Spring 2018

Effectiveness of Residency Training Programs for Increasing Confidence and Competence among New Graduate Nurse Practitioners

Heather Parkhill, DNP, MSN, FNP-C
George Washington University

Effectiveness of Residency Training Programs for Increasing Confidence and Competence among New Graduate Nurse Practitioners

Presented to the Faculty of the School of Nursing

The George Washington University

In partial fulfillment of the

requirements for the degree of

Doctor of Nursing Practice

Heather Parkhill, MSN, FNP-C

Karen Whitt, PhD, AGN-BC, FNP-C

Tyler Cole, DNP-C

Spring 2018

Abstract

Background: Nurse practitioners (NPs) are enrolling in post-graduate residency programs that provide training and mentorship during transition to practice.

Objective: This project explored whether participation in NP residency improved feelings of confidence, competence, preparedness to provide care and job satisfaction among new graduate NPs who completed a residency program compared to new graduate NPs who did not complete a residency program.

Method: This mixed-methods study collected survey data from NPs who attended the 2017 AANP National Conference and two residency programs. A modified Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS) (Misener & Cox, 2001) and Hart's New Nurse Practitioner Preparedness for Practice Survey (Hart & Bowen, 2016) were utilized. This survey contained 74-items rated on a Likert scale and three open-ended questions evaluating the stated objective. The results were entered into SPSS 25 software and analyzed using descriptive statistics.

Results: There were significant differences in resident NPs' preparedness to practice scores compared with NPs who did not complete residency. There was no difference in competence or job satisfaction scores between the two groups. This study also found a significant difference in those NPs who graduated from Doctoral NP (DNP) programs compared to Master in Science NP (MSN) programs in preparedness to practice, competence and one area of job satisfaction.

Conclusions: This study supports DNP programs to facilitate transition to practice that improve outcomes in NP competence and overall preparedness to practice.

Problem Statement

Entry into practice as a new graduate from an advance practice nursing program is a time of transition and growth from student to professional. During this time, new graduate nurses have reported struggling with the demands of the rapid role assimilation and need for clinical expertise (Bratt & Felzer, 2011). The first year of practice has been associated with high job turnover rates of as much as 27.1% (Harrison & Ledbetter, 2014). This time during practice transition has been described as "distressing and tumultuous" by new graduate nurse practitioners (NPs) (Rugen, Speroff, Zapatka, & Brienza, 2016). The need for supported learning and training upon entry into practice has gained interest amongst new graduate NPs and employers with new programs for residency and fellowships being developed across the country in hospitals and outpatient settings. A growing body of literature supports NPs as providing patient care that is equally good in quality or better than the care provided by physicians in similar settings (Swan, et al. 2015). Physicians traditionally complete residency trainings to facilitate their transition from student to provider, currently nurse leaders are charged with answering the question if new graduate NPs would benefit from a similar transition experience.

Purpose Statement

The intent of this study was to investigate if residency-training programs for new graduate NPs improved feelings of confidence, competence and overall preparedness to provide care for patients when compared to new graduate NP transition to practice without a residency program. This mixed-methods study collected data related to new

graduate experiences from NPs that attended a large national conference using an onsite, paper survey and NP residency participants using an electronic survey.

Specific Aims

1. To evaluate if there is a difference in competence, confidence, preparedness to practice and job satisfaction for those NPs that have completed a NP residency program and those who have not.

2. To investigate any differences in demographics, gender, age, and race between those who have completed a residency program vs. those who have not.

3. To determine if there are any differences in competence, confidence, preparedness to practice and job satisfaction for DNPs when compared to MSN (as new graduate) NPs who have completed a nurse residency program vs. those who have not.

Research Question

Do NPs in residency programs that offer additional graduate medical training receive any benefit from these programs in terms of improved confidence, competence, preparedness to practice or job satisfaction when compared with NPs who do not receive additional training when entering into practice?

Background and Significance

Training and orientation programs to foster the transition of a new graduate to become a flourishing provider are developed to promote patient safety, provider satisfaction, and to satisfy the recommendation from the Institute of Medicine (IOM) for residency programs for advanced practice nurses (IOM, 2010). The IOM published this recommendation in 2010 that all advance practice nurses that are graduating or transitioning practice areas complete a transition-to-practice, or residency program (IOM,

2010). The evidence to support residency programs at the time of the IOM recommendation was insufficient, but there is a historical framework for the concept of residency or fellowship transition programs.

Residency has been the tradition for physicians after graduation from medical school as a standard of practice beginning in the late 19th century. Students enter a residency program after completion of a four-year medical degree before they can practice independently. These residency years allow time for the development of medical practice with supervision. A study from the University of Pennsylvania found that medical and surgical residents had increased confidence levels over the course of the residency and valued work efficiency, back up support and felt valued (Binenbaum, G., Musick, D. W., & Ross, H. M. (2007).

Nurses have also experienced the benefit of residency programs for nearly two decades now. The Commission on Collegiate Nursing Education has provided a definition and standards for a nurse residency program (NRP). Traditionally, this model is designed as experiential learning over a period of 12 months where new graduate nurses are supported in their role transition (Harrison & Ledbetter, 2014). In 2000 there was a nursing shortage that compelled University Health System (UHS) and American Association of College of Nursing (AACN) to investigate programs to retain nurses. This research found that new graduate nurses needed support and training to improve their transition to practice as new graduates and improve job retention rates. (Ulrich et al, 2010). Orientation programs for nurses were available, but these trainings varied in content, length of time and support offered during professional practice transition. The findings from this research led to the development of a standardized nurse residency

program designed by UHS and AACN that had it's first cohort in 2002 in six university based health systems. This program is now used in over 300 hospitals nationwide and has been shown to improve nursing job retention rates, improve competence and confidence, and improve overall quality of care (AACN, 2018).

The number of NPs entering the workforce is expected to grow, and in the past 10 years the number or NPs has doubled, reaching over 230,000 licensed NPs in the United States (AANP, 2018). The primary care workforce is shifting as NPs provide more primary care services and physicians increasingly provide specialized care. In rural communities, this trend is even more pronounced where NPs are more likely to practice than physicians. There is an increasing demand for high quality NPs that are competent and confident to provide care for the patients they serve in a complex health care environment.

Literature Review

Entry into practice as a new graduate NP is a time of transition and growth from student to professional. During this time, new graduate NPs have reported struggling with the demands of the rapid role assimilation and need for clinical expertise (Bratt & Felzer, 2011). Barnes (2015) explains this transition well as the experienced, often expert RN shifts in practice to novice status in the NP role in their first job. There is a loss of identity during this role transition that contributes to job turnover rates. The first year of practice has been associated with high job turnover rates of as much as 27.1% (Harrison & Ledbetter, 2014). Transition to practice has been described as "distressing and tumultuous" by new graduate NPs (Rugen, Speroff, Zapatka, & Brienza, 2016). There are currently 91 post-graduate NP residency or fellowship programs available to support the

transition of new graduate NPs as they enter practice (Camal-Sanchez, 2018). A review of the literature will evaluate history of NP residency programs, NP role transition related to competence and confidence, and outcomes of NP residency programs.

Margaret Flinter identified NP role transition as a challenge and developed the first NP residency program in 2007 at Community Health Center, Inc (CHCI). Flinter's program is designed as a 12-month transition to practice experience with mentorship, didactic learning sessions, reflection and structured support. The goal of this residency program at CHCI is to increase well-prepared primary care providers to serve in the community (Flinter, 2012). Since the inception of the first residency program and the recommendation from IOM for transition to practice residency programs, there has been growth in the number of programs offered across the country. Camal-Sanchez (2018) reports that there are currently 91 residency or fellowship programs in the US, in varying areas including primary care, palliative care and cardiology as specialty tracks. The largest program has 70 available positions, while others have limited availability. These programs can be competitive to gain access to as a new graduate NP due to the limited availability (Rugen et al., 2018).

