

PERCEIVED READINESS FOR PRACTICE OF SENIOR
BACCALAUREATE NURSING STUDENTS

BY

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Abstract

Nursing education is designed to assist students to become beginning practitioners and clinical experiences are essential to this process. As competition for clinical sites increases, educators need to establish best practices of clinical experiences. This mixed method study examined the psychometric properties of a readiness for practice tool, and explored the effects of a clinical internship experience on the perception of readiness for practice of 483 senior baccalaureate nursing students in Kansas and Missouri. Matched results from data collected twice during the semester confirmed that the clinical internship experience increased perception of readiness for practice, with the most benefit coming from internships scheduled over the full semester or at the end of the semester. Total number of hours or type of assigned unit did not affect readiness for practice. Interviews with 16 study participants added supporting information about variables in the internship experience affecting perception of readiness for practice.

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Chapter I

Introduction

Nursing education is designed to assist students to become beginning practitioners in nursing. Upon graduation, these beginning practitioners are expected to transition into the work environment quickly, and be capable of providing safe care for patients with complex care needs (Etheridge, 2007; Klein, 2006; Lundberg, 2008). Nurse educators are faced with the challenge of preparing students for the role of the graduate nurse, including not only the theoretical foundations of practice but the technical skills and performance behaviors necessary for their role in caring for patients with complex problems (Klein, 2006). In this study, readiness for practice is defined as the ability as a graduate nurse, to assume the roles of provider of care, designer/manager/coordinator of care, and member of the nursing profession.

Clinical education is a mainstay of preparation for the baccalaureate nursing student that serves to connect theoretical learning from the classroom into the practice environment (Gaberson & Oermann, 2007; McNiesh, 2007). Tanner (2005) states that “the science of clinical teaching in nursing is pretty immature” (p.151). The aim of the study is two-fold. First, the *Casey-Fink Readiness for Practice Survey* ©2008 (CFRPS), that was used in this study to measure readiness for practice is new, so its psychometric properties were assessed. Second, factors that influence readiness for practice, such as the number of hours, type of experience, and practice site during the final semester clinical experience were related to students’ readiness for practice.

As healthcare has become increasingly complex, concerns related to patient safety have risen. There is growing evidence that nurse shortages negatively affect patient care. A summary of research studies produced by the Agency for Healthcare Research and Quality (AHQR) stated that as nurse to patient ratios increase, there is an increase in the incidence of adverse patient outcomes (Kane, Shamliyan, Mueller, Duval, & Wilt, 2007).

In 1999, the Institute of Medicine (IOM) released the first of a series of publications addressing concerns related to the current state of healthcare and patient safety in the United States. The Joint Commission for Accreditation of Healthcare Organizations (JCAHO) in 2002, and the National League for Nursing (NLN) in 2008, are among many healthcare organizations that have called for changes in the current clinical education structure to keep pace with technology advances and the increasing complexity of patient health care needs, and to address resultant safety concerns. Terms such as a “mismatch” or “gap” in the preparation of nurses, the “continental divide between academia and practice”, or the “education-practice gap” have been used to describe the lack of adequate preparation of nurses for beginning practice (JCAHO, 2002). The American Association of Colleges of Nursing (AACN) has attempted to meet this demand for change with their recently approved “*The Essentials of Baccalaureate Education for Professional Nursing Practice*” [Essentials] (2008b). This document contains nine essentials and accompanying outcomes that are intended to address the education-practice gap and the IOM’s recommendations for safe practice. These outcomes are designed to prepare the

baccalaureate-prepared generalist nurse to practice within complex healthcare systems and assume the roles of provider of care, designer/manager/coordinator of care and member of a profession (AACN, 2008b).

The call for reform in nursing education occurs at a time when there is a need to prepare more nurses to meet the current nursing shortage and also at a time when there is a shortage of nurse faculty to prepare this new generation of nurses (Goodin, 2003). Nursing shortages are cyclical in nature, have resulted from multiple causes, and have a direct impact on the delivery of safe and effective patient care. Experts claim that this nurse shortage is unique from all others. Previous shortages were attributed to increasing population and dissatisfaction with working conditions. In addition to these factors, the current shortage is exacerbated by an aging nurse workforce, the nurse faculty shortage, declining interest in nursing as a profession, and a global nurse shortage (Goodin, 2003).

The current shortage began in the 1990's and there are currently 116,000 vacant RN positions in US hospitals (AACN, 2008c). An adjusted estimate of the nursing shortage is projected to be 300,000 by 2020 (Buerhaus, Staiger, & Auerbach, 2009).

In the past, nurse shortages have been primarily solved by increasing enrollments in existing schools of nursing, or by opening new schools. Nursing school enrollments have consistently increased since 2002, but an estimated 30,000 qualified applicants are still turned away from baccalaureate schools of nursing each year (AACN, 2007). School enrollments cannot continue to increase when faced

with a concurrent nurse faculty shortage, and lack of clinical and classroom space. As the average age of the U.S. population has increased, so has the average age of nurses in the work force. From 2000 to 2004, the average age of RNs has increased from 45.2 years to 46.8 years. These nurses will be leaving the workforce in increasing numbers over the next ten years (Buerhaus, Donelan, Ulrich, Norman, & Dittus, 2006). There is also an increased sense of dissatisfaction with the work environment, adversely affecting nurse retention. These factors are significant, but they are exacerbated by the need for more nurses to care for the steadily growing number of adults over age 65, who typically have an increased incidence of chronic conditions and resultant increased complexity of care needs (JCAHO, 2002).

Current nursing research related to the shortage is focused primarily on nurse retention. In response, healthcare institutions are addressing work environment issues (Ackermann, Kenny, & Walker, 2007). These studies have shown that the most stressful time in a nurse's career is the first three months of employment as a new graduate nurse, with a reported 35-60% of new graduates changing places of employment during the first year following graduation (Delaney, 2003; Pine & Tart, 2007). Initial orientation to a healthcare organization or subsequent orientation to new areas within that organization, is costly to the institution (JCAHO, 2002). A number of qualitative studies have reported that primary reasons for this turnover during the transition period from student to beginning practitioner include: stress, lack of confidence and competence, lack of support, insufficient educational preparation, and a growing realization of the mismatch between expectations and

workplace realities (Cooper, Taft, & Thelan, 2005; Etheridge, 2007). These factors all indicate that new graduates feel they may not be ready to enter practice.

Role of Clinical Internship

In 2006, the National League for Nursing (NLN) published the Excellence Initiatives and the Excellence in Nursing Education Model. Development of evidence-based programs and teaching/evaluation methods, was one of eight core elements described as essential for attaining and maintaining a desired level of excellence in education.

Clinical internships have been accepted as an effective method to increase the student's preparedness for transition to the beginning practitioner role (McNiesh, 2007). The term, clinical internship, is used to describe a clinical experience in the final semester of study. A review of the nursing literature over the past ten years identified several new or modified concepts that have been introduced into current clinical education models, but no evidence based consensus on a "best practice" for clinical education has been reached. Some of the concepts explored in relation to clinical internships include preceptorships, immersion experiences, clinical partnerships, and simulation experiences (Gaberson & Oermann, 2007). While the concept of preceptorships has been studied extensively and is well defined, other concepts are less clearly defined.

Some recent educational models have reflected a decreased emphasis on clinical practice in response to the growing nurse faculty shortage and the increased competition for clinical sites (Tanner, 2007). Little evidence about the structure of

the internship experience is available. Important issues that were considered in this study in relation to clinical internship experiences include: the number of hours required for completion of the internship experience; the type of internship, or how the clinical hours are scheduled; and the type of unit where the student is assigned for the internship experience. As nurse educators and clinical experts discuss potential changes to the clinical preparation of baccalaureate nursing students, these variables need to be studied to establish an evidence base for clinical education. The role of preceptors in the clinical internship experience has been extensively documented and will not be a primary focus in this study.

Theoretical Framework

Bandura's Theory of Self-efficacy was used to guide this study (see Appendix A). The Theory of Self-efficacy has its roots in Social Learning Theory, which was developed in the 1930's. Albert Bandura revised the Social Learning Theory to Social Cognitive Theory in the 1980's and eventually published his theory of Self-efficacy (Pajares, 2004). According to the theory of self-efficacy, to achieve a desired outcome, individuals must not only value the outcome but also believe that they can successfully perform the behaviors necessary to achieve the outcome. Self-efficacy is defined as personal judgments relative to performance of these behaviors (Bandura, 1997). Information sources for the development of self-efficacy are inherent in the clinical internship experience. Enactive attainment, or mastery performance, is the strongest influence on the development of self-efficacy. In the clinical internship experience, students begin to assume the role of the nurse graduate

with support and supervision of an experienced nurse. During this time, the students also have the opportunity to observe the experienced nurse, referred to by Bandura as vicarious experience, providing role modeling and opportunities for socialization into the role of a professional nurse. The third antecedent to self-efficacy is verbal persuasion. The preceptor gives immediate feedback to the student related to successes, and suggests changes to enhance practice. The final source of information that impacts self-efficacy is physiologic feedback. Because clinical experiences during school are often fragmented, students may experience significant anxiety related to the role they will be assuming after graduation. High levels of anxiety interfere with the ability to obtain new knowledge and effectively apply current knowledge and skills (Lundberg, 2008). During the internship experience, socialization into the professional role of a nurse assists the student to understand the demands and expectations they will experience as a new graduate. This in turn can decrease the amount of role conflict and resulting anxiety that occurs during the transition to the graduate nurse role (Dobbs, 1988).

Based on Bandura's Theory, students who have been successful in their clinical experiences, will exhibit greater self-efficacy and approach subsequent experiences with more confidence. High anxiety levels and elements within the clinical learning environment are two of many concepts that may affect student self-efficacy. When self-efficacy is low, the expectation that desired behaviors can be accomplished decreases significantly. For nursing students, the desired, or expected outcome behavior is successful completion of the clinical course, with subsequent

completion of the nursing program, passage of the NCLEX-RN examination, and integration into the nursing workforce as a registered nurse. This in turn, may lead to increased nurse satisfaction and retention in the workforce, and increased patient safety (See Appendix B).

Purpose of the Study

This mixed methods study examines issues related to nurse retention from the educational perspective, by focusing on the potential for increasing a student's self-efficacy for readiness for practice. The first purpose of the study was to assess the psychometric properties of the *Casey-Fink Readiness for Practice Survey* ©2008. Once reliability and validity are established, the tool could be used by nurse educators to guide curriculum development and revisions. It could also be used by preceptors during clinical internship experiences or new graduate orientation to identify specific learning needs of the student/new graduate. The second purpose of this study was to explore factors during the clinical internship that could influence the students' perception of readiness for practice. Quantitative and qualitative data were collected and analyzed for this part of the study. Qualitative data was used to enhance and validate information obtained from the CFRPS. An increase in the perception of readiness for practice, resulting from experiences during a clinical internship in their final semester of study, may decrease the anxiety experienced by the new graduate, and encourage higher goal setting and patterns of persistence during the transition period. This would result in a decrease in turnover rates and an increase in the number of safe healthcare practitioners at the bedside.

Statement of Research Questions

The aim of the study was to examine perceptions of readiness for practice as a graduate nurse, in senior baccalaureate nursing (BSN) students who complete a clinical internship experience during their final semester. The *Casey-Fink Readiness for Practice Survey* ©2008 (CFRPS) is a new tool currently being tested by the authors of the tool with nursing students enrolled in clinical internships in Colorado. This study conducted a psychometric analysis of the CFRPS, including exploratory factor analysis to identify subscales, or factors, within the scale. These factors were explored for their relationship with the three components of readiness for practice: provider of care; designer/manager/coordinator of care; and member of the nursing profession. The study then explored several independent variables in the clinical internship experience that potentially influence the perception of readiness for practice.

Hypothesis 1 – Readiness for practice scores will increase following completion of a clinical internship experience in the final semester of a baccalaureate nursing program.

Hypothesis 2 – As the number of required clinical internship hours increases, there will be an increase in total and mean scores for readiness for nursing practice.

Hypothesis 3 – There will be no difference in total and mean scores between groups based on the type of clinical internship experience (concentration of hours) scheduled for the student.

Hypothesis 4 – There will be no difference in total and mean scores between groups assigned to traditional and non-traditional clinical areas in the senior internship experience.

Hypothesis 5 – There will be a predictive relationship between readiness for nursing practice scores and identified factors within the clinical learning environment (type of immersion experience, type of assigned unit), individual student characteristics (gender, age, ethnicity, prior or current healthcare experience, prior baccalaureate degree, and GPA) and individual school characteristics (number of hours in the clinical internship, class size, school setting, and type of school).

