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Factors Predicting New Nurse Practitioners' Pursuit of Residency and Whether
Residency Predicts the Role Transition of New Nurse Practitioners

by

M. Christine Henesh

A dissertation

submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in the College of Nursing

Idaho State University

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Committee Approval

To the Graduate Faculty,

The members of the committee appointed to examine the dissertation of M. Christine Henesh and find it satisfactory and recommend that it be accepted.

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RE: Study Number IRB-FY2020-36 : Factors Predicting New Nurse Practitioners Pursuit of Residency and Whether Residency Predicts the Role Transition of New Nurse Practitioners

Dear Ms. Henesh:

Thank you for your responses to a previous review of the study listed above. These responses are eligible for expedited review under OHRP (DHHS) and FDA guidelines. This is to confirm that I have approved your application.

Notify the HSC of any adverse events. Serious, unexpected adverse events must be reported in writing within 10 business days.

You may conduct your study as described in your application effective immediately. The study is subject to renewal on or before August 29, 2020, unless closed before that date.

Please note that any changes to the study as approved must be promptly reported and approved. Some changes may be approved by expedited review; others require full board review. Contact Tom Bailey (208-282-2179; email humsbj@isu.edu) if you have any questions or require further information.

Sincerely,

Ralph Baergen, PhD, MPH, CIP
Human Subjects Chair

October 30, 2019

Christine Henesh
College of Nursing

RE: Study Number IRB-FY2020-36: Factors Predicting New Nurse Practitioners Pursuit of Residency and Whether Residency Predicts the Role Transition of New Nurse Practitioners

Dear Ms. Henesh:

I have reviewed your application for revision of the study listed above. The requested revision involves: Increasing data collection to include Twitter and email. When using twitter, I will use specific hashtags to target my intended audience as well as tagging academic pages to gain a retweet. Hashtags will include #phdcandidate, #dissertation, #nursepractitioner, #NPresidency, and #NPslead. I will tag @academicchatter, @momademia, and @academicmomlife.

The script is as follows (must comply with 150-character limit per Twitter):

ATTN: AGNP or FNP who graduated from 2007-18 consider my #phdcandidate #dissertation survey. Purpose: explore role transition experience for AGNP & FNP. Especially interested if you completed a postgrad residency. https://isu.co1.qualtrics.com/jfe/form/SV_e3e2VqWYUBHm8dL...

I will also email post-graduate nurse practitioner residencies requesting my study be shared with their past residency graduates. The script for this email is the same script approved in my original IRB application. It is as follows: Are you an adult-gerontology or family nurse practitioner who graduated from 2007-2018 and passed national certification boards? If so, you are invited to take this short anonymous survey. The purpose of this survey is to explore role transition experience for adult-gerontology nurse practitioners and family nurse practitioners. This research is much needed to support the transition to practice programs in all areas of nursing. To help move the science of nursing forward, please click on this link: https://isu.co1.qualtrics.com/jfe/form/SV_e3e2VqWYUBHm8dL

You are granted permission to conduct your study as revised effective immediately. The date for renewal remains unchanged at 8-29-2020, unless closed before that date.

Please note that any further changes to the study must be promptly reported and approved. Contact Tom Bailey (208-828-2179; email humsbj@isu.edu) if you have any questions or require further information.

Sincerely,
Ralph Baergen, PhD, MPH, CIP
Human Subjects Chair

Dedication

This dissertation is dedicated to my family. First, to the memory of my best friend and mom, JoAnn Kay Henesh, who was an ever-present motivator and source of strength in my life. She passed away mere months before I finished my doctoral studies, but I know she is cheering loudly for me from her front row seat in heaven. And my dear daddy, Bill Henesh, who has taught me tenacity, true grit, and that my word is my bond. These strengths have served me well, not only during my PhD studies but along the road of life. My brothers, Leo and Big J served as my cheerleaders and offered much needed comedic relief during this journey.

Finally, my dear, wonderful, patient, kind, supportive husband, Andrew. He jokes the completion of my PhD studies should also grant him a second PhD because he was front and center during this entire ride. From the late nights and stressful days filled with computer mishaps and tears he was a constant source of strength. And to my little second author, my newborn son, Josiah Anderson Lyle. Mommy loves you more than you will ever know. Your daddy and I will always strive to instill strength and courage in you to reach for the stars and never give up.

To my Lord – AMEN! Thank you for the strength and wisdom to see this through.

Isaiah 1:17

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Thank you to Dr. Neil and Dr. Tavernier for allowing me to serve as the graduate studies council student representative during my time at ISU. Thank you to Dr. Nies for the honor of serving as the graduate student representation on the research council. I would also like to offer my gratitude to Dr. Weaver for the opportunity to serve as the graduate student representative on the nursing convocation committee. I have every faith our convocation ceremony would have been fabulous save for COVID-19.

I also offer my thanks to the Graduate School, College of Nursing, Idaho State University, and my fellow graduate students. Lastly, thank you to the nurse practitioners all across the United States who took the time to complete my survey and offer their

answers to open-ended questions... and to the grape growers of the world for unknowingly supporting my doctoral studies!

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List of Abbreviations

AACN: American Association of Colleges of Nursing

AARP: American Association of Retired People

ACGME: Accreditation Council for Graduate Medical Education

AGNP: Adult-gerontology nurse practitioner

ANCC: American Nurses Credentialing Center

APGAP: The Association of Postgraduate APRN Programs

APRN: Advanced practice registered nurse

CCNE: Commission on Collegiate Nursing Education

CoEPCE: Centers of Excellence in Primary Care Education

DO: Doctor of Osteopathic Medicine

FNP: Family nurse practitioner

HRSA: Health Resources and Services Administration

IOM: Institute of Medicine

MST: Military sexual trauma

NNPRFTC: National Nurse Practitioner Residency and Fellowship Training Consortium

NP: Nurse practitioner

NPR: Nurse practitioner residency

PCNP: Primary care nurse practitioner

PTAP: Practice Transition Accreditation Program

PTSD: Post-traumatic stress disorder

RCF: Residency choice factor

TBI: Traumatic brain injuries

TLT: Transformative learning theory

UK: United Kingdom

VA: Veterans Administration

FACTORS PREDICTING NEW NURSE PRACTITIONERS' PURSUIT OF RESIDENCY
AND WHETHER RESIDENCY PREDICTS THE ROLE TRANSITION OF NEW NURSE
PRACTITIONERS

Dissertation Abstract—Idaho State University (2020)

Purpose: The purpose of this study was to explore role transition experience and related predictors of transition success for adult-gerontology nurse practitioner (AGNP) and family nurse practitioner (FNP) who selected direct entry-to-practice or a postgraduate nurse practitioner residency (NPR).

Background: Little is known about the impact of NPRs on the role transition of novice nurse practitioners (NP), but what is known is this role transition is challenging and often results in NPs feeling frustrated and overwhelmed. Benner's Novice to Expert Theory and Mezirow's Transformative Learning Theory guided this study. This study is the first to identify predictor variables regarding seeking or not seeking a residency, and if completing an NPR predicts easier role transition.

Methods: A convenience sample of 612 AGNPs and FNPs, referred to as primacy care nurse practitioners (PCNP), who graduated from accredited NP programs between 2007 and 2018 were recruited from targeted social media platforms. Emails were sent to directors of postgraduate NPR programs to bolster NPR respondents. Respondents completed an online survey containing quantitative and qualitative components. Role transition was measured with *The Nurse Practitioner Role Transition Scale* and a visual analogue scale containing 14 predictor variables, analyzed using descriptive and nonparametric statistics. Open-ended responses were analyzed and triangulated with quantitative findings adding to understand role transition.

Results: Significant factors were identified predicting one as less or more likely to participate in an NPR. Factors include *desire to gain experience and confidence*, *desire for specialty training*,

recognition of a new and challenging role for NPs, and increasing marketability. Factors predicting PCNPs less likely to participate include NPR not discussed during NP program, geographical limitations, and current family or financial obligations. Completion of a postgraduate NPR program did not predict an easier transition. Four themes from qualitative data indicated factors that aid or hinder transition: People resources, educational learning materials, geographical links and financial means.

Discussion: Contrary to published literature, this study demonstrated role transition was not eased by participation in an NPR. The qualitative findings mirrored other studies, reflecting NPR participant experience increased confidence and competence. Future studies could broaden the inclusion criteria to include more NP concentrations.

Keywords: role transition, hindering factors, motivating factors, nurse practitioner residency, nurse practitioner fellowship, primary care

Chapter I: Introduction

Confidence and competence are paramount to the care nurse practitioners (NPs) deliver daily. For more than fifty years, nurse practitioners have been an integral part of the healthcare delivery system. Since 2010, nurse practitioners have accounted for the largest group of non-physician primary care providers (Agency for Healthcare Research and Quality, 2018). The American Association of Nurse Practitioners (2018) reports currently there are over 248,000 licensed NPs completing over 1 billion annual patient encounters.

Predominately, to become a licensed professional nurse practitioner, completion of an accredited master's or doctoral degree program preparing for their role must be achieved. Additionally, passing a nationally accredited certification examination and maintaining continued competence by recertification through the national recertification program is required. Each practitioner then licenses within the state of practice, with licensure parameters determined by statutory regulation in the state. The collective education, certification, and licensure combination build upon competencies of registered nursing by gaining advanced clinical knowledge and skills allowing the nurse practitioner to provide direct and indirect patient care. This approach also ensures the nurse practitioner is prepared to assume responsibility of patient care which involves accurate assessment, diagnoses, and management of acute and chronic problems (APRN Consensus Work Group & the National Council of State Boards of Nursing APRN Advisory Committee, 2008).

Despite the completion of an advanced degree and required clinical hours, several investigators report some newly graduated nurse practitioners with NP certification are wrought with feelings of doubt, frustration, and anxiety with their newly designated role as a medical care provider with resulting negative effects on self-reported confidence and competence (Brown & Olshansky, 1997).

Further intensifying these concerns is the knowledge of once being an expert in a field of registered nursing to becoming a novice in the field of advanced practice nursing (Fleming & Carberry, 2011). Barnes (2015) completed a concept analysis that reflected increased confidence and competence in the role was influenced by feedback and support. Researchers have demonstrated when a new graduate nurse practitioner completes a postgraduate nurse practitioner residency, the new graduate NP experiences an increase in self-reported confidence and competence (Fleming & Carberry, 2011).

Statement of Purpose

Previous research has established the transition newly graduated nurse practitioners make from formal education to practice is wrought with difficulty and challenges, but these challenges of role ambiguity and feelings of decreased confidence and competence are lessened when completing an optional postgraduate residency (Brown & Olshansky, 1997; Fleming & Carberry, 2011; Rugen, Dolansky, Dulay, King, & Harada, 2018a; Rugen, Harada, Harrington, Dolansky, & Bowen, 2018b; Sargent & Olmedo, 2013). The purpose for this study is to explore role transition experience for adult-gerontology nurse practitioner (AGNP) and the family nurse practitioner (FNP) who select either direct entry to practice or residency and the related predictors of role transition success.

This proposed study is one of the first to investigate the relationship of a postgraduate nurse practitioner residency completion and the role transition of a new nurse practitioner. More specifically, this study will evaluate in newly practicing nurse practitioners whether completion of a postgraduate nurse practitioner residency or direct entry to practice predicts self-assessed role transition for adult-gerontology nurse practitioner and the family nurse practitioner, while controlling for variables related to decision to participate in postgraduate nurse practitioner residency or directly entering practice.

An exploration of variables related to making the choice to participate in a postgraduate residency or directly entering practice will also be included. Additionally, selected variables that may predict a new graduate's choice in completing a postgraduate nurse practitioner residency or directly entering practice will be explored as well as any correlation of participation in a postgraduate residency program to self-assessed components of role transition that have been identified as vital in the transition from formal education to practice.

Background

There exists a shortage of published studies regarding many different aspects of the postgraduate nurse practitioner residency. Evidence focusing on the critical factors influencing the decision to participate in a postgraduate nurse practitioner residency (NPR) along with factors contributing to or deterring from a successful role transition are non-existent in literature reviews. Exploring and understanding this phenomenon is critical to fully supporting the development of the advance practice registered nurse seeking to transition to a licensed nurse practitioner.

Understanding the relationship of first-year into practice, via NPR or direct entry, is especially important given the current shortage of primary care physicians that will likely continue into the future (The Association of American Medical Colleges, 2016) in the role of primary care provider (Van Vleet & Paradise, 2015). More than 89% of nurse practitioner graduates are prepared in primary care as compared to 14.5% of physicians who opt for a primary care residence and play an integral part in the US healthcare system (Strong, 2017). Between the years of 1998 and 2010, advanced practice registered nurses saw a 15-fold increase of Medicare beneficiaries choosing them for their primary care (Kuo, Yong-Fang, Loresto, Figaro L., Rounds, Linda R., & Goodwin, 2013).

NPs are valued members of the healthcare team as they are able to perform assessments, order laboratory and radiological tests, diagnose, and initiate a care plan, including medication prescription. As of 2019, over 23 states, Washington DC, U.S Territory of Guam, the Northern Mariana Islands, and American Samoa APRNs have been granted full practice authority to diagnose, treat, refer, and prescribe medications, working to the full scope of education, certification, and licensure. In the other 27 states APRNs practice under a reduced or restricted license, requiring some level of collaboration or supervision (American Association of Nurse Practitioners, 2019a).

Support for nursing education is extensive, including both the national government as well and public and private entities. In 2010, the Institute of Medicine (Institute of Medicine, 2010) published a report titled “The Future of Nursing: Leading Change, Advancing Health” further supporting the development and implementation of postgraduate NPR to aid in the documented difficult transition from formal education to primary care practice (Institute of Medicine, 2010). They specifically recommend nurse residency programs at three integral times during one’s professional career: (1) after completing baccalaureate, associate degree, or hospital diploma programs, (2) after completion of an advanced practice degree or (3) when transitioning practice areas (Wiltse Nicely & Fairman, 2015).

Furthermore, the report calls for specific actions by local, state, and national entities. This includes state boards of nursing and accrediting entities to support completion of postgraduate residency programs. Specific examples involve the Secretary of Health and Human Services redirecting graduate medical education funding from diploma nursing programs to fund the implementation of nurse practitioner residencies as well as The Centers for Medicare and Medicaid Services to fund development and implementation of such programs. The report also

suggests health care organizations formally evaluate the effectiveness and outcomes of these postgraduate programs (Institute of Medicine, 2010).

In 2015, the IOM published a report titled “Assessing Progress on the Institute of Medicine Report The Future of Nursing” (Institute of Medicine, 2015). This report represented a synthesized understanding of changes that have taken place in the nursing profession since the 2010 IOM report “The Future of Nursing: Leading Change, Advancing Health.” The committee found that despite progress in some areas, attention to additional areas was still warranted. Of the five focus areas, four pertain directly to nurse practitioners, nurse practitioner education, and improved evaluation.

The IOM committee continues to advocate for nurse practitioners to practice to the full extent of their education. The committee also calls for a focus on the transformation of education and increased funding to support postgraduate nurse practitioner residencies along with “interprofessional and lifelong learning” (Institute of Medicine, 2015). The committee advocates for the expansion of nursing “efforts and opportunities for interprofessional collaboration and leadership development” (Institute of Medicine, 2015). Next, there is an identified gap of data supporting new models of health care delivery, such as the NP delivered health care. The IOM committee recommends a focus on improved evaluation of these new health care delivery models (Institute of Medicine, 2015).

Because of the 2010 IOM report, the Robert Wood Johnson Foundation and American Association of Retired People (AARP) began a joint initiative, “The Future of Nursing: Campaign for Action (2015), which focuses on improving nursing education and leadership. In the five years following publication of the IOM recommendations, this joint initiative was able to bring an additional \$17 million to advance the recommendations. The coalition has continued to

push for change at both national and state levels and collaborate with nursing organizations, health care systems, educational systems, and policymakers (Campaign for Action, 2015).

Another staunch supporter of the postgraduate nurse practitioner residency is The National Center for Interprofessional Practice and Education, a public-private partnership created in 2012. This group was created through an agreement with the Health Resources and Services Administration (HRSA), The Robert Wood Johnson Foundation, the Josiah Macy Jr. Foundation, and the Gordon and Betty Moore Foundation. The National Center recognizes the importance of adequate preparation of healthcare workers, including nursing, and the importance of advanced practice registered nurses, such as nurse practitioners, in providing primary care (The Josiah Macy Jr. Foundation, 2015). To this end, the National Center for Interprofessional Practice and Education supports postgraduate nurse practitioner residencies (National Advisory Council on Nurse Education and Practice, 2015).

The first year of advanced practice following graduation from a nurse practitioner program represents a transitional year for the new graduate NP. During this year, the new graduate NP may experience increased stress, turbulence, and role ambiguity (Brown & Olshansky, 1997; Fleming & Carberry, 2011; Heitz, Steiner, & Burman, 2004). Two accrediting bodies have recommended nurse practitioners complete a postgraduate residency program. These two bodies are American Nurses Credentialing Center (ANCC) and The National Nurse Practitioner Residency and Fellowship Training Consortium (NNPRFT). Both accrediting bodies advocate for nurses' successful transition between settings such as formal education and practice (American Nurses Credentialing Center, 2016; The National Nurse Practitioner Residency and Fellowship Training Consortium, 2017).

In 2010, the Institute of Medicine published a report calling for support of postgraduate residency programs and for the formal evaluation of such programs. This was done to better

meet the growing needs of patients, the role of the nurse, expanding leadership roles, and increased multidisciplinary care (Institute of Medicine, 2010). The objectives of many postgraduate residency's align with this goal, including ANCC's quality outcome standards. ANCC recognizes the importance of measuring the overall impact of NPR to patients, residents, nursing organizations, and practice settings (American Nurses Credentialing Center, 2016). The additional training offered by a postgraduate residency can aid in the transition from novice to expert, while increasing confidence, competence, autonomy, skill sets, and decision-making skills.

Clinical nursing skills, knowledge, and abilities are fundamental to the delivery of quality care and are acquired with experience (American Nurses Credentialing Center, 2016). Research regarding the obtained level of expertise has historically centered on the nurse's individual characteristics (McHugh & Lake, 2010), which means there is a formidable gap of knowledge regarding contributing or hindering factors supporting the nurses professional growth.

To fully support the growth of a new graduate transitioning from novice to expert, complete understanding of roadblocks and motivating factors placed along this path must be identified. Given the lack of data regarding NPRs and motivating factors, a broader examination of the research literature in related fields was undertaken. This led to early research conducted by Bucci, Knapp, Ohri, & Brooks (1995) that focused on pharmacy graduates. The work of Bucci et al. (1995) is relevant to nursing because of the similarities of pharmacy and advanced nursing – both are graduate degrees, including doctoral level degrees, and both professions offer optional residencies. Additionally, the optional pharmacy residency has strong supporters like the American Association of Colleges of Pharmacy calling for increased education and promotion of postgraduate programs Bucci et al. (1995) much like the staunch support given to

the postgraduate nurse practitioner residency by the Institute of Medicine (2010; 2015), the Robert Wood Johnson Foundation, and the AARP (The Josiah Macy Jr. Foundation, 2015).

Bucci et al. (1995) examined contributing factors influencing the decision of pharmacy graduates to seek the optional postgraduate residency. Bucci et al. (1995) identified several key factors, including financial obligations, having a job available after graduation, current family obligations, long-term benefits of completing a postgraduate residency not stressed during graduate school, geographical limitations, exposure to existence of residency programs did not exist in graduate school, the desire to gain knowledge and experience, the recognition of a new and challenging future for pharmacists, the desire to gain confidence, increase marketability and employment opportunity, desire for specialized training, interaction with past pharmacy resident(s) as a role model, and faculty stressed importance of postgraduate residency. Using the decision factors identified by Bucci et al. (1995), one purpose of this dissertation study is to determine the relationship of similar factors in predicting the decision of newly graduated nurse practitioner to enter an optional postgraduate residency for nurse practitioner program graduates.

Two theories are used in an effort to guide the research questions: Patricia Benner's Novice to Expert nursing theory and Jack Mezirow's Transformative Learning Theory. Dr. Benner's theory was adapted from the 1980 Dreyfus Model of Skill Acquisition by Hubert and Stuart Dreyfus (Benner, 1982). The Dreyfus brothers' theory proposed a student passes through five stages of development and skills acquisition: novice, advanced beginner, competent performer, proficient performer, and expert performer (Dreyfus & Dreyfus, 1980).

Dr. Benner applied these same principles to the context of nursing and created one of the most influential nursing theories to date, the Novice to Expert Theory (Benner, 1982). Her model represents a five-stage journey with nurses passing through five levels of proficiency that mimic the original Dreyfus model (Dreyfus & Dreyfus, 1980), but that were developed

specifically for nursing: novice, advanced beginner, competent, proficient, and expert. Her model is progressive and relies on the nurse transitioning from one level to the next in a stepwise fashion (Benner, 1982). Competence and confidence serve as both foundation and outcomes in the progression of a nurse practitioner professional development process (Barnes, Richards, McHugh, & Martsolf, 2018; Benner, 1984).