Similar to the adoption of nurse residency programs, there was initially a lack of standards to compare or review these residency programs. Sciacca & Reville (2016) discuss the need to establish means to evaluate these programs for competency and measure the success of the programs for both the NPs and those facilitating the programs. The American Nurses Association (ANA), in association with the American Nurses Credentialing Center (ANCC) has responded to the need for standards in residency and fellowship by developing the Practice Transition Accreditation Program (PTAP) that

issued it's first guidelines in 2014 (ANCC, 2018). This accreditation program, that is voluntary, is based on Dr. Patricia Benner's nursing theory, from novice to expert, and established a guiding framework for implementation of a successful residency or fellowship program. There are currently five accredited NP practice transition programs through PTAP (ANCC, 2018). Additionally, the National Nurse Practitioner Residency and Fellowship Training Consortium (NNPRFTC) was developed in 2015 to provide program accreditation for NP residency programs. The accreditation is based on standards developed by a group of experts to validate the quality and rigor of NP residency and fellowship programs. NNPRFTC had four NP residency programs accredited in 2017 (NNPRFTC, 2018). Each of these programs requires application fees and evaluations to maintain accreditation.

Post-graduate residency and fellowship education programs have been expanding and the research is limited on whether these programs are needed to support new graduate NPs during their first year in practice. Hart & Bowen (2016) completed a national survey to evaluate new graduate NPs preparedness. This survey was collected from a national convenience sample of NPs in 2012, as a follow-up to an initial study published in 2004. Hart found that 90% of new graduate NPs expressed a need for mentoring or a residency program to improve the role transition. Hart also reported that 49% of survey respondents admit to practicing outside of their competency level. Additionally, Hart found that respondents in both the 2016 and 2004 study felt most prepared in health assessment, differential diagnosis, and wellness and respondents felt least prepared in mental health and coding/billing. The results of these surveys do not directly reflect the impact of a

residency program, but they do reflect gaps in competence and confidence during the transition year as a new graduate NP.

In another recent survey of new graduate NP's, Bush & Lowery (2016) compare NPs that have completed postgraduate residency training against those without additional training using the Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS). Bush and Lowery were able to show statistically significant differences in job satisfaction for those NPs who have completed a formal postgraduate education program, with those completing residency showing a more positive response. Bush and Lowery also found that autonomy and work challenge affected job satisfaction scores positively, though not directly related to postgraduate education. While not all the questions from the MNPJSS directly reflect on competence and confidence, there is interconnectivity in these factors.

The Department of Veterans Affairs Office of Academic Affiliations developed an NP fellowship program in response the IOM recommendation to provide increased residency programs for nurse practitioners (Zapatka et al, 2014). A study was conducted at United States Department of Veterans Affairs (VA) Connecticut Healthcare System (VACHS) Center of Excellence in Primary Care Education (CoEPCE) to evaluate the NP fellowship at the VA. The participants completed a two year fellowship and completed interviews as part of a qualitative study. The respondents universally agreed that the fellowship improved confidence and competence and helped to bridge from new graduate to practice allowing them to independently care for medically complex patients (Zapatka, 2014). This study directly supports the benefits of residency for post-graduate NPs to increase confidence and competence in practice. A more recent study from the VA CoEPCE program published in 2018 evaluated NP competencies over the course of the

12-month fellowship program. This study evaluated NPs on seven competency areas at different intervals, and there were improvements in most areas including readiness for practice at the conclusion of this study (Rugen, et al, 2018).

Flinter & Hart (2017) conducted a qualitative study to review this transition period for new graduate NPs who were in residency programs. They reviewed reflective journal entries for themes and found that new graduate NPs transitioned from an initial state of "euphoria to shock and awe" in their first three months of practice to a final state of satisfaction at the end of residency through didactic and clinical support. Flinter and Hart's findings are consistent with Barnes' work showing that the first year of practice and role transition is a process that needs to be supported for best outcomes.

These results are encouraging to support residency programs for NPs and support the goals of this project to establish the relationship between a residency program for NPs and improved confidence, competence, preparedness to practice and job satisfaction.

Theory

Theoretical perspectives that help shape and define this project are Lave's Situated Learning Theory and Bandura's Social Learning Theory. Situated Learning Theory, first described by Jean Lave, describes learning as an activity that needs to be embedded in activity. This theory relates to communities of practice in which people learn collectively. Learning is at the core of the theory with the other components interchangeable at the periphery (Illeris, 2007).

Bandura's Social Learning theory integrates the components necessary for social participation as a process for learning and knowing. These components include the integration of meaning into practice in a learning community to help form one's identity

(Illeris, 2007). This theory describes the principles of learning and behavior related to cognitive, behavioral and environmental determinants (Creswell, 2014). Learning occurs through observation, imitation and modeling. Behavioral modeling occurs when we show someone how to do something, and then give them the opportunity to practice.

Situated Learning Theory and Social Learning Theory have been applied to this project to evaluate the behaviors of new graduate NPs as they enter into practice. Situated Learning Theory supports the need for learning to be embedded in activity, context and culture. Social Learning Theory states that people learn from one another through observing, modeling and imitation.

Methods

A survey was completed by new NP graduates who attended a national conference to determine if residency training programs for new graduate NPs improved feelings of confidence, evidence of competence and overall preparedness to provide care to patients when compared to new graduate NPs that have not completed a residency program.

Sample

There were about 20,000 NPs that graduated from NP programs in the US in 2014-2015. This data supports an estimate of 100,000 NPs in practice with 1-5 year's experience (AANP, 2018). Sample size was calculated for a one-sided two sample independent t-test. This estimate of a population of 100,000 and a moderate effect size using a Cohen's d of 0.50, a power of 80% (0.80), and an alpha of 0.05, resulted in an sample of 50 from each group, and total of 100 participants. (ANZMTG Statistical Decision Tree, 2018).

Inclusion criteria for the entire sample were NPs that graduated within the past 5 years and were currently licensed and practicing. The participants were a convenience sample of NPs that attended a national conference for NPs that agreed to participate in the study. Exclusions included those NPs that had never worked as an NP or had not become licensed and certified. Exclusions also included NPs with >5 year's experience, as the survey aimed to review the experience of new graduates.

Subjects were recruited at the American Academy of Nurse Practitioners (AANP) National conference. This conference was held in Philadelphia, Pennsylvania in June 2017. The researcher had copies of the survey instruments available at a table set up outside the conference rooms of the convention. Conference attendees were asked if they were willing to fill out the survey checklist and demographic form. The researcher explained the study to each participant. Each potential nurse practitioner participant was given a copy of the implied consent document. Completing the survey was evidence of agreement to participate in the study. No personally identifiable data was collected from participants.

NP residency graduates from Carolinas Health System and Mayo Health System were also recruited to complete an electronic survey. Permission to survey the NP residency graduates was obtained directly from each institution. An electronic link was sent to the NP residency graduates to complete the survey from the institution. The survey included an electronic copy of the implied consent document and explanation of the study. The electronic survey replicated the paper survey that was administered to the participants who attended the AANP conference and collected no personally identifiable data.

Variables

This project utilized a demographic survey that included questions about age, gender, education, clinical practice setting, and nursing experience. The research also utilized a modified Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS) (Misener & Cox, 2001) and Hart's New Nurse Practitioner Preparedness for Practice Survey (Hart & Bowen, 2016). The variables collected in these surveys include NP job satisfaction scores, competence and confidence ratings and preparedness for practice. The variables collected in the demographic survey are included in the variables table in Appendix A.

Instruments and Data Collection

Data collection was performed with a survey comprised of a demographic survey with a modified MNPJSS and Hart's New Nurse Practitioner Preparedness for Practice Survey. Permission to use the MNPJSS was granted by the author. This scale was initially developed to evaluate job satisfaction amongst NPs. The full scale has 44-items and 6 factored subscales, including: Interpractice Partnership/Collegiality; Growth; Time; and Benefits. Individual factor analysis produced internal reliability scores of .94, .89, .84, .86, .89, and .79. (Misener & Cox, 2001). Cronbach's alpha was reported at .96 in the original sample and has been repeated on similar studies using the scale (Misener &Cox, 2001). The challenge/autonomy subscale was applied to this survey and chosen for its' direct application to the purpose and aims of this study. The modified MNPJSS includes 10 items that rate the response on a 6- point Likert scale ranging from "very dissatisfied," "dissatisfied," "minimally dissatisfied," "minimally satisfied," "satisfied," to "very satisfied."

