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Self-Reported Professional Competencies of RN-to-BSN Students

Nicole Thompson

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Abstract

Groundbreaking research by Aiken et al. (2003) and subsequent researchers has determined increased educational preparation and Bachelor of Science in Nursing (BSN) degree obtainment of Registered Nurses (RNs) to be associated with improved patient safety and outcomes. Other organizations, such as the World Health Organization (WHO), have demonstrated professional competency to be an important indicator of quality nursing care. The purpose of this study was to evaluate self-reported professional competency of RN-to-BSN students at the point of graduation in order to investigate the added value of baccalaureate degree obtainment to the actual nursing practice of RN-to-BSN program graduates. The Nurse Professional Competency (NPC) Scale uses 88 individual questions to quantitatively evaluate 8 competency areas and 2 themes of quality nursing practice. This scale in addition to 6 demographic questions was administered to 29 RN-to-BSN students at 2 locations in the southwestern region of Michigan, United States. The response rate of those surveyed was 100%. A Cronbach's alpha of 0.977 was achieved. The students evaluated reported "relatively high" and "very high" degrees of competence for all competency areas and themes evaluated. The students reported slightly higher scores for Theme 1 (patient-related nursing) than Theme 2 (organization and development of nursing care). Evaluation of competency areas provides insight in nursing practice and RN-to-BSN program development. Recommendations for further research include the use of the NPC Scale at other points of RN-to-BSN education and as a follow-up tool after graduation.

Keywords: nurse professional competency, NPC scale, nursing education, RN-to-BSN, ADN, BSN, added value

Self-Reported Professional Competencies of RN-to-BSN Students

This study was conducted as an undergraduate thesis project and requirement for graduation from an honors program at an undergraduate university in southwestern Michigan, United States. A student researcher completed this research project under the guidance of a thesis committee composed of expert nursing faculty. The topic of this project is: self-reported professional competence of RN-to-BSN students. Literature review on the background and importance of BSN education, development of RN-to-BSN programs, and a review of existing nursing program evaluation methods will be provided. Information on the development and use of the NPC Scale will be included. Purpose and methods of the survey conducted will be disclosed. The components of sample, instrument, data collection, statistical measures, and ethical considerations will be discussed. Both demographic and NPC Scale data will be displayed, and a discussion and evaluation of the data will follow. Lowest and highest ranked competency areas and themes, the range of responses gathered, lowest and highest ranked individual questions, and displays of dichotomy will be discussed. Additional points of data collection, data comparison to other samples, increased sample size, the collection of additional demographic information, clarification of question wording and translation, and increased focus on the patient outcomes and safety measures of patients cared for by RN-to-BSN students can be recommended. The findings of this study serve as a starting point for increased RN-to-BSN program evaluation in southwestern Michigan.

Literature Review

Importance of BSN Education

In 2003, Aiken et al performed the first empirical study linking BSN preparation to increased patient outcomes. The researchers used cross-sectional analyses to evaluate patient

outcome data for 232,342 general, orthopedic, and vascular surgery patients. Data were collected at 168 nonfederal adult general Pennsylvania hospitals from April 1998 to November 1999. Patient mortality rates within 30 days of admission and failure to rescue data were compared to the educational background of nursing staff. The researchers adjusted for variables such as patient characteristics, hospital structure, staffing algorithms, years of experience, and provider characteristics. Aiken et al. (2003) found a 10% increase in the proportion of nurses holding a bachelor's degree at a hospital was associated with a 5% decrease in patient mortality within 30 days of admission and the odds of failure to rescue. Subsequent studies performed by Aiken and colleagues with larger sample sizes and different hospital environments demonstrated similar results (Aiken et al., 2011).

Haskins & Pierson (2016) completed a systematic review evaluating the effect of baccalaureate nursing preparation on patient mortality and failure-to-rescue rates in all adult patients. The researchers included randomized controlled trials, controlled trials, quasi-experimental, prospective and retrospective cohort studies, before and after studies, and case control studies in this systematic review. The researchers used CINAHL, MEDLINE, medical subject headings (MeSH), and reference lists of reports to search for articles. All articles found were written in English and published between 1965 and June 2014. Nine research studies were included in their review. Meta-analysis using the OpenMeta-Analyst program showed statistical significance between baccalaureate nursing preparation and patient mortality and failure-to-rescue rates. Patients who received care from a nurse with a BSN degree were found to have 5% lower odds of 30-day mortality and 6% lower odds of failure-to-rescue (Haskins & Pierson, 2016).

Yakusheva, Lindrooth, & Weiss (2014) conducted a retrospective observational patient-level analysis of electronic data to compare 8,526 adult medical-surgical patient outcomes to the educational background of 1,477 direct care nurses. The researchers collected data from an Eastern United States academic medical center from June 2011 to December 2011. Patient outcomes evaluated included: hospital mortality, all-cause same-facility 30-day readmission, length of stay, and total hospitalization cost. The researchers concluded patients who received greater than or equal to 80% of their nursing care from BSN-prepared direct care nurses had lower mortality rates, lower odds of all-case same-facility 30-day readmission, and shorter lengths of stay. The association between baccalaureate nursing preparation and inpatient costs was not significant. The researchers concluded increasing a patient's amount of baccalaureate-prepared nursing care to greater than or equal to 80% could benefit patient outcomes in these areas (Yakusheva et al, 2014).

Development of RN-to-BSN Programs

Due to the evidence linking baccalaureate education to improved patient outcomes, national efforts have been made to encourage BSN preparation. In 2011, the Institute of Medicine (IOM) in collaboration with the Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing published a report entitled "The Future of Nursing: Leading Change, Advancing Health". The report was supported by a contract between the IOM, the National Academy of Sciences, and the Robert Wood Johnson Foundation. In this report, IOM representatives advocated for increased education and baccalaureate preparation for nurses. IOM representatives cited increased patient complexity, increased use of nurses for patient care coordination, increased chronic illness incidence and management needs, increased and changing technology use in healthcare, and increased diversity of healthcare settings as contributing

factors to the increased baccalaureate education is needed for nurses. IOM representatives also acknowledged increased ability of BSN nurses to achieve advance practice registered nurse (APRN) degrees. IOM representatives set a national goal to increase the percentage of the current nursing workforce holding a BSN degree from 50% to 80% by year 2020. IOM representatives referred to this goal as bold but achievable and necessary for improving patient outcomes and care quality (IOM, 2011).

The American Nursing Association (ANA), home of the American Nurse Credentialing Center (ANCC), one of the world's largest and most prestigious nurse credentialing organization, publicly stated support of this IOM report on their website, following release of the report (ANA, 2017). The ANCC's Magnet Recognition Program, a program designed to distinguish hospitals providing high-quality nursing care to patients, is also encouraging increased education for nurses and creating a driving force to increase the quantity of baccalaureate prepared nurses. In order for a hospital to be recognized as a quality hospital by the Magnet Recognition Program, all nursing leaders in the hospital are required to hold BSN degrees. The recognition program also requires hospitals to establish objectives for increasing education in their nurses. In setting these objectives, hospitals often choose to increase their amount of baccalaureate prepared nurses. Thus, in setting hospital requirements for the Magnet Recognition program, ANCC and ANA are supporting increased baccalaureate preparation (ANCC, 2017).

BSN completion programs provide an effective way to increase the quantity of BSN prepared nurses in the United States (Hall et al, 2012). BSN completion programs, also called RN-to-BSN programs, allow fully licensed, associates prepared, registered nurses to return to school to achieve BSN degrees. RN-to-BSN programs range in length, but are often one or two years long. RN-to-BSN programs may be completed online or in-person and often provide some

flexibility for nurses working in the field while returning to school (Taylor, Lillis, & Lynn, 2015). Due to the increased demand for BSN prepared nurses and the increased availability of RN-to-BSN programs, enrollment in RN-to-BSN programs continue to increase. Currently, 77-86% of associates prepared nurses plan to continue their education and achieve BSN degrees (Hewitt, 2016).

Perceived Benefits of Enrollment. Although a majority of associates prepared nurses plan to return to school to achieve BSN degrees (Hewitt, 2016), perceived benefits of enrollment differ. There are many reasons why a nurse may seek baccalaureate education. The desire for increased clinical knowledge may be an effective motivator for BSN enrollment (Sarver, Cichra, & Kline, 2015). Nurses may desire increased employment opportunities, as many employers now require or prefer baccalaureate education when hiring nurses (Hewitt, 2016). Employer tuition reimbursement plans and BSN completion programs with a shorter length of enrollment before degree achievement are also seen as desirable reasons to return to school (Sarver, Cichra, & Kline, 2015). Nurses seeking employment in leadership, public health, or gerontology are often required to complete BSN education, and BSN education is a prerequisite for advanced practice nurse degrees (Hall, Causey, Johnson, & Hayes, 2012).