Research Question 1 – During the final semester of the academic program, what are BSN students’ perceptions about their readiness for practice as a graduate nurse?

Research Question 2 – Are there specific factors in the clinical internship experience that have fostered or hindered students’ perception of readiness for practice?

Overview of the Study

The study participants were senior baccalaureate nursing students enrolled in their final semester of study at a variety of baccalaureate schools of nursing in Kansas and Missouri (See Appendix D). Students in schools without a final semester clinical internship experience were included as a comparison group in the study.

Psychometric evaluation of the *Casey-Fink Readiness for Practice Survey* ©2008

(Appendix D) was performed. Data collected from study participants using the CFRPS were also used to explore students' perception about readiness for professional practice. All students were given the opportunity to complete the CFRPS twice during the semester. Students enrolled in a course including a clinical internship (internship group) completed the CFRPS at the beginning and end of their clinical internship experience. Students in the comparison group completed the CFRPS during the first half of the semester and again during the last month of the semester. Students from both the internship group and the comparison group were asked to volunteer to participate in interviews after completing the second CFRPS. Students were selected from a variety of schools for interviews. Information from the interviews provided additional information related to the role of the clinical internships in the student's perceived readiness for practice as a graduate nurse.

Summary

The current nurse shortage is expected to continue and increase as the largest group of currently working nurses reaches retirement age, and school enrollments cannot increase sufficiently to meet the increased demands of a growing population with multiple and complex healthcare needs. Delivery of safe and effective care is adversely affected by the shortage of nurses. There is also growing concern that nursing education is not preparing students sufficiently to enter the workforce. Nursing education must examine the current clinical education model and explore new clinical practices to establish an evidence base for practice to meet these challenges.

Because the *Casey-Fink Readiness for Practice Survey* ©2008 is a new survey, this study first assessed psychometric properties of the instrument. Then the study explored three primary variables of a final clinical internship experience on the perception of readiness for practice for senior baccalaureate nursing students. These variables included the number of hours in the internship experience, the type of schedule of the internship experience, and the type of unit where the student was assigned. Other variables related to individual student and school characteristics were also examined for potential influence on perception for readiness for practice. Information from this study contributes to an evidence base for best clinical education practices that may assist nurse educators in curricular revisions that are needed to realistically assist students to prepare for practice as a nurse graduate and to increase long-term nurse satisfaction and retention in the workforce.

Chapter II

Review of the Literature

The literature review focuses on factors that influence nursing students' perception of readiness for practice as a graduate nurse. These factors include the educational preparation of healthcare professionals, the development of the current nursing clinical educational model, the role of the clinical learning environment, the current nurse shortage and the impact of the nurse shortage on the delivery of safe patient care, and the application of Self-efficacy theory to nursing education and practice.

Readiness for Practice

For this study, readiness for practice is the ability as a graduate nurse, to assume the roles of provider of care, designer/manager/coordinator of care, and member of the nursing profession as defined by AACN in the *Essentials* (2008b). When new graduates enter the workforce they are considered competent to perform as an RN, based on completion of their educational program and successful passage of the NCLEX-RN assessment.

In reality, many graduates doubt their own competence (Delaney, 2003; Lundberg, 2008). Individuals who doubt their own competence may not perform successfully because they lack the self-confidence, or self-efficacy to use their skills (Lauder et al., 2008). Candela and Bowles (2008) reported that while most new graduates are satisfied overall with their educational preparation, 77% of the new graduates who were surveyed stated that they needed more clinical time with real

patients. The request for increased clinical time and more time to experience all the interactions in the workplace setting was also expressed by participants in a study reported by Etheridge (2007).

This study examined some of the variables within the final clinical internship experience that might impact students' perception of readiness for practice.

Examining students' perception of readiness for practice is important to recognize areas where efficacy beliefs can be enhanced. When efficacy beliefs are increased, new graduates show increased commitment to use current skills, and increased motivation and persistence to learn new skills (Clark, Owen, & Tholcken, 2004; Lundberg, 2008).

Educational Preparation of Healthcare Professionals

Most healthcare professions are considered to be practice professions, and as such, require hands-on experience in a controlled, supervised environment before assuming the role of beginning practitioner (Dufault, Bartlett, Dagrosa & Joseph, 1992; Gaberson & Oermann, 2007). This includes nurses, physicians, occupational therapists, physical therapists, and pharmacists. Training requirements for healthcare professionals vary, but are essential for the safety of the clients that they serve (Wolf, 2008). Educators, or teachers, are considered to be members of a practice profession, and many of the models used in healthcare education have their origins in traditional education models (Prater & Sileo, 2004). Preparation of medical students includes a long established history of intense internships or residencies, but in 2003, to promote patient safety, recognition of the adverse effects of sleep deprivation

prompted work-hour restrictions, and inclusion of quality improvement competencies in clinical practice (Canal, Torbeck, & Djuricich, 2007). Pharmacy educators recognized the shift to increased services in community areas and have included more fieldwork in those areas (American Association of Colleges of Pharmacy, 2006). Physical therapy and occupation therapy programs require several fieldwork experiences with a final clinical immersion experience of varying lengths (American Organization of Occupational Therapists, 2007; Martorello, 2006). Some healthcare professions such as pharmacy now require doctoral level preparation as their entry level requirement.

The initial pre-licensure preparation for nurses is as a nurse generalist. Pre-licensure programs for nurses include diploma programs, associate degree programs, and baccalaureate programs. Graduates of all three programs are eligible to take the NCLEX-RN for licensure, however, there is a growing body of evidence that baccalaureate preparation may positively impact the delivery of high quality, safe patient care (AACN, 2008a; Aiken, Clarke, Cheung, Sloane, & Silber, 2003). The roles of the baccalaureate generalist nurse are stated as: provider of care, designer/manager/coordinator of care, and member of a profession (AACN, 2008b). A crucial element in the philosophy of clinical teaching is that clinical education should reflect the nature of professional practice (Gaberson & Oermann, 2007). Some of the challenges identified by educators as they consider clinical curricular changes include: the type of clinical learning experience, increasingly complex technology, and the impact of nurse and faculty shortages.

Several types of learning experiences in the clinical learning environment have been reported including: preceptorships (Bourbonnais & Kerr, 2007; Fink, L.D., 2003; Goldenberg, Iwasiw, & Macmaster, 1997; Henderson, Fox, & Malko-Nyhan, 2006; Mazingo, Thomas, & Brooks, 1995; Palmer, Cox, Callister, Johnsen, & Matsumura, 2005; Seldomridge & Walsh, 2006; Tanner, 2005; Yonge, Myrick, Ferguson, & Lughana, 2005) immersion and residency experiences (Diefenbeck, Plowfield, & Herrman, 2006; Fink, Krugman, Casey, & Goode, 2008; Gaberson & Oermann, 2007; Spurr, 2007), simulation experiences (Jarzemsky & McGrath, 2008; Jeffries, Woolf, & Linde, 2003; Schoening, Sittner, & Todd, 2006; Wolf, 2008), clinical partnerships (Henderson, Twentyman, & Lloyd, 2006; Moscato, Miller, Logsdon, Weinberg, & Chorpenning, 2007; Miller, 2005; Ranse & Grealish, 2006), and alternate learning experiences (Mills, Jenkins, & Waltz, 2000; Schwartz & Laughlin, 2008). Many of these concepts originated in other healthcare professional programs and have been modified to fit the unique needs of the nursing profession. More research is needed to establish the best practices of clinical education in nursing.

Technological advances in patient care and nursing education necessitate changes in curricular content and educational delivery methods. McNeil, Elfrink, Beyea, Pierce, and Bickford (2006), reported that educators did not necessarily understand the difference between computer literacy and information literacy, yet information management is essential to the provision of safe, cost-effective, evidence based, collaborative care. As technology has advanced, distance education has

increased accessibility to nursing education programs with no differences in academic achievement noted between the two types of educational settings (Oermann, 2004). Distance education is time-consuming for faculty, however, and has increased the challenge of determining skills proficiency when the faculty has limited actual contact with the student (Babenko-Mould, Andrusyszyn, & Goldenberg, 2004).

Finally, as the number of nursing students increases in response to the nursing shortage, there is increased competition for clinical sites, for nurses to serve as preceptors, and for nursing faculty (Tanner, 2002). Based on increased competition for clinical sites, faculty may consider decreasing the total number of clinical hours in a particular course or courses. Healthcare facilities that struggle to provide adequate staffing for patient care may not have sufficient numbers of trained preceptors to consistently assign with students, leaving less experienced nurses, or those who do not want to act as preceptors, to guide student development and participate in the evaluation process. The shortage of nurse faculty may lead to increased numbers in clinical groups, decreasing the amount of time spent with each student. These factors may result in decreased or inconsistent quantity and quality of already limited clinical experiences and inconsistencies in clinical grading (Walsh & Seldomridge, 2005). The shortage of nurse faculty may also limit the number of students admitted to nursing programs, as the size of clinical groups is limited by many states. In the geographic area used in this study, Kansas limits faculty to

student clinical ratios to 1:10, but Missouri does not currently have a restriction on faculty to student ratios (Teel, Smith, & Thomas, 2008).

Role of Clinical Experiences in Learning

Nurse educators are faced with the challenge of preparing students for the role of the graduate nurse in caring for patients with increasingly complex care needs. This preparation includes the theoretical foundations of practice, basic knowledge of pathophysiology and treatment modalities, professional behaviors, and technical skills (Klein, 2006). A common assumption of the traditional nursing clinical education model is that clinical experiences throughout the nursing curriculum contribute to the development of competent nurses (Gaberson & Oermann, 2007; Mozingo, Thomas, & Brooks, 1995).

The process of how nurses become experts in practice has been described by Benner (1984). Nursing expertise develops through a series of nurse-patient encounters beginning with the role of novice and culminating with achievement of nursing intuition, or the stage of expert. In the novice stage, practice is governed by rules and procedures. Behavior of the novice nurse is limited and relatively inflexible. The advanced beginner demonstrates acceptable behavior but is still limited in their ability to observe “aspects” or more global concepts related to patient care. Over the course of two to three years of experience the advanced beginner usually progresses to the role of a competent nurse. The competent nurse uses conscious and deliberate planning to accomplish both short and long term goals. Further experience encourages progression the next stage of the proficient nurse who

is able to adjust rapidly to changing situations. The proficient nurse is perhaps best described as a perceptive nurse, who recognizes the whole situation as it unfolds rather than its individual aspects. The final stage identified by Benner is the expert nurse or the intuitive nurse. The expert nurse knows the rules and procedures but also understands when something needs to be altered or changed. Nurses may progress through the stages at any rate, may return to prior stages when faced with employment in new settings where they have no experience, or may never reach the final stage of expert.

The nursing student can best be identified in the novice stage. Nursing clinical education is designed to allow the new graduate to enter the workforce at the level of the advanced beginner.

History and Development of Nursing Clinical Education

The first formal training, or preparation, of nurses has been credited to Florence Nightingale in the 1860's during the Crimean War. Nurses were trained in a hospital type setting in an apprenticeship model, under the direct supervision of currently practicing nurses. Over the years, more classroom training was added to the apprenticeship, but the programs were still associated with, and taught by employees of a primary healthcare institution. Students were assigned to a nursing unit to complete a specified task or tasks, in what is known as a "procedures model". In the early 1930's, Yale University introduced the "case assignment" model. Under this model, students were assigned on a nursing unit to care for a patient or group of patients. This early clinical education model became the diploma nursing program

that was prevalent in the United States until the middle of the 20th century. Diploma programs, typically three year programs, focused heavily on the application of skills to clients in acute care settings where students were directly supervised by a nurse instructor and staff nurses. In describing the case assignment model, Tanner, 2002 stated “the learning is derived from students acting like nurses, learning from providing care to one or more patients each week, and absorbing whatever other learning presents itself while in the clinical setting” (p.51).

In the 1950’s, the emphasis in nursing education began to shift. Nurse educators believed that nurses who had a basic liberal arts background with a heavy emphasis on theory and science would be better providers of nursing care. People also began to believe that a college education was available to everyone (Cronenwett 2004). As a result, associate degree (two year) educational programs were developed, and enrollment in baccalaureate degree (four year) educational programs of nursing became popular causing enrollment in diploma programs to decline (Buerhaus, et al., 2009). Both associate and baccalaureate degree schools of nursing are affiliated with an educational institution. Clinical experiences are arranged through agreements with healthcare agencies that may or may not be affiliated with the school. The design of both associate degree and baccalaureate schools of nursing resulted in an overall reduction in number of hours spent in actual patient contact, but the basic structure of clinical training remained unchanged. In this clinical education model, faculty supervise groups of six to twelve students in the clinical setting (Teel et al., 2008; Udalis, 2008).