Dr. Mezirow's Transformative Learning Theory is built on the foundation that "learning is understood as the process of using a prior interpretation of the meaning of one's experience in order to guide future action" (Mezirow, 1996, p. 162) and reflection is paramount to this method. Dr. Mezirow established 10 phases of transformational learning. Transformation can be defined as a "dynamic, uniquely individualized process of expanding consciousness whereby individuals become critically aware of old and new self-views and choose to integrate these views into a new self-definition" (Wade, 1998, p. 713).

Mezirow's theory allows an increased understanding of the concept of learning as well as how learning is achieved in the setting of advanced practice nursing. Using the 10 phases of transformational learning, a more thorough understanding of the journey a new graduate nurse practitioner makes as they progress from a new graduate to a full "reintegration into one's life on the basis of conditions dictated by one's new perspective" (Mezirow, 1991, p. 169).

Research Questions

For the purpose of this study adult-gerontology nurse practitioners or family nurse practitioners will be referred to as primary care nurse practitioners (PCNP). The following research questions were addressed:

1. Do residency choice factors predict participation in a postgraduate primary care NPR program compared to directly entering practice? Factors include financial obligations, having a job available after graduation, current family obligations, long-term benefits not

stressed, geographical challenges, years anticipated to practice, exposure to existence of residency programs in graduate school, the desire to gain knowledge and experience, the recognition of a new and challenging future for NPs, desire to gain confidence, increase marketability and employment opportunity, desire for specialized training, interaction with past NP resident(s) as a role model, or faculty stressed importance of postgraduate residency.

2. Does the completion of a postgraduate primary care NPR program predict an easier role transition in the PCNP when controlling for the residency choice factors? Three open-ended questions were included to explore variables related to making the decision to participate in a postgraduate nurse practitioner primary care residency program or directly enter practice. These are:
 - What is an example of one or two things (people, places, processes, books, etc.) that was/were the most important in facilitating your transition from your NP program of study to subsequent direct entry practice or residency, and describe the importance related to example(s)?
 - What is an example of one or two things (people, places, processes, books, etc.) that was/were the most important in hindering your transition from your NP program of study to subsequent direct entry practice or residency, and describe the importance related to example(s)?
 - Please provide your reasons, rationale, or issues underlying your decision to either seek a postgraduate residency or directly enter practice.

Operational Definitions

Advanced Practice Registered Nurse (APRN): A registered nurse who has met advanced educational and clinical practice requirements beyond the 2 to 4 years of basic nursing education

required of all RNs. Under this umbrella are four principal types of APRNs: nurse practitioners, certified nurse midwives, clinical nurse specialists, and certified registered nurse anesthetists (American Nurses Credentialing Center, 2018; APRN Consensus Work Group & the National Council of State Boards of Nursing APRN Advisory Committee, 2008).

Attrition: A reduction in numbers, usually as a result of resignation, retirement, or death. For this study, nurse practitioners leaving either their current position or the profession will also be included (Merriam-Webster, 2018).

Competence: An ability acquired through experience and learning. The concept of competence is two-fold: (a) potential abilities that may work effectively under certain circumstances and (b) motivation to show one's usefulness using those abilities (Fukada, 2018).

Confidence: The ability to effectively carry out a task within a specific situation. This is an important aspect of nursing practice and nursing education (Barnes, 2015; Fukada, 2018; McCabe, Gilmartin, & Goldsmart, 2016).

Mentoring: A voluntary relationship between a person with less experience and a person with greater experience meant to aid the less-experienced person in acquisition of skills (U.S. Army, 2017).

Novice to Expert: In 1982, Dr. Patricia Benner introduced her theory, "Novice to Expert." This theory can be applied to explain the changes in skilled performance along with perception and understanding of the various problems, complications, and situations nurses experience. Nurses pass through five levels of proficiency: novice, advanced beginner, competent, proficient, and expert are represented in the theory. Competence increases with exposure and successful experience in practice. High level competence is typically reached after two to three years and occurs when the nurse begins to see their actions in terms of long-range goals. Level five,

expert, is reached when the nurse has an intuitive understanding of the situation and can identify the pertinent information amongst the insignificant information (Benner, 1982).

Nurse Practitioner: Licensed practitioners who assess, diagnose, treat, and manage acute and chronic illnesses. NPs practice in a variety of setting including ambulatory care, primary care, long term care, and specialty care. NPs are experts in health promotion and disease prevention (American Association of Nurse Practitioners, 2019b).

Nurse Practitioner Residency: The postgraduate NP residency consists of “planned, comprehensive periods of times during which the nursing graduates can acquire the knowledge and skills to deliver safe, quality care that meets defined... standards of practice defined by a professional society or association” (Institute of Medicine, 2010, p. 21). The goal of completing a postgraduate NP residency is to garner those skills that will fulfill the expected role by ensuring adequate preparation for professional practice (AACN, 2018), thus continuing to improve patient care outcomes and overall nurse practitioner satisfaction.

Transformative Learning Theory: In 1978, American sociologist, Jack Mezirow introduced the concept of transformative learning (Mezirow & Taylor, 2009). According to Mezirow’s theoretical work, “learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one’s experience in order to guide future action” (Mezirow, 1996, p. 162). Transformative theory helps explain the way in which adult learners amend their meaning structures and involves “reflective assessment of premises, a process predicated upon still another logic, of movement through cognitive structures by identifying and judging presuppositions” (Mezirow, 1991).

Transition: The process of moving from one state of being to another. In nursing, this is typically related to changes to roles and responsibilities (Azimian, Negarandeh, & Fakhr-Movahedi, 2014).

Assumptions

The researcher assumed all participants would answer all survey items and survey questionnaires with complete honesty. The respondent's anonymity was protected through a confidential electronic survey that is only accessed via Qualtrics by the researcher. No personal identifiers will be required. An assumption was also that the sample population is sufficiently representative of the PNCP via convenience sampling utilizing nurse practitioner special interest groups on Facebook and Twitter as well as the respondents garnered via emails to postgraduate nurse practitioner residency programs.

Limitations

The self-reporting nature of the measurement instruments and survey assumes the accuracy of participants recollection regarding feelings of role transition, as well as motivating factors and barriers assessed in this survey are accurate and free of bias. It is also recognized that life experience, social dimensions, and personality of participants may impact responses provided.

Significance of the Study

Numerous researchers recognize new graduate nurse practitioners experience doubt, frustration, and anxiety during the transition from formal education to practice (Barnes, 2015; Brown & Olshansky, 1997; Fleming & Carberry, 2011; Owens, 2018). The research also indicates how important this period is for the retention of nurse practitioners (Sargent & Olmedo, 2013). Further supporting the importance of the transition period is the "Future of Nursing Report" (Institute of Medicine, 2010), which called for increased attention to the transitional

period of nurses after degree completion. Support for increased attention to nursing education also exists from “The Future of Nursing: Campaign for Action (Campaign for Action, 2015; The Josiah Macy Jr. Foundation, 2015).

Increasing the significance of the role transition is the often-reported new graduate nurse practitioner feelings, such as increased anxiety, feelings of incompetence and being overwhelmed, are associated with high attrition rates and increased intent to leave a position or the profession due to a high level of unhappiness (Owens, 2018). These feelings and their association with increased attrition highlight the importance of a successful role transition. Cusson and Strange (2008) found that impaired NP role development can lead to increased attrition rates, which was also echoed in studies by Brown and Olshansky (1997) and Schumacher and Meleis (1994). Previous research suggests that new graduate nurse practitioners who take part in an optional postgraduate residency self-reported an increase in competence (Brown & Olshansky, 1997; Fleming & Carberry, 2011; Rugen et al., 2018a; Rugen et al., 2018b).

Utilizing Benner’s (1982, 1984) theory of Novice to Expert and Mezirow’s (2001) Transformative Learning Theory, this study aimed to understand the relationship of postgraduate primary care nurse practitioner residencies to PCNP in the transition year by determining the degree to which completion of a residency program predicts the scores on the self-report measures on *The Nurse Practitioner Role Transition Scale* (Strange, 2015). In addition, self-identified motivating factors and barriers were explored regarding the decision to participate in a postgraduate residency or enter practice directly after graduation. The extent to which these variables predict the choice of completing an NPR or directly entering practice following graduation were investigated, enriched with qualitative-based narrative responses.

In today's healthcare environment, the nurse practitioner's presence in primary care is increasing (Barnes et al., 2018). NPs can continue to bridge the gap in healthcare increasing access to high quality and cost-effective services. Because nurse practitioners are able to increase patient access to healthcare, it is vital that the profession of nursing fully understand the role transition experienced by new graduate nurse practitioners. Failure to comprehend experiences in this period of time could lead to increased attrition, which could not only jeopardize the availability of safe and timely patient access to healthcare but also negatively impact the profession of nursing.

Potential practical and theoretical implications of findings for this study include greater understanding of the role transition experiences of the PCNP as they move from formal education to practice. During this turbulent transitional timeframe, an increased understanding of the transition process can aid the NPs sense of preparedness and recognition of specific feelings and behaviors as "normal." It may also aid nursing educators and preceptors to recognize role transition challenges and be better prepared to assist and encourage the PCNPs with continued growth and role development.

Fully understanding the critical factors that influence the new graduate PCNPs decision to seek a postgraduate NPR or directly enter practice could be an invaluable resource for nurse practitioner educational programs, as well as practitioner residencies across the nation. Increased understanding of the critical factors could empower NP educational programs and residency programs to leverage this knowledge by strengthening programs to enhance emphasis of motivating and hindering factors possibly increasing success of new graduate nurse practitioners.

The results from the qualitative portion of this study provide rich detail to triangulate with quantitative data, and may benefit educational programs, faculty, and preceptors in better understanding the struggles novice nurse practitioners may experience when entering practice,

allowing a focus of the identified issues to be incorporated into the nursing curriculum.

Additionally, grounded in Benner's Novice to Expert theoretical framework and Mezirow's Transformative Learning Theory, this study could support the use of optional postgraduate nurse practitioner residencies as a way to increase the trajectory of the novice PCNP toward competency. This increased understanding of critical factors and role transition may benefit patients, medical providers, healthcare teams, the nursing profession, and society as a whole.

Chapter II: Review of Literature

Introduction

In this chapter, the review of literature processes, procedures and a synthesized outcome will be detailed, focusing on transition to practice residency programs for nurse practitioners as well as possible motivating factors and barriers to seek postgraduate training. A comprehensive search of reliable databases including PubMed, CINAHL, and Google Scholar was conducted. This literature review revealed several themes consistently emerged relating to the new graduate's role transition into their first year of practice and the effect a one-year post graduate residency had on this transition. These themes are *nurse practitioner competence*, *nurse practitioner confidence*, and *role transition*. For the purpose of this study, emphasis was placed on the experience of the new PCNP and their transition from formal education to practice. Benner's (1982) Novice to Expert theoretical framework and Mezirow's (2001) Transformative Learning Theory, which will both be discussed at length in this chapter, will serve as the framework for the proposed research.

Significance to Society

The retention of nurse practitioners goes beyond the nursing profession and is significant to society as a whole. For the past nine years, NPs have been the largest group of non-physician primary care providers (Agency for Healthcare Research and Quality, 2018). Demand for the APRN profession is only expected to continue to grow as the U.S. Census Bureau projects the U.S. population to increase by 98 million people in the next thirty years. Due to the baby boomer population, 20% of the American people are expected to be 65 years of age and over by 2030 (Colby & Curtman, 2015). As a result, Hofer, Abraham, and Moscovice (2011) predict that the demand for primary care in the United States will increase by 15 million to 25 million visits per year, requiring between 4,000 and 7,000 more physicians to meet this new demand.

If we do not change the way we deliver health care, there will be a projected shortage of 20,400 primary care physicians by 2020 (U.S. Department of Health and Human Services, 2013). In 2018, The American Association of Nurse Practitioners report there are more than 248,000 NPs licensed in the U.S. Of those nearly 87% are certified in primary care with almost 80% of all NPs delivering primary care (American Association of Nurse Practitioners, 2018). This growing group of health care professionals are ideally positioned to help meet this shortage and alleviate the growing burden of patient care, and related risk factors, within the United States health care system.

Nurse Practitioner Residencies

There is little guidance in the literature as to whether these postgraduate nurse practitioner programs should be referred to as residencies or fellowships and the two terms are often used interchangeably in the literature. Martsolf, Nguyen, Freund, and Poghosyan (2017) showed 45.6% of programs self-identified as residency programs, whereas 54.5% self-identified as a fellowship program. Furthermore, they discovered that the largest percentage of programs were primary care (38.2%, $n = 26$) and called residency programs. The other programs consisted of emergency and trauma care (13.2%), acute care (11.8%), psychiatry (7.4%), palliative care (5.9%), with the remaining programs including other specialties such as cardiology, orthopedics, neurovascular, and oncology. The authors discovered the vast majority of specialty programs opted to be called a fellowship, whereas the primary care programs were labeled residencies. For the purpose of this proposed study, postgraduate programs will be referred to as residencies because of the focus on adult-gerontology nurse practitioners, family nurse practitioners, and primary care.

The Community Health Center in Middletown, CT launched the nation's first formal postgraduate nurse practitioner residency in 2007, making the phenomenon of a formalized

postgraduate nurse practitioner residency just over ten years old (Flinter, 2011). The Community Health Center residency was born out of the desire to support the transition from new graduate nurse practitioner to primary care provider. Their goal was to aid in this transition by adding “depth, breadth, volume and intensity” to clinical training through a full-time, 12-month postgraduate program (Community Health Clinic, 2018, p. 1).

Given the development and implementation of nurse practitioner residencies in healthcare settings across the country, the Commission on Collegiate Nursing Education (CCNE) established a task force to study advanced practice registered nurse (APRN) residencies in 2016 (Commission on Collegiate Nursing Education Board of Commissioners, 2016). Following careful study of the data obtained by this task force, CCNE launched a new initiative to accredit nurse practitioner residencies/fellowship programs in January of 2019 (Commission on Collegiate Nursing Education, 2019).

Currently, several accrediting bodies exist: American Nurses Credentialing Center (ANCC) and The National Nurse Practitioner Residency and Fellowship Training Consortium (NNPRFT). The overarching goal of accreditation is to set quality and scope, while expanding knowledge, skills, and abilities required to move from novice to expert (American Nurses Credentialing Center, 2016). Criteria for accreditation through both ANCC and NNPRFT include mentored primary care clinics and specialty rotation. Some examples of these specialty rotations could include dermatology, emergency room, and minor surgery. Regularly scheduled didactics are essential to expand learning breadth and depth and aid in the transition of applying this knowledge to practice (American Nurses Credentialing Center, 2016; The National Nurse Practitioner Residency and Fellowship Training Consortium, 2017). Residents not only experience practice-based learning, but also develop leadership and clinical reasoning skills which leads to an improved clinical competence (American Nurses Credentialing Center, 2016).

The American Nurses Credentialing Center (ANCC) accrediting program is entitled the “Practice Transition Accreditation Program” (PTAP). Since its inception in 2017, 71 postgraduate APRN residencies have been accredited through PTAP (Commission on Collegiate Nursing Education, 2019). This accreditation is based on six standards: program leadership, organizational enculturation, development and design, practice-based learning, nursing professional development, and quality outcomes (American Nurses Credentialing Center, 2016). The following are definitions directly from the American Nurses Credentialing Center Practice Transition Accreditation Program (PTAP) application manual (American Nurses Credentialing Center, 2016):

1. Program leadership: The provision of direction and guidance to the individuals involved in the process of assessing, planning, implementing, and evaluating activities in adherence to the ANCC PTAP criteria.
2. Organizational enculturation: The process by which participants are assimilated into the culture, practices, and values of an organization or practice setting(s).
3. Development and design: The process of determining infrastructure, process, and competency requirements to meet a program’s defined objectives, requirements, and goals.
4. Practice-based learning: Learning that takes place in the practice setting under the guidance of preceptors, mentors, or other experienced healthcare professionals, or a combination thereof, and promotes the process of investigating and evaluating healthcare practices in the context of best available evidence to continuously improve patient care delivery and patient health outcomes.
5. Nursing professional development: The lifelong process of active participation by nurses in learning activities that assist in developing and maintaining their continuing

competence and role performance, the ultimate outcomes of which are protection of the public and the provision of safe, quality care.

6. Quality outcomes: Measures of the overall impact of the program on the value/benefit to patients, clients, residents/fellows, and the organization or practice setting(s).

The second accrediting body is the National Nurse Practitioner Residency and Fellowship Training Consortium (NNPRFTC) entitled “Postgraduate Nurse Practitioner Training Program.” The goal of the NNPRFTC is to improve the availability, efficacy, and quality of care provided by nurse practitioners through postgraduate training. The consortium has accredited six postgraduate NPR programs as of January 2019 with one in the pre-accreditation phase, and two in the review phase (National Nurse Practitioner Residency and Fellowship Consortium, 2018).

NNPRFTC accreditation is based on eight core standards to reflect the evolution of NP practice and training (National Nurse Practitioner Residency and Fellowship Consortium, 2018). The following are definitions directly from the National Nurse Practitioner Residency and Fellowship Training Consortium Postgraduate Nurse Practitioner Training Program Accreditation Standards manual (The National Nurse Practitioner Residency and Fellowship Training Consortium, 2017):

1. Mission, Goals and Objectives: The mission of the postgraduate NP training program must be clear, concise, and communicate to program staff, postgraduate trainees, and stakeholders the essential components of a mission: the core purpose of the program, the reason for investment of resources and energy in creating the program, and the focus of the program which will remain over time.
2. Curriculum: Program curriculum is designed to build upon the comprehensive knowledge and skills gained through the preceding high-quality NP education and academic preparation. The program curriculum expands on the existing knowledge

and skills of the new NP through intensive and progressive clinical practice as the postgraduate trainee builds and cares for a panel of patients throughout the postgraduate NP training program.

3. Program evaluation: Programs must demonstrate they have an established process of intensive, ongoing, and cumulative evaluation of postgraduate trainees, core program components and program self-assessment.
4. Program Eligibility: Programs must be a minimum of twelve months, full time training opportunities within an appropriate health care delivery organization.
5. Administration: There is a clearly identified single sponsoring organization that is ultimately responsible for the program. The program must have a defined mission statement that defines the specific mission of the program and also reflects the mission and goals of the sponsoring organization. The sponsoring organization must demonstrate that it has the sufficient resources, and is of a size, scope, and depth to either directly or through formal affiliation provide each of the core elements of the postgraduate.
6. Operations: The operations of the program establish clear guidelines on how a program will implement the following standards and create consistency across all programs.
7. Staff: The Program must have a designated program director, chief clinical director, and organizational support staff that are sufficient in time and effort to fulfill all program components.
8. Postgraduate Trainee Services: Postgraduate trainees must be provided the same employee benefits as other full-time health profession trainees or employee, postgraduate trainee salary must be commensurate with other professional trainees

training in the organization, and the sponsoring organization must provide the same benefits covering professional organization membership, provision of licenses and certifications as they do for full-time providers.

Impact of Nurse Practitioner Residency on Competence

Because of the emerging nature of this phenomena, few studies were found that focused on the impact postgraduate nurse practitioner residencies have on new-graduates competency as they undergo the transition from formal education to practice. Three studies are included here that focus on competency in nurse practitioner residents (Rugen et al., 2018a; Rugen et al., 2018b; Sargent & Olmedo, 2013). Two of these studies focused on the Centers of Excellence in Primary Care Education (CoEPCE), a seven-site collaborative project funded by the Office of Academic Affiliations (OAA) within the Veterans Health Administration of the United States Department of Veterans Affairs (Rugen et al., 2018a; Rugen et al., 2018b) while the other focuses on new graduate nurse practitioners in the state of Massachusetts (Sargent & Olmedo, 2013).

The two studies focusing on CoEPCE report nurse practitioner residents from 2012-2015 self-reported increased strength regarding patient care over the 12-month residency (Rugen et al., 2018a; Rugen et al., 2018b). Rugen et al. (2018a) assessed resident's self-reported competence at one, six, and nine months. At month one they rated themselves lower than a three out of a possible five on 22 of 28 clinical competency domains. The levels were 0—not performed/not observed, 1—observes task only, 2—needs full supervision, 3—needs supervision periodically, 4—is able to perform without supervision, and 5—able to supervise others. The rated domains include management of health conditions such as military sexual trauma (MST), traumatic brain injuries (TBI), post-traumatic stress disorder (PTSD), heart disease, renal failure, anemia, chronic obstructive pulmonary disease, hypertension, diabetes, and depression.

At 12 months, residents scored all items higher than a four (perform without supervision) except for management of kidney failure, heart failure, military sexual trauma and care of traumatic brain injuries (Harada et al., 2018; Rugen et al., 2018a). Despite not rating military sexual trauma and traumatic brain injury a four at the 12-month mark, the residents experienced a significant increase in self-assessment on both, moving from a mean of 2.0 to a mean of 3.8 for MST and moving from a mean 2.2 to a mean of 3.9 for TBI.

Rugen et al. (2018a) supported this with evaluation of the responses to five open-ended questions. Question one was “List two things you do well.” At one month, residents listed the basic skill of performing a history and physical assessment. By the end of the 12-month residency program, this answer had progressed to a more complex skill such as chronic disease management. The residency supported the transition from such global, novice history taking skills to higher level skills such as presenting a complete differential diagnosis and managing chronic illness.