Perceived Barriers to Enrollment. Despite these motivators, some perceived barriers to BSN enrollment remain (Allar, 2014). The time commitment required for program completion may deter students, and students may be discouraged by the expense of classes and school supplies (Sarver, Cichra, & Kline, 2015). Nurses may simply prefer to work and earn income instead of returning to school (Hall et al, 2012). A lack of support from co-workers or other ADN nurses may also factor in to the decision (Hewitt, 2016). Differences in age and gender are found when comparing the ADN and BSN student populations. Males comprise 16% of all

ADN programs and 13% of all BSN programs. Females comprise 84% of all ADN programs and 87% of all BSN programs. Students above the age of 30 comprise 50% of all ADN programs and 16% of all BSN programs (NLN, 2014). Additionally, the percentage of black or African American, Hispanic, and other minority populations enrolled in ADN or BSN programs is less than that of the general United States population (NLN, 2014). For example, in 2014, 17.4% of the total United States population was identified as being Hispanic, but only 8.1% of the population of ADN or BSN students was identified as being Hispanic (BLS, 2015). These demographic differences may indicate other barriers to BSN enrollment (NLN, 2014), (BLS, 2015).

Existing Nursing Program Evaluation Methods

As one considers the evidence supporting increased baccalaureate education for nurses and sees the rise in RN-to-BSN enrollment, it becomes imperative to consider how RN-to-BSN programs are being evaluated in today's world. Are RN-to-BSN programs effectively adding value to the nursing practice of RN-to-BSN program graduates? To what extent are nurses' practice affected by RN-to-BSN baccalaureate education?

A crucial part of this literature review was the exploration of existing tools in use for nursing program evaluation. Existing nursing program evaluation tools were discovered via a thorough investigation of nursing literature. The Cumulative Index of Nursing and Allied Health Literature (CINAHL) research database, Elsevier's ClinicalKey database, Wolters Kluwer's Ovid database, and the National Library of Medicine's PubMed database were reviewed for relevant sources. In conducting this research, few nursing program evaluation tools were found.

There is limited discussion in the existing nursing literature on program evaluation methods for RN-to-BSN programs. The majority of existing evaluation methods discovered are

noted to be still in development, and most program evaluations have included only 20 students or less in the evaluation processes (Rodriguez et al, 2013). The evaluation techniques that were found included standard program evaluation, quantitative evaluation, and qualitative evaluation methods. A summary of the existing literature regarding program evaluation techniques for RN-to-BSN programs will be included here.

Existing Standard Program Evaluation. In 2013, researchers Rodriguez, McNiesh, Goyal, & Apen used the methods of applied research studies to perform a standard program evaluation at an RN-to-BSN program in San Jose, California. The researchers tracked the progress of 17 students throughout the entirety of their RN-to-BSN program, seeking to answer the question, “Were the goal and objectives of the program met?” Standard student demographics were evaluated, including class attrition rate. Curriculum and course syllabi were also reviewed and compared to the American Association of Colleges of Nursing’s Essentials for Baccalaureate Nursing Practice (Rodriguez et al, 2013).

Other standard evaluation measures that have been used to evaluate RN-to-BSN programs include benchmark testing and student satisfaction surveys. Some programs rely on standardized testing to evaluate the educational growth of RN-to-BSN students. Competency exams, such as Writing Skills Tests or Math exams, can be used. Other programs may use National Council Licensure Examination (NCLEX) scores or pass rates to evaluate competency; however, this method may not be effective for RN-to-BSN students who have often already passed the NCLEX and are already working as registered nurses (Hewitt, 2016). Student satisfaction, measured using anonymous, criterion-referenced university evaluation tools, may also be used to measure student satisfaction and teaching effectiveness (Rodriguez et al, 2013).

An example of this type of evaluation method is the Instructor and Course Evaluation System (ICES) used at Western Michigan University (CITL, 2017).

Critique of Standard Program Evaluation Methods. Standard program evaluation methods are useful in providing basic information on the characteristics and qualities of nursing education programs. However, many researchers evaluating nursing education programs desire more details (Rodriguez et al, 2013).

Existing Qualitative Evaluation. In 2009, researchers Osterman, Asselin, & Cullen used qualitative interviewing techniques to evaluate 11 RNs within one year of graduating from a baccalaureate nursing education program. The interviews were conducted in the northeastern region of the United States. The researchers sought to evaluate the following questions: (1) What meaning does the RN find in the pursuit of a baccalaureate in nursing?, (2) To what extent does the pursuit of a baccalaureate in nursing influence one's perception of being a professional nurse?, and (3) To what extent does the pursuit of a baccalaureate in nursing influence one's nursing practice?. The interviews were conducted, audiotaped, and transcribed by a researcher not employed by either the local hospital or nursing school. Flexible interviewing techniques were used and several themes were identified. Strengths and weaknesses of the graduating nurses were compared (Osterman, Asselin, & Cullen, 2009).

In 2013, researchers Rodriguez, McNiesh, Goyal, & Apen asked approximately 17 students to write a paper discussing how a RN-to-BSN program in San Jose, California did or did not prepare them to meet the Baccalaureate Essentials and Quality and Safety Education in Nursing (QSEN) Competencies. Students were instructed to use first person tense and include stories or examples in their papers to illustrate their perceptions of the program. The researchers used direct quotes from the students' papers to illustrate how the RN-to-BSN program did or did

not support the QSEN competencies, providing a qualitative program review (Rodriguez et al, 2013).

In a following study, researchers McNiesh, Rodriguez, Goyal, & Apen (2015) used a series of five small group interviews to evaluate 14 students' perceptions of an RN-to-BSN program in San Jose, California. Interviews were held in small groups of 2-5 students to encourage dialogue. The interviews were conducted at multiple times, including the first and final semesters of the RN-to-BSN program. The interviews were audiotaped and transcribed, and the researchers listened and analyzed the interviews together. Common themes were identified and phenomenological qualitative methods were used to interpret the results (McNiesh et al, 2015).

In 2015, researcher Perfetto used a qualitative metasynthesis research technique to analyze quotes from 324 RN-to-BSN program graduates across the United States. Perfetto sought to answer the question, "What is the experience of registered nurses who return to school to earn a baccalaureate degree in nursing?" The researcher used the ProQuest database to uncover quotes from 13 pre-existing qualitative studies, including 5 unpublished doctoral dissertations and 8 published nursing research studies. The researcher used the process of reciprocal translation to evaluate the qualitative data, and several overarching themes were found (Perfetto, 2015).

Critique of Existing Qualitative Evaluation Methods. Qualitative research methods can be very helpful for nursing researchers, including those performing nursing education program evaluation. Qualitative methods allow full evaluation of issues and provide flexibility in data collection. Qualitative researchers may adjust and redirect research in real time, as qualitative interviews can be easily adjusted as needed (Polit & Beck, 2014). Additionally, data collected

through qualitative research is based on human experience and offers a holistic perspective of nursing topics, qualities which may be missed by other evaluation methods (Anderson, 2010).

Despite these benefits, limitations to qualitative research methods are also present. Qualitative research quality is heavily dependent on the skills of the researcher and more easily influenced by personal bias than quantitative research. Rigor is difficult to maintain, assess, and demonstrate. The qualitative research process is time consuming, and qualitative research data collection requires a researcher's presence, which can affect subject response. Issues of anonymity and confidentiality are present. When evaluating research for its usefulness in guiding evidenced-based nursing practice, many researchers deem qualitative researcher to have a relatively low level of evidence hierarchy. Other methods, including quantitative research methods, are generally considered to be more beneficial for guiding evidenced-based process changes (Polit & Beck, 2014).

Existing Quantitative Evaluation. Researchers Kubsch, Hansen, & Huyser-Eatwell (2008) used the quantitative Professional Values Survey to evaluate 590 registered nurses employed at a hospital in the Midwestern region of the United States and 130 nurses enrolled in an RN-to-BSN program. The Professional Values Survey was developed in 2000 and contains 50 Likert-type questions. Higher survey scores indicate strong professional values. The Professional Values Survey has a Cronbach coefficient alpha of 0.946 and has been used by other researchers, including Rodriguez, McNiesh, Goyal, & Apen (2013). Kubsch et al. used the Professional Values Scale to compare nurses' perception of professional values to their level of nursing education. The researchers distributed nurses in the following groups: ADN, RN-to-BSN graduated, RN-to-BSN in progress, diploma nurses, typical BSN, and Masters of Science in

Nursing (MSN). Data were analyzed using descriptive and inferential statistics (Kubsch et al, 2008).

In 2012, researcher Altmann used the quantitative Attitudes Toward BSN Education (ATBSNE) scale to evaluate 535 nurses throughout the United States in California, New Jersey, and Pennsylvania. The researcher sought to answer the questions: (1) What are the attitudes of ADN and diploma nurses towards continuing formal education?, (2) Do attitudes change over time as determined by years of nursing practice?, (3) How do the attitudes of those who return to school for a BSN or higher differ from those who have not returned or from those planning to return, and (4) Do attitudes differ according to geographical location?. The surveys were delivered via the postal service, and states with diverse nursing education programs were chosen. The ATBSNE scale was developed in 1990. The scale measures both affective and cognitive aspects of attitudes towards baccalaureate education and uses a seven-point semantic differential scale to measure bipolar objectives. The ATBSNE scale has a Cronbach's alpha coefficient of 0.94. The scale is useful for evaluating the attitudes of nurses towards continuing formal education (Altmann, 2012).

