking through particular situations and getting guidance on what my mentor would do… tips on how to handle difficult situations. . . tips on how to acclimate to new environment.” They also enjoyed building relationships with a colleague and felt the program should continue, saying “I’d love if the program could continue and have more longevity, beyond the first year.” The mentee in Dyad D had a particularly enjoyable experience despite not conducting all six mentoring sessions. She writes:

I loved getting to know my mentor and having the chance to discuss my anxieties and what I view as personal shortcomings with. It was nice to have someone provide reassurance and help instill some confidence, that is at times hard to have in yourself. I also am really grateful regarding the advice she gave towards how to advance professionally in my career. She provided me with a list of things to do in my first couple of years and which to prioritize.
Overall, feedback from the mentees was positive, particularly in their experiences sharing with their mentor, talking through difficult situations, and soliciting career guidance. Additionally, they gave positive feedback about the program materials and surveys. Opportunities for improvement included recruiting more mentors from each unit to ensure each mentee is paired with a mentor on the same team, and allowing more flexibility for dyads who may want to have longer mentoring sessions less often.

**Mentor Feedback**

Mentors provided feedback in the post-survey as well, with two mentors completing the post-program survey. They reported the surveys were “easy to complete” and “not too long.” They had positive feedback about the program materials, saying “it gave the dyad ideas of what to talk about” and the “topics were great.” One mentor reported that “most of our discussions were open, what’s on your mind type, and were more conducive to the type of support the mentee needed.” About the program structure, one mentor wrote that monthly was a “good timeframe,” “more frequent meetings would be too much,” and that “as a new NP, things happen quickly and time for reflecting on experiences is helpful.” That mentor reported that they did not perform the in-between touch points, but “we knew they were an option if needed.” Overall, they enjoyed “being able to mentor a colleague and a new employee.” One mentor wrote, “Connecting with an NP from a different work area and reliving some of the challenges of being a new NP with hindsight was fun!” For future mentoring programs, they suggested adding special events to the mentoring program like socials, networking, and a mentor/mentee journal club where “role development topics can be explored from both a novice NP and experienced NP perspective.” One mentor’s additional comments were that they “absolutely love the idea of mentor/mentee relationships. Keep it going!”
As expected, one of the biggest barriers for mentors was the time commitment. One mentor writes: “The hardest part about this has been time. I think being able to have a specific time would be beneficial. It also didn’t help that it started during the holiday season and then being forced to face a pandemic.” However, while this mentor from Dyad B reported that only one meeting was conducted, the mentee reported that they had successfully had all six meetings and reported positive experiences in the program, that she enjoyed “building a relationship with a colleague” and that the mentorship program “should continue.” This is an interesting point to consider in that mentors may be overestimating the time commitment that is needed to cultivate a beneficial mentoring relationship. This mentor expressed concerns and difficulties with committing time to formal sit-down mentoring sessions, while the mentee felt supported in the on-the-go mentorship that the mentor was able to provide and enjoyed the experience. More research should be conducted to determine if this is a shared sentiment among other mentees, which may better define the required time commitment and improve mentor recruitment for future programs.

Summary of Findings

Overall, the impact of the mentorship program on these four dyads was positive. Mentees saw significantly improved NPRTS scores and CIPS scores, especially in the role confidence, comfort, and competence domain. Largely positive feedback was seen from both mentees and mentors. Job satisfaction decreased slightly in mentees but improvement was seen in the professional, social, and community interaction domain, and the time and benefits domains. In the two mentor respondents, the post-program job satisfaction scores were lower overall, but improved scores were seen in the time and benefits domains. Both mentors and mentees had sizable decreases in professional development which warrants further investigation.
adhered to the study protocol fairly well, even through the COVID-19 pandemic which affected how the meetings were conducted part-way through the program. The matching process and generalizability of the findings suffered from the homogenous sample and the differences between the matched and unmatched mentor groups. Closer examination of the mentoring functions that were desired and received brings opportunity for optimization of the program in the future.
Chapter V

Discussion and Conclusions

This chapter will review the results of this pilot study and discuss the feasibility of implementing a formal structured mentorship program in similar institutions.