In the late 1980's, the National League for Nursing (NLN) called for curriculum transformation to meet the needs of a changing healthcare environment. While some clinical curricular changes were made, most of the changes included a shuffling of priorities, rather than a new direction for clinical education (Tanner, 2002). One new change that did emerge during this period was the recommendation to add a clinical internship near the end of the baccalaureate nursing program. A clinical internship is defined as a concentrated experience in the healthcare environment designed to decrease "reality shock" by giving students a glimpse of "real practice" and assist transition into the role of the graduate nurse (Udolis, 2008).

Clinical Learning Environment

Learning environments have been studied extensively by educational scholars, but study of the clinical learning environment in nursing education is relatively new (Dunn & Burnett, 1995). The clinical learning environment is defined as a place where students can apply the knowledge they have learned in the classroom and begin to distinguish the differences between the "ideal" world of the classroom and the "real" world of clinical practice (Palmer et al., 2005; Stokes, 2005). The clinical learning environment encompasses the effect of all the conditions and forces within a specific educational learning site, including cognitive, social, cultural, affective, emotional, motivational and curricular factors (Sand-Jecklin, 2000). Some factors that influence the effects of the clinical learning environment include the availability of expert staff and instructors, level acuity and complexity of patients that matches the skills of the student, value and acceptance of the students

and faculty by the nursing staff, and adequate physical working space and resources (Pagana, 1988; Yonge, Krahn, Trojan, Reid, & Haase, 2002).

The most effective learning climate is one that fosters support; is non-threatening and non-judgmental; facilitates openness, inquiry, and trust; and avoids competitive performance judgments (Dunn & Hansford, 1997; Yonge et al., 2005). Low to moderate levels of anxiety can have a positive impact on learning, but high levels of anxiety can decrease learning by decreasing concentration and the ability to think critically. This impacts performance and self-confidence (Cook, 2005).

White (2003) studied the importance of staff nurses in students' clinical decision making and discussed interrelationships between students and nurses. Results from the study indicated that when a student feels secure and supported by the nursing staff, they are more able to focus on the patient as a person. When students are uncomfortable or unhappy with the clinical learning environment, they are more focused on themselves than on the patient.

Current Clinical Education Model

Many nursing programs in the United States continue to follow the traditional clinical education model introduced in the 1950's. In most nursing clinical courses, faculty assign one or two patients to a student, the students review information relevant to the medical diagnosis of the assigned patient and develop a plan of nursing care prior to assuming physical care of the client. The faculty member directly supervises and is responsible for the evaluation of the student. The number of students varies by school and state regulations, but typically is eight to twelve

students to each faculty member (Teel et al., 2008). The internship experience, (alternatively called a practicum or capstone experience), usually occurs sometime during the student's final semester (Gaberson & Oermann, 2007). No common standard of practice related to the exact number of clinical hours or a common definition of how these hours are assigned has been identified. For example, a wide range of clinical internship hours, from 84 to 320, was found within baccalaureate schools of nursing in the Kansas City metropolitan area alone. Scheduling of these hours also varies. Clinical hours may be spread across an entire semester while students are also taking other nursing courses, or concentrated in a few weeks while students are released from other nursing courses.

The term immersion experience may also be used when describing the internship experience. Immersion experiences have been required for medical students and education majors for many years. The concept of immersion experiences in nursing may be simply a redefining of the traditional internship, practicum, or capstone experience already in existence. The "immersion" experience terminology is not consistently used in the nursing literature but is defined in the *Essentials* as "clinical experiences with a substantive number of hours in a consistent clinical setting over a concentrated period of time" (AACN, 2008b, p.33). The document does not specify how many or what type of clinical experiences should be required, but only that they must be "sufficient in breadth and depth to meet the outcomes (AACNb, p.4). This allows schools the freedom to develop their own

individual course and clinical experiences to meet the objectives, within any unique requirements of their individual state Nurse Practice regulations.

An internship that is forty hours per week for three weeks might be defined as an immersion experience. So also, might a clinical practicum experience of ten hours per week for twelve weeks. While there are no national regulations related to the amount or type of clinical experience that is required for nursing licensure, some states have adopted their own requirement for an immersion experience. In Kentucky all students are required to complete a concentrated direct patient care experience of 120 clock hours within a seven-week period of time during their final semester before graduation (Spurr, 2007). Immersion clinical experiences may be directly supervised by a faculty member, but are usually jointly supervised by a faculty member and a staff nurse, or preceptor, with the faculty member being responsible for the final grading of the experience.

Clinical Preceptors

The role of the clinical preceptor within the clinical learning environment has been reported extensively in the nursing literature. Originally designed to assist the new graduate into the culture of the organization and the profession, preceptors also are intended to narrow the education-practice gap (Udlis, 2008).

A preceptor is an experienced nurse who functions as a role model, teacher, evaluator and support system for the less experienced individual over a limited period of time (Altmann, 2006; Bourbonnais & Kerr, 2007). The one to one relationship encourages learning and socialization, or an understanding of the total

demands and expectations of the role of the nurse (Dobbs, 1988). A good preceptor enjoys sharing their knowledge and experiences, but also guides the student through the process of clinical reasoning, and supports the student to make decisions related to safe patient care. They may also be in a unique position to influence students' long term role satisfaction and performance (Yonge et al., 2002). Nurse faculty function as facilitators of the learning experience and continue to provide final evaluation of the student relative to the course objectives (Seldomridge & Walsh, 2006; Udalis, 2008).

The use of preceptors has been found to increase self-efficacy, or self-confidence reported by students immediately following the experience. Students have the opportunity to observe an experienced nurse in the “real” world and to practice skills under their watchful eyes. (Mozingo et al., 1995). Increased self-efficacy may result in decreased anxiety during the transition to the role of the new graduate (Goldenberg et al., 1997).

Anxiety in the Clinical Learning Environment

Anxiety is defined as an unpleasant subjective experience associated with the perception of real or imagined threat (Kleehammer, 1990). Student anxiety has been studied in educational settings for years, and appears to be a common and expected characteristic of nursing students. Many sources of anxiety exist for nursing students but the clinical experience has been identified as the most anxiety producing (Sharif & Armitae, 2004). The first clinical experience is perhaps the most anxiety producing, but rotation to a new specialty, new clinical site, or a new instructor also

produces anxiety (Biggers, Zimmerman, & Alpert, 1988). Cook (2005) conducted a study comparing anxiety between students at different levels. No significant difference in anxiety levels were noted between junior and senior students, suggesting that anxiety remains a concern throughout the educational experience. During a clinical experience, nursing students may be faced with unexpected events associated with patient care, including life and death situations, in an environment that cannot be completely controlled. The environment is also usually a public setting which may be observed by teachers, patients, families, and clinical staff nurses (Oermann & Standfest, 2007). Pagana, (1989) and Tang, Chou, and Chiang, (2005), identified anxieties about making mistakes due to inadequacy of knowledge and skills, non-acceptance by patients and families, relationships with staff, and relationships with the instructor.

Low to moderate levels of anxiety can challenge the student, facilitate the learning process, and have a positive impact on learning. On the other hand, high levels of anxiety can impair cognitive and intellectual functioning, decreasing the students' ability to concentrate and apply the principles of critical thinking (Grimm, 1997; Kleehammer, 1990). When caring for high acuity patients with complex needs, students may experience high anxiety levels and become so focused on themselves, that they are unable to focus on their patient and the delivery of safe care (Mahat, 1998; White, 2003). This impacts student performance and ultimately self-confidence or self-efficacy (Cook, 2005). Concurrent with increased patient complexity of care, the length of hospital stay has decreased and the student may not

have an opportunity to implement and evaluate the care they so meticulously plan. The results of these changes in the patient population may allow students to graduate and enter the workforce feeling unprepared for their new role, which in turn increases their stress and anxiety in their new role, and potentially contributes to the growing problem of nurse retention in the workforce (Pine & Tart, 2007).

New Graduate Transition

New graduates readily identify that they feel both excitement and anxiety on beginning their nursing career (Delaney, 2003; Etheridge, 2007). While annual registered nurse turnover rates are high (8.4%), the rate of new graduate turnover in healthcare institutions is even higher, with estimates ranging from 35% to 60% in the first year of employment (AACN, 2008c; Delaney, 2003). Orientation costs for a new graduate range from \$20,000 to \$50,000, so it is financially important for healthcare institutions to retain new graduates as employees (Burns & Poster, 2008). The first three months of employment are the most stressful time of a nurses' career (Ackerman et al, 2007; Delaney, 2003; Etheridge, 2007; Pine & Tart, 2007). During these three months, individuals transition from the role of student to professional nurse, or from novice to advanced beginner. The amount of anxiety and stress experienced during the first three months is influenced by multiple factors, including: type and length of orientation, socialization issues with current staff, lack of self-confidence, a perceived lack of knowledge and skills, and simply feeling overwhelmed by their new tasks and responsibilities (Delaney, 2003; Cooper et al, 2005; Etheridge, 2007). Both students who are highly capable and those who are not

as capable, can experience a lack of confidence. A lack of confidence increases anxiety, interferes with the ability to obtain new knowledge, and changes how individuals approach opportunities to use knowledge and skills they already possess (Lundberg, 2008).

The term “reality shock” was coined in the 1974 by Kramer to describe the feelings experienced by graduates when the realities of the healthcare environment do not match their expectations (Ross & Clifford, 2002). One commonly accepted contributor to reality shock is the education-practice gap (Charleston & Happell, 2005; Cooper et al., 2005; Delaney, 2003; Etheridge, 2007; Pine & Tart, 2007; Udliis, 2008). The education-practice gap can be defined as “the dissonance between the knowledge and skills nursing students learn and use safely under supervision in the academic setting and those needed to function safely and independently in the practice setting” (Burns & Poster, 2008, p. 67).

In recognition of the stress encountered by new graduates during these first three months, many healthcare institutions have changed their orientation programs to assist new graduate nurses. Strategies that have been developed or adapted include: residency programs, simulation exercises, assignment of a preceptor/mentor, and inclusion of socialization activities designed to assimilate the new graduate into the established workforce (Halfer, 2007; Hofler, 2008; Loiseau, Kitchen, & Edgar, 2003; Pine & Tart, 2007). While these programs increase the cost of initial orientation, for example a single nurse internship experience lasting several months

may cost \$45,000 to \$75,000, the result is an increased retention of satisfied employees in the workforce (Burns & Poster, 2008).

Nurse Shortage and its Impact on Safe and Effective Care

Throughout the past century the United States has experienced a recurring cycle of nurse shortages, followed by periods of stabilized needs for qualified nurses. These shortages were caused primarily by an increase in population following World War II, and by workplace and role dissatisfaction in the 1970's and 1980's. Past shortages were met by increasing nurse salaries, increasing the number of nursing graduates through the creation of new schools and increasing enrollments at existing schools, as well as changes to and recognition of the role of the professional nurse (Goodin, 2003). The current nurse shortage began in 1998, and has been predicted to extend to 2025 and beyond (Buerhaus et al., 2009). According to the latest Nursing Shortage Fact Sheet released by the AACN in April, 2008, there are currently 116,000 vacant registered nurse positions in US hospitals, a nationwide vacancy rate of 8.1%. Projections of the nursing shortage include an increased demand for RNs by 2% to 3% per year with a shortage of 300,000 nurses by 2020 and 500,000 by 2025 (Buerhaus et al., 2009).

Nurses report an increasing frustration with the staffing shortages and the resultant quality of care they are able to deliver. This frustration increases job dissatisfaction, which leads to increased position turnover and attrition from the workforce. The average nurse turnover rate for hospitals in the United States, is currently 8.4% annually (AACNc, 2008). The cost of nurse turnover varies by region

of the country, area of specialization, and longevity of the individual employee, but current estimates are 1.3 times the annual salary of the departing nurse. Conservative attrition cost estimates per employee begin at \$26,000 and range upward to over \$64,000 to train a new employee to take the place of an experienced nurse (Jones & Gates, 2007). Filling vacant positions during a nurse shortage can be difficult, leading to higher staff to patient ratios, more staff dissatisfaction, and more potential financial implications for the healthcare institution and safety concerns for the delivery of patient care.