In 2012, researchers Riley, Smyer & York used the quantitative Inventory for Assessing the Process of Cultural Competency Among Healthcare Professionals-Revised (IAPCC-R) scale to evaluate 53 students at the start of an RN-to-BSN program in the United States. The questionnaire was administered online. Results were anonymous. The IAPCC-R scale uses 25 Likert-type questions to evaluate the themes of cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desires. The IAPCC-R was developed in 2002 and has a Cronbach's alpha range of 0.72 to 0.90. The researchers used the results to evaluate the level of cultural competence of the RN-to-BSN students (Riley, Smyer, & York, 2012).

In 2014, researcher Fisher used the quantitative Nurses Professional Values Scale-Revised (NPVS-R) to evaluate 351 beginning and senior-level nursing students in the northeastern United States. Participants from ADN, diploma, and BSN programs were evaluated using a convenience sample. The NPVS-R uses 26 Likert-type questions to evaluate students' perceptions of five key professional nursing values: care, trust, professionalism, activism, and justice. The NPVS-R has a Cronbach's alpha reliability coefficient of 0.92. Fisher used the results of the NPVS-R to compare which educational program had the highest overall professional value scores and how the scores of each individual professional value differed between the educational programs (Fisher, 2014).

The Nurse Professional Competence (NPC) Scale is another preexisting quantitative evaluation method used to assess the quality of nursing preparation. The scale was developed by Swedish nursing researchers and uses 88 Likert-style questions to evaluate nurses' perceptions of their professional competence. Professional competency has been determined to be an indicator of increased patient outcomes and decreased patient morbidity and mortality by the World Health Organization (WHO), and thus professional competency can be a valuable evaluation method for nursing researchers. All questions on the NPC Scale have Cronbach Alphas of greater than 0.75 (Nilsson et al, 2014). Scale developers have determined the NPC scale to be helpful in evaluating both nursing students and practicing nurses. The NPC Scale has been used to evaluate four populations thus far: nursing students at the point of graduation (Gardulf et al, 2016), nursing students and RNs performing disaster nursing and violence management (Nilsson et al, 2016), nursing students completing international study experiences (Nilsson et al, 2016), and emergency care nursing students at the point of graduation (Castren et al, 2017).

Critique of Existing Quantitative Evaluation Methods. It is recommended the credibility, validity, bias, and corroboration of quantitative research be evaluated. Precision of results, magnitude of effects and importance, the meaning of results, generalizability of results, and implications of results are useful to consider. It is also important to use relevant research when considering process change. Sources published within the past five years are generally considered to be relevant when performing nursing research and identifying areas for process change. Sources published more than five years are generally considered to be outdated (Polit & Beck, 2014).

In evaluating the existing quantitative methods of nursing program evaluation, much can be found. The Professional Values Survey, used and developed by researchers Kubsch, Hansen, & Huyser-Eatwell, was shown to have adequate internal consistency using Cronbach's Alpha and adequate content validity using a panel of nursing experts. However, as the Professional Values Survey was developed in 2008 (Kubsch et al, 2008), it was determined to be outdated for this purpose of this research. Similarly, the ATBSNE scale developed in 1990 (Altmann, 2012), the IAPCC-R developed in 2002 (Riley et al, 2012), and NPVS-R developed in 2009 (Fisher, 2014) were considered to have adequate internal consistency and content validity but were considered to be outdated for the purpose of this research.

Nursing Professional Competence (NPC) Scale. Created in 2014, the NPC Scale is easily deemed the most relevant existing quantitative nursing program evaluation method found in conducting this literature review. Data show the NPC Scale to have adequate internal consistency and content validity. Other tests support the reliability and validity of the NPC Scale (Nilsson et al, 2014).

NPC Scale Development. In 2014, researchers Nilsson et al used WHO nursing guidelines and the concurrent Swedish National Board for Health and Welfare nursing guidelines to determine three main areas of professional competence, essential to holistic and ethical nursing practice: (1) nursing theory and practice, (2) research, development, education, and supervision, and (3) leadership. The educational background of nurses in Sweden consists of three years of post-secondary education. Swedish nurses graduate with a Degree of Bachelor of Science in Nursing and are licensed to practice under the Swedish National Board of Health and Welfare. No formal evaluation tool is required by Swedish Registered Nurses. The researchers sought to build a psychometric evaluation tool to test the self-reported professional competencies of nursing students and working registered nurses in these three competency areas, in order to improve the understanding of nurses' self-reported professional competencies in Sweden and beyond (Nilsson et al, 2014).

The development of the NPC Scale occurred in two steps: (1) construction of the questionnaire and (2) evaluation of the scale's psychometric properties. Construction of the questionnaire was performed by six nursing professors and lecturers. The professionals rephrased the nursing professional competence requirements of the Swedish Board of Health and Welfare from statements into questions. For example, the researchers transformed the statement "a nurse should be able to follow up on patients' status after investigations and treatments" into the question "do you perceive you have the ability to follow up on patients' status after investigations and treatments?" (Nilsson et al, 2014, p. 577). Questions were then compiled into a questionnaire in which survey participants would be asked to rank their level of agreement or disagreement to the stated questions in a Likert-style fashion. Responses ranged from a scale of

one (to a very low degree) to four (to a very high degree). A score of zero (unsure) was also defined (Nilsson et al, 2014).

The developed questions were then tested for psychometric properties, including: face validity, data quality, construct validity, reliability, and known-group validity. For face validity, nursing students were asked to evaluate the questionnaire in terms of understanding. Data quality was determined by comparing questionnaire scores of many participants. The internal attrition rate was found to range between 0 and 1.2% and the mean item score was found to range between 2.4 and 3.9%. Internal consistency was evaluated using Cronbach's alpha values. The researchers determined scores of greater than or equal to 0.7 to be sufficient. The researchers found all questions of the NPC scale to have adequate internal consistency using Cronbach's alpha values. Exploratory factor analyses were also performed, and eight factors were found. A second-order principle component analysis was performed, and two second-order factors were found. Known-group validity was evaluated by comparing survey participant scores. At the end of the questionnaire development process, the NPC Scale was determined to pass all psychometric properties tested (Nilsson et al, 2014).

NPC Scale Qualities. According to the nursing researchers, the NPC Scale was designed to test self-reported professional competencies of nursing students and the self-reported professional competencies of practicing nurses over time. The NPC Scale consists of 88 Likert-style questions. The NPC Scale tests for eight factors with two overarching themes. Factors tested include: (1) nursing care, (2) value-based nursing care, (3) medical technical care, (4) teaching/learning and support, (5) documentation and information technology, (6) legislation in nursing and safety planning, (7) leadership in and development of nursing, and (8) education and

supervision of staff/students (Nilsson et al, 2014). Overarching themes include: (1) patient-related nursing and (2) nursing care organization and development.

The NPC Scale developers consider nursing care (1) to include: patient health enhancement, performance of the nursing process (assessment, diagnosis, intervention, planning, implementation, and evaluation), the ability to meet the patient's basic and specific physical needs, psychological and social needs, cultural and spiritual needs, the ability to change the patient's physical status and complete adequate documentation, the ability to change the patient's psychological status and complete documentation, and the ability to recognize and alleviate the patient's experiences and suffering (Nilsson et al, 2014).

The NPC Scale developers consider value-based nursing care (2) to include: respectful communication with patients and families, respectful communication with staff, respect for patient autonomy and dignity, the ability to enhance patients' and relative's knowledge and experience, the ability to show respect for different values and beliefs, the ability to act on patients' and relatives' wishes and needs, the ability to use research ethics, and the ability to contribute to a holistic view of the patient (Nilsson et al, 2014).

The NPC Scale developers consider medical technical care (3) to include: pharmacology management, examination and treatment performance, prescription administration, the ability to ask questions, the ability to support patients during examinations and treatments, the ability to follow up after examination and treatments, safe and legal medical equipment handling, application of hygienic routines, prevention of care complications, and microorganism transmission prevention (Nilsson et al, 2014).

The NPC Scale developers consider teaching, learning, and support (4) to include: supporting enhanced patient and family participation in care, educating individual patients and

relatives and groups of patients and relatives, the ability to ensure patient understanding, the ability to detect information needs, patient motivation and increased adherence, the ability to identify and prevent health risk factors, the ability to motivate changes in lifestyle, the ability to identify and assess patients' self-care ability, and the ability to educate and support patients and relatives individually and in groups (Nilsson et al, 2014).

The NPC Scale developers consider documentation and information technology (5) to include: the ability to use relevant data in patient records, the ability to ensure the quality of one's documentation, the ability to use information technology to support one's nursing care, and the ability to document in accordance to legal standards (Nilsson et al, 2014).

The NPC Scale developers consider legislation in nursing and safety planning (6) to include: legislation compliance, personal data protection, patient rights advocating, the ability to contact authorities regarding patients' rights, compliance with safety routines, the ability to report unprofessional co-worker conduct, the ability to manage violent and/or threatening situations, the ability to react to fires and other devastating events, and the ability to apply the principles of disaster medicine (Nilsson et al, 2014).