Discussion of Findings

Overall, the findings from this pilot study on using mentorship to improve role transition in novice pediatric critical care NPs are positive. Readdressing the aims of this pilot study, the primary aim was to determine the effect of a formal structured mentorship program on novice NPs job satisfaction, role transition scores, and IP characteristics. The job satisfaction scores on the MNPJSS in the mentees showed that they were “minimally satisfied” before the program, and scores down-trended slightly in the post-program data. The goal of this mentorship program is to improve job satisfaction in the novice, ultimately improving retention, so the fall in the mentees’ total scores is undesirable. While the professional, social, and community interaction subscale improved with a moderate effect size ($d = .5$), other subscale scores fell, including professional growth, and intrappractice partnership and collegiality. Some institution-wide changes could be responsible for this large drop in scores in both the mentees and mentors in the professional growth subscale, possibly related to professional activity cuts due to the COVID-19 pandemic. The alteration in professional activities at the institution may have impacted the job satisfaction scores, masking effects of the mentorship program. The increase in time and benefits subscales among the participants cannot be attributed to this mentorship program. The low hospital census during COVID-19 may have lightened the NPs’ workload and created more time for them to complete tasks, and the institutional cost-related changes and pandemic-related employment practices may have impacted their satisfaction with their benefits package. The
increase in scores in this less related subscales may have impacted the overall job satisfaction scores, making the true effect of this mentorship program difficult to discern.

Meanwhile, the mentees’ total NPRTS scores showed statistically significant improvement in the post-program evaluation with a large effect size ($p = .04$ and $d = 0.7$). This indicates that the mentee group’s role transition was more successful and positive after the program. In the subscales, the greatest improvement was seen in the role confidence, comfort, and competence subscale with a large effect size ($p = 0.06$, $d = 0.9$). Additionally, the groups’ CIPS scores improved after the program with statistical significance and a moderate effect size ($p = 0.02$, $d = 0.4$). These two instruments show that the group experienced an improved role transition and fewer IP characteristics after the mentorship program. It is impossible to determine how much of this change in scores is related to the mentoring relationship, as opposed to external factors like natural improvement in confidence and role acquisition over time.

While implementing and maintaining a mentorship program, it’s important to avoid any burnout and dissatisfaction in the mentor group that could result from their participation and time commitment in the program. On the MNPJSS, the mentor group had only a 50% response rate in the post-program data, but showed a moderate decrease in scores ($M = 3.5$, $SD = 0.1$) compared to before the program ($M = 4.0$, $SD = 0.1$). Interestingly, the mentor group also showed a pronounced decrease in job satisfaction in the professional growth subscale ($p = .07$), while the time and benefits subscales improved. With the confounding variables of institutional changes and COVID-19, it’s impossible to determine how much of this change in scores could be related to the mentors’ participation in the mentorship program.

In terms of the program structure, feedback from the participants showed that the surveys were easy to complete and not too long. Though the surveys contained demographics and three
other survey instruments for the mentees, rather than thinking the survey was too long, instead they appreciated that the instruments adequately captured their feelings and experiences. Participants reported that the training materials were adequate and the mentoring session prompts were helpful. Additionally, the mentoring session frequency was appropriate, though some dyads had trouble completing all six sessions. The mentees described many benefits from their mentoring relationship, including “learning from someone with experience who was able to validate and relate” to them, “talking through particular situations and getting guidance,” discussing anxieties and perceived shortcomings, receiving reassurance and growing confidence, and career coaching. The mentors enjoyed their mentoring relationships and exercised creativity with meeting structure and content, but struggled with finding time to hold formal meetings in the wake of the holiday season and COVID-19 pandemic. Some variance among the participants’ comments could argue for more flexibility in future iterations of the program to permit longer meetings less frequently, or meeting at a set time every month. Journal club meetings and networking events were also suggested by the participants.

Ultimately, the most successful way to improve role transition would include early detection of at-risk NPs to better target resources to those who may have a more difficult transition. Looking at the number of years of RN experience as a potential factor, there was a strong positive but not statistically significant correlation between years of RN experience and pre-program role transition scores \((r = .8, p = .19)\). This implies that novice NPs with fewer years of RN experience are more at risk for a difficult role transition. These NPs should be identified early in the orientation process and given extra resources and support to have a more successful transition. The problematic aspect of this result could be using years of NP experience as a discriminatory characteristic to avoid hiring NPs who could need more resources during
transition. A conscious effort needs to be made to continue hiring NPs with less RN experience and focusing on developing better resources, rather than showing unreasonable preference towards novice NPs with more RN experience.