Hart's Preparedness for Practice Survey was also used with permission from the author. This study was originally published in 2007 with a report on the validity of the survey tool (Hart & Macnee, 2007). The study was replicated and published again in 2016 with further statistical analysis of the validity and reliability of the 64 – item survey tool (Hart & Bowen, 2016). Five meaningful factors emerged in the realms of managing health concerns, assessment and diagnosis, diversity and teaching, procedures and evidenced based practice and collaboration from the analysis with Cronbach's alpha scores of 0.92, 0.97, 0.78, 0.83, and 0.76 (Hart & Bowen, 2016). This survey also uses a Likert scale with various responses and open-ended questions. Participants were asked to provide answers to several open ended questions including; "Please describe areas where you felt particularly unprepared to practice as an NP", "Please describe areas that you felt particularly prepared to practice as an NP" and "What do you think would be the benefit (added value) of participating in a formal NP residency program?"

Intervention

The intervention evaluated is participation in an NP residency program. NP residency and fellowship programs are actively engaging new graduate NPs in their first year of practice throughout the country in primary care, pediatrics, geriatrics, palliative care, emergency medicine and other specialties. These programs vary in setting including acute care facilities, community health centers and the VA Health System. The programs generally last for 12 months and incorporate mentoring, didactic and clinical components to enhance the first year of practice for the new graduate NP. Program guidelines have been developed by PTAP and NNPRFTC to establish curriculum and design of the residency period.

Data Analysis Plan

The data from the surveys collected at the national NP conference in June 2017 and the electronic survey were compiled, coded and entered into SPSS 25 software for data analysis. Descriptive statistics including distribution, central tendency and dispersion were generated for demographic data. Data collected from the MNPJSS and Hart Preparedness for Practice surveys were evaluated using independent t-tests to compare mean scores of NPs who have completed residency programs with those who have not had residency training. Qualitative questions have been reviewed for central themes in the content using text analysis in Survey Monkey that has been summarized and evaluated separately.

Ethical Considerations

Participation in this study was voluntary. Each participant was provided with a cover letter and the survey. The cover letter provided notification that participation was voluntary, that results would remain anonymous and completing the survey serves as consent. The cover letter is included in Appendix B.

The risk for participating in this study was minimal and no more than encountered in daily life. The only risk for participants would be if personally identifiable data were collected and disclosed. However, no personally identifiable data was collected as part of the survey. The data was collected and entered in SPSS 25 software and stored on a password-protected computer to improve security and confidentiality. This researcher entered all data and the original paper surveys were securely stored in a locked file drawer. The George Washington University Office of Human Research Institutional Review Board approved the study.

Results

This study included a total of 97 participants. There were 12 participants that reported experience in an NP residency program, 85 participants denied experience in an NP residency program. A summary of the demographic data from these two samples is listed in Table 1 in Appendix C.

Descriptive statistics were generated using SPSS 25 to compare means and investigate any differences amongst demographics, gender, age, and race between those who have completed a residency program and those who have not. There were more women (91%) than men (9%) enrolled in the study, predominantly white/Caucasian women between the ages of 25 to 44. Enrollment in residency was more diverse with a representatively larger percentage of males and Asian/Pacific islanders than the non-residency group. See figure 1-3 for demographic differences between groups.

Independent sample t-tests were conducted in SPSS 25 to evaluate if there was a difference in confidence, preparedness to practice and job satisfaction for those NPs who completed a NP residency program and those who have not. Competence was evaluated separately using a Chi-Square analysis and qualitative analysis. Confidence factors were measured by the first subscale assessing preparedness for practice using the Hart Preparedness to Practice survey upon completion of initial NP educational program. There are 22 subscale items on this subscale. Residency NPs had lower mean scores in 20 out of 22 of these scale items, however they were not significantly different ($p>0.05$). Although not significant, the only mean scores that were higher for the NP residency group were in the areas of suturing and simple office procedures ($p>0.05$). There were statistically significant results on one item that residency NPs scored lower than non-resident NP's, reflecting lower confidence scores in management of acute concerns

(p=0.02). See table 2 in the appendix for a summary of results for the confidence for practice factors.

Importance of preparation factors as measured by the second subscale on the Hart Preparedness to Practice survey, evaluated the importance of preparation for practice in multiple areas. This 21 item subscale yielded significant differences among the NP residency participants and non-participants on three items including: importance of preparation for simple procedures, importance of preparation for suturing, and importance of preparation for x-ray interpretation, with higher mean scores reported by residents than non-residents in all three items ($p<0.05$). See table 4 in the appendix for a summary of these results.

The preparedness and support factors as measured by the third subscale in the Hart Preparedness to Practice Survey also yielded higher mean scores for eight of nine items on this subscale with two statistically significant results in this group. Resident NPs reported higher scores in areas of support in their first year of practice. There was a significant difference in the scores for clinical support during transition to practice, support from supervisor and team, and organizational leadership support in the first year of practice with residency NPs reporting higher mean scores than non-resident NPs ($p<0.05$). See table 3 in the appendix for a summary of the results.

The job satisfaction factors as measured by the 10 item challenge and autonomy subscale of the MNPJSS did not yield any statistically significant difference in job satisfaction scores, however mean scores were higher for the resident group on each item in the job satisfaction group ($p>0.05$), see table 5 in the appendix for a summary of these results.

Competence was evaluated using the Hart Preparedness to Practice Survey with a one item question to assess practicing outside of one's competency level in the first year of practice. This question was evaluated using Chi-square analysis and revealed no significant difference between groups X^2 (1,N=97)= .100, p=.752 with 75% of residents and 70.6% of non-residents reporting practicing outside of their competence level in their first year of practice, see figure 4 for results. A follow up open-ended question asked participants to describe areas they felt unprepared as an NP. Survey Monkey software was used and a text analysis of residency NP respondents showed themes of complex patients, coding and x-rays contributing to competency limitations. Text analysis of non-resident NP participant responses included frequent occurrence of the words; procedures, complex patients, medication management, labs, billing, mental health and pain management as the issues contributing to competence limitations in the first year of practice.

Due to the small sample size, I was unable to evaluate the third research question to determine if there are any differences in competence, confidence, preparedness to practice and job satisfaction for DNPs when compared to MSN (as new graduate) who have completed a nurse residency program against those who have not. However, there is a large enough sample of DNP graduates to compare with MSN graduates to evaluate differences in competence without reference to history of residency or fellowship training. There were 9 respondents who were new NP graduates from a DNP program and the remaining 88 respondents were graduates from a MSN program. An independent t-test was run in SPSS 25 to compare these groups showing significant differences in 12 questions on the Likert scales in the Hart Preparedness to Practice Survey and the

MNPJSS including questions related to confidence, preparation and job satisfaction. In each item the DNP group had significantly higher mean scores than the MSN group. (See tables 6-9 for a summary of these results.)

With regard to confidence factors as measured by the Hart Preparedness to Practice Survey, DNP's had higher mean scores than MSN graduate NPs in 19 out of 22 factors. This subset of items includes 22 Likert scale survey questions evaluating confidence in practice upon graduation. DNPs reported significantly higher mean scores than MSNs in preparedness for evidence based practice, health assessment, management of mental health concerns, simple office procedures, suturing, and x-ray interpretation ($p<0.05$). (See table 6 for statistical values).

Importance of preparation factors, a 21-item subscale as measured by the Hart Preparedness for Practice survey, yielded significant difference in two items on this subscale reflecting higher mean scores for the DNPs. The scores for importance of preparation for simple procedures and importance of preparation for suturing were rated higher by DNP graduates than MSN graduates and found to be statistically significant ($p<0.05$). See table 8 for summary of results.