The NPC Scale developers consider leadership and development of nursing (7) to include: quality assurance, the ability to provide friendliness, the ability to provide an appropriate care environment, the ability to provide an aesthetically pleasing environment, the ability to improve work environments, the ability to observe and prevent work-related risks, the ability to critically review current routines and methods, the ability to inspire dialogue and change, the ability to review and implement new nursing evidence, the ability to improve care, the ability to initiate and participate in research, the ability to independently analyze one's professional strengths and weakness, continuous professional development, lead and develop

health staff teams, evaluate health teams' actions, conflict management, motivating and giving feed-back to teams, encourage others to improve patient care, provide quality and fiscally responsible care, enhance research and development, lead and provide nursing care based on best knowledge, participate in strategic planning and evaluation, interact with other professionals in care pathways, and enhance communication of information to obtain continuity, effectiveness, and quality (Nilsson et al, 2014).

The NPC Scale developers consider education and supervision of students (8) to include: participation in supervision of staff and students in development activities to improve care, teaching and supervising students and staff, development of health-care teams, and the ability to enable multi-professional education activities to optimize patient care (Nilsson et al, 2014).

The NPC Scale developers consider the 8 factors listed to be components of two overarching themes: (1) patient-related nursing care and (2) organizational development. Theme 1 was determined to include the following factors: nursing care (Factor 1), value-based nursing care (Factor 2), medical technical care (Factor 3), teaching/learning support (Factor 4), documentation and information technology (Factor 5), and legislation in nursing and safety planning (Factor 6). Theme 2 was determined to include the following factors: legislation in nursing and safety planning (Factor 6), leadership and development in nursing (Factor 7), and education and supervision of staff/students (Factor 8). Note, Factor 6, legislation in nursing and safety planning, was determined to contribute to both themes (Nilsson et al, 2014).

Translation into English. To summarize, the NPC scale was translated into English in 2015 using 8 steps. The NPC scale was translated from Swedish to English by a professional translator. The translated scale was then reviewed by an expert English panel. Corrections were made, and a second English version was produced. The scale was then translated from English

to Swedish by a bilingual translator. This Swedish version of the scale was reviewed, discrepancies were corrected, and a third version of the English scale was ultimately produced. A professional English language editor reviewed the scale, and no corrections were made. Next, an expert panel of language editors amended the English version of the NPC scale, and a fourth version of the English scale was produced. Pre-testing and cognitive interviews were conducted with two native English-speaking professionals, a senior lecturer in the United Kingdom and a native English-speaker working in Sweden as an RN. The expert panel of language editors reviewed the pre-testing and cognitive interviews. Few revisions were made. Following, a fifth and final English version of the NPC scale was produced (Nilsson, Gardulf, & Lepp, 2015).

NPC Scale Limitations. Researchers Nilsson et al (2014) report several possible limitations to the use of the NPC Scale. The researchers report research participants may engage in socially desirable responding, meaning research participants could report high levels of confidence in order to appear in a favorable (Polit & Beck, 2014). Additionally, the researchers warn research participants could report inflated competence if they have not yet been confronted with the responsibilities of independently practicing as a nurse (Nilsson et al, 2014).

Purpose

The purpose of this study was to evaluate nursing competency of RN-to-BSN students at the main campus and one satellite location of one undergraduate university in southwestern Michigan, United States. As measured by the NPC scale, the students' perceived competencies in the following areas were evaluated: (1) nursing care, (2) value-based nursing care, (3) medical and technical care, (4) teaching/learning and support, (5) documentation and information technology, (6) legislation in nursing and safety planning, (7) leadership in and development of nursing care, and (8) education/supervision of staff and students (Nilsson et al, 2014). Further

benefits of the study were found to include: the identification of the students' perceived benefits of baccalaureate nursing education, the formation of a baseline with which to compare to further RN-to-BSN studies at the university, and contribution to the development of an international nursing research scale. Research findings were shared with RN-to-BSN program leadership and course developers.

Methods

Sample

The study used a one point quantitative design. Students at two geographical locations were evaluated. All RN-to-BSN students evaluated were at the point of graduation from the RN-to-BSN program. Out of a total 37 enrolled students, 29 students were present at the times of data collection and thus able to participate in the study.

Instrument

The English version of the NPC Scale was obtained by contacting the NPC Scale development group, named the NPC Research Group (The NPC Research Group). A spokesperson for the NPC Research Group was contacted via e-mail, Dr. Jan Nilsson. An application to use the NPC scale was submitted and approved with obligation to return portions of the data collected to the NPC Research group, including: the date of data collection, country of data collection, age and gender of research participants, semester in nursing education of the research participants, any completed nursing specialist education of the research participants, numbers of years of professional experience of a registered nurse, and number of years of any professional experience as a nurse specialist of the research participants.

Data Collection

Data collection occurred at two locations in the southwestern region of Michigan, United States. Students at two regional locations for the same university were evaluated. The student researcher visited RN-to-BSN student classrooms at both locations. The student researcher formally invited the RN-to-BSN students to take part in the research study. The students were provided with a brief overview of the purpose of the research study and were given instructions on how to participate. The students were given the opportunity to ask questions and were given a consent form with the contact information of the researchers for any subsequent questions or concerns. The student researcher spoke to the classes independently from other members of the research committee, including the primary researcher, as the primary researcher is the school's director. Thus, the primary researcher's presence could have been interpreted as coercion. The student researcher also asked the lecture faculty to leave the room while the students were completing and returning the surveys. Following the invitation to participate in the study, packets with consent forms, paper copies of the survey, and a return envelope were handed out to each student attending class that day. A small gift, a retractable badge, was included in each packet. The value of the gift did not exceed two dollars. Students willing to participate then answered the questions from the established survey and the requested demographics. Those that chose not to fill out the survey had the opportunity to return the partial or fully blank paper to the envelopes provided. Students were asked to not look at each other's papers. Surveys in their envelopes were collected by the student researcher. The researchers did not know who chose to participate, and there was no specific order to the returned envelopes with surveys. The student researcher then thanked the students and let the lecture faculty know to come back into the classroom. The data collection process took approximately 30 minutes at both locations.

Statistical Measures

Descriptive statistics were used to describe the sample and responses. Statistical methods included frequency and percentage distributions, measures of central tendency, measures of dispersion, and correlations between descriptive factors and both competencies and themes as defined by the NPC Scale. Two software programs were used to evaluate the collected data and perform statistical analysis: Microsoft Excel and the International Business Machines Corporation (IBM) Statistical Package for the Social Sciences (SPSS) 24.

Ethical Considerations

This study received approval from and abided by the rules of a Human Subjects in Research Board (HSIRB). Informed consent was implied. Participant confidentiality was maintained.

Data

Six demographic questions and the 88 question NPC scale were administered to 29 students. There was a response rate of 100%. Results varied slightly based on location, and collected data will be summarized here.

Demographic Questions

Six demographic questions were asked as required by the NPC Research Group, creators of the NPC Scale. Data on gender, age, and work experience were collected. Other demographic questions were asked, including nursing specialty and years worked in a nursing specialty. A section for comments was also included. A summary of the findings will be included here.

Gender. Out of the 29 students surveyed at both locations, 25 of the students identified as female and 4 of the students identified as male. Thus, for both locations, 86% of the students

surveyed identified as female, and 14% of the students surveyed identified as male. At location one, 10 females and 3 males were identified. At location two, 15 females and 1 male were identified. None of the students identified their gender as other or provided any additional comments related to the topic of gender. Results are summarized in Appendix A.

The gender demographics in this survey are comparable to national United States gender data for all nurses. In the United States nursing is a predominately female-dominated field, with approximately 87% of the total nursing workforce identifying as female and 13% of the total nursing workforce identifying as male (NLN, 2014). Thus, this survey was comparable to national standards.

Age. Out of the 29 students surveyed at both locations, the average age was 32.4 years old with a standard deviation of 8.9. Some outliers were identified. 4 nursing students reported an age greater than 42, increasing the overall average reported age of the students. The average reported age for location one was 31.2 with a standard deviation of 8.6. The average reported age for location two was 33.3 with a standard deviation of 9.2. The overall maximum reported age was 57, and the overall minimum reported age was 22. Results are summarized in Appendix B.

Years Worked as a Registered Nurse. For both locations, the average number of years of experience working as a Registered Nurse was reported as 5.6 years. The standard deviation was 5.4. The majority of students surveyed reported 5 years of experience or less. One outlying student reported 26 years of work experience as a Registered Nurse. For location 1, the average reported years of experience as a Registered Nurse was 3.8 with a standard deviation of 3.9. For location 2, the average reported years of experience as a Registered Nurse was 7.1 with a

standard deviation of 6.7. The overall minimum amount of experience reported was 1 year.

Results are summarized in Appendix C.

Other Demographic Questions. Other demographic questions answered by the survey participants included: “Do you have any additional certifications or specialty training? If yes, please describe” and “How many years have you worked in your nursing specialty”. These demographic questions were specifically required by the developers of the NPC Scale. Overwhelmingly, the responses of the survey participants yielded no useful information. The majority of the survey participants left these questions blank. Several of the survey participants listed cardiopulmonary resuscitation (CPR) training as their only certification or specialty training. Of course, CPR training is required for all working as a Registered Nurse in the United States (Taylor et al, 2015). Although some of the survey participants reported years of experience working in a nursing specialty, few provided a description of the actual specialty, patient population, or positional responsibilities of their work. A section for additional comments was also included on the demographic forms. Aside from a few smiley faces and “good luck” remarks, no additional information was gained from the additional comments section.