Non-Veterans Affairs (VA) based research also report new graduate nurse practitioners do not feel entirely competent for practice. In another survey of new graduate NPs, Sargent and Olmedo (2013) created three separate, informal, non-validated surveys that were disseminated to five local nurse practitioner programs. Of the forty responses, they found that 70% of the new graduates perceived themselves as being “somewhat uncomfortable” and 55% “somewhat prepared” in their new role as NPs (Sargent & Olmedo, 2013).

Though these studies measure self-reported competence, limitations do exist. The two Rugen studies were both completed within the veteran’s administration CoEPCE during 2012-2015, thereby decreasing external validity and generalizability. Additionally, all three studies had small sample sizes – both Rugen studies (Rugen et al., 2018a; Rugen et al., 2018b) analyzed the data of 36 resident’s, while Sargent and Olmedo (2013) had 40 graduating NP students

respond to the survey. It is clear that further research is essential for a deeper understanding of the impact postgraduate NPRs have on self-reported competence.

Impact of Nurse Practitioner Residency on Confidence

One of the most mentioned themes within the studies is the lack of confidence experienced by novice nurse practitioners (Brown & Olshansky, 1997; Fleming & Carberry, 2011; Rugen et al., 2018b). In 1997, Brown and Olshansky authored a seminal study citing the first year of transition as turbulent and stressful for new graduate nurse practitioners. They found that launching, defined as “moving from the protected shores of school into the unknown and turbulent waster of the first primary care work environment” (p. 49) was the most agonizing part of the first year. Novice nurse practitioners reported role ambiguity, increased anxiety, having enough reserve to simply complete the day, and time management.

Years later, studies continue to support this change in role as difficult. Fleming and Carberry (2011) looked at nine NPs working within the intensive care unit (ICU) in the United Kingdom. This residency is two years long, but data were collected over a five-month time frame. Initially, these resident’s reported feelings of doubt, anxiety, frustration, and role ambiguity. However, during the five months, the residents overcame feelings of isolation and gained a sense of professional identity, both leading to decreased role ambiguity with resulting diminished doubt and frustration.

Recently, Rugen et al. (2018b) found that nurse practitioner residents continue to struggle with these same themes. Rugen and colleagues (2018) specifically mentioned both confidence and time management as obstacles as responses given by nurse practitioner residents to open-ended questions. These nurse practitioners also struggled with imposter syndrome, seeking confirmation that they are truly seen as a primary care provider. However, much like the study by Fleming and Carberry (2011), during the residency program the residents experienced an

increase in confidence and a corresponding decrease in anxiety and doubt, leading to role solidification.

A 2018 study found similar results. The authors surveyed 159 of Massachusetts Coalition of Nurse Practitioners and found over 50% of respondents report their first year of practice as “difficult and with feelings of unpreparedness,” 66% felt there was a knowledge gap, and 60% reported a gap in clinical skills (MacKay, Glynn, McVey, & Rissmiller, 2018). Again, these NPs felt least prepared during their transition to practice and specifically mentioned time management and complex patient care as areas in which they did not feel adequately prepared. They also determined had a nurse practitioner residency been offered, 80% would have been interested.

The nursing literature is just beginning to explore the concept of postgraduate nurse practitioner residencies and the impact they have on confidence. From the seminal study by Brown and Olshansky (1997) that first identified a transitional issue, a limited number of studies focusing on residencies have been published. The three studies reviewed here focused on the prevalence of decreased confidence but did not explore the variables that contributed to or hindered this imperative transition. A full understanding of the critical variables that contribute to or hinder this necessary transition is much needed to move the science of the nurse practitioner postgraduate residency forward and is addressed in the qualitative portion of this study.

Factors Affecting Role Transition: Role Ambiguity

Another emphasized theme regarding difficult role transition identified by novice nurse practitioners was the ambiguity of their new role (Sullivan-Bentz, et al., 2010). As Faraz (2017) states role ambiguity is in line with imposter syndrome as identified by Brown and Olshansky (1997) in their seminal research and resulting “Limbo to Legitimacy” theoretical model. In this model Brown and Olshansky (1997) assert during the first year following graduation, the nurse

practitioner is in limbo and faces many challenges in establishing a new identity. Role ambiguity is a lack of clarity in the NP role, which can be experienced by the NP themselves and other members of the healthcare team (Brown & Olshansky, 1997).

However, this challenge can be overcome in numerous ways including interaction with other health care professionals. In one study, participants in a postgraduate NP residency reported increased understanding of their role as nurse practitioners due to the interprofessional collaboration throughout the residency (Zapatka, Conelius, Edwards, Meyer, & Brienza, 2014). In two other studies focusing on nurse practitioner residencies, researchers found that NP residents overcame feelings of isolation and doubt during the residency. This led to an increased understanding of their role and decreased role ambiguity (Fleming & Carberry, 2011; Rugen et al., 2018a).

The nurse practitioner residency focuses on new professional responsibilities of the newly graduated nurse practitioner and allows other members of the healthcare team to become familiar with the nurse practitioner role due to the interprofessional dynamic and specialty rotations (American Nurses Credentialing Center, 2017; The National Nurse Practitioner Residency and Fellowship Training Consortium, 2017). Clarification of professional responsibilities (Hanyok, Walton-Moss, Tanner, Stewart, & Becker, 2013; Spoelstra, & Robbins, 2010) and colleagues becoming familiar with the role of the nurse practitioner (Sullivan-Bentz et al., 2010) aid in facilitation of the role transition and decreased role ambiguity. These factors are addressed during time spent in residency.

Sullivan-Bentz et al. (2010) utilized a descriptive qualitative design with 23 NP participants from a single program and through interviews were able to identify specific examples that added to NP role confusion. Workplaces that did not understand the role and scope of a NP led to nine NPs changing jobs over the course of their one-year study. One nurse

practitioner was quoted as saying “They didn’t know what my scope was. So, we’re just sort of learning as we go, all of us, trying to figure out how I fit into [the practice]” (Sullivan-Bentz et al., 2010, p. 1180).

Various studies (Fleming & Carberry, 2011; Rugen et al., 2018a; Zapatka et al., 2014) supported the importance of a solidified understanding of the new role of a nurse practitioner role while Sullivan-Bentz et al. (2010) offered insight into the actual experiences of newly graduating NP from a single Canadian health care setting. However, the research is limited into the insights of new NP given this single study setting with 23 respondents. This study aimed to expand upon the prior research by increasing generalizability of obtained study results with enrollment of a larger sample from across the United States, and with both quantitative and qualitative components in the research.

Attrition Rates and Successful Transition

Many difficulties are found in the first year of role transition for novice NPs entering the primary care workforce. These include role ambiguity, increased stress and anxiety, feelings of incompetence and being overwhelmed all of which are associated with higher attrition rates (Barnes, 2015; DeMilt, Fitzpatrick, & McNulty, 2011; Owens, 2018). Nurse practitioner residencies focus on increasing competence and confidence in new graduates (Brown & Olshansky, 1997; Fleming & Carberry, 2011; Rugen et al., 2018a; Rugen et al., 2018b), thus decreasing the well documented transitional difficulties due to these variables. Some argue that nurse practitioner residencies could lead to better provider outcomes, increasing job satisfaction (Martsolf et al., 2017).

In 2010, The Institute of Medicine (IOM) released a report titled "The Future of Nursing: Leading Change, Advancing Health." In this report, the authors reported high attrition rates as a

significant barrier to the delivery of safe and timely health care. Specifically, they feel this high attrition rate will “continue to destabilize the nurse workforce in the United States” (p.5) and they highlight the importance of a transition to work residency program. The authors specifically direct policy makers at local, state and national levels as well as healthcare executives and professionals to develop and implement these programs in both large health care systems and community settings. Their view is this will alleviate the well documented challenges associated with the transition from formal education to the complex management of health care (Institute of Medicine, 2010).

Sixty-nine percent of NP’s who completed a formal postgraduate nurse practitioner residency report their job satisfaction as *satisfied* or *very satisfied*. Just over 50% of NPs who did not complete a formal residency program rate their job satisfaction as “satisfied” or “very satisfied” on the Misener Nurse Practitioner Job Satisfaction Scale (Bush, Charles T. & Lowery, 2016). Created in 2001, the Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS) is a 44-item, 6-point Likert scale designed to measure PCNPs self-assessed job satisfaction. The MNPJSS has a Cronbach alpha of .97, showing high internal consistency (Misener & Cox, 2001).

The total scoring of the MNPJSS ranges from 44-264 with higher scores more consistent with a higher level of job satisfaction, whereas a lower score illustrates a lower level of job satisfaction (Misener & Cox, 2001). Bush and Lowery (2016) found the mean job satisfaction scores for nurse practitioners that completed a postgraduate NPR were substantially higher (mean = 200, *SD* = 36) when compared to the NP group that did not complete a postgraduate NPR (mean = 183, *SD* = 37). This suggested that postgraduate NPR might have an impact on NP job satisfaction (Bush, Charles T. & Lowery, 2016), but the study did not control for

potential differences between nurse practitioners who chose to complete a residency and those who did not complete a residency and how that might affect their job satisfaction.

The often-reported feelings of NP anxiety, feelings of incompetence and being overwhelmed (Owens, 2018), have been associated with high attrition rates and increased intent to leave a position or the profession due to a high level of unhappiness. These findings are suggesting that NPs leave due to poor transitional experiences (Barnes, 2015). Knowing this, a successful transition from novice NP to autonomous health care leader is imperative to the future of individual nurse practitioners and the profession as a whole. Factors associated with a successful transition were explored in this dissertation with the use of three open-ended questions utilized as a qualitative adjunct. These factors were explored in an attempt to increase understanding of the critical elements that can predict not only participation in an NPR but a successful role transition experience.

Factors Affecting Role Transition: Mentorship

The second factor influencing a successful transition is mentorship (Hill & Sawatzky, 2011). Mentoring is a voluntary relationship between a person with no experience and a person with great experience meant to aid the less-experienced person in acquisition of skills (U.S. Army, 2017). Mentoring has been shown to be a fundamental part of the learning and growth a novice NP experiences (Hill & Sawatzky, 2011). The mentoring relationship is very unique because it can help build competence, leadership skills, and self-awareness (Prevosto, 2011).

Research shows that having a mentor can aid in the development of not only competence, but role solidification (Hayes, 2000). Specifically, mentorship that takes place during the first year of practice has a positive effect on the transition to practice (Sullivan-Bentz et al., 2010). Furthermore, Sullivan-Bentz et al. (2010) claim their findings support all new NP graduates

would benefit from mentorship provided by an experienced nurse practitioner or physician colleague.

Historically, mentorship received by a new graduate nurse practitioner has been done during on-the-job training. This approach is frequently unstructured and inconsistent with a formal mentor program (Zapatka et al., 2014). This creates a challenging environment to successfully build upon existing knowledge and clinical skills (Zapatka et al., 2014). Given the newness of the nurse practitioner residency, data regarding a formal mentorship for the new graduate NP is sparse. However, data from post-baccalaureate nursing residency programs show nurse experience a positive outcome when participating (Goode, Lynn, McElroy, Bednash, & Murray, 2013).

In 2013, a study was published examining outcomes from 10 years of research on 1,016 post-baccalaureate nurse residency programs (Goode et al., 2013). They found that the residents' ratings of their confidence and competence, organizational skills, ability to prioritize and their communication showed a statistically significant increase over the one-year residency. Although research has been completed to discover the connection between RN nurse residency programs that boast organized mentor-mentee relationships and the impact on self-assessed competence, confidence and role transition, this data is lacking in the postgraduate nurse practitioner literature. A major purpose of this dissertation study was to determine if completion of a postgraduate nurse practitioner residency program with formal mentoring components predict higher role transition scores when compared to directly entering practice without the formal mentoring of a residency experience.

Motivating and Hindering Factors

In 1995, Bucci et al. conducted a survey of pharmacy students with the goal to ascertain the critical factors motivating them to seek out a postgraduate residency. Like nurse practitioner

residencies, pharmacy residencies are optional and have garnered much support from the professional of pharmacy, including the American Association of Colleges of Pharmacy. To complete their study, Bucci et al. (1995) mailed surveys to 514 pharmacy residency and fellowship directors asking for the survey to be distributed to the residents or fellows in their respective program. This questionnaire contained six questions about demographics and factors influencing the resident or fellow's decision to pursue an optional postgraduate residency or fellowship program. A typical response rate to mailed questionnaires is 50% (Polit & Beck, 2017) but Bucci et al. (1995) were able to achieve a high response rate (73%). This was likely due to a second mailing eight weeks after the initial mailing, targeting those who had not yet returned the questionnaire (Polit & Beck, 2017).

One of the six questions asked the respondents to rank the three most important factors in their decision to pursue an optional postgraduate residency program (Bucci et al., 1995). Available options with the total percentage of the 723 residents and fellows that chose the factor as important to their decision are as follows:

- Gain knowledge and experience (83%)
- Recognition of the new and challenging roles for pharmacists in the future (41%)
- Desire for specialized training (38%)
- Gain confidence (32%)
- Understood as prerequisite for certain jobs (28%)
- Role model pharmacists (23%)
- Faculty stressing importance (12%)
- School of pharmacy's philosophy of the importance of these programs (11%)
- Desire to gain employment at a particular institution upon completion of the program (10%)

- Interaction with residents or fellow while in clerkship or throughout pharmacy school (9%)
- Attending the ASHP Midyear Clinical Meeting (4%)
- Adviser stressing importance (4%)
- Talking with fellow students (2%)
- Importance stressed on the job or by employer (2%)

A second question asked the respondents to check the three most important barriers to classmates who opted to not enter a postgraduate program (Bucci et al., 1995). Available options with the total percentage of the 723 residents and fellows that chose the factor as a barrier to classmates' decision to seek a postgraduate training program are as follows:

- Financial obligation (70%)
- A job available after graduation (57%)
- Family obligations (29%)
- Long-term benefits not stressed (20%)
- Geographic limitations (18%)
- Individuals advising that residencies or fellowships were not necessary (14%)
- Emphasis on these programs did not exist; not felt to be important (14%)
- Other graduation options were stressed (7%)
- Too busy during senior externships or clerkships (6%)
- Deadlines falling too soon after they were informed of these options (6%)
- The belief that grades were good enough to qualify for such a position (6%)
- Competition for highly sought-after programs in the area (6%)
- Information or options not readily available (5%)

- Lack of information about the application and “matching” process (4%)
- Afraid of the competition (3%)
- Disappointment of not matching (2%)
- No one individual was available to ask questions and provide feedback (2%)
- Timing of program to inform us was not convenient; not all attended (2%)
- Not feeling prepared (2%)

Given both APRN postgraduate residencies and pharmacy residencies are optional, the top factors discovered as motivating or hindering by Bucci et al. (1995) were utilized as predictor variables for the PCNP in seeking out an NPR or directly entering practice after graduation. The one barrier introduced in this study that was not in Bucci et al. (1995) study is the PCNP participants years left to practice. The average age of the respondents in the Bucci et al. (1995) study was between 20-30 years old.

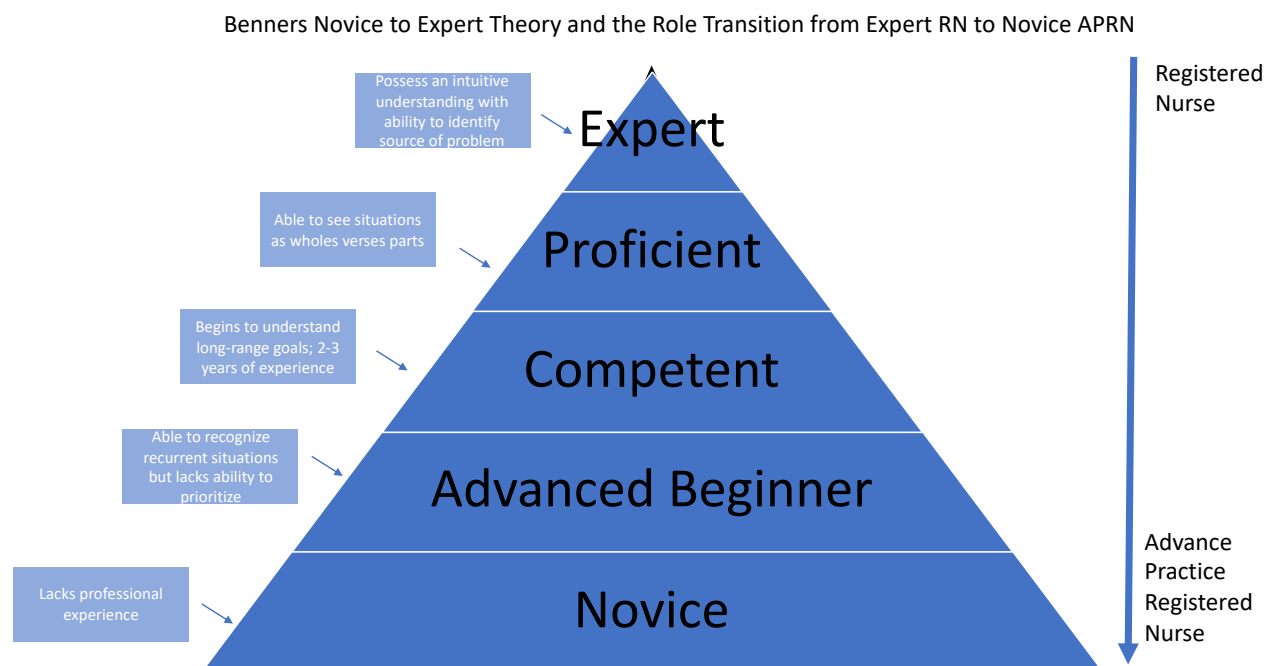
This is in sharp contrast to the average age of the current practicing nurse practitioner being 49 years of age (American Association of Nurse Practitioners, 2018). Given the average NP has 13 years left before retirement benefits can be drawn (Social Security Administration, 2019), the motivation for completing an optional residency may be less. A major purpose of this study was to determine the extent to which the selected decision factors predict the decision to complete a residency or to enter the practice directly for new postgraduate nurse practitioners.

Theoretical Framework

Benner’s Novice to Expert Theory. In 1982, Dr. Patricia Benner introduced her Novice to Expert theory. Since that time, adaptation of her theory has been embraced by nursing faculty. In this study, Benner’s theory will be adapted to the new graduate PCNP. Research supports transitioning from a role of registered nurse (RN) to the role of nurse practitioner has been reported to be a stressful experience by those experiencing this transition (Brown & Olshansky,

1997). Fleming and Carberry (2011) hypothesized at the base of these concerns is the knowledge of once being an expert in the nursing field to now becoming a novice in the field of advanced practice nursing.

Figure 1



Benner's Novice to Expert Theory and the Role Transition from Expert RN to Novice APRN

Benner's theory purports that nurses go through five stages of learning, from novice to expert. Prior to becoming a new graduate nurse practitioner, most PCNPs likely functioned as a registered nurse for a few years. Benner believes competence is typically reached after two to three years and occurs when the nurse begins to see their actions in terms of long-range goals. In her publication "From Novice to Expert" Benner writes "the competency stage is characterized by a feeling of mastery and the ability to cope with and manage the many contingencies of clinical nursing. The competent nurse's conscious, deliberate planning helps achieve a level of efficiency and organization" (Benner, 1982).

This above description of the competent nurse is in sharp contrast to the novice nurse.

Benner writes:

Beginners have no experience with the situations in which they are expected to perform tasks. In order to give them entry to these situations, they are taught about them in terms of objective attributes. These attributes are features of the task that can be recognized without situational experience. Novice practitioners are also taught rules to guide action in respect to different attributes. The heart of the difficulty that the novice faces is the inability to use discretionary judgment. Since novices have no experience with the situation they face, they must use these context-free rules to guide their task performance (p. 403-404).

Dr. Benner's Novice to Expert Theory is increasingly used to explain the phenomenon of a registered nurse passing through various stages of professional development, which includes skills, nursing interventions, and clinical judgement (Brown & Olshansky, 1997; Faraz, 2017; Fitzpatrick & Gripshover, 2016). Benner recognizes that experience is not obtained with the passage of time but with refinement of theory through experiencing different approaches to the original theory. This approach assumes all real-life situations are vastly more complex than the descriptions offered by theories, models, or textbooks (Benner, 1984).

Expertise demands time. It cannot be taught, instead the novice nurse practitioner possesses a sufficient foundational knowledge to practice safely, which enables the novice NP to ask the right questions and recognize the correct problems, facilitating growth and expertise. Benner writes that preceptors need to be experts themselves. This allows the "pointing up" (Benner, 1984, p. 186) of unusual patient presentations by recognizing the patient presentation differs from what is typically expected. As the resident grows in knowledge and confidence, the preceptor is expected to continue demonstrating advanced levels of practice (Benner, 1984).

Benner (1984) also writes about the identify found in nursing in relationship to three psychological benefits people seek to gain from work as per Daniel Yankelovich (1974): (a) an opportunity to advance to a position that offers more interest, satisfaction, pay, and recognition; (b) the desire to perform well at work; and (c) the desire to find self-fulfillment through involved work, work that is challenging, and work that provides an opportunity to make decisions. The professional of nursing can meet all of the goals but encounters difficulty when looking outside self. Again, Benner (1984) writes that nursing is insufficiently recognized by fellow colleagues, consumers, physicians, administrators, and other member of the healthcare team. This leads to role ambiguity which can lead to isolation from colleagues and members of the healthcare team (Faraz, 2016). Having a robust role transition that offers clarification of the new professional role of a nurse practitioner can ease this role confusion.