The preparedness and support factors also yielded higher mean scores for nine of nine items with the DNPs reporting higher mean scores for preparation and support in this subscale on Harts Preparedness to Practice Survey. There were three statistically significant results in this group. DNPs reported adequate clinical support in the first year of practice, access to clinical support during transition to practice, and adequate resource for patients when compared to MSN graduates ($p<0.05$). See table 7 in the appendix for summary of these results.

The MNPJSS was used to evaluate job satisfaction with a 10-item subscale. The job satisfaction factors showed mean scores higher for the DNP group compared to the MSN group in seven out of ten of the items on this subscale. There was a significant difference in the scores for the item "opportunities to expand scope of practice and time to seek advanced education" with DNPs reporting more satisfaction, (M = 5.11, SD = .601) than MSN (M= 4.44, SD = 1.355), t(95) = -2.707, p= 0.014. The results can be found in table 9 in the appendix. Chi-square analysis for competence which was evaluated with a single item question on the Hart Preparedness to Practice Survey asking NPs to evaluate if they have practiced out of their competence level revealed no significant difference between groups X^2 (1,N=97)= .096, p=.715.

Text analysis of the qualitative questions was performed using Survey Monkey text analysis tool to compile frequency of occurrence of common words in the responses. All written responses were entered into Survey Monkey and analyzed for common word frequencies. The participants were asked which areas they felt particularly unprepared to practice as an NP. Text analysis of non-residency NP's revealed >20% of new graduates felt unprepared for simple office procedures, complex medical patients, and lab interpretation to a lesser extent. One respondent reported, "Just the whole weight of starting practice was difficult. I was responsible for being sure the right things were done." Another respondent reported, "Physicians have no idea what NP training is, and assume we are "little" doctors. I had no idea what was expected of me and did not know much about my scope of practice." Text analysis for this same question for Residency NP respondents reveals themes of unpreparedness equally for caring for complex patients, x-

ray interpretation and coding. The residency NPs also expressed more concern for specialty care and services to a lesser degree.

A follow up open-ended question asks respondents to report areas that they feel particularly prepared to practice as an NP. New graduate non-residency NPs, in text analysis of open ended questions, do report a feeling of preparedness related to patient care, assessment, management of hypertension, women's health, history and physical assessment, management of acute health issues, and communication. They also drew on past experiences to enhance preparation for practice. "My background in cardiology prepared me for my specialty." "Prior to becoming an NP I worked as an RN in a busy city ED, which prepared me very well to work in an urgent care center. I am currently working in occupational health." Residency NPs reported feeling best prepared in health promotion, physical assessment and use of guidelines to direct care.

Survey results reveal 62% of NPs were extremely interested in residency, and 29% somewhat interested in residency. Only 2% of NPs were not interested at all. The presumed benefits of a residency program, evaluated from text analysis, show more experiential practice, increased confidence, an assigned mentor, opportunities for learning and support, education and guidance during the first year transition. NPs that completed a residency reported they benefited from additional support, had increased feelings of confidence and improved transition to practice during their first year of practice.

Discussion

Nurse practitioners in residency programs that offer additional graduate medical training do not significantly benefit from these programs versus those providers that have not received additional training when entering into practice. The results do show that residency NPs feel supported during the transition period from resources in the workplace. Qualitative data also reflect feelings of an achieved benefit through

completion of residency however survey data does not support this conclusion in this study. DNP graduates report significantly greater rates of success with transition to practice without residency program intervention. DNPs also reported workplace support during the transition period. In addition to this finding DNPs reported higher mean scores for confidence to practice and preparedness to practice. This study was not able to produce significant results to prove that completing a NP residency improves job satisfaction, however the mean scores were favorable for each group and previous work from Bush and Lowery (2016) has shown that residency can improve job satisfaction rates. Prior research on DNP job satisfaction scores is not available.

Practice confidence as measured on the Hart Preparedness to Practice survey evaluated how prepared NPs felt upon graduation from their initial NP program. The resident NP group had lower mean scores than non-resident NPs overall in this group, but they also had statistically significant lower scores in management of acute and emergent concerns. Conversely, DNP's had higher mean scores in the confidence factor group in more areas and had significantly higher scores than the MSN group in three areas; evidence based practice, health assessment, and management of mental health concerns. This suggests that doctorally prepared NPs upon graduation are more confident to practice.

Preparedness and support for transition to practice as measured on the Hart Preparedness to Practice Survey showed positive reflections for the NP residency group. Residents reported positive results for team and clinical support, support from leadership and support with transition to practice. These findings support the program goals of residency and transition to practice and align with Bandura's Social Learning Theory that integrates the components necessary for social participation as a process for learning and knowing (Illeris, 2007). The DNP graduates also had positive mean scores in this factor group. This may be reflective of the increased time in didactic and clinical experiences that prepare the DNP for practice. Another consideration is that perhaps DNPs are hired into environments that are more supportive and have more resources, or DNPs are more selective in their employment choices. Aurbach (2015) reports that the DNP program offerings have increased and recommended outcomes studies to show the benefits of these programs. Cashin's (2018) review of the progress and evolution of DNP practice supports the continued development and practice of DNP programs while confirming the need again for research on DNP program outcomes.

In terms of job satisfaction residents had higher mean scores than non-residents on every factor on this scale. DNPs had overall higher mean job satisfaction scores than MSN prepared NPs. The MNPJSS is a 44-factor scale, but a subset of 10 questions was used for this study. A complete MNPJSS may have yielded more dynamic results related to job satisfaction. A review of the literature shows no previous studies evaluating DNPs in practice using the MNPJSS.

This study showed 92% of new graduate NPs have expressed an interest in residency programs to support their transition to practice. This interest in residency and transition to practice is consistent with the findings from Hart and Bowen (2016) who reported 90% of survey participants were either "extremely interested" or "somewhat interested" in a residency program.

The qualitative analysis provided some rich textual themes showing a strong desire for residency program from those who have not participated and positive outcomes from those NPs who did participate in residency programs. The themes non-residency NPs desired from a transition to practice residency married the benefits that residency graduates reportedly achieved through these structured programs including increased practice, support from a mentor and improved confidence.

The demographic data reflects a composition historically reflective of NPs with the majority Caucasian, female respondents (Data USA, 2018). This data supports an opportunity to outreach to more populations to diversify the nursing community, particularly those nurses that seek advanced degrees. There was a more racially and ethnically diverse population in residency program and more males in the residency programs. Discussion with residency program leaders and residency participants could provide insight into these demographic shifts.

Study Limitations

There were several limitations to this study. The sample size was small and may not be representative of the population of all new graduate NPs. There were a limited number of NPs that have completed a residency that responded to the survey and as such may not represent a large sample of residency graduates or their experiences. While

statistics were reported comparing the small sample of NPs who completed a residency program with the much larger group of NPs who did not complete a residency program, the findings should be interpreted with caution. A larger group of NP residency participants equal in size to the non-residency NPs may have yielded different results. Also, as noted in the literature review, residency experiences are not standardized which could account for variable experiences reported by residency NPs in this study.

Implications/ Recommendations for Practice, Policy and Research

Implications of this research support facilitated transition to practice for new graduate NPs to help improve confidence and feelings of preparedness for practice. The results of this study support DNP preparation as a means to facilitate improved transition to practice, even more so than residency programs. It is not clear what aspect of the DNP program lends to improved scores in preparedness, confidence and job satisfaction. DNP programs require more didactic hours and clinical hours that may contribute to the improved ratings for transition to practice. More research in this area is recommended to discern what effect the DNP program has on NP transition to practice. Furthermore, I was not able to evaluate DNPs that have completed residency programs due to this small sample size. Due to the positive outcomes of each of these groups individually, further evaluation of DNPs who have completed residency should be evaluated to identify outcomes for this group in transition to practice.

In the past year several studies have been published in support of NP residency programs and there are a growing number of programs across the country (Camal-Sanchez, 2018). There are now two accrediting bodies to facilitate standardization of

residency and provide organization support for development of such programs. Despite this growing body of literature and demand from graduating NPs, access and funding for these programs does not meet the need. Accreditation, which is costly, may now be a barrier for organizations to develop a program due to the associated fees. NPs, who may have graduated with student loans, may not always be able to accept the lower pay rate that is often associated with the residency program. More research is needed to show the benefits of patient outcomes and quality outcomes of residency programs in larger studies using standardized programs.