Additionally, using mentoring functions as a factor for mentor-mentee matching could be easily incorporated into a mentoring program. The effect of matching mentors and mentees based on corresponding mentoring functions versus matching based on work area or other factors has yet to be studied, but the results from this study present an opportunity for two changes to the program: 1) improving training materials for mentors, and 2) individualizing prompts and program materials for each mentee. Knowing now which mentoring functions that these four mentees were most avidly seeking, training materials can be revisited to ensure that mentors understand how to provide more desired functions like sponsorship, visibility, and exposure. Additionally, the mentor training materials can be individualized to each dyad based on the self-reported needs of the mentee. Prompts can be created for the first mentoring session for the mentee to describe in finer detail the functions that they need from their mentor. Training materials can be created for each mentor to guide them in providing the specific desired functions to meet the unique needs of each mentee. Overall, it is established from these results that counseling and challenge came naturally from the mentors in this study and met the needs of the mentees, but there is room for optimization and personalizing the mentoring experience in future programs.

Feasibility and Barriers to Implementation

A secondary aim of this pilot study was to determine the feasibility of implementing a mentorship program at the study site. A helpful facilitator to the program’s success was the enthusiasm among the institution’s leadership and each unit and team’s leadership about starting
the mentorship program and helping improve their novice staff’s transition to the NP role. The leadership on the teams acknowledged that the RN to NP role transition was a problem before being shown research about novice NP role transition. Having support from each critical care area’s team leader was integral to the success of this program. While the team leaders were very enthusiastic about the participation from their staff, one team did not have any mentee or mentor volunteers, and another team did not have any mentor volunteers, necessitating a dyad pairing across different care areas. Having vocal support of the organization as a whole may help encourage more staff to volunteer. If a similar program is to continue, having financial support from overseeing leadership would be helpful to provide incentives for participation.

While the leadership was helpful with recruitment of eligible employees, those in leadership roles could not dedicate protected time to allow the dyad to meet within their work hours for this pilot study. One dyad (Dyad B) had significant issues with finding time to meet which could have been helped through the institution setting aside time in their schedule to make the mentorship program a priority.

Additionally, the creation and implementation of this type of program requires allotting time for an experienced NP to launch and then direct the program. If an institution is already struggling with poor staffing, prompting hiring of more novice NPs, they may be hesitant to dedicate an experienced NP’s time to a mentorship program when they could be filling needs in patient care or training new staff. A cost-benefit analysis similar to the one detailed earlier could be used to compel the leadership group to prioritize establishing a mentorship program to improve the RN to NP transition and novice NP retention.

In the execution of this study, recruitment was slow, despite multiple appearances at monthly staff meetings in each unit, face-to-face conversations with every team leader, and
stakeholder meetings with all participating units. To help with recruitment in the future, the time and emotional commitment required from the participants should be quantified and described as thoroughly as possible to encourage mentors and mentees to sign up. Advertising to potential mentors should describe the great impact that even short informal mentoring interactions can have on a mentee. Also, the institution could start enrolling novice NPs in the mentorship program as a default to pair with orientation and give the option to not participate, rather than waiting for the novice NP to hear about the program and sign themselves up.

**Limitations**

The study was limited by its sample size. Having only four dyads all focused in critical care limits the generalizability of the findings. Additionally, the mentees were all 20-39 years old, white, and female. A larger and more diverse sample size would allow for more generalizability and permit more complex statistics, including creating predictive models to allow early identification of novice NPs who are more likely to have a difficult role transition. Additionally, a larger sample size from various practice areas would allow for more generalizability of findings beyond this small group of NPs. This study did not meet the minimum required sample size for adequate statistical power, which also limits interpretation of the findings.

This study has a descriptive quantitative cohort pre-post design and lacks randomization, making the study subject to bias. Bias was limited during the matching process by following a matching algorithm using coded data and a random number generator to ensure anonymity. Additionally, without a control group, it is not possible to draw casual relationships, and in this setting with multiple confounding variables, a control group would be helpful to adjust for those factors. The main confounding variable in this study is the natural progression of improving
work performance, confidence, and competence over time. Without a control group to measure that natural progression, it is impossible to determine whether the improvement in NPRTS and CIPS scores were due to the mentorship program or simply from passage of time in the role. However, post-program narrative feedback shows that the mentoring program had some positive impact on the novice NPs, with multiple mentees listing benefits they experienced and suggesting to continue or extend the program.