Nurse Professional Competency Scale

The 88 question NPC scale was administered. Participants responded to each question in a Likert-style way. Answers ranged from 0 to 4. Data collected were used to determine self-reported professional competency of the nursing students studied. Data collected were divided by professional competency area and theme. SPSS was used to measure reliability of the NPC Scale data collected. The Cronbach’s alpha for the collected data was determined to be 0.977. Data will be discussed and a brief summary will be included.

Competency Areas. Data were used to determine self-reported professional competency with regards to 8 determined competency areas. Higher scores indicate increased confidence and professional competency. Lower scores indicate decreased confidence and professional competency. Results are summarized here and in Appendices D and E.

Competency Area 1: Nursing Care. For both locations, the average score for all questions in Competency Area 1 was 3.3911 or approximately 3.4. For location 1 the average score was 3.4875 or approximately 3.5. For location 2, the average score was 3.3128 or approximately 3.3.

Competency Area 2: Value-Based Nursing Care. For both locations, the average score for all questions in Competency Area 2 was 3.4655 or approximately 3.5. For location 1 the average score was 3.375 or 3.4. For location 2, the average score was 3.539 or approximately 3.5.

Competency Area 3: Medical and Technical Care. For both locations, the average score for all questions in Competency Area 3 was 3.6311 or approximately 3.6. For location 1, the average score 3 was 3.6154 or approximately 3.6. For location 2, the average score was 3.6438 or approximately 3.6.

Competency Area 4: Teaching/Learning and Support. For both locations, the average score for all questions in Competency Area 4 was 3.3761 or approximately 3.4. For location 1, the average score was 3.2657 or approximately 3.3. For location 2, the average score 3.4659 or approximately 3.5.

Competency Area 5: Documentation and Information Technology. For both locations, the average score for all questions in Competency Area 5 was 3.5172 or approximately 3.5. For

location 1 the average score for all questions was 3.3846 or approximately 3.4. For location 2, the average score was 3.625 or approximately 3.6.

Competency Area 6: Legislation in Nursing and Safety Planning. For both locations, the average score for all questions in Competency Area 6 was 3.4636 or approximately 3.5. For location 1, the average score 3.4017 or approximately 3.4. For location 2, the average score for all questions was 3.5139 or approximately 3.5.

Competency Area 7: Leadership in and Development of Nursing Care. For both locations, the average score for all questions in Competency Area 7 was 3.3515 or approximately 3.4. For location 1, the average score was 3.1805 or 3.2. For location 2, the average score was 3.4904 approximately 3.5.

Competency Area 8: Education/Supervision of Staff and Students. For both locations, the average score for all questions in Competency Area 8 was 3.1965 approximately 3.1. For location 1, the average score was 3.0461 or approximately 3.0. For location 2, the average score 8 was 3.1375 approximately 3.1.

Themes. Data were used to determine self-reported professional competency with regards to 2 overarching themes. With regards to each theme, higher scores indicate increased confidence and professional competency. Lower scores indicate decreased confidence and professional competency. Results are summarized here and in Appendices F and G.

Theme 1: Patient Related Nursing. According to the NPC Research Group, competency in Theme 1 can be determined by evaluating competency areas 1-6. The average score for competency areas 1-6 was summed and divided by 6, in order to find the average score for theme 1. For both areas, the average score for all questions in Theme 1 was 3.4742 or approximately

3.5. For location 1, the average score was 3.4217 or approximately 3.4, and for location 2, the average score was 3.5168 or approximately 3.5.

Theme 2: Nursing Care Organization and Development. According to the NPC Research Group, competency in Theme 2 can be determined by evaluating competency areas 6-8. The average score for competency areas 6-8 was summed and divided by 3, in order to find the average score for theme 2. For both locations, the average score for all questions in Theme 2 was 3.3370 or approximately 3.3. For location 1, the average score was 3.2094 or approximately 3.2, and for location 2, the average score was 3.4406 or approximately 3.4.

Summary of Nurse Professional Competency Scale Results. Overall, the students surveyed reported greatest self-reported professional competency in Competency Area 3 (medical technical care), followed by Competency Area 5 (documentation and information technology), Competency Area 2 (value-based nursing care), Competency Area 6 (legislation in nursing and safety planning), Competency Area 1 (nursing care), Competency Area 4 (teaching/learning and support), and Competency Area 7 (leadership and development on nursing care). Competency area 8 (education/supervision of staff and students) received the lowest ratings by the students surveyed. Additionally, the students surveyed reported higher average self-reported professional competency scores for questions related to Theme 1 (patient related nursing) than Theme 2 (nursing care organization and development).

Discussion and Evaluation

Interpretation of the NPC survey results requires careful evaluation of many factors. Initial conclusions can be drawn by looking at the students' response averages in each of the defined Competency Areas and Themes. An evaluation of the highest and lowest ranked Competency Areas and Themes provides insight. Additionally, attention will be given to the

overall range of response averages. Evaluating individual questions in the NPC survey is also beneficial. The lowest and highest ranked individual questions will be discussed. Additionally, dichotomous questions will be identified and investigated. In order to gain a global perspective, the students' responses will also be compared to the responses of international nursing students.

Highest Ranked Competency Areas and Theme

As the results show, the highest ranked Competency Areas determined by the students' responses were: (1) Competency Area 3 (medical technical care), (2) Competency Area 5 (documentation and information technology), and (3) Competency Area 2 (value-based nursing care). Additionally, these three competency areas were determined to exclusively support Theme 1 (patient related nursing) by the NPC research group. The high rankings in these competency areas and theme indicate increased confidence of the survey participants in these areas.

In evaluating the characteristics of the highest-ranked competency areas, many similarities were seen. One characteristic of all high-ranking competency areas is these areas highlight skill and competency in working with patients in person and at the bedside. For example, Competency Area 3, the highest ranked competency area, requires survey participants to identify their skill in performing physical head-to-toe assessments and follow-up physical assessments with patients. This competency area also inquires about survey participants' abilities to handle medical equipment and medications safely. This competency area also evaluates the ability to reduce hospital-associated infections.

One must remember the demographics and characteristics of the sample of nursing students being studied. Only RN-to-BSN students were evaluated in this study, and all survey participants had a history of employment working as an RN. Although it was unclear by the

demographics asked whether or not the RN-to-BSN students were employed working directly with patients, it can be assumed, based on national nursing data, the majority of the nurses worked with patients directly at some point in their careers (Taylor et al, 2015). The employment history of survey participants might have influenced the high-levels of self-reported confidence in this competency area. Because the nurses surveyed had experience working with patients, most likely performing physical assessments, managing medications, and preventing hospital-associated complications, familiarity and practice with these components of healthcare delivery likely contributed to higher self-reported skills of competence.

Additionally, the skills evaluated in Competency Area 3 are likely to be taught and emphasized in nursing education and on-the-job training. Many of the skills identified in Competency Area 3 are very similar to recent The Joint Commission (TJC) quality improvement goals. In 2017, TJC identified the Hospital National Patient Safety Goals of: using medicines safely, preventing infection, using alarms safely, etc. (TJC, 2017).

Similarly, Competency Area 5 examines the ability to use information technology to effectively support patient care. The ability to document effectively is another skill stressed in today's healthcare environment (Taylor et al, 2015) and a skill with which the nurses surveyed likely have experience. Competency Area 3, the ability to communicate effectively, ethically and to incorporate holism in patient care similarly highlights a direct working relationship with patients, components of effective nursing care with which those surveyed likely had experience. Trends in healthcare education also support these nursing competencies. The ability to communicate effectively is another TJC 2017 goal (TJC, 2017).

Lowest Ranked Competency Areas and Theme

Similarly, insight can be gained by evaluating the lowest-ranked competency areas and theme identified. The lowest ranked competency areas included: (8) Competency Area 8 (education/supervision of staff and students), (7) Competency Area 7 (leadership and development of nursing care), and (6) Competency Area 4 (teaching/learning support). Theme 2 (nursing care organization and development) also ranked lower than Theme 1 (patient related nursing).

Although all of the RN-to-BSN students surveyed had at least one year of experience employed as an RN, the skills identified in competency areas 8, 7, and 4 are less likely to be encountered by ADN nurses. ADN nurses are less likely than BSN nurses to hold formal leadership positions in healthcare organizations. ADN nurse preparation in formal leadership is rare (Hewitt, 2016). Additionally, ADN nurses receive less education on the use and incorporation of nursing research and evidence in nursing practice and are less likely to initiate new nursing research projects (IOM, 2011). Similarly, Theme 2 encompasses skills more likely to be used away from patient care areas.