Nursing educators should continue to encourage and support NPs as they transition to practice and continue to develop the role of the DNP as endorsed in 2004 by AACN (Aurbach, 2015). The results of this study support the role of the DNP as well prepared and confident to practice. Areas of growth that have been identified in this study are consistent with Hart's previous work on preparedness to practice. NPs have identified a need to improve management of simple office procedures, suturing, and x-ray interpretation. Educators should consider increasing access to these skills to improve NP preparedness for practice. The challenge for nurse educators and nurse practitioners in leadership roles is to utilize the knowledge gained from this study and other studies to support nurses and NPs in their education and guide them towards DNP education programs to facilitate improved practice transition. Employers and administrative leaders should seek to hire DNP graduates and facilitate the mentorship and support required through the transition to practice period. It has been shown that NPs provide quality care in a standard practice environment. Policy makers should consider funding for DNP

education programs to decrease educational barriers and improve patient access to quality care.

Conclusions

The intent of this study was to investigate if residency-training programs for new graduate NPs improved feelings of confidence, competence and overall preparedness to provide care to patients when compared to new graduate NPs that had not completed a residency program. While this sample size was small and there was a larger sample of non-residency respondents than those who had completed a residency, there were significant differences in preparedness to practice and workplace support in the first year. The more remarkable finding in this study is the positive differences noted among NPs who had graduated from DNP programs compared to MSN programs in confidence, preparedness to practice, competence and job satisfaction. These results are encouraging and support the recommendations for DNP as entry to practice

References

American Academy of Nurse Practitioners. (2018, January 22). AANP - NP Fact Sheet. Retrieved from https://www.aanp.org/all-about-nps/np-fact-sheet

American Association of Colleges of Nursing. (2018, March). American Association of Colleges of Nursing (AACN). Nurse Residency Program. Retrieved from http://www.aacnnursing.org/Nurse-Residency-Program

American Nurses Credentialing Center. (2018, March). ANCC Practice Transition Accreditation Program (PTAP). Retrieved from http://www.nursecredentialing.org/Accreditation/PracticeTransition

ANZMTG Statistical Decision Tree. (2018, March). Power Calculator - T-test - Statistical Decision Tree. Retrieved from https://www.anzmtg.org/stats/PowerCalculator/PowerTtest

Auerbach, D. I., Martsolf, G. R., Pearson, M. L., Taylor, E. A., Zaydman, M., Muchow, A. N., Lee, Y.(2015). The DNP by 2015. *Rand Health Quarterly*,*5*(1), 3.

Barnes, H. (2015). Exploring the Factors That Influence Nurse Practitioner Role Transition. *The Journal for Nurse Practitioners*, *11*(2), 178-183. doi:10.1016/j.nurpra.2014.11.004

Binenbaum, G., Musick, D. W., & Ross, H. M. (2007). The development of physician confidence during surgical and medical internship. *The American Journal of Surgery,193*(1), 79. doi:http://dx.doi.org/10.1016/j.amjsurg.2006.07.009

Bratt, M. M., & Felzer, H. M. (2011). Perceptions of Professional Practice and Work Environment of New Graduates in a Nurse Residency Program. *The Journal of Continuing Education in Nursing*, *42*(12), 559-568. doi:10.3928/00220124-

20110516-03

Bush, C. T., & Lowery, B. (2016). Postgraduate nurse practitioner education: Impact on job satisfaction. *The Journal for Nurse Practitioners, 12*(4), 226-234. doi:http://dx.doi.org.proxygw.wrlc.org/10.1016/j.nurpra.2015.11.018

Camal-Sanchez, C. A. (2018). Current Status of Fellowship Programs for Advanced Practice Registered Nurses in the Nurse Practitioner Role. *Nurse Educator*, *43*(1), 42-44. doi:10.1097/NNE.0000000000000392

Cashin, A. (2018). A scoping review of the progress of the evolution of the Doctor of Nursing Practice in the USA to inform consideration of future transformation of doi:10.1016/j.colegn.2017.05.001

Creswell, J.W. (2014). *Research design. Qualitative, Quantitative, and Mixed Approaches*. (4th ed.). Thousand Oaks, CA: Sage.

Data USA. (2018, April 15). Nurse practitioners & nurse midwives. Retrieved from https://datausa.io/profile/soc/2911XX/

Flinter, M. (2012). From New Nurse Practitioner to Primary Care Provider: Bridging the Transition through FQHC-Based Residency Training. *Online Journal Of Issues In Nursing*, *17*(1), 1. doi:10.3912/OJIN.Vol17No01PPT04

Flinter, M., & Hart, A. M. (2017). Thematic elements of the postgraduate NP residency year and transition to the primary care provider role in a Federally Qualified Health Center. *Journal of Nursing Education and Practice*, *7*(1). doi:10.5430/jnep.v7n1p95

Harrison, D., & Ledbetter, C. (2014). Nurse Residency Programs. *Journal for Nurses in Professional Development*, *30*(2), 76-82. doi:10.1097/nnd.0000000000000001

Hart, A. M., & Bowen, A. (2016). New Nurse Practitioners' Perceptions of Preparedness for and Transition Into Practice. *The Journal for Nurse Practitioners*, *12*(8), 545-552. doi:10.1016/j.nurpra.2016.04.018

Hart, A. M., & Macnee, C. L. (2007). How well are nurse practitioners prepared for practice: Results of a 2004 questionnaire study. *Journal Of The American Academy Of Nurse Practitioners*, *19*(1), 35-42. doi:10.1111/j.1745-7599.2006.00191.x

Illeris, K. (2007). *How we learn: Learning and non-learning in school and beyond.* New York: Routledge.

Institute of Medicine (U.S.). Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing. (2010). *Summary of the February 2010 forum on the future of nursing: Education*. Washington, DC: National Academies Press.

Misener, T. R., & Cox, D. L. (2001). Misener Nurse Practitioner Job Satisfaction Scale. *Journal of Nursing Measurement*, *9*(1), 91-108. doi:10.1037/t44056-000

National Nurse Practitioner Residency & Fellowship Training Consortium. (2018, April 15). Home. Retrieved from https://www.nppostgradtraining.com

Rugen, K. W., Speroff, E., Zapatka, S. A., & Brienza, R. (2016). Veterans Affairs Interprofessional Nurse Practitioner Residency in Primary Care: A Competency-based Program. *The Journal for Nurse Practitioners*, *12*(6), e267-e273. doi:10.1016/j.nurpra.2016.02.023

Rugen, K. W., Dolansky, M. A., Dulay, M., King, S., & Harada, N. (2018). Evaluation of

Veterans Affairs primary care nurse practitioner residency: Achievement of competencies. *Nursing Outlook*, *66*(1), 25-34. doi:10.1016/j.outlook.2017.06.004

Sciacca, K., & Reville, B. (2016). Evaluation of Nurse Practitioners Enrolled in Fellowship and Residency Programs: Methods and Trends. *The Journal for Nurse Practitioners*, *12*(6), e275-e280. doi:10.1016/j.nurpra.2016.02.011

Swan, M., Ferguson, S., Chang, A., Larson, E., & Smaldone, A. (2015). Quality of primary care by advanced practice nurses: a systematic review. *International Journal For Quality In Health Care: Journal Of The International Society For Quality In Health Care*, *27*(5), 396-404. doi:10.1093/intqhc/mzv054

Ulrich, B., Krozek, C., Early, S., Ashlock, C. H., Africa, L. M., & Carman, M. L. (2010). Improving retention, confidence, and competence of new graduate nurses: Results from a 10-year longitudinal database. *Nursing Economic$, 28*(6), 363-376. Retrieved from https://www.nursingeconomics.net/ce/2012/article28363375.pdf

Zapatka, S. A., Conelius, J., Edwards, J., Meyer, E., & Brienza, R. (2014). Original Research: Pioneering a Primary Care Adult Nurse Practitioner Interprofessional Fellowship. *The Journal For Nurse Practitioners*, *10*378-386. doi:10.1016/j.nurpra.2014.03