The nurse shortage has direct implications on the delivery of safe and effective care for patients. In 1999, the Institute of Medicine (IOM) published *To Err is Human: Building a Safer Health System*, initiating an impetus for change in every aspect of patient care, with an emphasis on patient safety and a decrease of errors in the healthcare setting (Finkelman & Kenner, 2007). In 2002, a JCAHO report stated that as nurse to patient ratios decreased from 1:10 to 1:6, the number of patient deaths also decreased. As the nurse shortage continues, there are fewer nurses to meet the daily needs of hospitalized patients, and lower staffing levels continue to be linked to a higher incidence of adverse patient outcomes (Buerhaus, et al., 2006; JCAHO, 2002; Kane et al., 2007). These adverse outcomes, or nursing-sensitive outcomes, include urinary tract infections, pneumonia, shock, upper gastrointestinal bleeding, longer hospital stays, failure to rescue, and an increased thirty-day mortality rate (Stanton, 2004). In addition, as nursing education struggles to provide more nurses, employers are reporting that the majority of new nurse graduates are

not adequately prepared to give safe and effective patient care in an emerging healthcare environment that focuses on safety and quality improvement (Finkelman & Kenner, 2007; Pine & Tart, 2007).

The current shortage of nurses in the workforce is challenged by increased numbers of patients, increased acuity of patient care, and workplace issues. The nursing shortage also is complicated by an aging nursing workforce, a nurse faculty shortage, and fluctuations in nursing school enrollments (Goodin, 2003).

Changes in the Population

An increase in the total population and an increase in the older population partially account for an increased demand for nurses. The population in the United States continues to grow at a rate of approximately 1% per year. The estimate of the population in July 2007 was 301,621,157 and is projected to be 357,452,000 in 2025 (United States Census Bureau, 2008). As the total population grows, so also does the overall need and demand for healthcare. In addition, the percentage of the population that is 65 years or older has steadily grown as the expected life span has increased. Beginning in 2010, the baby boom generation, approximately 76 million total, will begin to enter the 65 and older age group, and the percentage of older Americans will increase at an accelerated rate (Buerhaus et al., 2009; Centers for Disease Control and Prevention [CDC], 2007). The percentage of Americans in the 65 years and older age group will rise from 12.6% of the population in 2001, to 16.9% of the total population by 2021 (Kimball & O'Neill, 2002). The 85 and over age group is perhaps the single fastest growing segment of the population, from 1.5% of the total

population in 2000, to an estimated 2.2% of the population by the year 2020 (United States Census Bureau, 2008). As the average human life span increases, so does the incidence of chronic health problems requiring healthcare. At present, 80% of older Americans have one or more chronic health conditions (CDC, 2007). This results in an increased incidence of patients with multiple concomitant chronic diseases and higher acuity of care needs that must be met during shorter periods of hospitalization (Goodin, 2003).

Aging Workforce

As the total population ages, so does the age of the workers in that population. The average age of RNs in the United States has increased from 45.2 years in 2000, to 46.8 years in 2004, while the percentage of RNs under the age of 30, decreased from 9% to 8%. Nursing is a physically demanding occupation, and many nurses no longer choose to work or are unable to work much beyond their mid-50s because of physical limitations (Kimball & O'Neill, 2002). A large percentage of nurses will be approaching retirement age just as the need for nurses increases (Buerhaus et al., 2006). Reports from a survey conducted by the Bernard Hodes Group, indicate that 55% of currently active nurses intend to retire between 2011 and 2020 (AACN, 2008c).

Nurse Faculty Shortage

The aging of the workforce also contributes to a nurse faculty shortage. An 8.1% faculty vacancy rate was reported by the AACN in 2005. The average age of nursing faculty is rising, from 49.7 years in 1993 to 53.5 years of age in 2008 for

doctoral prepared faculty. Reasons for the decline in younger faculty include workload issues, salaries that are not competitive with clinical position pay, the time and money required to pursue an advanced degree, and an increasing number of alternative positions for nurses with advanced degrees (AACN, 2005). As the current nurse faculty shortage increases, further restriction in growth of nursing school enrollments will occur (AACN, 2008c).

Nursing School Enrollment

In the years prior to the current nurse shortage, several factors contributed to a decline in nursing school enrollments. Historically, to meet increased demands for more nurses, new schools of nursing were opened, associate degree programs were established, and enrollments at current schools were expanded. As the need, or demand, for nurses stabilized or decreased, nursing enrollments decreased. In the 1990s, the number of students entering schools of nursing was at an all-time low. The advent of managed care, with a decreased length of stay in the hospital, was projected to reduce staffing needs in the acute care setting. A projected excess of nurses resulted in the perception of a decrease in job security for individuals considering a career in nursing. There also were increased reports of job dissatisfaction related to salaries, hours, and workplace conditions as the patients who were hospitalized were often sicker and required more complex care be given in fewer hospital days (Buerhaus et al., 2009). Finally, there were many more opportunities for women in other careers, while the percentage of men choosing to enter nursing remained low (Kimball & O'Neil, 2002). When the projected decline

in nursing needs was not realized, interest in nursing careers began to rise again and sharp increases in enrollments were noted beginning in 2001. Percent change in annual enrollments peaked in 2003 at +16.6% and declined to +4.98% in 2007. The decline in increased percentage of enrollments from the prior year is not the result of decreased interest in the field of nursing, as over 30,000 qualified applicants were turned away in 2007. Instead a lack of nurse faculty, and decreased availability of classroom space and clinical sites were cited as the primary reasons for the declining enrollment rate (AACN, 2007). As enrollments stabilize, graduation rates also stabilize, while demand for nurses in the workforce continues to increase.

New Trends in Clinical Education

Faced with the increased demand for nurses, and an inability to meet this demand using existing educational models, several new trends in nursing education such as accelerated programs for nurses with prior baccalaureate degrees in other fields and online programs have been instituted. In addition, new trends in clinical education, such as clinical partnerships, simulation exercises, and use of alternate learning experiences are evolving. No research has been identified about the effect of these new trends. In addition, no studies on the effect of the traditional clinical education model on readiness for practice was found in the literature from the past ten years.

Clinical partnerships. Clinical partnerships are not new to nursing, but renewed interest in expansion of partnerships has recently occurred. Most partnerships occur between hospitals and schools of nursing in academic health

centers. The partnership focus is on creating a joint body of knowledge and increasing capacity of the school of nursing. Clinical partnerships vary in scope, from providing financial funding as support for clinical instructors and for student scholarships, to providing staff members to serve as clinical instructors, and creating dedicated education units (AACN, 2003; Gaberson & Oermann, 2007). On dedicated education units, staff nurses assigned to these units function as instructors for the students. This differs from the traditional preceptor model because students are not assigned to one specific nurse for the entire learning experience, but rather to the unit staff as a whole. The nurse faculty's role is to support both the students and nursing staff in the learning environment and to guide the student toward achievement of their clinical objectives (Henderson et al., 2006; Miller, 2005; Moscato et al., 2007; Ranse & Grealish, 2006).

Simulation experiences. The use of simulation in the learning process has been well documented in medical student education and in nursing for both new graduates and students. Hospitals use simulation exercises to increase the skills levels and self-confidence of new graduates, expediting their transition into the workplace environment (Ackermann et al., 2007). Simulation experiences provide an opportunity for students to practice skills, communication, problem solving, and clinical reasoning in a "safe" environment (Henneman, Cunningham, Roche, & Curnin, 2007; Jeffries, 2005).

As the numbers of students increase, competition for clinical sites increases. Some clinical experiences are being shifted to simulation exercises, allowing

students to practice skills and clinical reasoning techniques in a controlled environment (Tanner, 2002).

Simulation is typically described as high, medium, or low fidelity, although the distinction between these is often unclear. Low fidelity simulation uses equipment that is commonly found in nursing school practice areas, including static mannequins and injection pads. Medium fidelity simulation includes manikins that allow students to “hear” lung sounds, or get a blood flashback during an intravenous insertion. Use of high fidelity simulation mannequins, programmed to respond in realistic ways to prepared scenarios that mimic actual clinical situations, has grown exponentially over the past five years. Students step into the scenario in the role of the nurse, interact with the “patient” and make independent decisions related to the care of that patient (Jarzemsky & McGrath 2008). Consequences of actions and non-actions are played out, allowing students to see beyond the moment into the bigger picture of total patient care (Schoening, Sittner, & Todd, 2006).

Faculty evaluate student performance more accurately based on these standardized scenarios. This is important because evaluation in the clinical area has been an issue of concern for many years. Faculty cannot be everywhere in the clinical setting and evaluation opportunities may not occur during scheduled clinical hours (Wolf, 2008). There have been concerns about grade inflation during clinical experiences. Faculty may be reluctant to give low grades because of the effect of student evaluations on faculty performance. Smaller clinical group sizes might prompt leniency in grading as the faculty member is more aware of personal

circumstances and reward the amount of effort put forward by the student. Poorly defined clinical objectives might also contribute to grade inconsistencies between clinical faculty (Walsh & Seldomridge, 2005).

Jarzemsky and McGrath (2008) reported that students benefit from any type of simulation experience, whether high or low fidelity. Debate about the number of simulation hours and actual patient contact hours required for graduation is occurring nation-wide. There is general consensus that performance of skills only in a simulated environment is not sufficient preparation for beginning graduate practice. Some states, including Florida and California, have regulations governing the percentage of simulation hours in total clinical hours, but at this point, there are no national guidelines on the appropriate ratio of simulation exercise to clinical hours (Landeem & Jeffries, 2008). In the *Essentials*, the AACN (2008b) stated that “simulation experiences augment clinical learning and are complementary to direct care opportunities essential to assuming the role of the professional nurse” (p.4). This statement implies that the complete replacement of direct contact hours with simulation hours would not be appropriate. Tanner (2002, p. 52) stated that students need “experiences acting like nurses” and recommended an immersion experience in a clinical setting that would allow students to observe their ultimate role as a nurse, practice their skills, and begin to synthesize knowledge and experiences from their prior nursing courses.

Alternate assignments. A final trend in clinical education has been the move away from traditional clinical experiences and towards alternate sites or types of

experiences. For example, one school had students move into the community to provide health screenings and immunization clinics in response to state school budget cuts. Students plan and deliver health teaching to both students and teachers. While meeting their own curriculum objectives, students are also meeting objectives of Healthy People 2010 (Schwartz & Laughlin, 2008).

Another option allows students to choose their own clinical experiences within their areas of interest. Under this model, not all students would be assigned to all the various traditional clinical settings. For example, one student might opt to have a pediatric clinical experience instead of a mental health experience, while another student might opt to have a critical care experience instead of a pediatric experience. Having the option to practice skills in an area of their own interest could potentially decrease anxiety, increase student motivation to learn, and facilitate socialization into the profession (Mills, Jenkins, & Waltz, 2000).

Bandura's Theory of Self-efficacy

Self-efficacy and Education

According to Bandura, valuing an outcome is important to goal achievement, but is not by itself predictive of successful attainment of the outcome. An individual may know what behaviors are necessary to accomplish a task, and may believe the outcome is important, but if they do not believe they are capable of performing that task, they are less likely to expend the energy necessary to achieve the desirable outcome (Bandura, 1997; Barta & Stacy, 2005).

Prior to Bandura's work on self-efficacy, research had focused primarily on outcome expectations. Outcome expectation based theories assumed that performance was influenced by two things: the expectancy that behaving in a particular way would lead to a given outcome, and the desirability of that outcome to the individual. Social cognitive theory, and particularly self-efficacy, rejected the idea that behavior was driven strictly by the principles of rewards and punishments, and introduced the concepts of emotional desires and benefits into the determination of behaviors. Bandura, (1977, p. 79) stated "Individuals can come to believe that a particular course of action will produce certain outcomes, but question whether they can perform those actions". The primary concepts in the theory include human agency, outcome expectations, self-efficacy, and efficacy expectations.

Human agency is defined as acts performed intentionally by an individual for the purpose of obtaining a specific goal. Effects are the results produced by these actions and may be quite different from the original intention of the action (Resnick, 2004).

Outcome expectations are defined as a person's estimate that a given personal behavior will lead to certain outcomes. These expectations can be defined either by the individual or another person. Valuing an outcome expectation is important to goal achievement, but is not by itself predictive of successful attainment of the outcome. Outcome expectations are highly dependent on self-efficacy expectations (Resnick, 2002).

Self-efficacy is defined as judgments of personal capabilities. It is interpretation by the individual of their capability to perform a specific task (Bandura, 1997). Self-efficacy is a major determinant of self-efficacy expectations, which directly affect an individual's actual performance, or behavior, related to the expected outcome (See Appendix A). An individual's belief in their ability to produce the desired outcomes has a direct influence on performance, persistence, and behavioral choices (Maag, 2004). Self-efficacy is frequently used synonymously with self-confidence, but is more accurately described as the combination of self-confidence and the motivation to act on their abilities (McConville & Lane, 2006).