Competency Area 4 includes the nursing skills of involving patient families in healthcare, motivating health behavior change, and the ability to identify and prevent health risk factors. The low rankings in this Competency Area are possibly related to the cultural norms, health beliefs, and values in our society and are not necessarily related to the educational background of the nurses surveyed. Sociologists and community nursing researchers have identified several cultural themes in our society, including an emphasis on individuality and personal choice. The healthcare system of the United States has been increasingly criticized for failure to provide effective preventative care, others highlight an overemphasis on acute illness care and disease

management (Maurer & Smith, 2013). It is possible the survey participants felt less comfortable performing nursing care related to Competency Area 4, including involving families in healthcare and providing teaching to promote health behavior change, due to the disease-focused, individualistic approach of our culture. Other contributing factors of the survey participants low ranking of these competency areas remain unknown.

Range of Responses

Although possible to rank each competency area and theme, the overall variability of the survey responses gathered was quite low. Survey participants were asked to rank all NPC Scale questions in a Likert-style fashion on a scale of 0-4; however, the average responses and overall range of the data collected varied only slightly from category to category. The average scores for each individual question asked had a range of approximately 2.8 to 4.9, the average score per competency area ranged from approximately 3.2 to 3.6, and the average scores per theme were 3.3 to 3.5. As noted, a Likert score of 3 indicated “to a relatively high degree”, and a Likert score of 4 indicated “to a very high degree” (Nilsson et al, 2014). As the overall self-reported competence of the nursing students is evaluated, it is seen the nursing students have at minimum a “relatively high degree” of confidence in all areas of nursing care.

Highest Ranked Individual Questions

Evaluating the data on an individual question basis provides even more information about the confidence, competence, and skill of the studied nursing students. Several individual questions had relatively high scores, some reaching close to a perfect score of 4. The majority of the highest-ranked individual questions are included in the highest ranked competency areas and theme but not all. Looking at all questions on the 88-item NPC scale, the highest ranking individual questions will be discussed here.

The highest ranked individual question asked was: “Do you think you have the ability to...” “Handle sensitive information correctly and carefully?”. This question was question 50 on the NPC scale and belonged to Competency Area 6 (legislation in nursing and safety planning). This question received an average score of 3.8966 or approximately 3.9. For location 1, the average score was 3.8462 or 3.8. For location 2, the average score was 3.9375 or approximately 3.9.

In a tie for second, another highly ranked individual question asked was: “Do you think you have the ability to...” “Cater for the patient’s needs regarding basic, physical nursing care?”. This question was question 6 on the NPC scale and belonged to Competency Area 1 (nursing care). This question received an average score of 3.8621 or approximately 3.9. For location 1, the average score was 3.7692 or approximately 3.8. For location 2, the average score was 3.9375 or approximately 3.9.

The other second highest ranked individual question asked was: “Do you think you have the ability to...” “Prevent infections and spreading of infections?”. This question was question 33 on the NPC scale and belonged to Competency Area 3 (medical technical care). This question also received an average score of 3.8621 or approximately 3.9. For location 1, the average score was 3.8462 or approximately 3.8. For location 2, the average score was 3.9375 or approximately 3.9.

All three highest ranking questions were determined to be components of Theme 1 (patient related nursing). The highest ranking question, question 50, as a question in Competency Area 6, was considered to be a component of both Theme 1 and Theme 2 (nursing care organization and development). Although unknown, there may be many contributing factors as to why these individual questions received the highest scores by the survey

participants. Familiarity with direct care nursing may be a contributing factor. Increased regional and national focus on patient safety, including infection prevention and patient confidentiality, may also contribute.

Lowest Ranked Individual Questions

Other individual questions received comparably lower scores. Individual questions representing both themes received comparably lower scores. All individual questions received a score greater than 2 or “to a relatively low degree”. Some individual questions received an average score lower than 3 or “to a relatively high degree.

The lowest ranked individual question asked was: “Do you think you have the ability to...” “Initiate and participate in research work?”. This question was question 69 on the NPC scale and belonged to Competency Area 7 (leadership and development of nursing care). This question received an average score of 2.8276 or approximately 2.8. For location 1, the average score was 2.5385 or approximately 2.5. For location 2, the average score was 3.0625 or approximately 3.0.

The second to lowest ranked individual question asked was: “Do you think you have the ability to...” “Independently apply the following stage in the nursing process: nursing prescription?”. This question was question 4 on the NPC scale and belonged to Competency Area 1 (nursing care). This question received an average score of 2.8280 or approximately 2.8. For location 1, the average score was 2.9231 or approximately 2.9. For location 2, the average score was 2.7500 or approximately 2.8.

The third to lowest ranked individual question asked was: “Do you think you have the ability to...” “Cater for the patient’s needs regarding cultural and spiritual nursing care?”. This question was question 9 on the NPC scale and belonged to Competency Area 9 (nursing care).

This question received an average score of 2.9310 or approximately 2.9. For location 1, the average score was 2.9231 or approximately 2.9. For location 2, the average score was 2.9375 or approximately 2.9.

The lowest ranked individual question, a question in Competency Area 6, was considered to be a component of both Theme 1 (patient related nursing) and Theme 2 (nursing care organization and development). Individual questions from both themes were among the lowest ranked individual questions. Although unknown, there may be several contributing factors as to why these individual questions received low scores by the survey participants.

One contributing factor may be the presence of complicated wording present in the survey questions. For example, question 4 uses the wording of “nursing prescription” to describe a component of the nursing process. In the United States, the nursing process is generally considered to consist of 4 components: assessment, diagnosis, intervention, and evaluation (Doenges, Moorhouse, & Murr, 2013). Translation of the nursing process from Swedish to English may not have considered nursing process terminology common in the United States.

Terminology may also have affected individual questions. For example, individual question 69 asks survey participants to rank their ability to “initiate” and “participate” in “research work”. Perceptions may have varied based on how the survey participants interpreted this question. Some students may have perceived the terms “initiate” and “participate” to imply the formation of a formal research group and the development of a research study. Although certainly part of the scope of nursing practice in the United States, students may or may not have felt comfortable with initiating or participating in research work in this context. Other survey participants may have perceived the question to indicate the ability to initiate a discussion about the need for research or evidence with regards to a particular practice or other healthcare topic.

Students may also have perceived this question to indicate the ability to practice research consumption, an important step in the development of evidenced-based practice (Polit & Beck, 2014). The term “research work” may have also caused confusion.

In examining question 9, another contributing factor may be identified. Cultural values and the focus of our national healthcare system may contribute to nursing students’ perceptions of cultural and spiritually focused care. The survey participants may feel unequipped to allow cultural and spiritual preferences to affect patient care.

Dichotomy Between Locations

Overall, locations 1 and 2 reported similar scores for each individual question, competency area, and theme evaluated. Although similar in most areas, some discrepancies were seen. The most dichotomous individual question, competency area, and theme will be discussed.

The most dichotomous question asked was: “Do you think you have the ability to...” “Reflect critically in existing routines and methods?” This question was question 64 on the NPC scale and belonged to Competency Area 7 (leadership and development of nursing care). For location 1, the average score was 3.0769 or approximately 3.1. For location 2, the average score was 3.6875 or approximately 3.7. Thus, the most dichotomous question varied between locations by approximately 0.6.

The most dichotomous competency area was Competency Area 8 (education/supervision of staff and students). For location 1, all questions in Competency Area 8 had an average score of 3.0461 or approximately 3.0. For location 2, all questions in Competency Area 8 had an average score of 3.3175 or approximately 3.3. Thus, the most dichotomous competency area varied between locations by approximately 0.3.

The most dichotomous theme was Theme 2 (nursing care organization and development). For location 1, the average score of all questions in Theme 2 was 3.2094 or approximately 3.2. For location 2, the average score of all questions in Theme 2 was 3.337 or approximately 3.3. Thus, the most dichotomous theme varied between locations by approximately 0.1.

Location 2 reported higher levels of confidence for almost all individual questions asked, and slightly higher scores were seen overall. Higher scores were seen for location 2 in all most all competency areas. Location 2 produced higher scores than location 1 for 7 out of 8 competency areas. Causes of discrepancy are unknown, and there may be many contributing factors. Students at location 2 reported an average of 7.1 years of experience working as a RN. Nursing students at location 1 reported an average of 3.8 years of experience. Years of experience working as an RN may be a contributing factor.

Limitations and Recommendations

Much was learned about Western Michigan University's RN-to-BSN program as a result of this study. Possible limitations include: only collecting data at one point in time, a lack of comparison of those surveyed to other samples, small sample size of those surveyed, a lack of clear demographic information, and unclear wording of questions. Evaluating such limitations provides opportunity for research improvement (Polit & Beck, 2014). Further recommendations for evaluation of RN-to-BSN program effectiveness will also be included.

Point of Data Collection

Data was collected at only one point of time for this study, as only RN-to-BSN students at the point of graduation were evaluated. RN-to-BSN students at the point of graduation self-reported their professional competency, providing quantitative data, forming an excellent baseline understanding of the RN-to-BSN graduates. However, as data were only collected at

one point in the RN-to-BSN program, it is not possible to determine how the students' professional competency changed over time. The ultimate goal of RN-to-BSN programs is to add value to the nursing practice of RNs. Patient care and patient outcomes are hoped to be improved by increasing baccalaureate preparation of nurses (IOM, 2011). Without an evaluation of the students' professional competency before RN-to-BSN program completion, it is impossible to determine whether or not completion of the RN-to-BSN program added value to the students' nursing practice or improved professional competency. The biggest recommendation for further research is to evaluate RN-to-BSN students' self-reported professional competency using the NPC scale at multiple times throughout program completion. Comparing the data collected in this study to data collected from RN-to-BSN students before program beginning or completion would be particularly helpful.