Appendix A

Table 1. Variables

Variables	Variable Form	Theoretical Definition	Operational Definition
Independent Variables			
Post Graduate Residency Program	Categorical, Binary	A structured post-graduate training and mentoring program designed to facilitate NP role transition.	1= Completed a Residency Program 2= Did NOT complete Residency as an NP
Setting of Residency Program	Categorical, Nominal	Describe the practice setting as primary care, specialized practice, acute care, other.	1= Primary Care 2= Acute Care 3= Specialty (i.e. dermatology, cardiology, nephrology) 4= Other
Length of Residency Program	Continuous, Numeric	Describe the Number of weeks or months of your residency program	Number of weeks or months of program.
Mentor/ Preceptor	Categorical/ Binary	As a new graduate NP did you have an assigned mentor or preceptor in your first year of practice?	1= yes 2= no
Dependent Variables			
Competence	Categorical, ordinal	A survey will be used to evaluate New graduate Nurse practitioner's perceived levels of confidence in their first year of practice in clinical skills, using Hart's New Nurse Practitioner Preparedness for Practice Survey.	1=Extremely Unimportant, 2= Somewhat Unimportant, 3= Neither Important or Unimportant 4=Important, 5=Somewhat Important, 6=Extremely Important
Confidence		Using Hart's New Nurse Practitioner Preparedness for Practice Survey, NP's rate how prepared they are for practice.	1= Very Unprepared 2= Minimally prepared, 3= Somewhat prepared 4=Generally Well Prepared 5=Very Well Prepared 0= N/A
Job Satisfaction	Categorical, Ordinal	Using a Modified Misener Scale, Measure Job Satisfaction	1=Very dissatisfied 2= Dissatisfied, 3= Minimally Dissatisfied, 4=Minimally Satisfied, 5= Satisfied, 6= Very

Satisfied

Demographic Variables			
Gender	Categorical, binary	Self- identified gender	1 = Male 2= Female
Age	Categorical, ordinal	Age at time of survey completion	1= 18 to 24 2= 25 to 34 3= 35 to 44 4= 45 to 54 5= 55 to 64
Race/ Ethnicity	Categorical, Nominal	Biological traits	1=American Indian or Alaska Native 2= Asian/ Pacific Islander 3= Black or African American 4= Hispanic 5= White/ Caucasian 6= Undisclosed
Education Level	Categorical, nominal	Highest education level in field of nursing.	1= Masters in Nursing 2= Doctorate in Nursing
Employment Status	Categorical, nominal	Number of hours worked per week/ month per employment contract at time of survey completion.	1= 1-8 hours 2= 9-16 hours 3= 17-24 hours 4= 25-32 hours 5= 33-40 hours 6= >40 hours
Certification	Categorical, nominal	Type of NP provider by either board certification of program of graduation from accredited Master's Program.	1= Family Nurse Practitioner 2= Adult Nurse Practitioner 3= Acute Care Nurse Practitioner 4 = Geriatric Nurse Practitioner
Practice Setting	Categorical, Nominal	The type of practice the NP is employed. If has more than one job can respond more than once.	1= Primary Care, Outpatient 2= Acute Care, Inpatient 3= Long Term Care 4= Home care 5= Specialty Practice 6 = Other
Years in Practice as NP	Continuous, numeric	The number of years in practice as an NP since certification, and actively practicing. Only NPs with 1-5 years experience will be included in the study.	Years in Practice as an NP (months if < 1 year)

Appendix B

Dear Nurse Practitioner:

You have been invited to participate in a research study to evaluate your experiences during your transition into practice as a new graduate Nurse Practitioner. As part of this study you will be asked to complete a survey checklist regarding job satisfaction and preparedness for practice as well as a brief demographic survey, which should take no longer than 10-15 minutes. Completing the survey is evidence that you choose to participate in this study. The surveys have no questions that require personally identifiable data. All of your answers will remain anonymous. If you do not wish to participate, you do not need to complete the survey. Participation in the study is voluntary. Your answers will be useful for evaluating the effectiveness of NP residency programs.

Sincerely,

Heather Parkhill, MSN FNP-C

Appendix C

Table 1. Participant Demographics

	Residents (N=12)	**Non-Residents** (N=85)
Age		
Mean (SD)	2.75(.754)	3.11(1.00)
Range	1-5	1-5
Gender		
Male (%)	25 (N=3)	7 (N=6)
Female (%)	75 (N=9)	92.9 (N=79)
Years Experience as an NP		
1	66.7 (N=8)	32.9 (N=28)
2	33.3 (N=4)	20 (N=17)
3	0	20 (N=17)
4	0	15.3 (N=13)
5	0	11.8 (N=10
Degree Earned		
Masters (%)	83.3 (N=10)	92.9 (N=78)
Doctoral DNP (%)	16.7 (N=2)	8.2 (N=7)
Area of National Certification		
1 FNP (%)	91.7 (N=11)	63.5 (N=54)
2 Adult NP (%)	8.3 (N=1)	17.6 (N=15)
3 Acute Care NP (%)	0	9.4 (N=8)
4 Other	0	9.4 (N=8)
Race/ Ethnicity		
Asian %	33.3 (N=4)	3.5 (N=3)
Black/ African American %	16.7 (N=2)	15.3 (N=13)
Hawaiian or Pacific Islander %	0	3.5 (N=3)
White or Caucasian %	50 (N=6)	74.1 (N=63)
Not Disclosed %	0	3.5 (N=3)

Table 2. Independent t-Test Comparing Residency and Non-Residency NPs on confidence factors using Hart's Preparedness to Practice Survey.

Variable	Residency	N	Mean	t	p
Confidence Factors					
How Prepared to Enter Practice at completion of NP program?	1	12	3.33	-.31	.975
	2	85	3.34		
Health Teaching	1	12	4.00	-.849	.398
	2	85	4.21		
Motivational Interviewing	1	12	3.25	-.394	.694
	2	85	3.40		
Coding and Billing	1	12	1.67	-.781	.437
	2	85	1.92		
Cultural Backgrounds	1	12	4.08	.135	.893
	2	85	4.04		
Caring for Non- English Speaking Patients	1	12	3.58	1.231	.221
	2	85	3.08		
Collaboration and Referral	1	12	3.42	-.619	.537
	2	85	3.61		
Evidence Based Practice	1	12	4.08	-.422	.674
	2	85	4.20		
Health Assessment	1	12	4.00	-1.491	.153
	2	85	4.29		
Pathophysiology	1	12	3.83	-.576	.566
	2	85	3.98		
Pharmacotherapy	1	12	3.33	-1.292	.200
	2	78	3.68		
Differential Diagnosis	1	12	3.33	-1.708	.091
	2	85	3.79		
Management of Acute Concerns	1	12	3.17	-2.213	.029
	2	85	3.76		
Management of Chronic Concerns	1	12	3.50	-.713	.478
	2	85	3.68		
Management of Emergent Concerns	1	12	2.67	-2.357	0.20
	2	85	3.38		
Management of Mental Health Concerns	1	12	2.92	.315	.753
	2	85	2.82		
Management of Complex Health Concerns	1	12	3.00	-.302	.764
	2	85	3.09		
Simple Office procedures	1	12	2.00	.862	.391
	2	85	1.72		
Suturing	1	12	1.75	.184	.855
	2	85	1.69		
XRAY Interpretation	1	12	1.67	-.132	.895
	2	85	1.71		
EKG Interpretation	1	12	2.08	-.783	.435
	2	85	2.35		
Lab Interpretation	1	12	3.00	-.075	.940
	2	85	3.02		

NP = nurse practitioner, 1= entered in residency program, 2= not entered into residency program,
N= number, M= mean, p = significance <0.05

Table 3. Independent t-Test Comparing Residency and Non-Residency NPs on preparedness and support factors using Hart's Preparedness to Practice Survey.