Outcome expectations are highly dependent on efficacy expectations. If an individual highly values an outcome but does not believe they can accomplish the task, their efficacy expectations will be low and will not match the outcome expectancies to produce the desired behavior or outcome. If an individual believes that they can accomplish a task or attain a goal, their efficacy expectations are high and are more likely to match outcome expectancies and produce the desired behavior (Bandura, 1997; Resnick, 2002).

Self-efficacy expectations effect whether an individual will choose to perform a behavior, how much effort to expend on the behavior, and how long to maintain the effort to perform the behavior (Barta & Stacy, 2005; Jenkins & Ladewig, 2001; Jenkins, Shavione, Budd, Waltz, & Griffith, 2006; Resnick, 2002; Robinson-Smith & Pizzi, 2003). Clark, Owen, and Tholcken (2004), stated that

people take action when they hold efficacy and outcome expectations that make extra effort seem worthwhile.

Several authors discussed the relationship between the level of self-efficacy and the probability that the individual would persist in performance of the behavior. Fenollar, Roman, and Cuestas, (2007) found that self-efficacy had the strongest indirect effect on performance by influencing how students use their knowledge and skills. Two studies, one using a cardiovascular nutrition module to enhance self-efficacy and patient care, and another using a health promotion counseling intervention, noted an increase in self-reported application of these skills post study (Carson, Gillham, Kirk, Reddy, & Battles, 2002; Spence-Laschinger, McWilliam, & Weston, 1999). While increased self-efficacy is seen primarily as beneficial to the learner, other studies have addressed the impact of a mismatch between perceived and actual self-efficacy. Students may not realize their limitations and fail to take advantage of learning opportunities, and more importantly, fail to seek assistance appropriately (Vancouver & Kendall, 2006).

Self-efficacy is not synonymous with self-esteem (McConville & Lane, 2006). Self-esteem is a broader concept that estimates how an individual feels about their overall sense of self worth and is not specific to the outcome being considered. Zimmerman (2000) states that self-esteem poses self-evaluative questions such as “How good are you in English?” while self-efficacy focuses on task specific performance and would ask “How certain are you that you can diagram this sentence?” (p. 84). In nursing an example of self-esteem would be “How good a

nurse are you?” while self-efficacy would ask, “How certain are you that you can care for patients in a complex healthcare environment?”

Self-efficacy as defined by Bandura, is behavior specific and dynamic. Measuring self-efficacy when the individual is unsure of what exactly is being measured might be better identified as measuring general self-esteem. Self-efficacy does not have trait-like stability over time and setting, and therefore may be impacted by outside influences. Efficacy beliefs are developed through four main information sources, or antecedents: enactive attainment or performance of mastery tasks (mastery of similar tasks), vicarious experience (observation of role models), verbal persuasion (positive reinforcement), and self-evaluation of physiological state (reflection of personal reactions throughout the experience). If information from these sources is presented in a positive manner, self-efficacy can be increased with a resultant increase in attainment of desired outcomes (Bandura, 1997).

Nursing is in an ideal position to utilize self-efficacy theory because of the frequent interactions and inherent trust between nurses and their clients and families (Robinson-Smith & Pizzi, 2003). Most of the early testing in nursing was conducted in cardiac or orthopedic rehabilitation settings. More recently, the theory has been tested in chronic illness and rehabilitation, health promotion, education, and administration. (Barta & Stacy, 2005; Dillon, Lending, Crews, & Blankenship, 2003; Hiltunen, Winder, Rait, Buselli, Carroll, & Rankin, 2005; Jenkins & Ladewig, 2001; Neafsey & Shellman, 2002; Robinson-Smith & Pizzi, 2003). The focus of these studies ranged from identification of the effects of self-efficacy on goal achievement

and the impact of antecedent activities on self-efficacy, to the testing of self-efficacy measurement tools, and the application of interventions to increase self-efficacy.

Antecedents to Self-efficacy- Basic Information Sources

Performance of Mastery Tasks . Enactive attainment, also used synonymously with the terms mastery experience or performance accomplishment, has been identified as the strongest influence on self-efficacy (Bandura, 1995; Rosen, 2000). It directly influences self-efficacy through personal experience or actual performance. If an individual is successful in an activity, it increases their belief that they can repeat the action, or improve upon that action. This positively increases self-efficacy and encourages the individual to attempt more complex tasks. The reverse may also be true. If an individual is unsuccessful in an activity, then self-efficacy may decrease (Barta & Stacy, 2005). An occasional failure, however, can be instrumental in identifying what additional efforts are required, and provides an incentive to the learner to acquire the knowledge and skills necessary to meet their goals (Robinson-Smith & Pizzi, 2003; Vancouver & Kendall, 2006). Lee (2007) stated that students with high self-efficacy were more likely to seek assistance than those with lower self-efficacy, who simply accepted failure as “their fault”.

Lee and Klein (2002) addressed self-efficacy in a slightly different manner by looking at the influence of both self-efficacy and self-deception on individuals. Self-deception had a negative impact on learning by tricking the learner into believing that they either already know the information or that they do not need to study. When self-deception was present in highly efficacious individuals, the effects of self-

efficacy remained stable over time, while the effects of self-deception decreased over time. Jeffreys (1998) also addressed this issue and stated that “at risk” students were “supremely efficacious”, overestimating their academic supports and underestimating their supportive strategies.

Clinical experience provides the ultimate opportunity for performance of mastery tasks for nursing students. Goldenberg, Iwasiw, and MacMaster (1997), measured self-efficacy of both students and preceptors following a senior clinical preceptorship, and found a significant increase in self-efficacy noted in the students but not in the preceptors. These findings suggest that preceptors already have high self-efficacy prior to the experience, while students benefit from the experience with increased levels of self-efficacy.

By allowing students to practice skill mastery in a safe environment, the use of simulation experiences has also been studied as a means to increase self-efficacy (Goldenberg, Andrusyszyn, & Iwasiw, 2005; Madorin & Iwasiw, 1995). Use of simulation experiences may also be viewed as a vicarious experience for individuals who are observers in the scenarios.

Vicarious experience. Vicarious experience, or role modeling, raises and strengthens perceived self-efficacy by observing and/or sharing the performances of others (Hiltunen et al., 2005). Hayes (1998) examined mentoring as a combination of vicarious experience and enactive attainment. Within this experience, students observed the mentor as role model, and then were encouraged to slowly assume the observed role. “The power of belief, followed by increasing freedom and

responsibility, promotes the enhancement of self-efficacy and a sense of competence” (Halloran, 1989, p.54). Mc Conville and Lane (2006) examined the use of video clip materials depicting difficult and delicate patient situations and measured increases in communication self-efficacy. Vicarious learning may also be enhanced through the use of web-based, or e-learning, as demonstrated in a study of ICU nurses by Docherty, Hoy, Topp, and Trinder (2005).

Verbal persuasion. Verbal, or social, persuasion may be described as any type of encouragement, verbal or non-verbal, that influences an individual regarding their abilities. This may be as simple as an encouraging nod of the head, or a planned dialogue on the abilities of the individual (Hiltunen et al., 2005). Harvey described lecture as a means of verbal persuasion. The use of active learning strategies in nursing education may be valuable sources of verbal persuasion (Ford-Gilboe, Laschinger, Laforet-Fliesser, Ward-Griffin, & Foran, 1997). An example may be seen in group work activities. Alavi and McCormick (2007) examined the effects of interdependence in group tasks on the development of self-efficacy and recommended beginning the use of group work early in the academic process. Jeffreys (1998) recommended the creation of a collaborative support network to enhance student success. This network included not only peers and faculty, but also family and friends.

Physiologic feedback. Physiologic feedback is defined as interpretation of symptoms, both physiologic and emotional, in relation to the ability to reach the desired goals. It is sometimes difficult to recognize physiologic symptoms as

positive or negative feedback of an action. Anxiety and pain can be misinterpreted as physiologic indicators of failure instead of psychological indicators of stress inherent to new or difficult situations (Hiltunen et al., 2005). Barta and Stacy (2005) stated that individuals are more likely to expect success when they do not experience anxiety, fatigue, and other symptoms of physical inefficacy. Ofari and Charlton (2002) tested a model of the effects of self-efficacy, locus of control, academic worries, and expectations on students' decisions to seek support. Findings from the study included support for the premise that recognition of academic anxieties encouraged support seeking and success in the program.

Self-Efficacy for Readiness for Practice

Educational self-efficacy has been investigated in individuals at various ages from toddlers to adulthood, and in a variety of educational settings, both formal and informal. Self-efficacy is a contributing factor to increased success in students with equivalent academic abilities (Chacko & Huba, 1991). Mavis (2001) stated that competent performance requires not only knowledge and skills but also beliefs of personal efficacy to use both effectively. Nursing student self-efficacy expectations involve graduating with the knowledge base and performing the various skills necessary to become a registered nurse. Outcome beliefs relate to the expectation that this education leads to the status of being a member of the nursing profession (Harvey & MacMurray, 1994).

Few studies have been conducted related to preceptorships in undergraduate nursing education and readiness for practice. An evidence base for the specific

influence of various learning experiences has not been established (Ford-Gilboe et al.1997). Goldenberg, Iwasiw, and MacMaster (1997) measured the perception of self-efficacy of nursing students and nurse preceptors, before and after a twelve-week precepted clinical activity. Questionnaires rated self-efficacy on fifty-two behaviors. Paired t-tests were used with a resultant $p < 0.01$ indicating a significant increase in self-efficacy mean scores for the students. No change in the self-efficacy scores for the preceptors related to their own performance was noted. The study did not present validity indicators and no evidence of replication of this study was identified in the literature. The length of the questionnaire, and the time required to complete the instrument could be burdensome to participants. The results of the survey suggested that an increase in self-efficacy did occur immediately following the preceptorship experience, but offered no insight into the factors that influenced the change.

Babenko-Mould, Andrusyszyn, and Goldenberg (2004) examined the impact of computer conferencing on student self-efficacy during a final clinical practicum experience. Based on the theory of self-efficacy and supporting literature, an individual's perception of their own ability to complete specific tasks is predictive of how well they will actually perform the task. The measure of self-efficacy is task specific, so identification of specific tasks essential to beginning nursing practice guided the development of the items on the researcher designed Self-Efficacy for Professional Nursing Competencies Instrument (SEPNCI), based on the Canadian Nurses Association's Blueprint for the Canadian Registered Nurse Examination.

Students were asked to rate their self-efficacy (defined as their self-confidence to perform a skill) on 183 behaviors using a scale of 1 to 100. Results showed a significant increase in reported self-efficacy for professional nursing skills following the clinical practicum experience and concluded that clinical practice increased the students' beliefs in their abilities as soon-to-be nurses.

Gaps in the Literature

The Canadian study by Babenko-Mould (2004) represented the only study directly linking a clinical experience to tasks expected of a new graduate, yet it is a commonly held assumption that this clinical model is effective. In addition, the question of transferability of self-efficacy during the educational process into the transition period for the beginning practitioner needs to be addressed because self-efficacy is dynamic and unique to every situation. No studies were found that directly compared the effects of self-efficacy as a student to the vulnerable transition period of the new graduate. If increased self-efficacy during the final semester does impact the graduate in their transition period, then a final clinical immersion experience may become a standard for nursing preparation in the future.

In this study, variables within the clinical internship experience are examined for potential influence on the perception of readiness for practice of baccalaureate nursing students enrolled in their final semester of school. Many factors might impact self-efficacy of nursing students in the clinical setting, including: high anxiety, knowledge deficit, complex patient care needs that are beyond the capability of the student, fear of evaluation, negative relationship with instructor, negative

relationships with staff and preceptors, and negative role modeling by the staff and instructor (Chan, 2002; Keith & Schmeiser, 2003; Tang, Chou, & Chiang, 2005; White, 2003).

Clinical internship experiences provide an opportunity for students to practice skills they will be performing as a beginning practitioner (performance of mastery skills and physiologic feedback), while paired with a preceptor (vicarious experience and verbal persuasion). The desired outcome of the phenomenon of concern is increased student perception of readiness for practice.