Another recommendation is to survey RN-to-BSN students after program completion, at a time after the students are able to use their newfound nursing skills in the field. As RN-to-BSN students begin to use skills gained from baccalaureate nursing education in the work environment, RN-to-BSN students may feel increased confidence in their baccalaureate nursing skills. An evaluation of RN-to-BSN students several months after RN-to-BSN program completion would provide information on how professional competence is affected as new skills are put into place and begun to be used over time.

Comparison to Other Samples

Another limitation of this study and recommendation for further research is increased comparison to other samples. This study evaluated RN-to-BSN students at the point of graduation. Valuable data were collected. However, it would also be helpful to collect data using the NPC scale from students competing traditional BSN programs. Data could be used to

compare how RN-to-BSN program preparation and traditional BSN preparation affects the professional competency of program graduates. It is unclear which group has a higher level of self-reported professional competency. It is also unclear if program type has an effect on professional competency per theme or competency area. A comparison of self-reported professional based on program type could be useful in driving program change. The RN-to-BSN group could also be compared to an ADN sample using NPC scale data.

Sample Size

In total, 29 RN-to-BSN students at the point of graduation were evaluated as a part of this study, with a response rate of 100%. Collecting data from an increased number of RN-to-BSN students would add evidence and provide a clearer picture of competency. It may be possible to survey an increased number of RN-to-BSN students at the point of graduation by administering the NPC scale to students in subsequent years. Thus, increasing the size of those sampled is another recommendation for further research.

Demographic Information

Limited demographic information was collected during this study. Although information on gender, age, and years worked as an RN was collected, information on educational background, type of facility or population served, additional education or certifications held was not collected. Improved demographic questions could provide researchers with increased information in future studies.

When collecting demographic information from the nursing students, it was assumed all nursing students in the RN-to-BSN program had an educational background of an ADN. It was assumed none of the students surveyed would have completed a diploma nursing program, as diploma nursing programs have become rare in the United States (Taylor et al, 2015). However,

when the ages of the RN-to-BSN students were evaluated, it was discovered the oldest student surveyed was 57. It is possible, even likely, one or more of the students surveyed completed a diploma nursing program. Clarification of educational background would provide increased information to future researchers.

During this study, an attempt was made to inquire about nursing specialty. The demographic questions asked were meant to inquire about the type of population served, facility worked, or nursing care provided. The intent was to investigate the relevant nursing experiences of those surveyed. Information on type of population served would be useful in evaluating data. Possible categories could include pediatric, psychiatric, surgical, or critical care populations. Information on type of facility worked would also be useful in evaluating data. Possible type of facilities could include acute care or subacute care facilities, hospital types, home healthcare organizations, or even nurse staffing agencies. Details on type of nursing care provided would also be helpful in investigating the experiences of those surveyed. Possible categories could include direct care nursing, nursing management, triage nursing, or case management.

Asking about additional educational experiences may also be useful information in future research. It may be helpful to add a demographic question inquiring about additional educational experiences, such as trainings or conferences attended. An option to list certifications may also be added.

Question Wording

Another possible limitation to the research conducted is the wording of the questions asked on the NPC scale. As noted, the NPC scale was carefully translated from Swedish to English by the NPC scale developers. However, the students surveyed in this study did express confusion with some of the individual questions asked. For example, one question on the NPC

scale used the term “prescription” to describe part of the nursing process, and the students surveyed were unfamiliar with this term. It may be helpful to reevaluate or reword some of the questions asked in future studies. International students or study abroad participants may be helpful in future development and translation work of the scale.

Patient Outcomes

As discussed, the ultimate goal of RN-to-BSN programs is to improve patient safety and outcomes (IOM, 2011). Aiken et al pioneered investigations of patient outcomes related to nurse educational achievement in 2003. An evaluation of patient outcomes of those cared for by RN-to-BSN program graduates in comparison to traditional BSN graduates and ADN graduates has not yet been performed. Conducting such a study would provide further evidence in the case of increased educational preparation of RNs. Such a study is a strong recommendation for future research.

Conclusion

The purpose of this study was achieved. A literature review was conducted. The NPC Scale was evaluated, discussed, and obtained. The purpose and methods of the survey conducted were communicated. Collected data was presented, discussed, and evaluated. Limitations of the study and recommendations for further research were presented.

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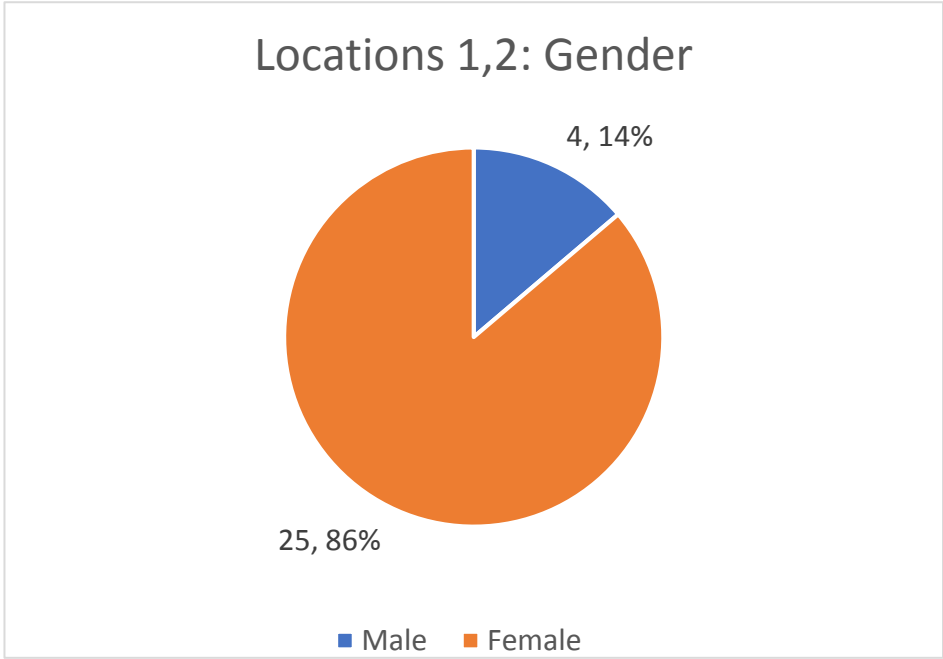
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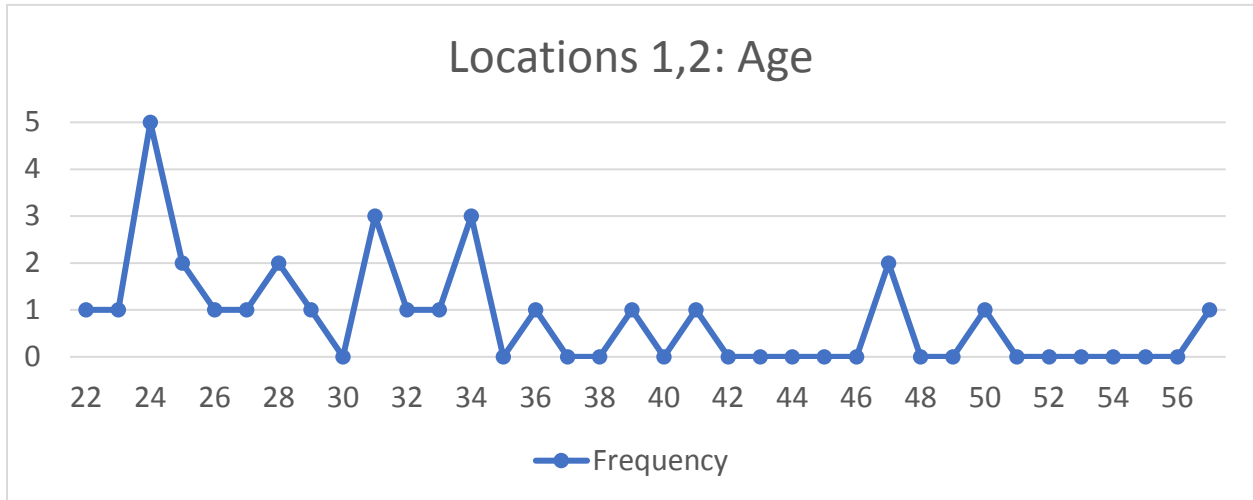
Appendix A