Variable	Residency	N	Mean	t	p
Preparedness and Support Factors					
I was prepared for entry level NP practice *	1	12	3.08	.866	.451
	2	85	3.34		
I was provided adequate clinical support	1	12	4.00	2.067	.041
	2	85	3.20		
I was provided adequate support for transition to practice.	1	12	3.67	1.689	.095
	2	85	3.05		
I had adequate resources to care for my patients.	1	12	3.92	1.230	.222
	2	85	3.56		
I was prepared for the type and complexity of patients. *	1	12	3.08	.075	.940
	2	85	3.06		
I had access to consultations w/ providers for treatment decisions	1	12	4.25	1.017	.312
	2	85	3.92		
I was confident that I was prepared for practice *	1	12	2.83	.344	.732
	2	85	2.72		
I was satisfied with support from supervisor and team members.	1	12	4.08	2.272	.034
	2	85	3.47		
I was satisfied with leadership support in organization.	1	12	3.83	3.002	.006
	2	85	3.08		

NP = nurse practitioner, 1= entered in residency program, 2= not entered into residency program,
N= number, M= mean, p = significance <0.05

Table 4. Independent t-Test Comparing Residency and Non-Residency NPs on importance of preparation factors using Hart's Preparedness to Practice Survey.

Variable	Residency	N	Mean	t	p
Importance of Preparation Factors					
Importance of preparation for Simple Office Procedures	1	12	5.17	3.012	.005
	2	85	4.36		
Importance of preparation for Suturing	1	12	5.25	4.542	.000
	2	85	4.07		
Importance of preparation for XRAY Interpretation	1	12	5.33	2.719	.011
	2	85	4.66		

NP = nurse practitioner, 1= entered in residency program, 2= not entered into residency program,
N= number, M= mean, p = significance <0.05

Table 5. Independent t-Test Comparing Residency and Non-Residency NPs on job satisfaction factors using the modified Misener Nurse Practitioner Job Satisfaction Scale.

Variable	Education	N	Mean	t	p
Job Satisfaction Factors					
Percentage of time spent in direct patient care	1	12	5.00	.592	.555
	2	85	4.81		
Patient Mix	1	12	5.33	1.236	.220
	2	85	5.01		
Sense of accomplishment	1	12	5.25	1.143	.256
	2	85	4.94		
Expanding skill level/ procedures within scope of practice	1	12	5.33	1.574	.119
	2	85	4.81		
Ability to deliver quality care	1	12	5.25	1.271	.207
	2	85	4.89		
Opportunities to expand scope of practice and time to seek advanced education	1	12	4.92	1.159	.249
	2	85	4.45		
Level of autonomy	1	12	5.08	.300	.765
	2	85	4.98		
Sense of value	1	12	5.08	.585	.565
	2	85	4.88		
Challenge in work	1	12	5.25	.821	.827
	2	85	5.19		
Flexibility in practice protocols	1	12	5.00	.699	.486
	2	85	4.76		

NP = nurse practitioner, 1= entered in residency program, 2= not entered into residency program,
N= number, M= mean, p = significance <0.05

Table 6. Independent t-Test comparing Masters NP graduates and Doctoral NP graduates on confidence factors using the Hart Preparedness to Practice Survey.

Variable	Education	N	Mean	t	p
Confidence Factors					
How Prepared to Enter Practice at completion of NP program?	1	88	3.33	-4.01	6.89
	2	9	3.44		
Health Teaching	1	88	4.19	.289	.773
	2	9	4.11		
Motivational Interviewing	1	88	3.42	.978	.331
	2	9	3.00		
Coding and Billing	1	88	1.89	-.007	.995
	2	9	1.89		
Cultural Backgrounds	1	88	4.01	-.802	.425
	2	9	4.33		
Caring for Non- English Speaking Patients	1	88	3.17	.606	.546
	2	9	2.89		
Collaboration and Referral	1	88	3.53	-1.634	.106
	2	9	4.11		
Evidence Based Practice	1	88	4.10	-9.383	.000
	2	9	5.00		
Health Assessment	1	88	4.19	-4.870	.000
	2	9	4.89		
Pathophysiology	1	88	3.95	-.161	.872
	2	9	4.00		
Pharmacotherapy	1	88	3.63	-.121	.904
	2	9	3.67		
Differential Diagnosis	1	88	3.72	-.565	.574
	2	9	3.89		
Management of Acute Concerns	1	88	3.66	-1.091	.278
	2	9	4.00		
Management of Chronic Concerns	1	88	3.63	-1.299	.197
	2	9	4.00		
Management of Emergent Concerns	1	88	3.27	-.489	.626
	2	9	3.44		
Management of Mental Health Concerns	1	88	2.77	-2.045	.044
	2	9	3.44		
Management of Complex Health Concerns	1	88	3.06	-.783	.436
	2	9	3.33		
Simple Office procedures	1	88	1.68	-2.090	.039
	2	9	2.44		
Suturing	1	88	1.64	-2.065	.042
	2	9	2.33		
XRAY Interpretation	1	88	1.63	-2.507	.014
	2	9	2.44		
EKG Interpretation	1	88	2.25	-1.952	.054
	2	9	3.00		
Lab Interpretation	1	88	2.99	-.975	.332
	2	9	3.33		

NP = nurse practitioner, 1= entered in residency program, 2= not entered into residency program,
N= number, M= mean, p = significance <0.05

Table 7. Independent t-Test comparing Masters NP graduates and Doctoral NP graduates on preparedness and support factors using Hart Preparedness for Practice Survey.

Variable	Education	N	Mean	t	p
Preparedness and Support Factors					
I was prepared for entry level NP practice	1	88	3.28	-.702	.485
	2	9	3.56		
I was provided adequate clinical support	1	88	3.19	-2.631	.010
	2	9	4.33		
I was provided adequate support for transition to practice.	1	88	3.01	-2.998	.003
	2	9	4.22		
I had adequate resources to care for my patients.	1	88	3.52	-2.941	.004
	2	9	4.44		
I was prepared for the type and complexity of patients.	1	88	3.52	-1.492	.139
	2	9	4.44		
I had access to consultations w/ providers for treatment decisions	1	88	3.01	-1.452	.150
	2	9	3.56		
I was confident that I was prepared for practice	1	88	3.91	-1.765	.081
	2	9	4.44		
I was satisfied with support from supervisor and team members.	1	88	2.67	-1.686	.095
	2	9	3.33		
I was satisfied with leadership support in organization.	1	88	3.48	-1.233	.221
	2	9	4.22		

NP = nurse practitioner, 1= entered in residency program, 2= not entered into residency program,N= number, M= mean, p = significance <0.05

Table 8. Independent t-Test comparing Masters NP graduates and Doctoral NP graduates on importance of preparation factors using Hart Preparedness for Practice Survey.

Variable	Education	N	Mean	t	p
Importance of Preparation Factors					
Importance of preparation for Simple Office Procedures	1	88	4.36	-4.526	.000
	2	9	5.44		
Importance of preparation for Suturing	1	88	4.10	-4.975	.000
	2	9	5.33		
Importance of preparation for XRAY Interpretation	1	88	4.72	-.864	.403
	2	9	5.00		

NP = nurse practitioner, 1= entered in residency program, 2= not entered into residency program,
N= number, M= mean, p = significance <0.05

Table 9. Independent t-Test comparing Masters NP graduates and Doctoral NP graduates on importance of job satisfaction using modified Misener Nurse Practitioner Job Satisfaction Scale.