Meleis (2018) defines transition as “a change in...role relationships, expectation, or abilities. Transition requires the person to incorporate new knowledge, to alter behaviors, and therefore to change the definition of self in the social context” (p. 97). During the first year of practice the novice nurse practitioner transitions through a change in career trajectory, including fluid feelings of confidence and competence. Benner’s theory provides a framework reminding us that each level is competency and role-specific (Adeniran, Bhattacharya, & Adeniran, 2012; Oriol, Brannagan, Ferguson, & Pearce, 2015).

At the very least many new graduate NPs find themselves having practiced at least in the proficient category and suddenly find themselves functioning as a beginner, having no experience to draw upon, guide judgement or aid in decision making. Benner’s Novice to Expert theory fits this transitional time perfectly and is a fitting framework for this dissertation topic.

Mezirow’s Transformative Learning Theory In 1978, American sociologist, Jack Mezirow introduced the concept of transformative learning (Mezirow & Taylor, 2009).

According to Mezirow's theoretical work, "learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience in order to guide future action" (Mezirow, 1996, p. 162). Transformative theory helps explain the way in which adult learners amend their meaning structures and involves "reflective assessment of premises, a process predicated upon still another logic, of movement through cognitive structures by identifying and judging presuppositions" (Mezirow, 1991, p. 5). Vital to this process is the meaning scheme. A meaning scheme consists of specific knowledge, beliefs, and feelings that impact our interpretations (Mezirow, 1991). Simply put, transformative learning is making sense of your personal experiences and applying this understanding to alter and grow your behavior and perspective.

This process consists of 10 steps, the first of which is coined a *disorienting dilemma* (Mezirow, 1996; Kitchenham, 2008). This occurs when a substantial life event takes place and acts like a trigger "provoking critical reflection, and facilitating transformative learning, allowing learners to experience learning more directly and holistically" (Mezirow & Taylor, 2009, p. 3). Interestingly, when Mezirow first evaluated the concept of a disorienting dilemma in the late 1970s, he examined the assumptions of women who were returning to college.

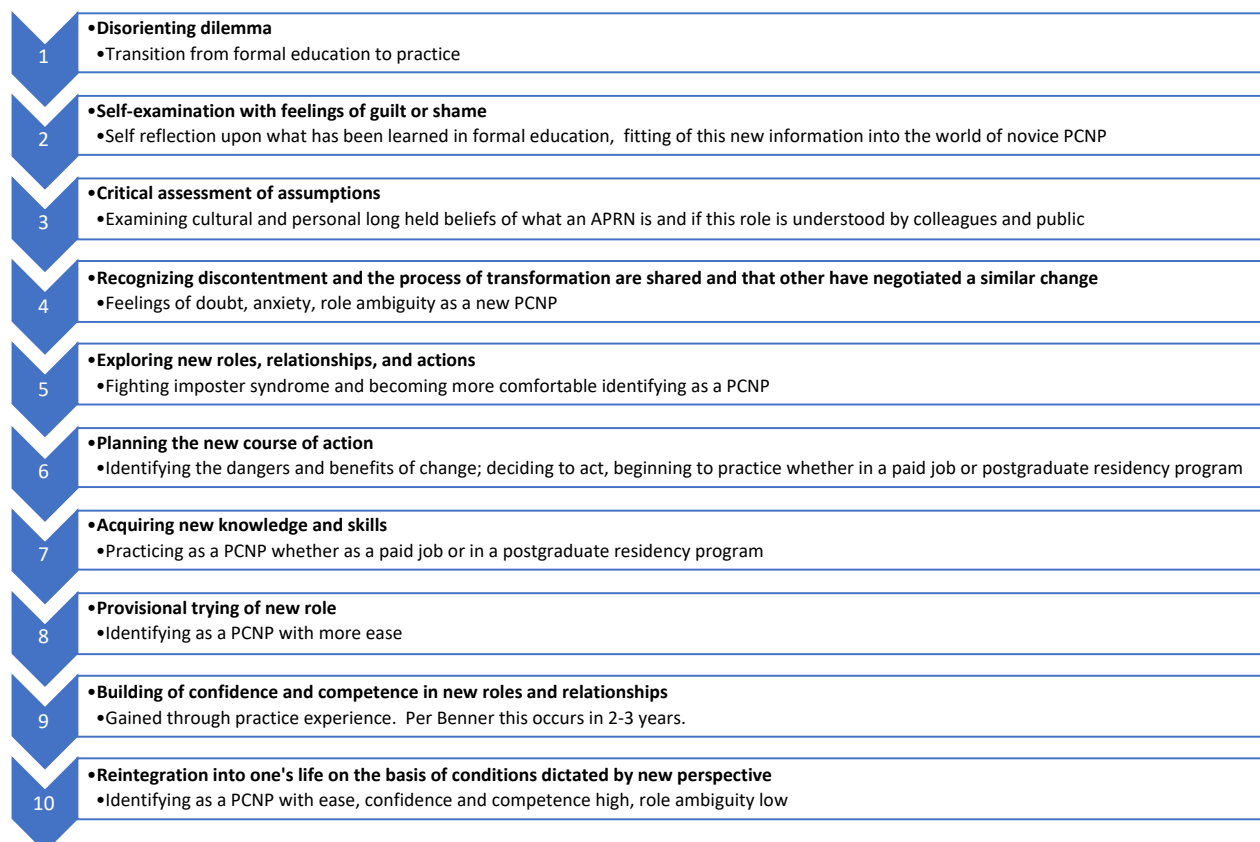
He discovered the experience of returning to college resulted in the women examining the meaning schemes of their culture (Mezirow, 1991; Merriam & Bierema, 2013). The role transition of newly graduated APRNs viewed through the lens of transformative learning theory (TLT) is one overflowing with disorienting dilemmas. This phase of disorienting dilemmas catapulted the learning adult nurses to critically reflect on the challenging situations of nursing practice. Without this focus, (Chirema, 2007) writes the necessary skills for competent practice will likely never be developed.

Specifically, the process of transformation involves the other nine phases in Mezirow's ten phases of transformational learning. Phase one, as discussed above, is the experience of a disorienting dilemma. Phase two and three involved critically assessing all of the previously held assumptions that the nurse has been living with prior to the even, in this case role transition from RN to APRN. Phase four and five allows the APRN to recognize their own feelings of discontentment and share this with others experiencing a similar change while exploring "options for new roles, relationships, and actions (Mezirow, 1991, p. 168).

Phase six, seven, and eight of transformational learning is where changes begin to occur. This includes planning a new course of action, acquiring the knowledge and skills to implement the new plan, and trying of the newly identified role. Phase nine directly correlates to this study as it seeks to the "building of competence and self-confidence in new roles and relationships (Mezirow, 1991, p. 169). Finally, phase ten is achieved when integration of the new perspective into life is complete (Merriam & Bierema, 2013).

The NPRTS, one of the two selected instruments, is designed to evaluate the nurse practitioner's role transition during the first year of practice. Strange (2015) discovered four themes that described the "retainment of expert status during role transition" (p. 1). These are feeling prepared, the transition, making it as an NP, and the helpers and hinders. Specifically, the NPRTS measures development of comfort, confidence and competence, collegial relationships as related to role ambiguity, and the NPs personal belief about whether or not others understand the NP role. Low scoring indicates a poor transition into the new role of NP, while higher scoring indicates a smoother transition. Using Mezirow's TLT as a guide, the data from both the NPRTS and the qualitative open-ended questions will be critically evaluated to ascertain what factors contribute to the full integration of the PCNP perspective into the new graduate PCNP population.

Figure 2



Benner's Novice to Expert Theory and Mezirow's Transformative Learning Theory as Applied to the APRN Role Transition

The above model is designed to connect both Benner's Novice to Expert Theory and Mezirow's Transformative Learning Theory to the role transition the newly graduated APRN makes. This model draws upon Strange's (2015) Nurse Practitioner Role Transition Scale and research by Barnes (2015), Brown and Olshansky (1997), Fleming and Carberry (2011), and Owens (2018) who found that new graduate APRNs experience feelings of anxiety, frustration, doubt, and role ambiguity during the transition from formal education to practice. Additionally, Dr. Benner's theory of Novice to Expert is also incorporated into the model to further explain the role transition.

Utilizing Mezirow's Transformative Learning theory as an underpinning of this study offers a guideline on the *how* of adult learning in the context of role transition from RN to PCNP. Phase one, a disorienting dilemma, directly correlates to the new graduate APRN and their reported experience of feeling anxiety, frustration, and doubt during the transition from formal education to practice (Barnes, 2015; Brown & Olshansky, 1997; Fleming & Carberry, 2011; Owens, 2018). The ten step journey a new graduate APRN makes culminates in the final phase when the graduate reintegrated into their life based on the newly acquired perspective (Mezirow, 1991).

Conceptual Framework Linked to Outcome

This study utilized two separate theories to understand the role transition of the new graduate nurse practitioner experiences as one progresses from formal education to practice: Patricia Benner's Novice to Expert and Jack Mezirow's Transformative Learning Theory. First, this study focused on the three psychological needs as identified by Yankelovich (1974) which are essential to the identity of the nursing profession and incorporated into Dr. Benner's theory (Benner, 1984). These include having an opportunity for more satisfaction and recognition, the desire to perform well at work, and the need to find self-fulfillment through challenging work that allows for decision making. These three concepts are related to the three components of The Nurse Practitioner Role Transition Scale (NPRTS) developed by Strange (Strange, 2015).

The first component of the NPRTS relates to the development of comfort, confidence, and competence and this correlates to Yankelovich (1974) need of performing well. The second component of the NPRTS relates to other members of the healthcare teams understanding the role of the NP. This can translate to recognition and increase self-fulfillment as written by Yankelovich. The third component of the NPRTS is the NPs own belief if the NP role is well

understood by others. Again, this is related to Yankelovich's need of recognition and self-fulfillment.

Benner's Novice to Expert Theory, as described above, generally pertains to the transition a new graduate registered nurse makes from novice RN to expert RN. However, when applying this theory to this study it is important to note two things. As Strange (2015) writes:

nurses can become stuck (in a certain stage) if they are unable to manage or overcome the elements within a particular stage. The final level is that of expertise. In the Benner model, it is possible to not attain the level of expertise, and the rationale for failure to advance is not always clear. (p. 73)

Additionally, the tradition advancement in Benner's model is novice to expert. However, in the situation of the nurse practitioner this is not always the case. More often than not, this transition is truly from expert RN to novice NP (Strange, 2015). This perceived decline in knowledge creates increased distress in the newly graduated NP as well as a mismatch of expectations. The NP and his/her colleagues expect the previous RN experience and expertise to translates into a higher functioning nurse practitioner than the novice stage (Strange, 2015).

In his transformative learning theory, Mezirow suggests learners acquire the ability to move beyond preconceptions, stating "when circumstances permit, transformative learners move toward a frame of reference that is more inclusive, discriminating, self-reflective, and integrative of experience" (Mezirow, 1997, p. 5). Transformative learning theory will allow the word *learn* to be viewed as an action verb; the PCNP is actively learning how to reintegrate into the world of an advanced practice nurse complete with new roles, relationship, cultures, and actions.

As discussed in depth above, the tenets of TLT assists in exploring the *how* of learning as viewed through the lens of Mezirow's adult learning theory. This theory is a ten-phase journey that begins with a disorienting dilemma, in this case the role transition from formal education to

practice and ends when the new graduate PCNP is able to fully integrate into the world of the advanced practice nurse.

This study aims to understand what factors impacts the transition of the new graduate PCNP through qualitative adjuncts as well as evaluate the predictive value of residency choice factors (RCF). The nursing profession will be greatly aided in understanding what phenomenon aids or hinders this transition in an effort to decrease new graduate PCNP distress and aid in becoming unstuck in the advancement of professional experience stages as described by Benner (1984) as well as fully understanding the journey of how the new graduate PCNP moves through each phase to enter a final reintegrate of role understanding, complete with confidence and competence as explained by Mezirow (Mezirow, 1991).

Conclusion

In this chapter various themes pertinent to the new graduate nurse practitioner transition from formal education to practice have been identified. Examining the literature, the concepts of transition to practice with a specific focus on competence, confidence, role ambiguity, job satisfaction, and factors contributing to the decision to seek out a postgraduate residency was discussed. Researchers have identified role transition as paramount to the successful launching of a competent and confident NP that is comfortable in the role and can self-identify as a nurse practitioner (Barnes, 2015).

Research on newly graduated nurse practitioners suggest the transition to practice is wrought with anxiety, along with feelings of doubt and inadequacy (Brown & Olshansky, 1997). However, studies have shown increased competence and confidence, and decreased role ambiguity in the population of new nurse practitioners after being part of a formalized nurse practitioner residency program (Fleming & Carberry, 2011; Rugen et al., 2018a; Rugen et al.,

2018b; Sargent & Olmedo, 2013). Not only is this transitional experience necessary, insight to the contributing variables is essential to fully understanding this phenomenon.

To assist with identifying critical residency factors, literature from optional pharmacy postgraduate residencies was evaluated given the paucity of literature specific to nurse practitioner residencies. Using Bucci et al. (1995), pertinent factors aiding in or hindering the decision to pursue a postgraduate training opportunity were identified and were included in the quantitative research methodology portion of this study. These factors were investigated and the degree to which they predict participation in an NPR was obtained.

Strengthened by the guidance of Benner's Novice to Expert theory and Mezirow's Transformative Learning Theory the process of role transition from expert RN to novice PCNP was explored. Three psychological needs as written by Yankelovich and incorporated by Benner guided the importance of the NPRTS findings. In regard to the critical residency factors and the qualitative adjunct, the Novice to Expert framework has historically been applied to the transition a newly graduate registered nurse makes as they move from novice to expert. In this study, the Novice to Expert Theory was applied, but with a twist. Often the newly graduated PCNP struggles with a decline in status from expert RN to novice nurse practitioner – as opposed to the more tradition novice RN to expert RN. This creates distress and confusion among the NP and his/her colleagues.

While Benner's Novice to Expert theory was utilized to explain and clarify the role transition experienced by expert RN's to the novice PCNP role, Mezirow's Transformative Learning Theory guided the progression and phases of transformation new PCNPs experience as they transition from expert to novice in a new role. Prior to becoming an APRN each PCNP develops a frame of reference in which the world is viewed. This is influenced by prior learning, experiences, and instincts (Morris & Faulk, 2012). These references help create each individuals

point of view, thus creating the backbone to how the world is interpreted and acted upon. In the newly defined role of a PCNP, new graduates likely experience a dilemma – approaching a new world with outdated experiences and instincts. Transformative Learning Theory was utilized to explain how PCNPs progress through each step of adult learning to “make meaning of one’s experience” (Merriam & Bierema, 2013, p. 84) utilizing critical thinking, reflection, and an examination of culture and long held assumptions, beliefs, and relationships – including both the conscious and unconscious.

Chapter III: Methodology

The purpose of this chapter is to describe the methodology utilized in this study of comparing the new graduate PCNP who participated in a residency versus the PCNP who directly entered practice. First, the research design will be discussed, followed with a description of the sampling plan, including sample size and approaches to protect the human participants. Next, there will be a focus on data collection methods, instrumentation, and methods implemented to minimize weaknesses and maximize strengths in design for overall strengthened rigor.

Research Design

A retrospective cohort study was conducted via an online survey, including quantitative and open-narrative qualitative items. Information about whether PCNPs completed a postgraduate residency program or directly entered practice after graduation was collected. Responses to questions about factors that affected decision to participate in direct practice entry or choose a postgraduate nurse practitioner residency was asked. Next, the survey solicited retrospective self-evaluations about the overall PCNPs role transition experience following either the completion of an NPR or the first year of practice directly following graduation. Along with demographic information, participants were asked about years of prior registered nurse experience and their RN setting of practice. The final survey questions were open-ended qualitative questions to explore factors that aided or hindered in facilitating transition from formal education to subsequent practice or residency.

Additionally, residency choice factors were explored and if they had any impact in the decision-making experience of newly graduated nurse practitioners and their decision to either directly enter practice or seek out an NPR. To further explore factors that may contribute to

confidence and competence gained during the transitional year that occurred after graduation and entering practice, qualitative open-ended questions were also included.

Setting

The survey was sent via electronic communication in three different ways. First, a private Facebook page was utilized and posted to seven closed nurse practitioner groups requesting participants and providing a link to the survey. Secondly, emails were sent to directors of postgraduate residency's which were identified via a google search, as well as the ANCC and NNPRFTC webpages. The email mirrored the script used in the Facebook posts and provided a link to the survey. The directors were asked to forward the email to prior residents. Thirdly, a post was made to twitter employing specific hashtags and directing participants to the survey link. This allowed each participant the ability to decide the most comfortable setting in which to complete the survey. The survey was accessible on any device that was internet-enabled. Such devices could include desktop computer, laptop, tablet, or smart phone

Sample

The convenience sample recruited for this study was comprised of PNCPs who graduated from 2007-2018, having successfully completed national certification, and practicing currently or practiced immediately following graduation. Participants were recruited via Facebook posts to nurse practitioner special interest groups that are closed to non-nurse practitioners, via emails to directors of postgraduate residency's, and via a single Twitter post.

To support validity of the data and statistical analyses, G*Power 3.1 software (Buchner, Faul, & Erdfelder, 1997) was used to estimate the needed minimum sample size. A minimum sample size of $N = 491$ was deemed appropriate for the planned binary logistical regression based on G*Power 3.1 for a two-tailed test at $\alpha = .05$, power = .80, minimum odds ratio of 1.3, and no correlation among the predictors.

For correlations among the predictors up to $r = .50$, a minimum sample size of $N = 630$ was determined adequate. For the planned hierarchical linear regression, if all fifteen predictor variables were entered into the multiple regression, then a sufficient total sample size of $N = 389$ was projected according to G*Power 3.1 at $\alpha = .05$ and power = .80 to detect a small sample size of ($f^2 = .05$) increase in R^2 for any predictor variables.

The general rule of thumb for powering regression models is that there must be at least ten cases per independent variable (15 times 10 would be a total sample size of 150 in this case): however, this criterion is only sufficient to detect a medium size effect ($f^2 = .15$) with minimum power of .80 at $\alpha = .05$. Because both power and the ability to detect small effect sizes increase with sample size, a total sample size of 650 or greater will be sought for this investigation. Insufficient respondents in studies utilizing regression models can result in unstable risk estimates, wider confidence intervals, and inaccurate associations (Kumar, 2015).

Criteria for Sample Selection.

The inclusion criteria for this investigation included requirements that all participants be either an adult-gerontology nurse practitioner or family nurse practitioner who graduated and passed a national nurse practitioner certification examination between 2007-2018. Graduates from other programs (e.g., pediatric nurse practitioners) and graduates from 2007 to 2018 who did not pass a national certification were not included.

Recruitment Strategies

The recruitment campaign was conducted using various techniques in an effort to increase participants. Two different social media platforms were utilized – Facebook and Twitter. Additionally, emails were sent to directors of postgraduate NPRs who were identified via a google search as well as the ANCC and NNPRFT websites.

When using Facebook, posts were made to various closed nurse practitioner special interest groups. For membership in these groups, the nurse practitioner must request membership, and typically provide name, license number, and licensing state for a vetting process. After the administrators of the special interest groups review the answers to level of satisfaction, membership was granted or denied. Once access to the special interest group was granted to the nurse practitioner, they were able to access the content of group posts and the group posts began populating in their personal news feed.

Those who are not members were not able to see any posts on the group page or on their personal news feed (Facebook, 2019). A newsfeed is a constantly updating list of stories on the Facebook user's homepage. Stories include photos, videos, live videos, links, friend's status updates, as well as group postings (Carter-Harris, Bartlett Ellis, Warrick, & Rawl, 2016).

The posts came from a Facebook profile created specifically for this study. The profile did not contain any personal information, friends, posts, or photos to avoid introducing bias. Each weekly post included a headline, a short description of the study and inclusion criteria, and an Idaho State University stock photo of a nurse practitioner to garner increased attention, and a link to the study's web-based survey.

When using Twitter, specific hashtags were employed in an effort to garner increased attention to the specific group needed for this survey. Hashtags, denoted by the symbol #, is used on Twitter to allow keywords to be indexed and easily searchable. The hashtag is placed before the keyword in an effort to increase visibility and engagement with Twitter users (Twitter, 2020b). In addition to hashtags, Twitter allows individuals, companies, and groups to be tagged in tweets. This is done by placing the @ symbol before the other accounts Twitter username. When an account is tagged, the user is automatically notified they have been tagged. The tagging process was done in a targeted effort to increased respondents (Twitter, 2020a).

The third recruitment strategy utilized electronic mail. I located directors of postgraduate NPRs via a google search as well as the ANCC and NNPRFT websites. The email sent contained the same script used on Facebook and closed by asking my email be shared with their past residency graduates.

Consent to obtain data was obtained from each participant in the form of survey question number one, which was placed at the end of an informational paragraph describing the survey, the surveys' voluntary nature, and each participant's right to terminate the survey at any time.