The BSN student in their final semester of study, is the “Person” identified in Bandura’s Theory of Self-efficacy (see Appendix A) for this study. The clinical internship with the influencing antecedents was the intervention for the study. The study did not control, or alter, the clinical internship as these were already established by the schools. The clinical internship was predicted to increase self-efficacy expectations of the student and an increased perception of readiness for practice. This increased perception of readiness for practice will lead to desired behaviors as a graduate nurse that will have a positive influence on nurse satisfaction and provision of safe care. Appendix B shows the application of this study (the perception of readiness for practice following a clinical experience) into Bandura’s Self-efficacy model. The following model (Figure 1) reflects a portion of the larger Role of Readiness for Practice in Self-efficacy Model (Appendix B) and will guide the study.

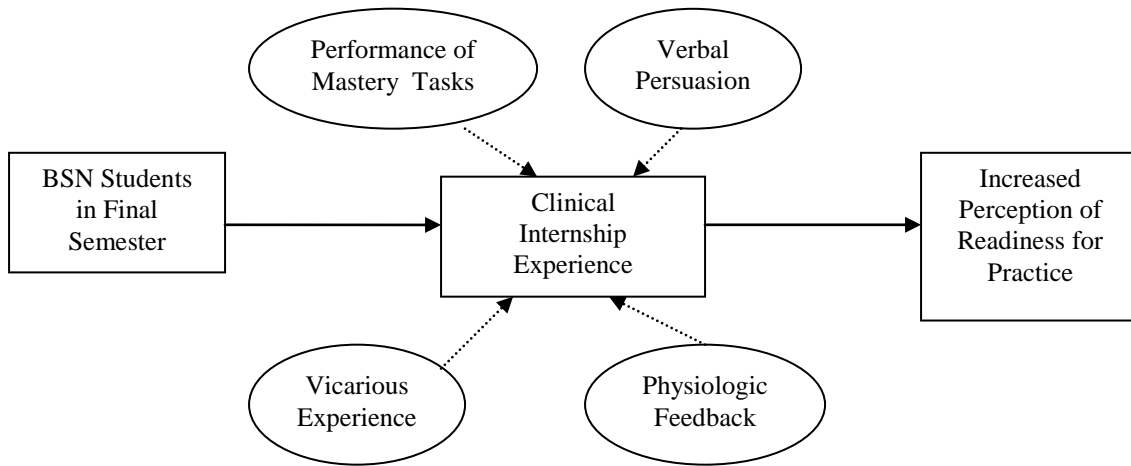


Figure 1. Influence of the clinical internship experience on the perception of readiness for practice. Antecedents to self-efficacy are present in the clinical internship experience and contribute to increased self-efficacy of the student. Increased self-efficacy following the clinical internship experience will lead to an increased perception of readiness for practice.

In the proposed study, the total number of hours of the internship, type of unit assignment, and the concentration of the assignment during the internships will be examined for their influence on the self-efficacy of students for readiness for practice. Ford-Gilboe et al. (1997) found that clinical experience was the primary influence on student self-efficacy regardless of previous healthcare experience, age, or program of study. For this study, additional information gathered from the students will be used to control for extraneous variables that also might affect outcomes from the study. These variables represent commonly held assumptions related to clinical performance.

- GPA - Current grade point average is a reflection of academic success and it is assumed that this success will carry over into the clinical learning environment.
- Age - As individuals mature, they are assumed to value their education more highly and set higher goals for themselves, yet Ofori and Charlton (2002) found that older students have decreased self-efficacy.
- Gender and Ethnicity – The majority of nurses are white and female. Males and some ethnic groups are still in a minority in nursing, so potential differences in self-efficacy will be explored.
- Prior or Current Employment in a Healthcare Setting - Some students have been or are currently employed in a healthcare setting while in nursing school. Some schools of nursing require students to complete certified nurse aide training or to have prior employment in a healthcare environment prior to entering nursing school. Mozingo et al. (1995) found that employment in a healthcare setting was positively correlated with perceived competency. This is consistent with Bandura's belief that increased opportunities for skill practice and role modeling may result in an increase in self-efficacy.
- Prior non-nursing baccalaureate degree - Students who have been proven successful in prior educational endeavors are often perceived to be ready to handle further educational challenges and are therefore more likely to be successful in future endeavors.

- The variables of the school related to class size, type of curriculum, and setting have not been studied in relation to self-efficacy in any prior studies in the literature.

Summary

Baccalaureate nursing students graduate with the assumption that they are ready to begin practice as an advanced beginner in the healthcare setting, yet many students indicate that they lack confidence in their preparation. Clinical education has always been considered the mainstay of educational preparation for nurses but little evidence exists to support this claim. Rapidly evolving technology changes, increasing complexity of patient care needs and resultant safety concerns, the current nurse shortage, and the nurse faculty shortage all indicate that changes in nurse education must occur. New graduates and employers indicate that a gap exists between the educational process and the realities of the workplace, leading to high anxiety, job dissatisfaction, and increased nurse turnover rates that further complicate the nurse shortage and impact the delivery of safe patient care. New graduates repeatedly state they want more time in the clinical area, but there is no evidence base to support the addition of more clinical hours, and no way to provide these additional hours due to nurse faculty shortages, and limited clinical sites and preceptors. The number of hours, how the hours are scheduled (or concentrated), and the type of clinical units assigned for the final clinical internship experience will be examined for potential effects on student's perception of readiness for practice to contribute to an evidence base for curricular revisions for nursing education.

Chapter III

Methods

Design

An explanatory mixed methods design was used to test the research hypotheses and answer the research questions of the study. In the quantitative phase of the study, the CFRPS was used to collect data from senior baccalaureate nursing students twice during their final semester of study. A quasi-experimental pretest-posttest within-participants design was used for hypothesis testing (Shadish, Cook, & Campbell, 2002). In the second, qualitative phase of the study short interviews were conducted with sixteen study participants. Information collected during the interviews was used to build upon the initial quantitative results, helping explain significant and non-significant results, and to explore additional information related to factors in the clinical internship that could influence the students' perception of readiness for practice (Creswell & Clark, 2007).

Students were invited to complete the *Casey-Fink Readiness for Practice Survey* ©2008 (CFRPS) twice during the study. An immersion clinical internship experience was identified as the intervention used in the study. Students enrolled in a course that included a clinical internship experience are referred to as the internship group. Students attending a school that did not have a final semester clinical internship experience are referred to as the comparison group. Quantitative data collection using the CFRPS was completed at the beginning the clinical internship experience for students in the internship group and during the first half of the

semester for the comparison group. After completing their clinical internship experience, the internship group was invited to complete the CFRPS again. Students in the comparison group were invited to complete the CFRPS during the final month of the semester.

All data gathered at both times during the study were used to assess the psychometric properties of the CFRPS. Quantitative data from the CFRPS were then used to test Hypotheses 1 - 5. Individual interviews with students were conducted following completion of the second CFRPS to gather information to address Research Questions 1 and 2. Information from individual qualitative interviews was interpreted using a content analysis process. Information from these individual qualitative interviews was used to provide a richer interpretation of the students' perception of readiness for practice and of factors within the clinical learning experience that fostered or hindered their perception of readiness for practice as a graduate nurse. Examples of information that were explored include the number of clinical hours, contact with preceptors and faculty, and perception of acceptance by staff on the assigned unit. Information from the interviews was compared to overall results of the quantitative portion of the study.

Dependent Variable in the Study

Perception of readiness for practice as a graduate nurse in the roles of provider of care, designer/manager/coordinator of care, and member of the nursing profession was the dependent variable of interest in this study. Readiness for practice is assumed on successful completion of a baccalaureate nursing program and

successful licensure following NCLEX-RN passage, but many new graduates do not feel confident in their ability to enter practice. High self-efficacy, or self-confidence, for the identified roles has been identified as an indicator that new graduates are more likely to perform successfully and to accept new learning challenges, so measurement of perception of readiness for practice could be a useful indicator of how the new graduates will transition into the workforce.

Perception of readiness for practice was measured by asking study participants to rate their degree of comfort or confidence on 20 items in Section 5 of the CFRPS. Independent variables related to the clinical learning environment, individual student characteristics, and individual school characteristics were examined for influence on changes in perceptions of readiness for practice following a clinical internship experience.

Independent Variables in the Study

The primary independent variables considered during the study included: total hours of the clinical internship experience, type of immersion experience (concentration of hours), and type of assigned unit. Information related to several extraneous variables that potentially impacted results of the study also were collected. This information included student independent variables and school independent variables. Student variables included: age; gender; ethnicity; student self-reported GPA; prior baccalaureate degree; and prior/or current work experience in a healthcare setting. School variables included: number of clinical hours in the

final clinical experience; size of the nursing class; setting of the school (metropolitan or rural); and type of school (private or public).

Independent Variables in the Clinical Environment

Three primary independent variables in the clinical learning environment were examined in this study. These variables were: total number of clinical hours in the internship experience; type of clinical internship experience; and type of unit assigned to the student.

Total hours of the clinical internship experience. While some states, such as Kentucky, have mandated the minimum number of clinical internship hours, it is usually the responsibility of the school to determine the total hours. Neither Kansas nor Missouri have specified a minimum or maximum number of hours to be included in the final clinical internship experience. Basic principles associated with experiential learning and self-efficacy theory would anticipate that as the number of clinical hours increases, so would self-efficacy. Determination of an optimal number of hours would provide evidence-based information to schools and scheduling committees to use when determining clinical placements within communities.

Type of clinical internship experience. For the purpose of this study, the clinical internship experiences are considered to be immersion experiences. An immersion experience is defined by the American Association of Colleges of Nursing (AACN) as “clinical experiences with a substantive number of hours in a consistent clinical setting over a concentrated period of time” (AACN, 2008b, pg 33). A great deal of variability in the scheduling, or concentration of internship hours

can occur. For example, an internship that is forty hours per week for three weeks might be defined as an immersion experience. So also, might a clinical practicum experience of ten hours per week for twelve weeks. Both require the student to spend a total of 120 hours in the clinical setting, but there is no existing evidence that there is a benefit to either method of scheduling. Specific information related to the scheduling of the clinical internship hours was gathered from faculty at the representative schools prior to administration of the first CFRPS and confirmed by students on the second administration of the CFRPS.

Type of Assigned Unit. The type of unit, or setting, of the clinical immersion experience was examined to determine a possible effect on self-efficacy. Common practice has been to assign students to general medical or surgical units, but no studies were found in the nursing literature that examined the effects of assignment to different types of units for the clinical internship experience. The type of unit, medical-surgical (traditional) versus other non-traditional sites (such as a perioperative setting or labor and delivery), was examined for impact on the perception of readiness for practice. If no change in perception for readiness for practice is noted, this could potentially increase the number of sites available for assignments during clinical internships.

Individual Student Independent Variables

Many other variables may affect the outcome measure of self-efficacy for readiness for beginning practice. Several characteristics of the students were tracked and examined for possible impact on the dependent variable. ANOVA analysis of

age, gender, ethnicity, self-reported GPA, prior non-nursing baccalaureate degree, and prior or current employment in a healthcare setting was conducted to check for assumption of equal variance, and any significant impact on the dependent variable. Any factors that were not significant were eliminated from further consideration in the study.

Individual School Independent Variables

All nursing schools have the same goal of graduating students who are prepared to take the NCLEX-RN examination and are ready to assume the role of a beginning nurse in the workforce. Certain variables within the individual schools may impact the perceived confidence or self-efficacy of the students for readiness for practice. Several of these variables were tracked and examined during the study. These variables included: size of the class at the participating school, location of the school (urban or rural), and type of school (public or private). ANOVA analysis of these variables was conducted to check for assumption of equal variances and any significant impact on the dependent variable. If no significant effect on the dependent variable was noted, the individual school characteristics were eliminated from further consideration in the study.

Participants

Participants for Hypotheses

A census sampling of baccalaureate schools of nursing in colleges and universities in Kansas and central Missouri was used as the sampling group for the study (see Appendix C). Random assignment into groups was not possible as

individual schools have specific course requirements for their students and unique school characteristics. Baccalaureate nursing students enrolled in their final semester of study were recruited as the subjects for this study. The deans or directors of 23 schools of nursing were contacted for approval to recruit students for the study. Preliminary interest in the study was indicated by seventeen schools through email inquiry and fifteen schools actually participated in the study. Two schools indicated that they did not have a clinical internship course during the final semester. Students from these schools were recruited to participate as the comparison group for the study. A letter of consent from the schools was obtained prior to initial contact with the students at each school. In addition to approval by the University of Kansas Medical Center Institutional Review Board, approval from individual institutional review boards were obtained as necessary (see Appendix G).

Verification of student course enrollment and academic standing was obtained from the instructors prior to every collection of data. Only students in good academic standing who were not already licensed registered nurses were eligible to participate in the study. Surveys from three students who were already registered nurses were removed from the study. One student was removed from the study because of a change in academic standing.