Variable	Education	N	Mean	t	p
Job Satisfaction Factors					
Percentage of time spent in direct patient care	1	88	4.80	-1.189	.237
	2	9	5.22		
Patient Mix	1	88	5.06	.191	.849
	2	9	5.00		
Sense of accomplishment	1	88	4.94	-1.274	.206
	2	9	5.33		
Expanding skill level/ procedures within scope of practice	1	88	4.83	-1.335	.185
	2	9	5.33		
Ability to deliver quality care	1	88	4.90	-1.373	.173
	2	9	5.33		
Opportunities to expand scope of practice and time to seek advanced education	1	88	4.44	-2.705	.014
	2	9	5.11		
Level of autonomy	1	88	5.02	.884	.379
	2	9	4.67		
Sense of value	1	88	4.89	-.577	.565
	2	9	5.11		
Challenge in work	1	88	5.19	-.091	.928
	2	9	5.22		
Flexibility in practice protocols	1	88	4.80	.046	.963
	2	9	4.78		

NP = nurse practitioner, 1= graduated from masters NP program 2= graduated from doctoral NP program,N= number, M= mean, p = significance <0.05

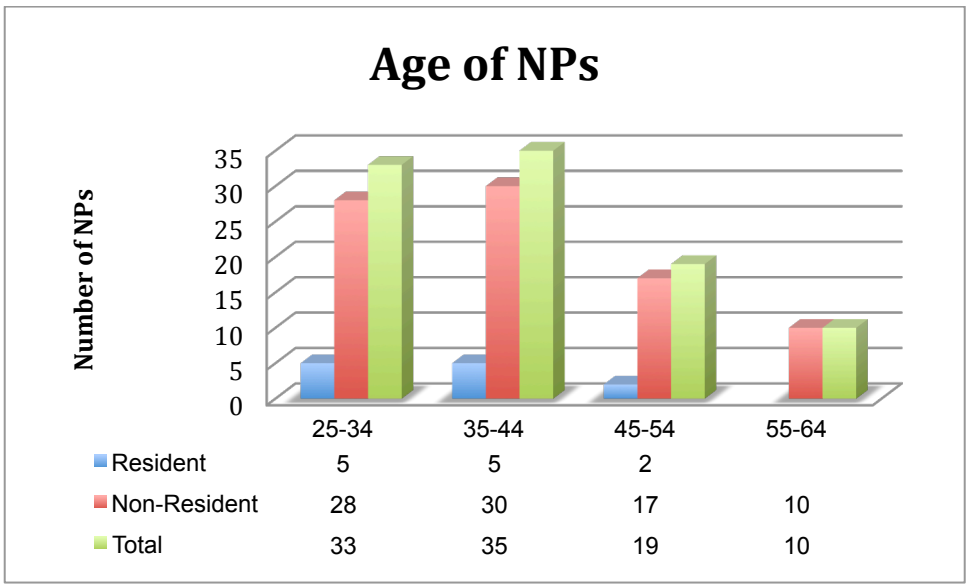

Figure 1. *Age between residency and non-residency groups*

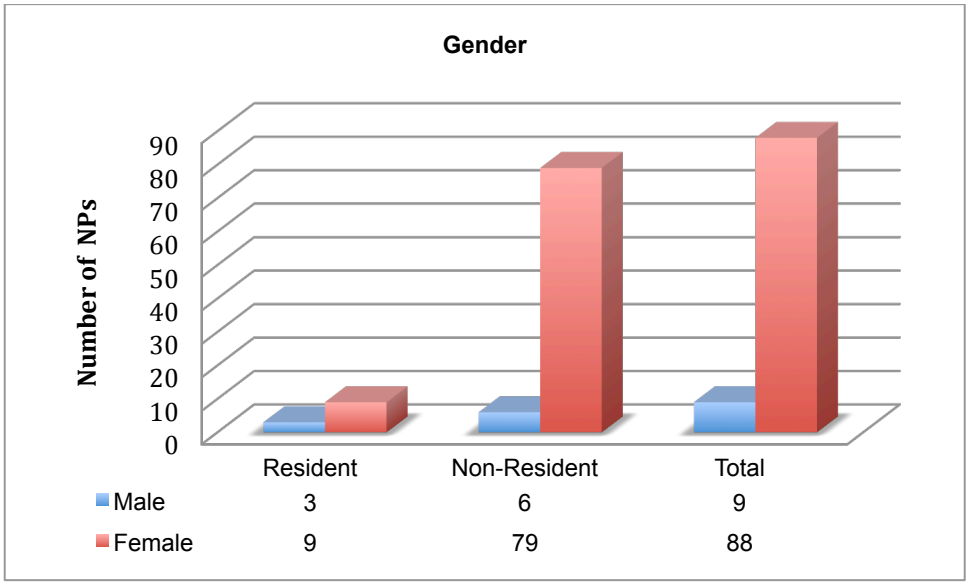

Figure 2. *Gender between residency and non-residency participants in numbers.*

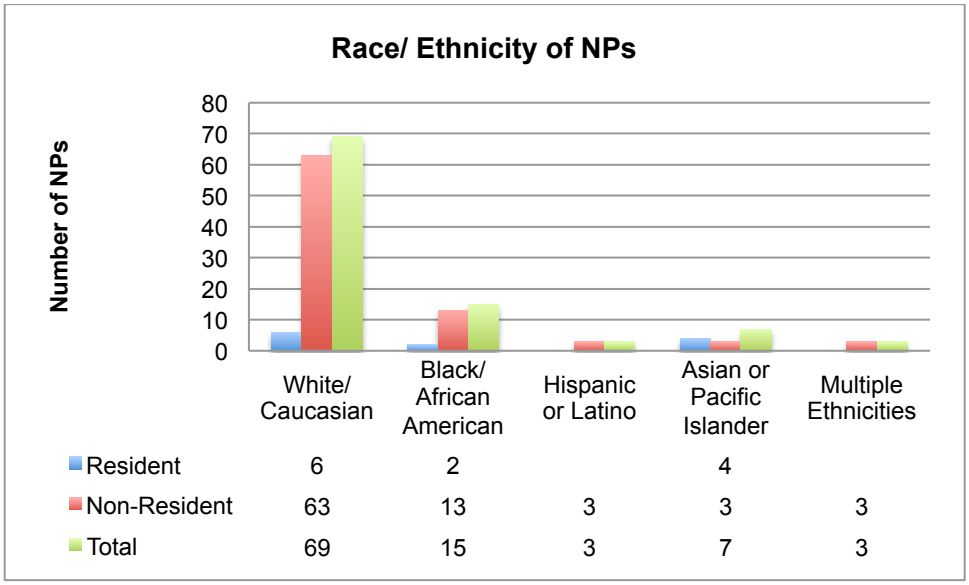

Figure 3. *Race between resident and non-resident participants.*

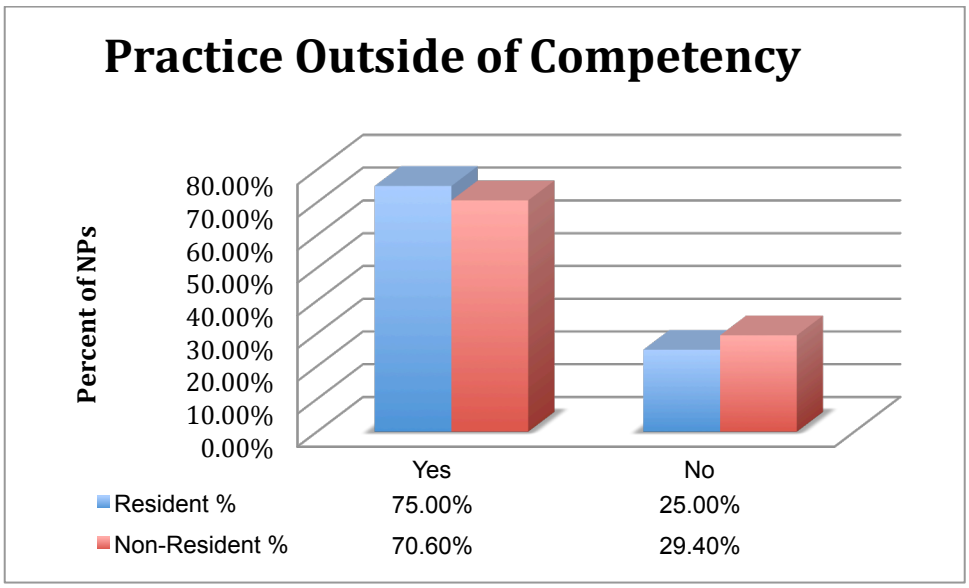

Figure 4. *Percentage of NPs who report practicing outside of their competency level in their first year of practice.*