Provision for Protection of Human Subjects

A proposal for this study was presented to the Idaho State University (ISU), Internal Review Board (IRB) for approval. Following IRB approval, the sample was recruited from closed nurse practitioner special interest groups on Facebook, via Twitter, and email. Each post, tweet, and email directed participant to follow a Qualtrics link. This link took the participant directly to the Qualtrics website where the survey was completed.

Given this study does not have a therapeutic or medical intervention, there was minimal risk to the participants. Medical data was not requested. Primary risks for this study include recruitment, confidentiality, and consent. No personally identifying information was requested from participants. This study was completely voluntary, and participants were notified of the voluntary status of participation via each Facebook post, Tweet, and email as well as the via the Qualtrics survey itself. To ensure data remains secure, a log in identification and password was required to access all survey results. This log in identification and password remains solely with the PI. The computer utilized by the PI is password protected and remains in a locked office. Following completion of the study, results in aggregate form only will be posted to Facebook. Additionally, a tweet directing Twitter users to the Facebook page will be sent. Furthermore, an

email will be sent to directors of the identified NPRs including the study results in aggregate form only.

Data Collection Methods and Instruments

This survey included one validated survey: *The Nurse Practitioner Role Transition Scale* developed by Strange (Strange, 2015). The Nurse Practitioner Role Transition Scale (NPRTS) is a 17-item, 5-point Likert Scale form created to measure participants' perceptions of their own NP role transition experience (see Appendix A for Nurse Practitioner Role Transition Scale). Cortina, Jose M. (1993) suggests an acceptable level for the coefficient alpha to be greater than .70 for internal consistency reliability and the NPRTS has internal consistency reliability estimates of .88-.92 based on Cronbach alpha, supporting high internal consistency of the total scores (Strange, 2015).

This scale is also valid for retrospective reporting as the original inclusion criteria in the developmental stage consisted of: (a) having experienced a role transition from NP student to NP clinical practice and (b) having worked in the NP role for at least one year after graduation. During the testing stages of the NPRTS version 3, which is the final version, the average NP experience was 11.2 years (Strange, 2015). The NPRTS is deemed reliable and valid via results of exploratory factor analysis and exploratory component analysis that were conducted prior to the scales release (Strange, 2015).

The NPRTS is a three-component model measuring (a) NP role transition relating to development of comfort, confidence and competence, corresponding to questions 1-9, (b) collegial relationships seeking to quantify the understanding of the NP role by other on the healthcare team as this related to role ambiguity, corresponding to questions 10-15, and (c) the NPs belief about whether or not others understand the NP role, corresponding to questions 16-17. Response options include: 1 = *Strongly Disagree*; 2 = *Disagree*; 3 = *Neither Disagree nor Agree*;

4 = *Agree*; and 5 = *Strongly Agree*. Scores are summed for the component and the aggregate total. The total scores can vary from 17 to 85. The higher score is consistent with an easier transition as opposed to a lower score, which is consistent with a more difficult transition experience (Strange, 2015).

Categorical demographic information related to education and professional practice was asked in order to explore any relationship on the transition from formal education to practice.

These questions include:

1. Participants birth year
2. Participants gender identity (male, female, other, do not wish to report)
3. Participants highest level of degree (Master, DNP, Ph.D., other)
4. Did you have prior experience as an RN? (Yes, No)
 - a. If so, how many years?
 - b. What practice setting? (Office/clinic, acute care [medical-surgical, critical care, or emergency department], long term care or other)
5. What year did you graduate as a nurse practitioner?
6. What year did you certify as a nurse practitioner?
7. Participants current specialty area of practice (family practice, women's health, geriatrics, pediatrics, internal medicine, hospitalist, emergency room/urgent care, academia, other)
8. Did you complete a postgraduate residency?
 - a. If so, what year?
 - b. What was the name of the postgraduate residency completed?
 - c. How many months in length was the postgraduate residency?
 - d. Did you relocate for the postgraduate residency?

- e. What specialty was the postgraduate residency? (primary care, emergency and trauma medicine, acute care, psychiatry, palliative care, other)

Predictor variables were scored using a slider bar response method, based on a 0-10 scale, thus a visual analogue scale (VAS) with selections being equal intervals and continuous. This method is known as semantic differential (Osgood & Suci, Tannenbaum, P., 1967) and is a highly regarded format for obtaining respondents judgements in an objective manner. The data gained explored how the variables may contribute to the choice of a postgraduate residency or direct entry to practice. The chosen predictor variables are:

- The desire to gain knowledge and experience
- The recognition of a new and challenging roles for NPs
- The desire to gain confidence in skills and experience
- To increase marketability and employment opportunity
- The desire for specialized training
- Prior interaction with past NP resident(s) as a role model
- Faculty stressed importance of postgraduate residency
- Financial obligations
- Having a job available after graduation
- Current family obligations
- Benefits of direct entry vs. residency discussed in NP program
- Geographical challenges
- Anticipated years left to practice
- NPR not emphasized during NP program

Three open-ended questions were utilized as a qualitative adjunct to explore variables related to the transition from NP program to practice:

- Please provide an example of one or two things (people, places, processes, books, etc.) that was/were the most important in facilitating your transition from your NP program of study to subsequent direct entry into practice or residency, and describe the importance related to example(s)?
- Please provide an example of one or two things (people, places, processes, books, etc.) that was/were the most important in hindering your transition from your NP program of study to subsequent direct entry into practice or residency, and describe the importance related to example(s)?
- Please provide your reasons, rationale, or issues underlying your decision to either seek a postgraduate residency or directly enter practice.

All survey material was developed in Qualtrics (see Appendix D). Qualtrics is a global leader in survey software development and provides a user-friendly platform for survey development, deployment, and data management overall. All data collected through Qualtrics is secure and encrypted, with access to the results only permitted through a secure internet connection and password protection (Qualtrics, 2019b). Additionally, Qualtrics offers the ability to export to SPSS (Qualtrics, 2019a), the statistical analysis software used in this study. In keeping with a fully voluntary participant process, no constraints prohibiting progression of completing the survey was placed on survey items, thus allowing participants to skip an item without answering if the participant opted to do so.

Data collection began in August 2019 and was complete November 2019. Weekly or bi-weekly posts were made to the identified private Facebook groups to encourage adequate response numbers. A single Tweet was utilized in October to boost response numbers. Emails to NPR directors were sent out over the course of three weeks. If the participant had a question,

they were able to utilize Facebook messenger, Twitter messenger, or reply via email to contact the primary investigator.

Polit and Beck (2017) have identified many advantages to using an online questionnaire. One purpose for using online survey methodology is to reduce the errors in data analysis as it does not require entering or double entering of data. Another benefit is the decreased cost of survey distribution as paper, photocopy, and mailing costs are avoided. Anonymity is also an advantage, which can be crucial in respondents answering sensitive questions. Additionally, online surveys offer an increased convenience for respondents and data automation for analysis purposes. A final identified benefit is the lack of introducing interview bias and social desirability bias (Pew Research Center, 2019). Some researchers have identified that response rates for email surveys are equal to or better than traditional paper method surveys (Thompson, Lori Foster, Surface, Eric A., Martin, & Sanders, Michael G., 2003).

Online data collection has known weaknesses. Posts made in discussion groups may be considered “spam” and the moderators may delete the post (Wright, 2017). However, the topic of nurse practitioner residence is of high interest among nurse practitioners, so this focus will likely be welcomed with a high level of interest to NPs involved with social media sites. Facebook, the most popular social media site, is an important part of daily life (Kosinski, Matz, Gosling, Popov, & Stillwell, 2015) with nearly 70% of all U.S. adults having a Facebook account (Smith & Anderson, 2018). Of that 70% nearly three-quarters of these adults access Facebook every day with just over half visiting Facebook multiple times a day (Smith & Anderson, 2018). More specific to this studies sampling strategy, the Facebook groups that were invited to participate have nearly 110,000 members.

Detailed in Table 1 are the closed nurse practitioner Facebook groups that were included in the social media recruitment campaign:

Table 1

Closed Facebook Groups Included in Study

Facebook Group	Member Numbers	Source
Family Nurse Practitioner Networking Group	31,378	Family Nurse Practitioner Networking Group, 2019
NP Guidance Group	19,879	NP Guidance Group, 2019
Clinical NPs For Change	4,457	Clinical NPs for Change, 2019
Nurse Practitioners in Business	6,992	Nurse Practitioners in Business, 2019
Nurse Practitioner Group	12,424	Nurse Practitioner Group, 2020b
The Nurse Practitioner Group	27,115	The Nurse Practitioner Group, 2020c
Family Nurse Practitioner - Networking Group	7,115	Family Nurse Practitioner-Networking Group, 2020a
Total Members to Closed Groups	109,360	

As of 2019, Twitter reported having 126 million daily users (Shaban, 2019). Twitter is another social media platform that allows users to broadcast messages using 280 characters or less (Mohammadi, Thelwall, Kwasny, & Holmes, 2018). As reported by Mohammadi (2018), in the academic world Twitter is used most often to share real-time information, create connections, share scholarly findings, and disseminate information to the public and to peers. Two of the most popular shared informational sources on Twitter include scientific publication and academic news. Following certain accounts and hashtags allows used to find specific academic information using Twitter.

For the single Tweet, five specific tweets were utilized in an effort to target the specified population. The tweets used were #phdcandidate, #dissertation, #nursepractitioner, #NPresidency, and #NPslead. Popular academic groups tagged to further increased visibility in

an effort to garner more respondents included @academicchatter, @momademia, and @academicmomlife. This tweet was seen by 959 people on Twitter and resulted in two click conversions to the Qualtrics URL survey.

In an attempt to directly target respondents who opted to pursue a postgraduate NPR a step wise internet search was employed. First, a Google search was completed using “postgraduate nurse practitioner residency programs” and “postgraduate nurse practitioner fellowship programs.” After obtaining names of residencies, another Google was performed to search the name of the specific residency in an attempt to locate a contact email for the director of the specified program. The websites for ANCC and the NNPRFT were then searched for lists of accredited NPR programs. From here, web addresses were obtained and visited in an effort to locate a contact email for each program director. Using this approach over 55 emails were sent and received by postgraduate NPR programs. The script in the email mirrored the script used in the Facebook posts in an ongoing effort to decrease bias.

Inclusion criteria included the PNCP who graduated from 2007-2018 and successfully obtained national nurse practitioner certification. An assumption was made that the respondents were technologically literate. The chosen survey, NPRTS, consisted of 17 questions (Strange, 2015), which did not demand a lot of time to complete. The Flesch–Kincaid Grade Level Formula was calculated to be a 6.7, which equates to a being written in 6th grade level English.

Rigor and Measurement Error

The primary investigator (PI) was a CITI certified trained who completed the National Institute for Nursing Research (NINR) “Developing Nurse Scientists” course (see Appendix B for certification). The PI is also an American Academy of Nurse Practitioners nationally certified family nurse practitioner who completed a postgraduate nurse practitioner residency,

which led to familiarity with this process and increased insight to potential biases (see Appendix C for licensure).

The design of this study was a retrospective survey research design and while correlational relationships were discovered, causality cannot be determined with correlational analysis. Limitations of the NPRTS mirrored those of other standardized tests in that social desirability can occur, bias may exist, and open-ended questions were not existent in the NPRTS, so they were added to capture additional information regarding rationale for decisions and choices, and other influencing factors.

Respondents completed the survey online thus decreasing social desirability bias (Pew Research Center, 2019). Attrition was not an influencing factor because of the one-time survey administration model (Polit & Beck, 2017). National certification is required for NP practice, thus only nationally certified PCNPs were included. Graduates from 2007-2018 were sampled because residencies were not available until 2007. Furthermore, the NPRTS has been administered to NPs in prior research and was validated in nationally certified practicing nurse practitioners (Strange, 2015).

Data Analysis

The proposed research questions for this study guided the data analysis. Correlation was used to examine the relationship among the choice factors. A quantitative approach using logistic regression determined whether a weighted combination of the choice factors predicts the outcome of enrolling in a primary care postgraduate nurse practitioner residency. The goal of an analysis using logistic regression is to determine the best model and highest level of parsimonious fit to demonstrate relationship with dichotomous outcome variable and set of independent predictors (Hosmer & Lemeshow, 2000).

Hierarchical linear regression was utilized to analyze if completing a primary care postgraduate NPR versus direct entry into practice could explain a statistically significant amount of variance in the dependent variable of role transition when controlling for established choice factors and the participants' demographic characteristics (age, prior RN experience, and length of NP practice). Initial plans to apply linear regression to evaluate whether completing an accredited primary care postgraduate NPR versus a non-accredited NPR primary care program predicted role transition scores were abandoned due to an insufficient sample size.

Alpha was set at .05 for all statistical tests. Quantitative data were analyzed using the IBM SPSS 26.0 statistical program. The data collection platform, Qualtrics®, allows for quantitative results to be exported directly to SPSS decreasing the odds of data input errors. Qualitative, narrative data derived from open-ended commentary was downloaded verbatim from Qualtrics into a format amenable for uploading into ATLAS.ti Qualitative Data Analysis Software®.

The qualitative content was analyzed using conventional content analysis techniques (Miles & Huberman, 1994; Strauss & Corbin, 1998). This approach is widely used when the aim of the study is to describe a phenomenon with a dearth of previous studies (Hsieh & Shannon, 2005; Sandelowski, 2000). In this study, the qualitative items were intended to help capture particular experiences reported by respondents, description of the degree of influence (positive or negative), and development of competency and confidence in the transition from new graduate in completing a postgraduate NPR or choice of direct entry to practice. Data for this portion were collected via open-ended questions located at the end of the quantitative survey.

Each participant's answer was read word for word to detect exact terms that capture key concepts. Narrative data were downloaded from Qualtrics XM® Software and uploaded into ATLAS.ti® version 8.4.4. The data were then repetitively read and coded using in vivo, open,

and axial coding (Strauss & Corbin, 1998) as relevant for the data. Data were coded independently by the PI and then extensively discussed with a member of the research team who is experienced in qualitative methods, to achieve consensus regarding agreement of codes and the resulting code books. Patterns, or themes, were identified. Data were triangulated with quantitative data, to build a rich description of the research overall, a process recommended for high quality quantitative data analysis (Lincoln & Guba, 1985; Morse, 1991; Sandelowski, 2000).

Chapter IV: Results

This study focused on exploring the role transition experience of the PCNP who selected either direct entry to practice or a postgraduate nurse practitioner residency along with predictors of role transition success. Two different instruments were utilized in an effort to explore the role transition of the PCNP. One of these instruments, the NPRTS, was designed to evaluate the NPs role transition during the first year of practice by focusing on three components: (a) comfort, confidence and competence, (b) collegial relationships seeking to quantify the understanding of the NP role by others on the healthcare team, and (c) the NPs belief about whether or not others understand the NP role.

The other instrument was adapted from Bucci et al. (1995), who identified factors that contributed to the pharmacy graduate's decision to seek an optional postgraduate residency. Additionally, three open-ended questions were included to explore variables related to the decision-making process of each study participant. First, a descriptive analysis of the participant characteristics and recruitment results will be presented. Next, the research questions and their respective findings will be discussed in detail.

Recruitment Results

The study sample included PCNPs from across the United States who were recruited via Facebook posts to seven closed nurse practitioner groups, a single Tweet via Twitter, and 54 emails sent to postgraduate nurse practitioner residency directors. The Facebook posts were made approximately every ten days in an attempt to avoid saturation and posts being removed by Facebook page administrators. This resulted in a total of 31 posts being approved and left on the group page over a time period of seven week. Below is the breakdown of frequency of posts to each of the seven closed groups:

- Family Nurse Practitioner Networking Group: 4

- NP Guidance Group: 6
- Clinical NPs for Change: 6
- Nurse Practitioners in Business: 1
- Nurse Practitioner Group: 2
- The Nurse Practitioner Group: 6
- Family Nurse Practitioner – Networking Group: 6

During the process of data collection, it was apparent that in order to conduct a valid statistical analysis, more participants who had completed a postgraduate NPR were needed. After discussion amongst the research team it was decided to include Twitter and emails to postgraduate nurse practitioner residency directors. This amendment was presented to and approved by the ISU IRB. Following IRB approval, the sampling strategy was broadened.

A Tweet was sent out utilizing specific hashtags and tagging academic groups in a targeted effort to recruit those having completed a postgraduate NPR. Twitter stores activity for each Tweet. In reviewing the activity for this Tweet, it was seen 960 times on Twitter which resulted in two clicks on the Qualtrics survey URL. In addition, it was retweeted once. Given the low yield with this method Twitter was used once.

To further increase survey respondents who had completed a postgraduate NPR, 54 emails were sent directly to postgraduate NPR directors. These postgraduate residencies were identified via a google search as well as reviewing the ANCC and NNPRFTC webpages for residencies. Of the 54 emails sent out, 11 program directors responded requesting results of the study be sent to them. Using this approach, survey participant responses from nurse practitioners who completed a postgraduate NPR increased from 4% to nearly 8% of the total sample.

Participant Characteristics

A total of 870 survey cases were opened and started in the Qualtrics-based survey. Qualtrics users have the ability to mark cases as unfinished and for this survey 258 cases were marked unfinished. The cases marked as such were treated as withdrawal of consent given the unfinished questions occurred at the end of the survey. Therefore, a total of 612 PNCPs were included in this study. This sample was primarily female, $n = 574$ (93%). The ages of the participants ($n = 492$) ranged from 26 to 67, with the median age being 41 years. Of the 612 respondents, 597 (97.5%) reported working as a registered nurse before starting as a nurse practitioner. The participants that reported working as a registered nurse had a median of 10 years of RN experience.

The mean year of both program graduation ($n = 607$) and NP certification ($n = 609$) was 2015. A majority (82.7%) of the sample held a Master of Science degree. Of the 45 (7%) respondents that completed a postgraduate NPR, 12 (27%) relocated while 33 (73%) did not. Forty-three participants who reported completing a postgraduate NPR reported the length of their residency in months. The length ranged from 4 to 24 months, with a median of 12 months. The most frequently cited area of nurse practitioner practice setting was family (40.4%). Additional demographic information is reported in Tables 2 to 6.

Table 2

Participants Highest Level of Degree

Degree	<i>N</i>	%
Master	506	82.7
DNP	85	13.9
PhD	7	1.1
Other	14	2.3

Table 3

Participants RN Practice Setting (n=612)

RN Practice Setting	<i>n</i>	%
Office/Clinic	103	16.8
Acute Care	485	79.2
Long Term Care	37	6.0
Other	85	13.9

Note. Acute care included medical-surgical, critical care, or the emergency department.

Participants could report experience in more than one setting.

Table 4

Participants Current Area of NP Practice (n = 612)

Practice Area	<i>n</i>	%
Family	247	40.4
Women's Health	7	1.1
Geriatrics	43	7.0
Pediatrics	11	1.8
Internal Medicine	53	8.7
Hospitalist	32	5.2
Emergency/Urgent Care	56	9.2
Academia	9	1.5
Other	154	25.2

Table 5

Specialty of Postgraduate NPR Completed (n=44)

Specialty	<i>n</i>	%
Primary Care	27	61.4
Emergency/Trauma	4	9.1
Acute Care	5	11.4
Psychiatry	1	2.3
Other	7	15.9

Table 6

Length in Months of Postgraduate NPR Program (n = 43)

Months	<i>n</i>	%
4	1	2.3
6	3	9.3
12	31	72.1
13	5	11.6
14	1	2.3
24	2	4.7

Research Question 1

Do residency choice factors predict participation in a postgraduate primary care NPR program compared to directly entering practice? Factors include financial obligations, having a job available after graduation, current family obligations, long-term benefits not stressed, geographical challenges, years anticipated to practice, exposure to existence of residency programs in graduate school, the desire to gain knowledge and experience, the recognition of a new and challenging future for NPs, desire to gain confidence, increase marketability and

employment opportunity, desire for specialized training, interaction with past NP resident(s) as a role model, or faculty stressed importance of postgraduate residency.

Using a visual analogue scale, participants were asked to grade the extent the RCF contributed to their choice to seek an NPR or directly enter practice from 1-10 with selections being equal intervals and continuous. Two analyses were conducted to address research question one. The first analysis was point-biserial correlation which is a special case of a Pearson correlation. Point-biserial correlation was utilized because residency was a dichotomous variable (1 = residency and 0 = no residency). The second phase of analysis was to determine an optimally weighted set of predictors from among the identified choice factors to determine the best set of predictors to determine whether a participant would complete a postgraduate NPR or not.

Table 7 presents the means and standard deviations for each of the 14 RCF. Geographical limitation, having a job available after graduation, and postgraduate NPR not being discussing during NP program stand out with a mean of 5.8, 5.7, and 5.3 respectively. Conversely, the NP program stressing importance of postgraduate NPR, anticipated years left to practice, and benefit of direct entry versus residency discussed in NP program were noted to have relatively low means of 1.9, 2.7, and 3.2.

The mean and standard deviation of each RCF gives the impression that all issues were moderate. However, the values had a bimodal distribution – meaning each RCF was either important or not important to each respondent. Furthermore, there was no suggestion of one issue being the main motivating factor.