Participation in the study was voluntary. Participants signed a consent form prior to completing the CFRPS for the first time. Students were reminded that they could withdraw from the study at any time without any effect on clinical placements, preceptor assignments, course grade, or progression in the nursing program.

Continued consent for participation in the study was implied through completion of the second CFRPS.

Students are considered to be a vulnerable population so special care was taken to preserve confidentiality of individual student information. When completing the CFRPS for the first time, students created a Student Identifier Form to be used by the investigator to anonymously track CFRPS data (see Appendix H). The students completed the Student Identifier Form by using an identifier of their choice (initials, ID number, nickname, etc.) and a random number selected from an investigator provided box. This random number was also recorded on the CFRPS. The investigator retained all Student Identifier Forms separated by school and returned these forms for use by the students again during the second administration of the CFRPS. Participants retrieved their own Student Identifier Form and drew a second number from the investigator provided box, which was recorded on the Student Identifier Form and on the second completed CFRPS. This allowed the investigator to match results from both the first and second completed CFRPS forms.

After matching of the identifying numbers, all Student Identifier Forms were placed in a common file without identifying school information. Information related to individual school performance was not reported in the study results. However, individual schools were offered an opportunity to review results for their programs. When school specific data were shared with the individual school, all information that might lead to the identification of individual students was removed.

No identical prior studies are available to determine a priori effect size, but a moderate effect size was anticipated based on results from other self-efficacy studies (Babenko-Mould et al., 2004; Goldenberg et al, 1997). Power analysis was used to calculate a minimum sample size based at an alpha set at 0.05 to minimize the risk of a type I error and beta set at 0.8 to minimize the risk of a type II error for Hypothesis 1 (Cohen, 1992). Based on this calculation a minimum target size of 200 participants was anticipated which would provide adequate power, while allowing for attrition during the study. Effect size and power was recalculated using final results of the study.

Participants for Research Questions

Participants from each school completing the CFRPS for the first time were asked to indicate willingness to participate in a brief interview later in the study. Purposeful sampling to achieve maximal variation sampling determined selection of individuals for interviews (Patton, 2002). Volunteers from a variety of schools were invited to participate in interviews based on the following inclusion criteria:

- Students with high or low scores on the first CFRPS
- Students in schools with extremes of numbers of clinical hours (less than 125 hours or greater than 250 hours)
- Students in schools without a clinical internship (comparison group)
- Students in schools with a clinical internship (internship group)
- Students in schools with a concentrated clinical internship experience concurrent with other coursework or at the end of the semester

- Students in schools with a clinical internship spread throughout the semester

Individuals with extremes of scores (high and low) on the first completion of the CFRPS were identified as possible participants in the interviews. Two students with low scores and two students with high scores from each school were identified. In addition, two students from each group created by the identified characteristics (high number of clinical internship hours, low number of clinical internship hours, comparison group, internship group, concentrated immersion experience, or non-concentrated immersion experience), were chosen to participate in the interviews. Selection of potential participants for interviews by use of these criteria ensured that all students were eligible for selection for an interview, but also allowed for maximal variation in the study independent variables.

Sixteen participants from the pool of potential participants were invited to participate in the interviews. Four of the selected individuals could not be reached, or declined participation when contacted to schedule the interview, so additional participants from the identified groups were contacted. Student identifiers assigned during the quantitative portion of the study also were used in the qualitative portion of the study to maintain confidentiality of the participants.

Setting

Initial orientation to the study was presented at each school by the investigator or her designee. Faculty members responsible for the courses were asked to schedule approximately ten minutes of class time for recruitment of participants,

and to provide assistance in determining suitable locations and times for administration of the CFRPS. To optimize student participation, the CFRPS was administered at the beginning of a class or immediately following a scheduled class time. Completion of the CFRPS took approximately fifteen minutes. Individuals selected to participate in individual interviews were contacted to arrange a date and time for the interview. Interviews lasted approximately fifteen minutes.

Data Collection

Permission for school participation in the study was obtained from each individual school's Dean or Director prior to any student contact. Information related to clinical learning environment and school specific independent variables was obtained from the Dean or Director of each school (or their designee) at the beginning of the study. This information was used to identify subgroups (type of experience, hours, etc) within the sample and confirm adequate sample size within these subgroups. This information was recorded by the investigator using the form "Data Collection Form for School Characteristics" (see Appendix I).

The investigator was responsible for all materials used in the study and for administration and collection of the CFRPS. Confidentiality of responses was maintained throughout the study. A list of student identifiers and corresponding number identifiers was maintained in a locked file by the investigator. Data were entered into a SPSS data file by the investigator. The original CFRPS sheets and identifier information files were stored in a locked file until completion of the study.

The data files will be retained for a minimum of ten years in a secured location by the investigator.

First Administration of the CFRPS – Group 1

Students were invited to participate in the study during a ten-minute overview presentation of the study. This overview presentation was scheduled prior to the first scheduled day of the clinical immersion experience for the internship group, and at any time during the first half of the semester for students in the comparison group. In addition, students who had already completed up to 36 hours of their clinical internship experience were enrolled in the study. Individual consent forms for the study were distributed to potential participants and completed prior to distribution of the CFRPS. Volunteers for the qualitative portion of the study were asked to complete the “Contact Information Sheet for Interview Volunteers” (see Appendix J), providing contact information and the estimated date of completion of their clinical internship experience. Course description and information related to the clinical learning environment was collected and/or verified with the course instructor by the study investigator.

Data were collected using the CFRPS (see Appendix D) following the overview presentation by the investigator. Administration of the CFRPS was conducted by the investigator, or her designee, in a classroom located at the participating schools. Student participants recorded their responses directly on the CFRPS form and were encouraged to complete all items on the CFRPS to minimize missing data. Students were encouraged to review their forms for any unanswered

questions before turning in their CFRPS. The completed CFRPS forms were placed in a box provided by the investigator and kept in a secure location at all times, separate from forms containing any student identifiers. The CFRPS provided information for independent student variables and the pre-intervention measure of the dependent variable, perception of readiness for practice.

Intervention

After completion of the CFRPS for the first time, students in the comparison group continued in scheduled courses. Students in the internship group were enrolled in a course that required completion of a clinical internship experience.

Arrangements specific to the clinical internship experiences were completed by various course faculty. Faculty followed normal course routines related to monitoring and evaluating students at their assigned sites throughout the experience.

Second Administration of the CFRPS – Group 2

Administration of the CFRPS for participants in the comparison group was scheduled in the final four weeks of the semester. For participants in the internship group, administration of the CFRPS was scheduled within two weeks after all participants in each individual school of nursing had completed their final scheduled clinical internship experience. All students had to be in good academic standing and students in the internship group had to successfully complete their scheduled clinical internship experience for inclusion in the study. Data from one student not meeting these criteria were removed from the study. Administration of the CFRPS was conducted in a classroom located at the participating schools, immediately following

a scheduled class time to promote continued participation in the study. Information related to the clinical environment independent variables and a post intervention assessment of the dependent variable, readiness for practice were obtained using the CFRPS

To achieve maximal variation in the qualitative portion of the study, students who volunteered for the interviews were selected by purposive sampling. Potential participants were identified by identifier number for invitation to participate in the interviews based on the criteria for subject selection as outlined in the Participants for Research Questions section of this paper. Based on results from the first administration of the CFRPS, individuals from each school were identified based on the criteria. At least four individuals were identified from each school. An individual not involved in the study selected one participant from each school at random, to be invited for the initial interviews. The investigator then matched the identifier numbers to contact information provided by the students. These individuals were invited to participate in an interview with the investigator after completing their second CFRPS. Individuals could decline to participate in the interviews at any time prior to, or during the interview. If an individual withdrew or declined participation at any time, another individual from the initial combined group of all individuals identified by the selection criteria was randomly selected and invited to participate in an interview.

Research Questions 1 and 2 were designed to gather information from students about the concept of readiness for practice, and how the clinical internship

experience contributed to their readiness for practice. Research Question 1 explored how the student defined readiness for practice and their own self-evaluation of readiness for practice as a graduate nurse. Research Question 2 was designed to elicit information from the participants about specific factors within the clinical internship experience that they felt impacted their perception of readiness for practice. Several open-ended questions were used to initiate discussion during the interviews. Open-ended questions included:

- How would you define “readiness for practice”?
- How do you feel your clinical experience affected your readiness for practice?
As a provider of care? As a designer/manager/ coordinator of care? As a member of the nursing profession?
- Were there any specific activities or experiences during your clinical internship that were especially helpful to you as you prepared to transition to the role of graduate nurse?
- Were there any specific activities or experiences during your clinical internship that hindered you as you prepared to transition to the role of graduate nurse?

Interviews were scheduled to last approximately fifteen minutes. At the conclusion of each interview, the investigator presented a summarization of information that had been exchanged during the session. Participants were asked to clarify, affirm, or revise information as a form of member-checking to increase trustworthiness of the study (Patton, 2002). The discussions were audiotape recorded. Audiotapes were transcribed verbatim by the investigator who had been

trained in qualitative transcription procedures. Participants were advised that the sessions would be recorded prior to beginning the actual discussion. Participants were reminded that the discussion was confidential, and were assured that all information used in the study would remain anonymous. To maintain the principle of trust, which is intended to ensure the security and confidentiality of the data, all data were stored in a locked file in the office of the investigator (Rosenthal & Rosnow, 2008).

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Perceptions of self-efficacy and the impact of self-efficacy on behaviors, are dynamic and situation specific. Resnick (2004) states that instrument development should include measures that address the magnitude, degree of confidence, and generality of the individual's perceived self-efficacy. Because self-efficacy can only be defined by the individual, it is measured through self-report. Bandura recommended use of a 0 – 10 scale allowing individuals to rate their self-efficacy at any point along this continuum. Other investigators have used Likert type scales that vary in the number of choices from 1 to 4 (Goldenberg, Andrusyszyn, & Iwasiw, 2005), 1 to 5 (Neafsey & Shellman, 2002), or 1 to 11 (Jenkins et al, 2006).

Most studies in the nursing literature reported analysis of pre and post intervention data using t-tests (Barta & Stacy, 2005; Jenkins et al., 2006). Some studies used other evaluation tools concomitantly and evaluated results using ANOVA (analysis of variance) or correlation statistics. Maag, (2004) compared changes in self-efficacy scores with changes in math scores following a one-hour interactive on

line video intervention. McConville & Lane, (2006), used multivariate analysis of variance when evaluating the effectiveness of two different teaching techniques over the course of a semester.

The outcome measurement tool that was used for the quantitative portion of this study is the *Casey Fink Readiness for Practice Survey* ©2008 (CFRPS). This tool was developed by Dr. Regina Fink and Kathy Casey MS, RN in 2008, and was based on results from a previous survey called the *Casey-Fink Graduate Nurse Experience Study*, which has been used extensively as an evaluation tool for a post-baccalaureate graduate nurse residency program sponsored by the University Health System Consortium and the American Association of Colleges of Nurses (Fink et al, 2008). A Cronbach coefficient α of .89 has been reported for the *Casey-Fink Graduate Nurse Experience Study*. The instrument has been used to collect data at 37 academic hospital sites, to over 5000 graduate nurses during their first year after graduation.

The CFRPS is a new tool for use with current students or new graduates. It is designed to gather information from individual participants related to their final clinical experience and their perceptions of readiness for practice as a graduate nurse. The CFRPS is currently being used by Dr. Fink and Kathy Casey in studies at the University of Colorado. The CFRPS was approved for use in this study by Dr. Fink and Kathy Casey. Because the CFRPS is a new survey, psychometric analysis of the instrument was conducted prior to beginning data analysis of Hypotheses 1 through 5.

The CFRPS (see Appendix D) can be divided into six main sections. Students in the comparison group were asked to complete Sections 1, 3, 4, 5, and 6 at the beginning and end of the semester. Students in the internship group were asked to complete Sections 1, 3, 4, 5, and 6 at the beginning of their clinical internship experience, and all sections of the CFRPS after completion of their clinical internship experience. As self-efficacy is a reflection of current abilities, students were reminded to answer the questions in terms of what they believed they could do at time of completing the questionnaire.

Section 1 (Questions 1 – 14) of the CFRPS includes information related to the student independent variables of age (Question 1), gender (Question 2), ethnicity (Question 3), healthcare experience (Questions 5, 6, 7, and 8), prior baccalaureate degree (Question 4), and GPA (Question 10).