Additionally, the sample was a convenience sample consisting of only pediatric critical care NPs, limiting generalizability of the findings. The sample was not representative of NPs in primary care, urgent care, or general care wards. Even within the critical care areas, the participants in the study may differ in important ways from those who chose not to participate in the study, which further limits the generalizability of the findings.

**COVID-19**

Starting just before the fifth month of the study period, the SARS-CoV-2 pandemic and COVID-19 began to infiltrate the study site. The study site set restrictions, prohibiting in-person meetings and mandating non-essential workers to work remotely. The study participants, being employed in the critical care areas, were classified as essential personnel and continued to work throughout the pandemic. The state where the study site is located was placed on lockdown on March 16th, 2019. In-person research at the institution was paused. The mentoring program continued with a revised protocol. Dyads were contacted by email, prohibiting in-person sessions but encouraging the dyad to continue to meet by online video conferencing or over the phone. Accordingly, the three-session limit on virtual meetings was lifted. The participants were encouraged to try to hold all six sessions, but were informed that in the event they could not complete all six meetings, it would be reported in the post-program survey. Two items were
added to the post-program survey to document the total number of meetings that were successfully held and the number of meetings that were held virtually. Although this study qualified for exempt status, this change was communicated with the study site’s IRB. The COVID-19 pandemic not only affected the way the institution was operating, but also likely affected the mental and emotional well-being of the participants, abruptly adding significant home and work demands. Despite the pandemic, the dyads tried to follow the study protocol with some success; however, two dyads were not able to fully adhere to the study protocol and complete all six mentoring sessions, which likely impacted the results due to the participants only receiving a portion of the intended intervention.

**Implications for Practice**

While this was a small pilot study, the largely positive results are compelling and have implications for current practice. None of the four novice NPs that participated in this program reported ever having a mentor, demonstrating the lack of mentorship often reported in novice NPs. This study reaffirms that novice NPs struggle with role transition and can benefit from a mentoring relationship. Feedback from the mentees and mentors argue for the continuation of this type of mentorship program and demonstrate a mutually beneficial relationship between the parties. Similar institutions that are looking to hire novice NPs should consider implementing a mentorship program to encourage a successful RN to NP role transition. Institutions who have existing transition-to-practice or orientation programs need to ensure that the program offers a true mentoring relationship, beyond standard preceptorship, so that the novice is supported emotionally through the transition period. These mentorship programs must have continuous program evaluation metrics and frequently solicit feedback from the participants to make necessary adjustments. As research on this topic grows, it’s helpful to have quantitative data in
addition to narrative feedback from the participants, so future programs should consider incorporating the instruments used in this pilot study in the evaluation measures.

At the study site, with IRB approval, a larger, open-ended mentorship program with a similar structure is planned to be offered to all inpatient teams at the main hospital, with eventual plans to include outpatient specialty areas and primary care. In the next iteration of this mentorship program, novice NPs will be encouraged to enroll upon hire, the matching protocol will remain the same, training materials will be optimized and personalized to the mentee’s desired functions, and mentorship sessions will continue for the novice’s first two years of practice to provide mentoring and support through the entire novice period. Some aspects of the program structure will remain grossly the same based on positive feedback from the participants including the survey instruments, mentoring session frequency, and prompts for the first six sessions. Depending on interest and funding, additional features like journal clubs and program-wide networking sessions may be incorporated.

**Recommendations for Further Study**

This study adds to the existing body of evidence describing the positive impact of mentorship on the novice RN to NP role transition. However, this body of evidence is still lacking rigorous prospective studies. A randomized controlled trial with an appropriate sample size would be the best method to truly evaluate the effect of mentorship on the RN to NP role transition. More research should be conducted on matching mentor-mentee dyads using aligned mentoring functions, in addition to or in place of geographical and demographic similarities. Finally, this study needs to be repeated in other healthcare arenas that employ novice NPs, including rural health centers, primary care centers, and specialty clinics to examine the
challenges of role transition for novice NPs in those areas, and evaluate how they may respond to mentorship.
Appendix

Monthly Mentoring Session Prompts

Mentoring Session #1

For the mentee:
• How is orientation going so far? If you’re done with orientation, how have things been after coming off of orientation?