Table 7

Means, Standard Deviations for Choice Factors

Choice Factor	<i>M</i>	<i>SD</i>
1. Financial Obligation	4.4	4.0
2. Job Available After Graduation	5.7	4.0
3. Current Family Obligations	5.2	4.0
4. Benefits of Direct Entry Vs. Residency Discussed in NP Program	3.2	3.7
5. Geographical Limitations	5.8	4.0
6. Anticipated Years Left to Practice	2.7	3.5
7. Postgraduate NPR Not Discussed During NP Program	5.3	4.0
8. Desire to Gain Knowledge and Experience	5.0	3.9
9. The Recognition of a New, Challenging Role for NPs	4.4	3.7
10. Desire for Specialized Training	4.3	3.8
11. Gain Confidence in Skills, Experience	5.1	3.9
12. Desire to Increase Marketability, Employment Opportunities	4.6	3.8
13. Prior Interaction with Past NP Resident as Role Model	3.3	3.6
14. NP Program Stressed Importance on Postgraduate NPR	1.9	2.9

Correlations of Residency Choice Factors to Residency

The correlation of residency choice factors to NP residency participation are presented in Table 8. Nine of the RCF had correlations that were statistically significant. Of these nine, five had a positive correlation with residency participation while four had small negative correlations. Common themes among these factors were present. Identified themes include the desire to gain knowledge and confidence, the recognition of a new and challenging future for NPs, the desire to

increase marketability and employment opportunities. Next I will discuss the relationship between these factors and the others included in the survey.

Table 8

Correlation Residency Choice Factors to Nurse Practitioner Residency Participation

Choice Factor	<i>n</i>	<i>r</i>
Financial Obligation	543	-.15**
Job Available After Graduation	536	-.09*
Current Family Obligations	520	-.16**
Benefits of Direct Entry Vs. Residency Discussed in NP Program	487	.11*
Geographical Limitations	503	-.12**
Anticipated Years Left to Practice	462	.03
Postgraduate NPR Not Discussed During NP Program	494	-.16**
Desire to Gain Knowledge and Experience	497	.38**
The Recognition of a New, Challenging Role for NPs	491	.30**
Desire for Specialized Training	482	.35**
Gain Confidence in Skills, Experience	493	.33**
Desire to Increase Marketability, Employment Opportunities	484	.22**
Prior Interaction with Past NP Resident as Role Model	461	.11*
NP Program Stressed Importance on Postgraduate NPR	431	-.02

** . Correlation is significant at the 0.01 level (2 – tailed).

* . Correlation is significant at the 0.05 level (2 – tailed).

Correlation Among Residency Choice Factors

Table 9 presents the correlation amongst all the RCFs. There is a strong correlation between the desire to gain knowledge and the recognition of a new and challenge future for NPs ($r = .79, N = 477, p < .001$), values desire for specialized training ($r = .73, N = 472, p < .001$), desire to gain confidence ($r = .79, N = 480, p < .001$), and increase marketability and employment opportunities ($r = .70, N = 471, p < .001$). These five factors were the five that had moderate positive correlations with choosing to participate in a residency (as shown in Table 8).

As shown in Table 9, there was a moderate positive correlation between the desire to gain knowledge and experience with job availability after graduation ($r = .35, N = 476, p < .001$), benefits of direct entry versus residency having been discussed during the NP program ($r = .42, N = 457, p < .001$), anticipated years left to practice ($r = .44, N = 444, p < .001$), NP program stressed importance on postgraduate NPR ($r = .35, N = 420, p < .001$), and prior interaction with past NP resident as role model ($r = .47, N = 451, p < .001$). The last factor, prior interaction with NP resident as role model, is particularly interesting as it had a small correlation with doing a residency ($r = .11, N = 461, p = .015$) and stands out amongst the medium correlation. This highlights a potential path for influencing student's choice on residency.

Shifting focus to the four choice factors that were negatively correlated with a residency, one factor, postgraduate residency programs not being discussed during the NP program, did not correlate with any other choice factor—regardless of choice factor association with residency. Of the other three factors with negative correlations to completing a residency, there was a moderate correlation of current family obligation to financial obligations ($r = .61, N = 498, p < .001$) and geographical limitation ($r = .39, N = 474, p < .001$). Of these, geographical limitations stood out as it was only correlated with current family obligations. This could mean that due to the limited number of postgraduate NPR programs, those with family obligations were unable to relocate to a different area.

Other items of note, benefits of direct entry versus residency being discussed in the NP program was moderately correlated with every RCF with the exception of NPR not being discussed during NP program. This correlation supports knowledge and awareness of postgraduate NPRs as an instrumental variable when making a decision to seek or abstain from a residency program.

The other residency choice factors, having a job available after graduation, benefits of direct entry versus residency discussed during NP program, anticipated years left to practice, prior interaction with past NP residents, and NP program stressing importance on postgraduate NPR were not correlated with NP residency.

Table 9

Correlation Among the Residency Choice Factors

Choice Factor	<i>n</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Financial Obligation	543	-	.50**	.61**	.38**	.19**	.27**	.08	.25**	.29**	.25**	.29**	.32**	.26	.24
2. Job Available	536		-	.52**	.35**	.25**	.33**	.17**	.35**	.38**	.31**	.37**	.32**	.16**	.22**
3. Family Obligations	520			-	.41**	.39**	.38**	.14**	.27**	.31**	.22**	.26**	.30**	.23**	.24**
4. Benefits of Direct Entry Vs. Residency Discussed in NP Program	487				-	.25**	.51**	.07	.42**	.40**	.37**	.43**	.40**	.39**	.42**
5. Geographical Limitations	503					-	.28**	.18**	.17**	.12**	.09	.10**	.18**	.13**	.12*
6. Anticipated Years Left to Practice	462						-	.21**	.44**	.43**	.40**	.43**	.43**	.47**	.43**
7. Postgraduate NPR Not Discussed in NP Program	494							-	.06	.03	-.01	-.02	.02	.12*	.17**
8. Desire to Gain Knowledge, Experience	497								-	.79**	.73**	.79**	.70**	.47**	.35**
9. Recognition of a New,	491									-	.72**	.77**	.70**	.47**	.39**

Choice Factor	<i>n</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<hr/>															
Challenging Role for NPs															
10. Desire for Specialized Training	482										-	.80**	.73**	.49**	.40**
11. Gain Confidence in Skills, Experience	493											-	.80**	.49**	.37**
12. Desire to Increase Marketability, Employment Opportunities	484												-	.53**	.37**
13. Prior Interaction with Past NP Resident	461													-	.60**
14. NP Program Faculty Stressed Importance of Postgraduate NPR	431														-

** . Correlation is significant at the 0.01 level (2 – tailed).

* . Correlation is significant at the 0.05 level (2 – tailed).

Factors Predicting Residency Participation

Backward binary logistic regression was used to determine if residency choice factors predict participation in a postgraduate NPR program compared to directly entering practice. The binary logistic regression coefficients, the Wald tests, odd ratio, along with the 95% confidence intervals for the odds ratio of each predictor are detailed in Table 10. The statistical significance of individual regression coefficients was tested using the Wald chi-square statistic and all four predictors of the backward selected predictors were statistically significant ($p < .05$). According to Table 10, desire to gain knowledge and experience was positively associated with participation in a postgraduate NPR, while existing financial obligations, geographical limitation, and postgraduate NPR not discussed in NP program were significant negative predictors of participation in a postgraduate NPR ($p < .05$).

The only positive factor, the desire to gain knowledge and experience, had a high correlation with the other positive factors and was the predictor with the highest simple correlation with residency. When controlling for the selected positive predictors, three negative predictors were selected as optimal despite the fact that all of the negative factors had low correlations with residency when considered separately. Despite the many positive factors for choosing to complete a residency, the negative factors remain as contributing factors to a final decision when looking for an optimal set of predictors.

As shown in Table 10, if a participant felt the desire to gain knowledge and experience contributed to their choice enter an NPR or directly enter practice, they were 2.65 times more likely to enter a postgraduate NPR. Conversely, when participants felt financial obligations, geographical limitations, and lack of discussion of NPR during NP program were contributing factors to their decision, the participants were 75%, 86%, and 77% as likely to participate in a postgraduate NPR.

An odds ratio of 1.0 would mean that the odds of a PCNP completing a residency or not completing a residency would be equal when scores on the other factors in the regression equation were held constant. If the odds ratio is higher than 1.0, as was the case for desire to gain knowledge and experience, then for every one unit increase in score on this factor a PCNP would be 2.65 times more likely to be in the residency group (the target outcome) than in the non-residency group when controlling for the other variables in the logistic regression equation. Conversely, if desire to gain knowledge is held constant along with geographical limitations and residency not discussed, then for every one unit increase in score on financial obligation being an issue, the PCNPs would be 75% as likely to be in the residency group. When other factors like desire to gain knowledge and experience are held constant, factors with small negative correlations with residency, like financial obligation, turn out to be important predictors that make it less likely for a PCNP to choose to complete a residency.

Table 10

Predictors of Residency Participation

Predictor	<i>B</i>	S.E.	Wald	<i>df</i>	Exp(<i>B</i>)	95% CI Exp (<i>B</i>)
Desire to Gain Knowledge and Experience	.97	.26	11.58	1	2.65	[1.51, 4.61]
Financial Obligation	-.29	.10	8.98	1	0.75	[0.62, 0.91]
Geographical Limitations	-.15	.08	3.12	1	0.86	[0.07, 1.02]
Not Discussed	-.27	.09	9.33	1	0.77	[0.06, .091]

Research Question 2

Does the completion of a postgraduate primary care NPR program predict an easier role transition in the PCNP when controlling for the residency choice factors?

Using *The Nurse Practitioner Role Transition Scale* developed by Strange (Strange, 2015), which is a 7-item, 5-point Likert Scale, participants were asked to measure perceptions of their own role transition experience. Response options included: 1 = *Strongly Disagree*; 2 = *Disagree*; 3 = *Neither Disagree nor Agree*; 4 = *Agree*; and 5 = *Strongly Agree*. The total scores could range from 17 to 85. Higher scores indicate an easier transition, whereas a lower score indicates a more difficult transition. Linear regression and hierarchical linear regression analyses were conducted to address question two and determine if completing a primary care postgraduate NPR versus direct entry into practice could explain a statistically significant amount of variance in the dependent variable of role transition when controlling for established choice factors.

Table 11 contains the overall means and standard deviations for each of the NPRTS items are listed below along with the NPRTS scores separated between the participant group that completed a postgraduate NPR and those that did not complete a postgraduate NPR. Notable differences in the mean scores between the residency and non-residency group were noted in questions 1 to six. These questions were designed to measure role transition as it relates to comfort, confidence, and competence (Strange, 2015). The non-residency group reported mean scores that ranged from 2.78 to 3.00. The residency group reported means scores ranging from 2.38 to 2.58. However, there was no statistically significant correlation between a postgraduate NPR and total NP role transition scores $r = .02$, $N = 593$, $p = .314$, and the linear regression analysis was not statistically significant, $F = 0.24$, $p = .63$ $r = .00$.

Table 11

Means and Standard Deviations of Nurse Practitioner Role Transition Scale Scores

Questions	Total	Residency	No Residency
1. I felt confident as a nurse	2.76 (1.07)	2.51 (1.08)	2.78 (1.07)

Questions	Total	Residency	No Residency
practitioner			
2. I was very comfortable managing my patients	2.82 (1.01)	2.38 (.91)	2.85 (1.00)
3. I felt very competent managing my patient case load	2.94 (1.07)	2.53 (1.01)	2.97 (1.07)
4. I was comfortable in my role	2.96 (1.04)	2.62 (1.03)	2.99 (1.03)
5. I was able to complete my responsibilities in the allotted time because I was comfortable with my skills	2.97 (1.10)	2.58 (1.06)	3.00 (1.97)
6. I had confidence in my decision making	2.95 (1.10)	2.49 (.89)	2.98 (1.01)
7. I felt it was easy to transition from nurse to nurse practitioner	2.53 (1.01)	2.44 (1.14)	2.54 (1.10)
8. I felt I had the skills to deal with role transition	3.18 (1.05)	3.09 (.95)	3.19 (1.06)
9. My nurse practitioner program prepared me for a smooth role transition	2.78 (1.14)	2.82 (1.07)	2.77 (1.14)
10. I felt that I was supported by my physician colleagues	3.69 (1.14)	4.22 (.85)	3.65 (1.15)
11. The physician staff worked	3.75 (1.06)	4.22 (.85)	3.72 (1.07)

Questions	Total	Residency	No Residency
collaboratively with me			
12. I felt that I had a good relationship with the physicians	3.94 (.98)	4.31 (.79)	3.91 (.99)
13. I was treated as a professional by my colleagues.	3.95 (.97)	4.36 (.71)	3.98 (.98)
14. I felt I got a lot of support	3.60 (1.18)	4.24 (.74)	3.55 (1.20)
15. I was respected by other healthcare professionals	3.73 (.97)	4.20 (.76)	3.70 (.97)
16. My nurse practitioner role was very well understood by the public	2.61 (1.03)	2.82 (.98)	2.60 (1.03)
17. My nurse practitioner role was very well understood by my patients and families	2.97 (1.04)	3.00 (1.02)	2.96 (1.05)
Total Scores	54.07 (11.21)	54.84 (8.97)	54.00 (11.38)

Note. Standard deviations are presented in parentheses.

Next, a hierarchical backward linear regression was performed to ascertain if the regression changed when controlling for the residency choice factors. Table 12 shows the correlations of all the residency choice factors with the total scores of the NPRTS.

Table 12

Correlation Among Total Scores of the Nurse Practitioner Role Transition Scale

Choice Factor	<i>r</i>	<i>p</i> (one-tailed)	<i>N</i>
Financial Obligation	-.01	.38	543
Job Available	.04	.21	536
Family Obligations	.04	.16	520
Benefits of Direct Entry Vs. Residency Discussed in NP Program	.06	.09	497
Geographical Limitations	-.01	.41	503
Anticipated Years Left to Practice	.04	.19	462
Postgraduate NPR Not Discussed in NP Program	-.05	.12	494
Desire to Gain Knowledge, Experience	-.01	.45	497
Recognition of a New, Challenging Role for NPs	-.03	.28	491
Desire for Specialized Training	-.02	.32	482
Gain Confidence in Skills, Experience	-.00	.47	493
Desire to Increase Marketability, Employment Opportunities	-.03	.29	484
Prior Interaction with Past NP Resident	.06	.11	467
NP Program Faculty Stressed Importance of Postgraduate NPR	.08	.06	431

The hierarchical backward linear regression analysis revealed the regression was not statistically significant, $F = 0.16$, $p = .69$, $r^2 = .00$. All of the choice factors were excluded as predictors from the regression and there was no correlation between participation in a

postgraduate NPR and role transition total scores when controlling for the residency choice factors. Ultimately, completion of a postgraduate NPR program did not predict an easier self-assessed role transition in the PCNP and did not do so even when controlling for residency choice factors that predicated the decision to complete a residency.

Qualitative Adjunct Exploring Variables Related to Decision Making

Qualitative inquiry was utilized to explore variables related to making the decision to participate in a postgraduate nurse practitioner primary care residency program or directly enter practice. Using an online Qualtrics survey, three opened ended question were posed to the participants. These questions were:

- What is an example of one or two things (people, places, processes, books, etc.) that was/were the most important in facilitating your transition from your NP program of study to subsequent direct entry practice or residency, and describe the importance related to example(s)?
- What is an example of one or two things (people, places, processes, books, etc.) that was/were the most important in hindering your transition from your NP program of study to subsequent direct entry practice or residency, and describe the importance related to example(s)?
- Please provide your reasons, rationale, or issues underlying your decision to either seek a postgraduate residency or directly enter practice.

Participant responses were imported from Qualtrics to ATLAS.ti® and this served as the transcripts for data coding and analysis. All identifying data was removed from the transcripts. Of the 612 total respondents, 43 completed a postgraduate NPR. To ensure rigor, an equal number of participants (43) who did not complete a residency was randomly selected using a special case function in SPSS. Overall, 86 participant responses to the three open ended

questions were read, coded, and categorized into themes. The emphasis in the open-ended question specifically targeted people, places, things that hindered and supported, thus the resources orientation of the responses aligned with the questions. The response regarding resources covered four primary sub-themes.

Main Theme: Resources.

Resources was the major overarching theme identified in the qualitative open-ended question of the 86 respondents whose responses were analyzed. Resources was an enormous component of role transition whether participants completed a residency or did not complete a residency. This main theme can be grouped by four sub themes which are people, geographic links, educational learning materials, and financial means, and each is strongly represented regardless of positive or hindering influences. These subthemes offer both depth and breadth to further understanding the role transition experience of the newly graduate PCNP.

People

The concept of a mentor had a high aggregate use count ($n = 53$) in the coded records. Examples of mentors specifically listed include other nurse practitioners (colleagues or preceptors in clinicals/postgraduate NPRs), nurse practitioner residents or NPR instructors, NP program professors, physician assistants, or physicians. One respondent wrote, “having a dedicated mentor was instrumental in my transition. It was nice to build trust with a specific person.” Interactions with past NP residents was also a theme found in the coded data. In all instances this interaction was a positive one. One PCNP wrote “I also worked directly with an adult NP who had just completed a residency. Her confidence to practice was noteworthy and her positive remarks about residencies highly influenced my choice to be involved in a fellowship.”

Other relationships were cited as instrumental in the transition process. These included “support staff” at work as well as personal relationships with spouse and family. More specifically, support staff entailed the administrative team “being knowledgeable and having a set routine” so the main focus of the NP was on “learning how to be an NP.”

Five respondents noted a negative experience with a mentor that impeded their role transition citing specifics ranging from “my physician colleague was not a great communicator which left me asking questions that needed clarification” to a broad reference to “physician – NP relationship/culture.” In all five responses this mentor was in the role of a physician.

Geographic Links

The third most common theme ($n = 38$) found in the coded data centered around geographic location and the lack of postgraduate NPRs in the surrounding area which often necessitated the need for relocation. This theme was found in answer to what hindered transition in the non-residency group as well as what aided transition in the residency group. In addition, geographical location was found as a reason for not seeking a postgraduate NPR.

In the group who completed a postgraduate NPR, location was not a hindrance mostly due to happenstance – these PCNPs lived in an area that offered a residency making relocation unnecessary. Reasons given for this include being a resident of a city that offered an NPRR in which translates to the avoidance of a move. One respondent reflecting on “not having to relocate which was instrumental in my applying for a residency position.” Many respondents in the non-residency group cite the desire to participate in a postgraduate NPR program but “there were none in my area”, “the programs are very competitive and a great distance from me, and “no residency programs near me and I was unable to relocate my family out of state.”

The lack of residencies nationwide was also mentioned which translated into the belief of existing residency programs being highly competitive. Respondents also commented on having

no knowledge of a postgraduate NPR and the need for increased funding for postgraduate education to alleviate the perceived competition amongst applications as well as dearth of operating NPR programs.

Educational Learning Materials

The completion of a postgraduate NPR had the highest aggregate count, being mentioned 80 times in participants who completed a postgraduate program ($n = 43$) as having been beneficial in their role transition. Perceived benefits were broad and ranged from obtaining skills (“I wanted an additional year of training to enhance my skill sets and to feel like I could safely take care of patients in a complicated safety net setting”), to an increase of confidence and competence (“I sought a post graduate fellowship, which I feel is the reason that I now feel confident in my independent practice”), to maintaining mental health (I knew for happiness and longevity a residency year would be a good choice.).” One respondent captured the overall perceived benefit of a residency stating:

I sought a residency because I knew that community health is hard- that the... business model is built on the premise of hiring and burning through new NP grads. Even now, I am four years into practice and in our huge 20+ clinic system there are only five NPs who have been here longer than I have. It's hard being a primary care NP and the residency seemed like my best shot at thriving.

Electronic resources like UpToDate, Visual Dx, and Epocrates were identified as helpful in the transition by both the residency ($n = 4$) and non-residency group ($n = 9$). Two respondents listed board review resources were instrumental in passing boards and aiding in role transition.

Financial Means

Twenty respondents listed financial resources as either a hindrance to transition or prohibiting their participation in an NPR. Nine respondents who did not participate in a

residency listed existing financial responsibilities as prohibitive. Specifically, two respondents explained the need to “get into the workforce ASAP” and they “would have loved the time and financial freedom to do a residency but there was no way to make that happen without money.”

The other respondents ($n = 11$) specifically noted the decreased salary associated with postgraduate NPRs. This group can be further broken down into two groups. The first group noted the decreased salary associated with postgraduate NPRs gave them pause but ultimately, they decided to enter a postgraduate residency ($n = 9$). The second group were interested in an NPR but felt the decreased salary was a complete barrier that forced them to directly enter practice.

The participant who opted to enter a postgraduate NPR but found finances to be a stressor specifically mentioned not having to relocate for a residency or being in a financial state that allowed the freedom to accommodate a period of decreased income. The respondents in this group seemed to be well aware of the financial strain but believed the experience gained in an NPR would outweigh this stressor. One respondent wrote:

We were paid around \$40K (which is less than half of what I rec'd as a starting offer after residency completion) but this did not deter me. I assumed what I would gain would far outweigh 12 months of decreased income.

The qualitative and quantitative results link cohesively. The identified resources were key in both qualitative and quantitative data and provide a tension for newly graduated PCNPs in their transition from formal education to either entering the workforce or seeking a postgraduate residency. Resources (whether monetary, geography, books, mentors, preceptors, formal programs) were heavily related (or at least reflected) to decisions to proceed and on which path was ultimately taken. The identified resources also aided or hindered participants' confidence and competence through the transitions.