Demographic Information: Gender



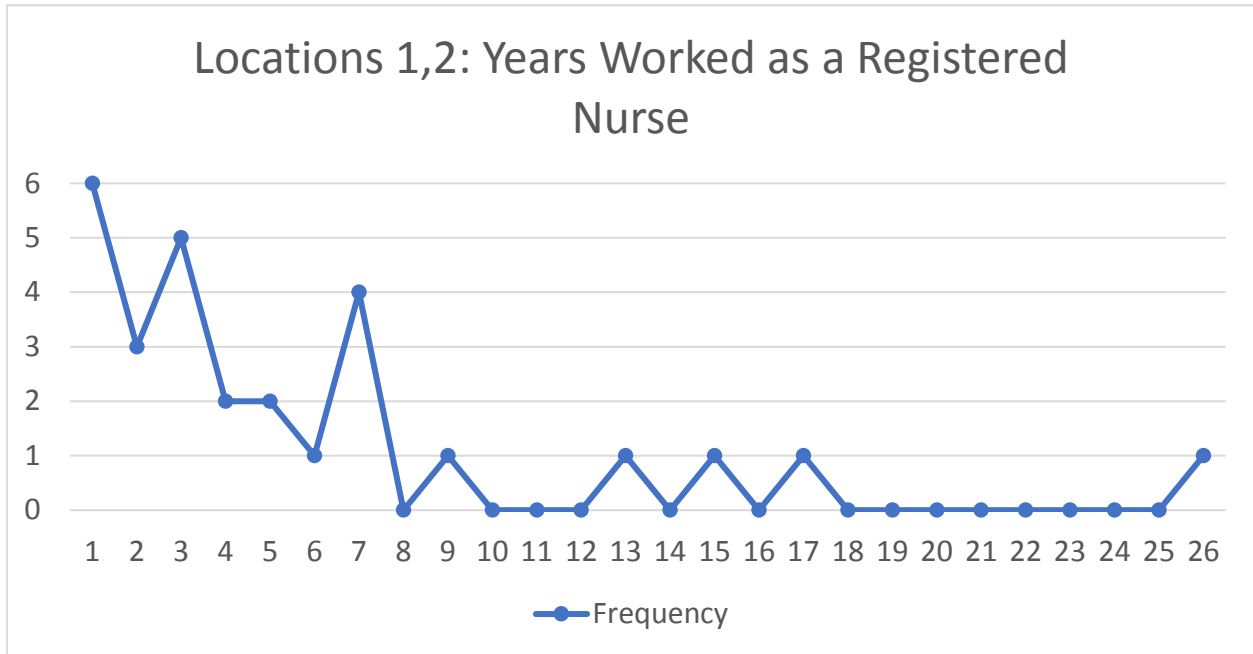
Appendix B

Demographic Information: Age



Appendix C

Demographic Information: Years Worked as a Registered Nurse



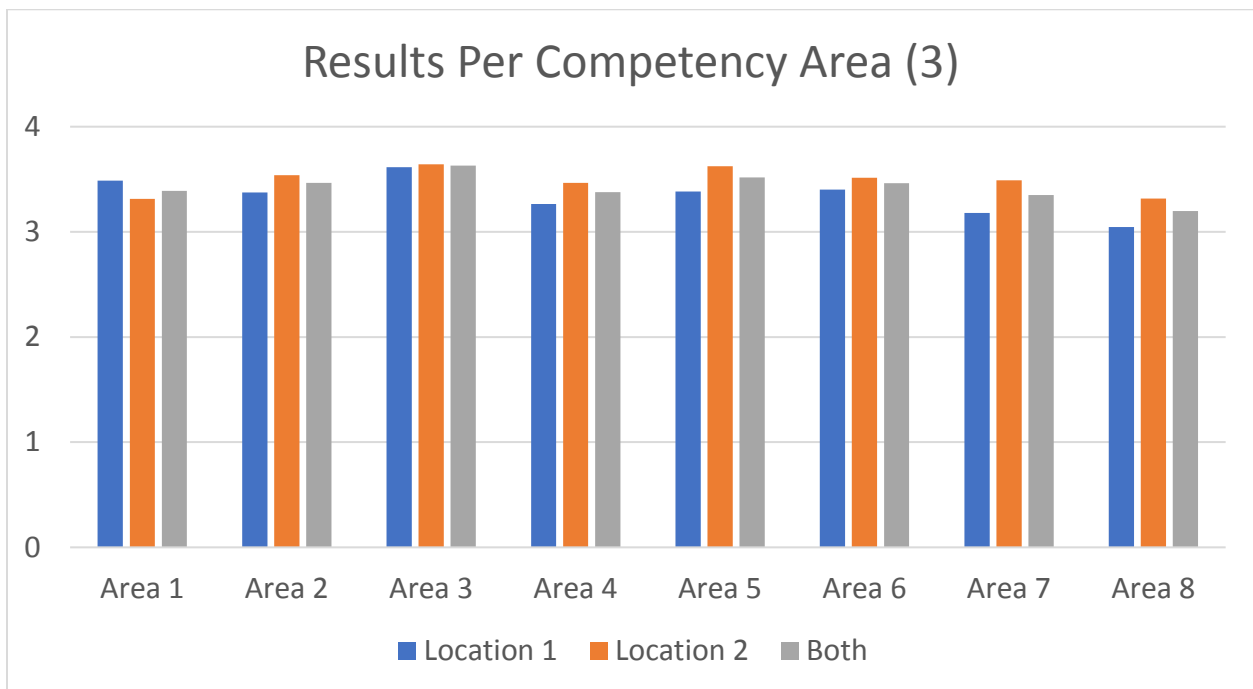
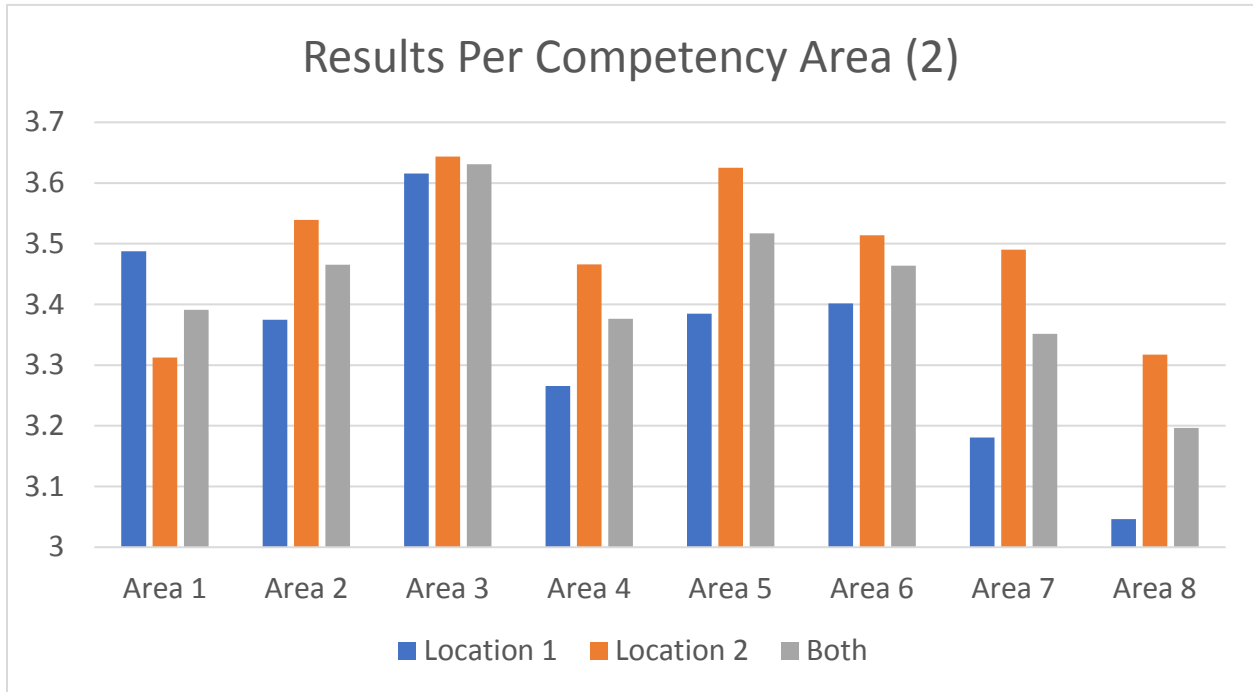
Appendix D

NPC Scale: Results Per Competency Area

Results Per Competency Area			
<i>Competency Area</i>	<i>Location 1</i>	<i>Location 2</i>	<i>Average</i>
Area 1: Nursing Care	3.4875	3.3128	3.3911
Area 2: Value-Based Nursing Care	3.375	3.5391	3.4655
Area 3: Medical Technical Care	3.6154	3.6438	3.6311
Area 4: Teaching/Learning and Support	3.2657	3.4659	3.3761
Area 5: Documentation and Information Technology	3.3846	3.635	3.5172
Area 6: Legislation in Nursing and Safety Planning	3.4017	3.5139	3.4636
Area 7: Leadership and Development of Nursing Care	3.1805	3.4904	3.3515
Area 8: Education/ Supervision of Staff and Students	3.0461	3.3175	3.1965

Appendix E

NPC Scale: Results Per Competency Area (Bar Graph)



Appendix F

NPC Scale: Results Per Theme

Results Per Theme			
<i>Theme</i>	<i>Location 1</i>	<i>Location 2</i>	<i>Average</i>
Theme 1: Patient Related Nursing	3.4217	3.5168	3.4742
Theme 2: Nursing Care Organization and Development	3.2094	3.4406	3.337

Appendix G

NPC Scale: Results Per Theme (Bar Graph)