For the mentor
• What do you remember about your orientation?
• How was the role transition for you? What made the transition easier?
• Give any tips and tricks that may be applicable for the mentee at this point in their orientation.

For both the mentee and the mentor
• Spend some time getting to know each other. Talk about your family, significant other, pets, hometown.
• What made you decide to become a nurse practitioner?
• What attracted you to critical care?
• What are your goals for this mentoring relationship? What do you want to take away from this experience?

Mentoring Session #2

For the mentee
• Brainstorm with your mentor on how to improve your work/life balance and create a routine to cope with stressful days at work.

For the mentor
• Tell a story about the last time you had a bad day at work, or a time during your orientation that was particularly challenging. What happened? How did you feel? What did you do to help yourself feel better?
• Give your mentee any tips for how to cope with having stressful days at work.

For both the mentee and mentor
• How have you established a good work/life balance? Or are you having difficulty finding a balance?
• How do you practice self-care?
• What do you do when you have a bad day?
Mentoring Session #3

For the mentee
- How are you adjusting to your new role as an NP? What about it was easy? What has been difficult?
- How are you hoping to advance your career? Research? Education? Patient Safety? Quality Improvement? What is your interest area?
- What are your professional goals for the next six months? For the next near? For the next five years?
- If you don’t have any ideas right now, ask your mentor how to get started.

For the mentor
- Reflect on when you started in your first NP job. How and when did you start pushing your career forward? Did you join national organizations? Did you become involved with research or committees?

For the mentee and mentor
- Work together to develop an actionable timeline for the mentee’s goals for the next year. What steps, conversations, or connections should occur to help the mentee develop?

Mentoring Session #4

For the mentee
- How are you adjusting to the NP role? What has been helpful? What is still difficult?
- Reflect on the last four months. Do you feel that you have progressed in getting used to “thinking like an NP”? Why or why not? Give an example.
- Tell a story about a day at work recently that felt great or where you felt that you performed well. How did that feel?

For the mentor
- Relate to the mentee’s answers. When did you start to feel that you fully adjusted to the NP role?
- Ask the mentee to tell you about a day at work that felt great, or where they felt that they performed well.
- Relate to the mentee’s story. Is there a day that sticks out in your memory as being a successful day in your novice period? Tell that story.

For the mentor and mentee
- We often down-play our successes and focus instead on areas for improvement. Instead, work together to brainstorm how to start consistently recognizing and taking ownership of your successes.
Mentoring Session #5

For the mentee
- Share about a time where you left work feeling that you didn’t perform as well as you could, or a day where you made a mistake. What happened? How did you feel?
- Talk through these situations you described with your mentor.
- Though there were disappointments that day, what were the positive things that happened?
- What did you do well in these situations? Work to point out the positive actions and successes.

For the mentor
- Tell a story about a day where you felt that you didn’t perform as well as you could have, or a day where you felt like you failed. What was the situation? How did you respond?
- Tell a story about a time where you made a mistake. How did you feel? How did you move past it?
- Talk through these situations you described and any similar situations the mentee shares with you.
- Though there were disappointments that day, what were the positive things that happened?

For the mentee and mentor
- In new roles, we often place emphasis on failures and ignore our successes. Talk over the mentee’s story. Though there were disappointments that day, what were the positive things that happened? What did the mentee do well? Help point out the positive actions and successes.

Mentoring Session #6

For the mentee
- Look back on the last 6 months. How have you grown as a nurse practitioner?
- What do you feel when you go to work? Excitement? Anxiety? How has that changed over the last 6 months?
- Think about yourself 5 years from now. Where do you want your career to be? Work with your mentor to create some actionable steps to achieve your goals.

For the mentor
- How have you seen your mentee grow over the last 6 months?
- Learn more about the mentee’s goals. Give some career guidance. Discuss how the mentee can take steps to reach the goals they are envisioning in their 5-year plan.
- What kind of potential do you see in your mentee? Share this with them.
For both the mentee and mentor

- How have each of you grown from this mentoring process?
- Discuss whether you plan to continue this relationship going forward outside of this program.

General Conversation Starters Included in Each Month’s Prompts

You may use these optional conversation starters at any point in the program:

- Talk about a high point of this past week.
- Talk about a low point of this past week.
- Talk about the last conflict you had and how you handled it.
- What are you most afraid of?
- What are you most proud of?
Bibliography


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