Summary

For these PNCPs, role transition centered around one major theme: resources. Resources either facilitated or hindered their role transition. Four resources were further identified and with all respondents having cited people, geographical location, education learning materials, or financial means as either obstructing or enabling their transition process.

People resources were widely varied and included nurse practitioner colleagues, nurse practitioners encountered during clinicals, past and present nurse practitioner residents, instructors in their postgraduate NPR, physician assistants, physicians, non-medical administrative staff, professors, family members, and friends. Although these interactions were mostly identified as helpful in the role transition, there were instances of people resources that were unsupportive. All cases of perceived lack of support in a mentor-mentee role existed between the NP respondent and a physician colleague. This pattern remained consistent whether completing a postgraduate NPR or not.

Geographical proximity to postgraduate NPRs was another identified theme. The residency group were very clear in reporting their completion of postgraduate NPR was due to coincidence of living near a program thus removing the need to relocate. Those that did not complete a residency often cited the lack of a residency program in their area and the inability to move as a main reason for not seeking a postgraduate NPR. The scarcity of NPRs was mentioned as an overall hindrance and this translated into the perception of existing programs being highly competitive and the need for increased funding to expand postgraduate NPR programs. Respondents who cited not seeking a residency were hopeful this would alleviate a barrier to postgraduate education.

Completion of a nurse practitioner residency was included in the third resource – educational learning materials. Respondents who completed a postgraduate NPR believed

learning materials to be instrumental in their role transition process. This group described increased confidence, competence, enhanced their skill set, maintained their mental health, and ultimately aided their happiness and success in their current practice. Regardless of whether residency or no residency, electronic resources such as UpToDate and board review courses were helpful.

Financial means negatively impacted nearly 25% of the respondent's role transition. The nurse practitioners viewed finances as either helpful or not helpful. In the group viewing finances as a hindrance they explained finances barred them from either relocating to participate in an NPR or the decreased salary associated with an NPR was not a viable option for them. The group that completed a residency often mentioned finances as giving them pause but ultimately decided the benefit of an NPR outweighed the decreased income during the finite time.

Eliciting both role transition facilitators and hindrances ensured a full picture of the PCNPs experience this transition. Open-ended questions allowed respondents to fully explain their experience and perspective. Through careful examination of the responses and resulting code book gave rise to the identification of the themes presented. These themes add depth and breadth to the role transition experience of the PCNP.

The open-ended commentary provided rich examples that tied closely with the quantitative findings, helping to illuminate a more detailed understanding of hindering or supporting issues for decision-making. Four resources were cited most frequently by nurse practitioners as being impactful in their role transition. These resources were people, educational learning materials, geographical links, and finances. The comments provide a foundation for exploring further the issue of residency availability and financing. Additionally, the importance of mentors for all new graduates was critical.

Chapter V: Discussion

The purpose of this quantitative study with supplemental open-ended questions was to measure the role transition experience of the PCNP along with possible predictors of completing an optional postgraduate nurse practitioner residency to determine if role transition and the predictors were related. An extensive review of the literature regarding the role transition in new graduate nurse practitioners and postgraduate nurse practitioner residencies revealed a gap in research, indicating this study as appropriate. The role transition experience of new graduate, novice nurse practitioners was described in detail and included the documented struggles associated with this transition in the published literature.

Feelings such as anxiety, doubt, frustration, and being overwhelmed were commonly found in the literature review (Barnes, 2015; Brown & Olshansky, 1997; Owens, 2018). In addition to this, a historical review of formalized postgraduate nurse practitioner residencies, a phenomenon just over ten years old (Flinter, 2011), was provided. However, missing in the published literature was a comprehensive understanding of the underlying foundation of those experiences and the relationship to transitioning directly to practice or through a formalized residency program.

Scores from the *Nurse Practitioner Role Transition Scale*, which is designed to measure the nurse practitioner's role transition during their first year of practice (Strange, 2015) were utilized to examine possible predictors. These predictors, in the current study identified as residency choice factors (RCF), were initially reported by Bucci et al. (1995). The Bucci study was chosen to guide this research because of the lack of research regarding motivating and hindering factors impacting the PNCPs decision to either directly enter practice or seek an optional postgraduate NPR program.

There is a shortage of published studies regarding the many different aspects of the postgraduate NPR. Evidence focusing on the critical factors influencing the decision to participate in a postgraduate NPR along with factors contributing to or deterring from a successful role transition are non-existent in literature reviews. Exploring and understanding these programs was the backbone to the current study as understanding role transition is critical to fully supporting the development of the novice advance practice registered nurse. In this study, a survey of the chosen population was conducted to ascertain whether the RCFs were influential to the decision to complete a residency or directly enter practice and if the completion of a residency predicting an easier role transition. This chapter provides a discussion of the findings and the implications for practice. It concludes with a discussion of the limitations of this study followed by recommendations for future research.

Aim and Research Questions

The aim of this study was to investigate if RCF predict participation in a postgraduate NPR program compared to directly entering practice and if completing a postgraduate NPR predicted an easier role transition. Additionally, open-ended questions were posed in an effort to explore variables impacting role transition. The questions guiding this study were:

1. Do residency choice factors predict participation in a postgraduate primary care NPR program compared to directly entering practice? Factors include financial obligations, having a job available after graduation, current family obligations, long-term benefits not stressed, geographical challenges, years anticipated to practice, exposure to existence of residency programs in graduate school, the desire to gain knowledge and experience, the recognition of a new and challenging future for NPs, desire to gain confidence, increase marketability and employment opportunity, desire for specialized training, interaction

with past NP resident(s) as a role model, or faculty stressed importance of postgraduate residency.

2. Does the completion of a postgraduate primary care NPR program predict an easier role transition in the PCNP when controlling for the residency choice factors? Three open-ended questions were included to explore variables related to making the decision to participate in a postgraduate nurse practitioner primary care residency program or directly enter practice. These were:
 - What is an example of one or two things (people, places, processes, books, etc.) that was/were the most important in facilitating your transition from your NP program of study to subsequent direct entry practice or residency, and describe the importance related to example(s)?
 - What is an example of one or two things (people, places, processes, books, etc.) that was/were the most important in hindering your transition from your NP program of study to subsequent direct entry practice or residency, and describe the importance related to example(s)?

The final item requested participants to include narrative comments:

- Please provide your reasons, rationale, or issues underlying your decision to either seek a postgraduate residency or directly enter practice.

Discussion of Research Question One

Some of the identified residency choice factors predict both participation and lack of participation in a postgraduate nurse practitioner residency program. Because of the absence of data regarding motivating and hindering factors as they relate to NPRs the motivating and hindering factors as identified in the Bucci et.al (1995), which focused on pharmacists, were

used. To assist with the aim of this current study, the RCF were utilized to explore which factors were predictive of new graduate NPs either seeking a residency or not seeking a residency.

The five identified predictors suggest that new graduate PCNPs who had the desire to gain knowledge and confidence in skills, those seeking specialized training, those that recognize a challenging future for practice, as well as the desire to increase employment opportunities were more likely to enroll in a postgraduate NPR. Alternatively, the four identified negative predictors suggest those who live in an area lacking NPR programs necessitating a relocation to enroll in such a program, current family and/or financial obligations, and those where a discussion regarding postgraduate NPRs did not take place during their NP program were less likely to participate in a postgraduate program.

There are no published nursing studies with this topic as a focus of research, making this the first study to explore a relationship between the chosen RCF and completion or abstinence from a postgraduate NPR. Pearson's r data analyses were done to further explore the RCFs and their predictive relationship to completing a postgraduate NPR or directly entering practice. The current study found RCFs predicting a PNCP as more likely to seek a residency program were clustered in five highly correlated groups.

The identified RCFs include the desire to gain knowledge and experience, the recognition of a new and challenging role, the desire to seek specialized training, increase marketability and employment, and the desire to gain confidence in skills and experience. There were all correlated to having a job available after graduation, benefits of direct entry vs. residency being discussed in NP program, anticipated years left to practice, prior interaction with past NP resident as role model, and NP program faculty stressed importance on postgraduate residency. Furthermore, the recognition of a new and challenging role was the only RCF correlated to current family obligations. The desire to increase marketability and employment opportunities

was the only choice factor correlated to current financial obligations and not correlated to prior interaction with an NP resident as a role model.

The current study found RCFs predicting a PNCP as less likely to seek a residency program did not have as many correlated RCFs and the RCFs that were correlated were less clustered. Correlations that stand out include geographical limitation being correlated to the single choice factor of family obligations. Another noteworthy finding includes the postgraduate NPR program not being discussed during the NP program was predictive of the participants abstaining from an NPR. This single factor was not associated with any of the other thirteen RCFs included in the current study.

Study results indicate a high importance is placed on nine factors measured in the current study for PCNPs in this study sample. This suggests the identified RCF are influential in the new graduate's decision to seek or abstain from a postgraduate residency program. Pearson r analyses revealed a moderate correlation amongst all of the predicting factors indicating participation in an NPR with the exception of the desire to increase marketability and employment. This factor had a small correlation. The four identified RCFs associated with a PNCP being less likely to seek a residency program were found to have small correlations. These findings indicate importance is assigned to the identified RCFs by new graduates as they launch from formal education to a practice setting and make the decision to directly entering practice or elect to participate in an optional NPR.

The mean scores of each RCF were reported between 1.9 and 5.8, out of a possible 10. This may give the impression that all factors were viewed as moderate. However, the ratings had a bimodal distribution – meaning each RCF was found to be either important or not important. This finding serves to reinforce the importance of the weight assigned to the chosen RCF by the

participants in this study and how impactful the factors are to their individual decision-making process regarding their future choice.

The Bucci et al. (1995) study sought to identify critical factors influencing pharmacy students to pursue a residency or fellowship training. Participants in the Bucci study included U.S pharmacy residents or fellows. In the study by Bucci et al. (1995) the researchers found that the majority of pharmacy resident or fellow respondents were between 20 to 30 years of age (86%) and female (69%). This was similar to the current study in that the participants were overwhelming female (93%) but the age range was more varied with responses from 26 to 67 years of age with 41 as the median age.

The Bucci et al. (1995) study divided factors into two groups. These groups were (1) important factors in decision to pursue residency or fellowship and (2) barriers to pursuing residency or fellowship. The top three cited factors that the pharmacy students viewed as motivating were the desire to gain knowledge and experience, faculty stressing importance of a residency/fellowship program, and the desire for specialized training. The most commonly cited barriers in the pharmacy cohort include financial obligations, geographic limitation, and having a job available upon graduation. The identified motivating factors NP chose as impactful toward their decision to seek a postgraduate NPR were similar. They included the desire to gain knowledge and experience and specialized training. Two of the barriers in the pharmacy study were also deemed to be barriers by the NPs in the current study. These barriers include financial obligations and geographical limitations. The factors found in the pharmacy study that were not represented in the NP population of the current study include having a job available after graduation as a barrier and faculty stressed importance as a motivating factor.

The American Nurses Credentialing Center (ANCC) and The National Nurse Practitioner Residency and Fellowship Training Consortium (NNPRFT) are the two accrediting bodies of postgraduate NP program and both recommend NPs complete a postgraduate residency program to help ease the role transition of novice NPs. This recommendation is also shared by many public, private, and governmental entities. In 2010, the IOM published a report supporting postgraduate NPR and calling for the government to redirect funds to implement NP residencies across the country (Institute of Medicine, 2010). Other support is found from the Robert Wood Johnson Foundation and the AARPs “The Future of Nursing: Campaign for Action” (Campaign for Action, 2015) and The National Center for Interprofessional Practice and Education (National Advisory Council on Nurse Education and Practice, 2015). The identification of critical factors that either aids or impedes the new graduate NPs decision to seek a such a highly recommended course of action is imperative to ensuring this is a feasible option for new graduate nurse practitioners. The identified RCFs can potentially encourage the evaluation of the processes both NP programs and postgraduate NPRs use in the promotion and recruitment of the optional postgraduate residency program.

Discussion of Research Question Two

Contrary to expectation, the current study discovered the completion of a postgraduate primary care NPR program did not predict an easier role transition in the PCNP and did not predict an easier transition when controlling for the residency choice factors. Possible scores of the NPRTS ranged from 17 to 85. A low score was associated with a more difficult transition whereas a higher score was associated with an easier transition (Strange, 2015). In this PCNP population, there was no difference between the means of those completing a residency ($M = 54.84$) and those that did not complete a residency ($M = 54.00$). Still, the moderate level of the

means in relation to the total possible scores does lend credibility to the difficulty of this role transition.

These results are consistent with previous studies having found role transition difficulty is something novice NPs struggle with (Brown & Olshansky, 1997; Fleming & Carberry, 2011; Rugen et al., 2018a; Rugen et al., 2018b; Sargent & Olmedo, 2013). Having once been an expert RN and now returning to being categorized as a novice is believed by Fleming and Carberry (2011) to be the cornerstone of the difficulty associated with the role transition process. Expertise demands experience. Dr. Benner's Novice to Expert theory recognizes this by emphasizing experience is gained through refinement of theory, which is obtained when the novice nurse experiences different approaches to identified problems (Benner, 2014). This method assumes real-life situations are much more complex than the examples offered in textbooks or theories (Benner, 1984). As such, nurse practitioner residencies focus on increasing competence and confidence while decreasing role ambiguity in new graduates (Brown & Olshansky, 1997; Fleming & Carberry, 2011; Rugen et al., 2018a; Rugen et al., 2018b) in an attempt to ease the process of role transaction. Unfortunately, in the current study participation in a post-graduate residency was not found to predict an easier role transition. Role transition was not eased by the participation in a postgraduate NPR, so the findings of this study indicate caution is warranted before making these programs mandatory.

Based on the individual item means, overall NPs in this study felt they were supported by their physician colleagues, felt the physician staff worked in a collaborative fashion with them, felt they had a good relationship with their physician colleagues and felt respected by other healthcare professionals. Mean scores of these questions were reported between 3.69 and 3.94 out of a possible five. However, when comparing the means scores between the residency group and the non-residency group some differences were noted in the results.

The non-residency group scored higher when assessing their confidence as a nurse practitioner, their comfort when managing patients the patients caseload, and in their role as a n NP, felt they were more able to complete their responsibilities in the allotted time, and had more confidence in their decision making. The scores for these questions in the non-residency group ranged from 2.78 to 3.00, whereas the scores for the residency group were lower, ranging from 2.38 to 2.58. The maximum score for all questions was five. These questions correlated to component one of the NPRTS, depicting role transition as it related to the development of confidence, competence, and comfort (Strange, 2015). The means of the items under this component seem to suggest that the non-residency group felt more confident. This might not be due to a lack of beneficial effect to completing a residency but might be due to people who choose to complete a residency being more anxious people. This factor was not controlled in the current study. This should be investigated in a future study.

In contrast, those who participated in an NPR may have felt more supported and worked more collaboratively with physician colleagues, felt like they received more support and that they were more respected by other healthcare professionals, with item means ranging from 4.22 to 4.36 compared to item means ranging from 3.65 to 3.98 for the non-residency group. These questions were represented in the second component of the NPRTS relating to collegial relationships. The findings suggest the group who completed a residency experienced less role ambiguity and higher satisfaction with their collegial relationships. However, this study did not analyze item differences, so this possibility should be evaluated in a future investigation.

Literature relevant to studies using the NPRTS and the role transition experience of nurse practitioners were sparse, revealing just one qualitative study. The researcher of this study sought to measure if a role transition webinar enhanced the perception of the new graduate NPs ability to perform in the first year of NP practice (Thompson, 2018). A pretest-posttest approach

using a convenience sample was conducted with inclusion criteria consisting of having completed an NP graduate program and be in their first year of practice in this role. A total of thirty NPs completed the NPRTS and were included in the Thompson study. The intervention of a role transition webinar did not improve mean overall scoring of the NPRTS. The pre-survey mean was 54.07 out of a possible score of 80 with a post-survey mean of 54.07. Just as in the case of the Thompson (2018) study, the current study did not find any increase in the role transition scores with the use of an intervention. Neither the webinar in the Thompson (2018) or residency completion as in the current study eased the role transition NPs experience.

However, prior studies have suggested that postgraduate NPRs overall experience have a positive effect on role transition. Fleming and Carberry (2011) interviewed nine NPs taking part in an ICU residency program in the United Kingdom (UK). Over the course of a five-month time frame the resident's interviews revealed the resident's perception of overcoming feeling of isolation, leading to decreased role ambiguity, diminished doubt and frustration with a resulting increase in professional identity. Similar theme exists in the qualitative findings of the Fleming study that can be matched to two of the three measured components in the NPRTS: questions 1 to 9 address the development of comfort, confidence, and competence while questions 10 to 15 address collegial relationships and NP role ambiguity.

The findings of the Fleming and Carberry (2011) study are in sharp contrast to the quantitative results of the current study. In the current study, the total mean scores for questions one through nine were all less than 3, meaning respondents did not feel confident, comfortable, or competent. The total mean score of questions 10 through 15 were more varied, ranging from 2.53 to 3.95. The increased quantitative results are indicative of less role ambiguity, but the scoring was still lower than a 4, which means "agree" on the utilized Likert Scale. The Fleming

and Carberry study (2011) was small, utilized theoretical sampling, and collected data from NPs during five months of one 12-month residency.

In 2018, Rugen and colleagues collected data on 26 NP Veterans Administration (VA) residents (Rugen et al., 2018a). Data included a self-assessment and a mentor assessment completed at one, six, and 12 months. Over the course of the 12-month long residency, both the mean NP resident and mean mentor ratings trended upward and demonstrated a statistically significant improvement in all seven domains. These domains (clinical, leadership, interprofessional collaboration, patient-centered care, shared decision-making, sustained relationship and performance improvement/population management) are found in the three components of the NPRTS. The study by Rugen and colleagues (Rugen et al., 2018a) enrolled a limited number of participants ($N = 26$) and all residents took part in the VA residency.

Contrary to the above studies, the research findings in the current study did not support an improvement in the role transition experience when taking part in an optional postgraduate NPR. Some differences in findings may be related to the number of participants in the studies as well as the population from which the sample was drawn. In the Fleming and Carberry (2011) study, all participants were participating in the same ICU residency and this theme continued in the study by Rugen and colleagues (Rugen et al., 2018a) with all NPs enrolled in the VA residency. These differences suggest that the complex relationships surrounding NP role transition are worthy of additional study. In an effort to increase clarity surrounding the effectiveness of a postgraduate NP residency, studies that are planned to recruit more overall participants as well as participants from many various NP residencies should be considered. The current study did not include an intervention but assessed after the participants decision to seek a residency or direct entry as well as after completion of the residency or time in direct entrance to practice.

Open-ended Qualitative Questions

Using open-ended qualitative questions an exploration of reasons related to the NPs decision to participate in a postgraduate NPR program or not was completed as well as identified motivating and hindering factors that influenced their individual role transition. Participant PCNPs responses to the open-ended questions can be broken down into four themes. These identified themes overlap with the quantitative findings of this study. The four identified resource themes are people, educational learning materials, geographical links, and financial means. These qualitative findings are complementary of the RCF found to be predictive of the decision to seek or abstain from a residency program. This current study is the first study to not only identify residency choice factors but also explore how they impact the decision to seek a residency program or enter practice directly.

When exploring the answers to what facilitated each PCNPs transition some of the answers were found to be consistent with the RCF and others were not. Identified RCF located in the qualitative responses of the residency group include interaction with a past NPR resident, not having to relocate to complete an NPR, and the obtainment of specialized skills as a facilitator of role transition in the group that sought out a postgraduate NPR. Alternatively, none of the predictive RCF were found in the qualitative answers of the group that did not seek an NPR. Analysis of the qualitative responses added additional insight into facilitating factors. Instead, the direct entry (non-residency) group identified mentors and educational learning materials as helpful in their role transition during their entry to practice. Nevertheless, the group that completed an NPR also listed mentors and educational learning materials as impactful in their role transition.

Prior studies (Hill and Sawatzky, 2011) have found mentors are a fundamental aspect of the learning and growth experienced by a novice NP. Prevosto (2011) also found the mentoring

relationship to be unique as it can assist in building competence and self-awareness. Nurse practitioner mentorship has historically been received during on the job training. This common approach across nursing is often inconsistent in both mentor and dissemination of approaches and thought process (Zapatka et al., 2014). Given that NPRs are a relatively new, there is a dearth of information surrounding a formal mentorship program as experienced in a formal postgraduate NPR program. Despite the qualitative findings that mentorship during a residency did not predict an easier role transition, the qualitative responses from the PNCP in this study showed that some NPs, from both the residency and non-residency group, believed that having a mentor eased their role transition. Ultimately, the quality of the mentoring in the residency program was not sufficiently better than the mentorship received in the non-residency group to have had an impact on the total role transition scores. A comparison of the quality of mentorship received in a residency versus direct entry to practice should be the focus of a future study.

Another resource cited in the qualitative responses was educational learning materials. This included hard copy books, electronic resources, board review classes as well as the postgraduate NPR itself. As already established, this study was able to provide quantitative evidence that the role transition experience of PCNPs was not eased by participation in an NPR program. However, a careful analysis of the responses revealed nearly 50% of that group having completed an NPR cited the benefit of a dedicated preceptor and nearly 25% in this same group mentioned the residency specifically. This finding shows the NP residents found the NP residency and a dedicated mentor to be helpful in their role transition. It is possible this belief could be due to their investing their time and effort into a residency. Still, these qualitative findings mirror those found in numerous other qualitative studies supporting a mentorship as an important element in a successful NP role transition (Hayes, 2000; Hill & Sawatzky, 2011; Sullivan-Bentz et al., 2010; Zapatka et al., 2014).

The current study sought examples of role transition hindering factors via open-ended questions. Again, the written examples provided by the participants complemented the quantitative findings of the current study. In contrasting fashion, the direct entry group reported feeling unprepared by their basic NP education as a hinderance to their role transition, while the group that sought a residency program cited this same reason as a motivating reason to have completed a residency program. The feeling of being unprepared by ones NP program as a barrier was also noted in (Faraz, 2019). This same contrasting pattern continued in regard to finances. The residency group reported the decreased residency pay as a hindrance to their role transition whereas the direct entry group reported the decreased pay as a reason to avoid a residency program.

The complimentary nature of the qualitative findings is also found in answer to why the group that abstained from a residency decided to directly enter practice. This group acknowledged current financial responsibilities, the limited number of NPRs nationwide which meant a necessary relocation, and having a job available after graduation as hindering factors to seeking an NPR. Similarly, the identified RCF that were predictive of completing a postgraduate NPR paralleled the qualitative findings in the group that completed a residency program. A careful analysis of the answers reveled reasons for seeking an NPR to include having a local program thus avoiding relocation and the desire to increase knowledge, experience, confidence, and increase specialized skills. Increasing marketability as well as believing in a new and challenging role were also found in the responses.

In many ways the qualitative findings of this current study mirror other qualitative studies in that participants reported feelings of decreased competence and confidence (Brown & Olshansky, 1997; Fleming & Carberry, 2011; Rugen et al., 2018a; Rugen et al., 2018b; Sargent & Olmedo, 2013). Although it was not supported in the quantitative data, the qualitative

findings of this study should not be entirely dismissed. Given this incongruity of information, this should act as a catalyst for additional quantitative studies to explore more deeply the role transition experience using other methods than the quantitative ones in this current study.

Interpreting these findings through the lens of the Mezirow's Transformative Learning Theory (TLT) helps explain the learning experience of the PCNP participants. TLT recognizes adult learners amend their meaning structures through reflection resulting in specific beliefs and feelings that impact interpretation. Step one of this process is the experience of a disorienting dilemma (e.g., transition from formal education to practice) which acts like a trigger to provoke the learner into reflection. The next phases of TLT involve the adult learner (e.g., the PCNP) to recognize their feelings of discontentment while looking for options for new roles and relationships (e.g., consider either residency or direct entry). The final phases of TLT involve acquiring knowledge and skills to implement the new plan and trying on the newly identified role as confidence and competence are being built. In the context of this current study, the final phases consist of the PCNP identifying motivators and barriers to the role transition in an attempt to ease their personal transition.

Limitations

This study was limited to family nurse practitioners and adult-geriatric nurse practitioners who completed a primary care NP residency, meaning the results can only be generalizable to this population. The use of a convenience sample limits the generalizability given those who completed this survey may have different perspective than those who did not complete this survey. The data in this study was completed via a web-based survey via social media which could restrict certain populations due to limited internet access and participation in social media. Furthermore, the self-reporting nature of the measurement instruments and survey assumes the

accuracy of participants recollection of role transition. It also assumes that self-reporting is a valid measure of the role transition experience.

Due to limited participants who completed a residency program the planned evaluation of whether completing an accredited primary care postgraduate NPR versus a non-accredited NPR primary care program predicted role transition scores were abandoned. Finally, because the sample size of the residency group was small ($n = 43$) a randomly selected sample of 43 participants from the non-residency group ($n = 569$) were included in the qualitative analyses. Thus, not all of the non-residency groups open-ended questions were explored. This exploration could have generated further insights into the role transition of PCNPs.

Implications for Practice

The goal of this study was to better understand the constructs and indicators surrounding the role transition new graduate PCNP make during their first year of practice as well as exploring the variables that aid or hinder this transition. The results within this study also identified consistent concepts the PCNPs viewed as motivating or hindering, which resulting in critical factors impacting their decision to seek a residency or abstain from a residency. This knowledge can enable educators, preceptors, mentors, and other stakeholders to implement interventions designed to aid in the role transition of newly graduated PNCPs. Furthermore, the findings of this current study may aid the recruitment process of NP residencies.

This information is important for policy makers to consider along with accrediting bodies. This new information generated can aid the evolution of postgraduate NPR program and guide the directors to better partner with the new graduate NP to provide resources and training to aid in the NPs garnering of improved skills and confidence. There are multiple ongoing campaigns aiming to increase attention to the transitional period of nurses after degree completion. The IOM specifically recommends nurse residency programs at integral times

during one's professional career, including after completion of an advanced practice degree and when transitioning practice areas (Wiltse Nicely & Fairman, 2015). However, the findings of this study indicate caution is warranted before making postgraduate NPR programs mandatory as this study did not indicate a benefit to completing a residency when compared to not completing a residency.

Support is also found from the Secretary of Health and Human Services who has redirected graduate medical education funding from diploma nursing programs to fund the implementation of nurse practitioner residencies as well as The Centers for Medicare and Medicaid Services to fund development and implementation of such programs (Institute of Medicine, 2010). Participants in this study identified decreased funding to NP programs as a hindrance to transition given the lack of NP residencies across the nation as well as decreased pay parity. These results could potentially influence policymakers, politicians, accrediting bodies, and nursing educators to further increase funding to postgraduate programs in an attempt to alleviate these recognized obstacles.

Suggestions for Future Research

Several areas for future research could add to the findings in this study. Participants self-reported their role transition experience utilizing two quantitative surveys and a qualitative adjunct. A research study exploring these same concepts using a different assessment method – such as direct observation undertaken by nursing educators, preceptors, or NPR mentors is a proposed study for future research in an attempt to avoid the bias commonly associated with self-report surveys.

In an effort to increase respondents who participated in a postgraduate NPR a partnership between NPR programs or accrediting bodies could be developed. The total included respondents for this survey was 612 PNCPs. Of these 612, only 43 reported having completed

an NPR. Consideration should be given to broadening the inclusion criteria to include more NP concentrations (e.g., pediatric primacy care, psychiatric mental health, acute care) could also deepen the understanding of the role transition process. This approach could aid in reaching a greater understanding of the transition process experienced by new graduate nurse practitioners. This understanding is essential to the nursing profession.

Conclusion

The purpose of this current study was to examine motivating and hindering factors to participation in an optional nurse practitioner residency program and evaluate if the factors were correlated to one another. In addition, this current study aimed to examine if PCNP role transition was eased by participation in a postgraduate NPR program. This dissertation filled a gap in the research literature relating to the transition newly graduate nurse practitioners make from formal education to practice.

The results of this study showed that desire to gain knowledge, the recognition of a new and challenge future for NPs, the desire for specialized training, the desire to gain confidence, and the desire increase marketability and employment opportunities were predictive of participation in an NPR. Alternatively, financial obligations, geographical limitation, current family obligations, and postgraduate residency programs not being discussed during the NP program were predictive of abstaining from an NPR. Additional analyses found these nine factors were correlated to other factors including having a job after graduation, prior interaction with a past NP resident, years left to practice, and faculty stressed importance of a postgraduate NPR.

This quantitative data contributes to the science of nursing by revealing factors that either motivated or hindering the choice and the correlation amongst each other. This

information can aid in the recruitment process of optional NP residencies by shedding light on the reason's student seek or abstain from such a program.

The qualitative commentary delivered rich examples tying closely with the quantitative findings. Participant commentary included written examples of their desire to gain knowledge and experience, desire to seek specialized training. Hinderances noted in the written commentary include financial and family obligations along with geographic limitations and the inability to relocated. These participants examples offer exceptional insight into hindering or supporting issues to provide a detailed understanding of issue related to this transitional period. The qualitative findings of this current study mirrored other qualitative studies in that participants believe they experienced an increased in confidence and competence (Brown & Olshansky, 1997; Fleming & Carberry, 2011; Rugen et al., 2018a; Rugen et al., 2018b; Sargent & Olmedo, 2013).

This study also showed that the role transition process is not eased by participation in a postgraduate NPR contrary to literature published by Rugen et. Al (2018) which indicated a statistically significant improvement in seven domains, all of which were represented in the three components of the NPRTS. The other cited studies cited (Brown & Olshansky, 1997; Fleming & Carberry, 2011; Rugen et al., 2018b; Sargent & Olmedo, 2013) that supported role transition being eased with participation in an NPR were qualitative in nature. Therefore, it is important to further study this phenomenon quantitatively. Futures studies could measure benefits not measured in this study or utilize a different tool to measure the benefit of an NPR.

This study was able to aid in further understanding the transition to practice experienced by novice PCNPs. This understanding is especially important given the current shortage of primary care physicians (The Association of American Medical Colleges, 2016). In the current healthcare environment, NPs can continue to bridge the gap in healthcare settings by increasing

access to high quality, timely, cost-effective services. A thorough understanding of the role transition experience is vital to supporting novice nurse practitioners who have the capability and skill to perform assessments, order laboratory and radiological tests, diagnose, and initiate a care plan, including medication prescription. By improving the transition between formal education and work, it may be possible to increase the retention of novice nurse practitioners, leading to improved patient access.

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Appendix A

Nurse Practitioner Role Transition Scale 2015

Please select the number that corresponds to how strongly you agree or disagree with each of these statements about your role transition experiences **when you first became a nurse practitioner.**

1 = Strongly Disagree 2 = Disagree 3 = Neither Disagree nor Agree 4 = Agree 5 = Strongly

When I first become a nurse practitioner. . .		Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree
1.	I felt confident as a nurse practitioner.	1	2	3	4	5
2.	I was very comfortable managing my patients.	1	2	3	4	5
3.	I felt very competent managing my patient case load.	1	2	3	4	5
4.	I was comfortable in my role.	1	2	3	4	5
5.	I was able to complete my responsibilities in the allotted time because I was comfortable with my skills.	1	2	3	4	5
6.	I had confidence in my decision making.	1	2	3	4	5
7.	I felt it was easy to transition from nurse to nurse practitioner.	1	2	3	4	5
8.	I felt I had the skills to deal with role transition.	1	2	3	4	5
9.	My nurse practitioner program prepared me for a smooth role transition.	1	2	3	4	5
10.	I felt that I was supported by my physician colleagues.	1	2	3	4	5
11.	The physician staff worked collaboratively with me.	1	2	3	4	5

		Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree
12.	I felt that I had a good relationship with the physicians.	1	2	3	4	5
13.	I was treated as a professional by my colleagues.	1	2	3	4	5
14.	I felt I got a lot of support.	1	2	3	4	5
15.	I was respected by other healthcare professionals.	1	2	3	4	5
16.	My nurse practitioner role was very well understood by the public.	1	2	3	4	5
17.	My nurse practitioner role was very well understood by my patients and families.	1	2	3	4	5

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Appendix B

CITI Training Certificate

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 1 OF 2 COURSEWORK REQUIREMENTS*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** mary henesh (ID: 6538187)
- **Institution Affiliation:** Idaho State University (ID: 1264)
- **Institution Email:** henemary@isu.edu
- **Phone:** 208-422-1000
- **Curriculum Group:** Basic/Refresher Course - Human Subjects Research
- **Course Learner Group:** Students - Class projects
- **Stage:** Stage 1 - Basic Course
- **Record ID:** 29964960
- **Completion Date:** 08-Jan-2019
- **Expiration Date:** 07-Jan-2024
- **Minimum Passing:** 80
- **Reported Score*:** 100

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED	SCORE
Belmont Report and Its Principles (ID: 1127)	08-Jan-2019	3/3 (100%)
Students in Research (ID: 1321)	08-Jan-2019	5/5 (100%)
Idaho State University (ID: 12693)	27-Aug-2017	No Quiz

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

Verify at: www.citiprogram.org/verify/2k3c7e5a75-4395-47c4-bb00-c9ae3b65981c-29964960

Collaborative Institutional Training Initiative (CITI Program)

Email: support@citiprogram.org

Phone: 888-529-5929

Web: <https://www.citiprogram.org>

Appendix C

National Family Nurse Practitioner Certificate

The American Academy of Nurse Practitioners National Certification Board, Inc.

hereby acknowledges that

Mary Christine Henesh, NP-C

Has met the requirements for national board certification

Family Nurse Practitioner

Certification # **F0714160**

Certified for the period: **July 2, 2014 through July 1, 2024**



Mary Ellen E. Roberts

Chairperson, Certification Commission

Richard A. Meadows

Chief Executive Officer, Certification

Accredited by the American Board of Specialty Nursing Certification (ABSNC) and the National Commission for Certifying Agencies (NCCA).
Original certificate bears an embossed seal of the certifying issuer.

Appendix D

Qualtrics Survey: Factors Related to New Graduate Nurse Practitioners

Dear Fellow Nurse Practitioners: You are invited to participate in a research study with the purpose of exploring whether the completion of a postgraduate nurse practitioner residency program predicts higher adult or family nurse practitioners self-assessed confidence and self-assessed competence than directly entering practice. Research studies are voluntary and include only people who choose to take part. Please read this consent form carefully and take your time making your decision. You are being invited as a possible participant because you are a member of this closed nurse practitioner Facebook group. You are eligible to participate if you are an adult-gerontology nurse practitioner or family nurse practitioner having graduated between the year 2007-2018. This study is being conducted by primary investigator (PI) M. Christine Henesh, a certified family nurse practitioner and a doctoral student at Idaho State University.

STUDY AIM: The purpose of this study will be to explore role transit experience for adult-gerontology nurse practitioner and the family nurse practitioner who select either direct entry to practice or residency and the related predictors of role transition success.

WHAT IS INVOLVED IN THE STUDY? If you agree to be in the study, you will be asked to answer some questions about the following topics: your perceptions of your own transition to the nurse practitioner role and your experience as an adult or family nurse practitioner. This process will take approximately 10 minutes of your time.

WHAT ARE THE RISKS OF THE STUDY? Although you are being asked to provide some personal information such as your age and gender, you will not be asked for your name. Although some data will be grouped together to be reported, there are some questions which will ask you to type your answer and your answers to these questions might be used as a quote. If you happen to write a name or a place, this information would be changed to a pseudonym, however, the rest of your response could be identifying. You may refuse to answer any of the questions.

IS THIS VOLUNTARY? This study is voluntary. You are free to accept or turn down the invitation. Given the confidential nature of the study, no one outside the PI and her dissertation committee will have access to any of the raw data. You may skip questions or stop your participation in this study at any time.

ARE THERE BENEFITS TO TAKING PART IN THE STUDY? If you agree to take part in this study, there is no direct medical benefit to you. We hope that in the future the information learned from this study will benefit the science of nursing.

WILL MY INFORMATION BE KEPT CONFIDENTIAL? Participation in research involves some loss of privacy. We will do our best to make sure that information about you is kept confidential, but we cannot guarantee total confidentiality. Your personal information may be viewed by the PI and her dissertation committee. While the information and data resulting from this study may be presented at scientific meetings or published in a scientific journal, your name or other personal information will not be revealed.

WHAT ARE THE COSTS TO YOU? There are no identified financial costs. Participation will take approximately 10 minutes of your time.

CONTACT INFORMATION: For questions or concerns regarding this research please contact Christine Henesh at 208-709-4992, email: henemary@isu.edu. If you have any questions about

your rights as a research participant you may contact the Idaho State University Institutional Review Board at (208) 282-2179 or via email at: humsubj@isu.edu.

After reading about this study, the risks and the benefits, do you agree to participate in this study?

☐ Yes (23)

☐ No (24)

Q1 What is your birth year?

Q2 What is your gender?

☐ Male (1)

☐ Female (2)

☐ Other (3)

☐ Do not wish to report (4)

Q3 What is your highest level of degree?

☐ Master (1)

☐ DNP (2)

☐ PhD (3)

☐ Other (4) _____

Q4 Prior to starting my NP role, I had worked as an RN.

☐ Yes (1)

☐ No (2)

Display This Question:

If Prior to starting my NP role, I had worked as an RN. = Yes

Q5 If yes, how many years?

Display This Question:

If Prior to starting my NP role, I had worked as an RN. = Yes

Q6 If yes, what practice setting?

☐ Office/clinic (1)

☐ Acute care (med-surg, critical care or emergency department) (2)

☐ Long term care (5)

☐ Other (6) _____

Q7 What year did you graduate as a nurse practitioner?

Q8 What year did you certify as a nurse practitioner?

Q9 What is your current area of practice?

- ☐ Family (all ages) (1)
- ☐ Women's Health (2)
- ☐ Geriatrics (3)
- ☐ Pediatrics (4)
- ☐ Internal medicine (5)
- ☐ Hospitalist (6)
- ☐ Emergency/Urgent Care (7)
- ☐ Academia (8)
- ☐ Other (9) _____

Q10 Did you complete a postgraduate residency?

- ☐ Yes (1)
- ☐ No (2)

Display This Question:

If Did you complete a postgraduate residency? = Yes

Q11 If so, what year?

Display This Question:

If Did you complete a postgraduate residency? = Yes

Q13 What was the name of the postgraduate residency you completed?

Display This Question:

If Did you complete a postgraduate residency? = Yes

Q14 How many months in length was the postgraduate residency you completed?

Display This Question:

If Did you complete a postgraduate residency? = Yes

Q15 Did you relocate for the postgraduate residency?

☐ Yes (1)

☐ No (2)

Display This Question:

If Did you complete a postgraduate residency? = Yes

Q16 What specialty was the postgraduate residency?

☐ Primary Care (1)

☐ Emergency/Trauma (2)

☐ Acute Care (3)

☐ Psychiatry (4)

☐ Palliative (5)

☐ Other (6) _____

Q17 To what extent did financial obligation contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q18 To what extent did having a job available after graduation contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q19 To what extent did current family obligations contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q20 To what extent did the benefits of direct entry versus residency being discussed in your NP program contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q21 To what extent did geographical limitations contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q22 To what extent did your anticipated years left to practice contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q23 To what extent did postgraduate residency programs not being discussed during your NP program contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q24 To what extent did the desire to gain knowledge and experience contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q25 To what extent did the recognition of a new and challenging role for NPs contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q26 To what extent did the desire for specialized training contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q27 To what extent did the desire to gain confidence in skills and experience contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q28 To what extent did the desire to increase marketability and employment opportunities contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q29 To what extent did prior interaction with past NP resident(s) as a role model contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q30 To what extent did NP program faculty stressed importance on postgraduate residency contribute to your choice of a postgraduate residency or direct entry to practice?

0 1 2 3 4 5 6 7 8 9 10

Scale grading of 0-10, with 0 being not at all likely and 10 being extremely likely, please click on bullet and pull to indicator number that best represents your answer. ()



Q31 Please provide an example of one or two things (people, places, processes, books, etc.) that was/were the most important in **FACILITATING** your transition from your NP program of study to subsequent direct entry into practice or residency, and describe the importance related to example(s)?

Q32 Please provide an example of one or two things (people, places, processes, books, etc.) that was/were the most important in **HINDERING** your transition from your NP program of study to subsequent direct entry into practice or residency, and describe the importance related to example(s)?

Q33 Please provide your reasons, rationale, or issues underlying your decision to either seek a postgraduate residency or directly enter practice.

35 When I first become a nurse practitioner. . .

	Strongly Disagree (1)	Disagree (2)	Neither Disagree or Agree (3)	Agree (4)	Strongly Agree (5)
I felt confident as a nurse practitioner. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was very comfortable managing my patients. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt very competent managing my patient case load. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was comfortable in my role. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was able to complete my responsibilities in the allotted time because I was comfortable with my skills. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had confidence in my decision making. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt it was easy to transition from nurse to nurse practitioner. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I had the skills to deal with role transition. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My nurse
practitioner
program
prepared me
for a smooth
role transition.
(9)

☐ ☐ ☐ ☐ ☐

I felt that I was
supported by
my physician
colleagues.
(10)

☐ ☐ ☐ ☐ ☐

The physician
staff worked
collaboratively
with me. (11)

☐ ☐ ☐ ☐ ☐

I felt that I had
a good
relationship
with the
physicians.
(12)

☐ ☐ ☐ ☐ ☐

I was treated
as a
professional
by my
colleagues.
(13)

☐ ☐ ☐ ☐ ☐

I felt I got a lot
of support.
(14)

☐ ☐ ☐ ☐ ☐

I was
respected by
other
healthcare
professionals.
(15)

☐ ☐ ☐ ☐ ☐

My nurse
practitioner
role was very
well
understood by
the public.
(16)

☐ ☐ ☐ ☐ ☐

My nurse
practitioner
role was very
well
understood by
my patients
and families.
(17)

☐☐☐☐☐

End of Block: NPRTS

Start of Block: Default Question Block

Q34 If you wish to be entered into a raffle for a \$100 Amazon gift card, please enter your email address. Your email address will be kept confidential.

End of Block: Default Question Block