Section 2 (Questions 15 – 23) provides information related to the independent variables of the clinical learning environment. This includes the total number of internship hours (Question 18) and the type of assigned unit (Question 15). Because information in this section is specific to the internship experience, students in the comparison group were not asked to complete this section. Students in the internship group completed this section only after completing their clinical internship experience.

Section 3 focuses on specific skills the student is least comfortable performing. This information is of interest to nurse educators planning clinical

experiences, and also was gathered for use in revision of the current tool for future studies.

Section 4 contains three questions about the student's current level of confidence in managing a patient care assignment on an adult medical-surgical unit while caring for two, three, and four patients. Students rated their level of confidence on a 5-point Likert-type scale ranging from "1, not confident" to "5, very confident". These questions are specific to the concept of readiness for practice as a provider of care, the dependent variable for the study.

Section 5 also provides data related to the dependent variable, perception of readiness for practice. This section contains twenty questions (numbered 1-20) using a 4-point Likert-type scale identified as "Strongly Disagree", "Disagree", "Agree", and "Strongly Agree". Items # 4, 5, 8 and 9 in Section 5 are negatively worded and were reversed prior to data analysis. The items in Sections 5 are consistent with the three outcomes of a baccalaureate generalist nurse (provider of care, designer/manager/ coordinator of care, and member of a profession) as identified by AACN (2008). Section 6, the final section of the CFRPS consists of an open text question. This question allowed participants to include other information that they wished to provide related to the clinical experience.

Threats to the Design of the Study

Probable threats to the design of quantitative portion of the study were identified and addressed in the following manner. Internal validity is defined as the validity of inferences about whether the relationship between two variables is causal.

Attrition, selection, and history were all possible threats to internal validity in this study. Attrition was the most probable threat to internal validity of the study because data were collected and matched for analysis of Hypotheses 1 and 2. Completion of all phases of the study was emphasized during the initial orientation to the project, but because students were free to withdraw at any time, this threat could not be completely eliminated. Selection was identified as a potential threat in this study, as students were chosen not at random, but rather as part of convenience groups from baccalaureate schools of nursing. Collection of data related to age, ethnicity, GPA, past or current healthcare employment, and attainment of a previous baccalaureate degree, was used to help to reduce this threat. ANOVA analysis of these factors was conducted to examine the homogeneity of the sample. History was a potential threat to the analysis of data for Hypotheses 1, 2, 3, and 4, if students were also enrolled in another nursing course at the same time that they were completing their internship experience. Collection of data from the comparison group minimized this threat, but there was no way to completely eliminate this threat. While this was a potential threat to internal validity, it also increased external validity as the results of the study may be generalized to BSN students completing a clinical practicum experience at any time during their final semester of nursing school (Shadish, Cook, & Campbell, 2002).

Statistical conclusion validity refers to the covariance between two variables. In this study, statistical conclusion validity could be threatened by heterogeneity of units, or the potential for variability of the assigned clinical settings and preceptors,

and of unequal group sizes (Shadish, Cook, & Campbell, 2002). While all students in a school are expected to complete the same course objectives, each student's experiences were unique. Information related to the sites, and types of experiences was collected and no students reported a variation from the planned internship. Differences in group sizes were acknowledged in final analysis of the data.

The use of only one measure for self-reported readiness for practice, was a possible threat to construct validity, but self-efficacy is highly individualized and cannot be interpreted by outside evaluation. The use of qualitative interviews to validate the responses reduced this threat (Shadish, Cook, & Campbell, 2002).

Data Analysis

This study had two purposes. The first was to examine the psychometric properties of the CFRPS because it is a new survey and to determine the appropriateness of use of the CFRPS in this study. The second purpose of the study was to explore how a clinical internship experience in the final semester of a baccalaureate nursing program affects self-efficacy for readiness for beginning practice. All data from the CFRPS forms were entered into a SPSS database by the investigator using assigned identifiers.

Missing data were reviewed for impact on the final study results prior to beginning analysis. Range of responses in section 5 of the CFRPS was 1-4. After measures of central tendency were reviewed, the decision was made to examine eligibility for inclusion in data analysis for each hypothesis individually. If any of the questions on section 5 were left unanswered, data from that participant were not

included in the analysis of total scores or sub-scale scores. However, data from that individual were included on individual item analysis in the psychometric analysis of the CFRPS. Based on this decision, the number of subjects eligible for analysis varied depending on the data being analyzed. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 17.0.

Content validity of the survey was established using a panel of experts. These experts included a nurse faculty member involved in curriculum development, a nurse faculty member involved in clinical internship experiences, and two nurse preceptors involved in student clinical internship experiences and new graduate orientation. The group reviewed the items on the CFRPS for fit with the definition of readiness for practice as defined in this study (the ability as a graduate nurse, to assume the roles of provider of care, designer/manager/coordinator of care, and member of the nursing profession).

Descriptive statistics of the variables were analyzed for measures of central tendency. The individual student characteristics identified as independent variables for the study were examined to determine appropriateness for inclusion in the regression analysis. Based on potential disproportionate group sizes, especially for gender and prior baccalaureate degree, use of these individual variables in the study could have produced unreliable results. Measures of central tendency for each item on the scale were reviewed. A four-point Likert Scale was used for 20 of the items on the survey, so a normal distribution would predict a mean close to 2.5. A five-

point Likert scale was used for the remaining three items on the survey, with a predicted mean of 3.0 indicating a normal distribution.

Exploratory factor analysis was used to determine appropriateness of the data for further analysis and to analyze the factor structure of the CFRRPS. It was anticipated that the instrument would demonstrate factors related to the perceptions of readiness for practice as a provider of care, designer/manager/ coordinator of care, and member of a profession. These factors are identified by AACN (2008b) as the three outcomes of a baccalaureate generalist. A cutoff score of 0.3 was required for inclusion in the factor analysis.

Once sub-groups, or factors, were determined, item reliability and scale reliability were evaluated. Inter-item correlations for each subscale were used to consider possible redundancy within the items in the groups. If inter-item correlations were greater than .70, consideration was given to eliminating these items from the scale during further testing. Any items with an inter-item correlation less than .30 were reviewed for fit with the definition of the identified factors and a determination for revision or deletion from the scale was made. A Cronbach's alpha estimate greater than .70 and inter-item correlations between .30 and .70 are considered acceptable for a new instrument (Ferketich, 1990).

Alpha-if-deleted scores were calculated to determine if the items contributed to the overall effectiveness of the scale. Scores not lowering the Cronbach's alpha if deleted were examined for conceptual fit with other items in the scale and were considered for exclusion from calculation of the total score for the scale during data

analysis. Any scores not lowering the alpha also were examined for future revision or deletion from the scale.

Construct validity of the subscales and the composite were evaluated using a contrasted-groups approach. Scores from data obtained during the post intervention portion of the study were used. Students in the comparison group were compared to scores of students in the internship group, supporting the assumption that a clinical internship increases the perception of readiness for practice. Construct validity was also evaluated using a known-groups approach. Matched scores from students in the internship group were compared, testing Hypothesis 1 of the study, readiness for practice scores will increase after a clinical internship experience.

Time frames for the study were as follows:

Table 1

Time Frames

| | | |
|-------------------|-----------------------|---|
| Pre-Intervention | January 10 to April 1 | Overview presentation of the study First administration of CFRPS Determine candidates for interviews |
| Intervention | January 15 to May 10 | Continue enrollment in the study for students who have completed less than 32 hours of clinical internship experience Schedule candidates for interviews |
| Post-Intervention | March 1 to May 30 | Second administration of CFRPS Conduct interviews Begin data input and analysis of information from interviews |

Psychometric Analysis of the CFRPS

The *CFRPS* will reflect the three components of readiness for practice (provider of care, designer/manager/coordinator of care and member of a profession. Factor analysis of the 20 items from Section 5 of the *CFRPS* were analyzed as part of the psychometric evaluation of the instrument.

Analysis of Hypotheses

Analysis of Hypothesis 1: Readiness for practice scores will increase following completion of a clinical internship experience in the final semester of a baccalaureate nursing program.

This hypothesis tested the commonly held belief that clinical internships contribute significantly to student's synthesis of material presented throughout the nursing curriculum and prepares the student for integration into the workforce as a beginning practitioner. Tanner, 2002, has stated that student nurses need opportunities to be "immersed" in the clinical setting to allow time to adjust to the environment and synthesize their knowledge with reality. These opportunities are traditionally present during a clinical internship, but because students are at multiple clinical sites with various preceptors, consistent and accurate observational data related to student behaviors by faculty are limited. The *CFRPS* allows students to rate perceptions of their "confidence" in being able to perform the multitude of skills necessary in the role of a graduate nurse. Both students who are highly capable and those who are not as capable, can experience a lack of confidence. A lack of confidence increases anxiety, interferes with the ability to obtain new knowledge,

and changes how individuals approach opportunities to use knowledge and skills they already possess (Lundberg, 2008). For hypothesis 1, pre-intervention and post-intervention data from Section 5 were compared using paired t-tests. Paired t-tests were used to determine if there were significant pre to post differences in individual items, subscale mean scores, and total item mean scores.

Increases in item, section, and total mean scores were anticipated based on Bandura's Theory of Self-efficacy. During the clinical internship, students are impacted by: vicarious experience as they watch their mentor and other nurses; performance of mastery tasks as they increasingly assume care for multiple complex patients; verbal persuasion as they are given feedback from their preceptors and faculty; and a decrease in anxiety and the resultant physiologic responses as they become more comfortable with their environment and role.

Analysis of Hypothesis 2: As the number of required clinical internship hours increases, there will be an increase in total and mean scores for readiness for nursing practice. This hypothesis examined the impact of a specific variable of interest directly related to the clinical environment, the number of hours in the clinical internship. This factor is of primary interest in curriculum planning. Paired t-tests and Pearson's correlation analysis were conducted to test Hypothesis 2. It was anticipated that as the total number of hours increase, the perception of readiness for practice would also rise. This is based on the assumption that competency and self-confidence increase with practice. An increase in clinical hours is also the most frequent request for change when students are asked how to improve their

educational program. In a study of recent RN graduates, Candela and Bowles (2008) reported that 77% of the new graduates believed that their nursing program did not include enough clinical hours.

Analysis of Hypothesis 3: There will be no difference in total and mean scores between groups based on the type of clinical internship experience (concentration of hours) scheduled for the student. This hypothesis examined the impact of a specific variable of interest directly related to the clinical environment, the type of immersion experience. Clinical internships are defined as immersion experiences, but how this experience is scheduled varies tremendously. Hypothesis 3 proposed that whether the hours are scheduled in a concentrated period of several weeks, or spread throughout the semester will not make a difference in how student's perceive their readiness for practice. A two sample confidence interval and ANOVA analysis were examined to test Hypothesis 3.

Analysis of Hypothesis 4: There will be no difference in total and mean scores between groups assigned to traditional and non-traditional types of assigned clinical areas in the senior internship experience. This hypothesis examined the final readiness for practice scores of students with non-traditional unit assignments with the final scores of students assigned to traditional units. A two sample confidence interval was examined to test Hypothesis 5. The type of site for the final internship experience was not expected to make a significant difference in readiness for practice, as clinical experiences are designed to assist students to apply theoretical knowledge from the classroom into actual patient care settings. Traditionally, most

clinical internships are scheduled within medical-surgical type units, whether adult or pediatric. The growing number of nursing students and the overall nurse shortage may soon mean that this typical placement is no longer an option.

Analysis of Hypothesis 5: There will be a predictive relationship between readiness for nursing practice scores and identified factors within the clinical learning environment (type of immersion experience, type of assigned unit), individual student characteristics (gender, age, ethnicity, prior or current healthcare experience, prior baccalaureate degree, and GPA) and individual school characteristics (number of hours in the clinical internship, class size, school setting, and type of school). Hypothesis 5 examined the relationship between the dependent variable, perception of readiness for practice, and the independent variables of the study, including clinical environment factors (those factors included in Hypotheses 2 through 4), variables that are individual specific (age, gender, ethnicity, previous baccalaureate degree, previous or current employment in a healthcare setting, and GPA), and variables that are school specific (size of the school, school setting, and type of school). Results of the regression analysis of these variables may provide guidance to faculty when considering curricular changes related to the final clinical experience.

A power analysis was conducted to determine the appropriateness of the number of independent variables based on power and sample size. Finally a multiple regression analysis was conducted to explore the possibility of a predictive relationship between the scores of self-efficacy for readiness for beginning nursing

practice, and identified factors within the clinical learning environment, individual student characteristics, and school characteristics.

Analysis of Research Questions

Qualitative data from the individual interviews were used to validate information obtained from the CFRPS and to further explore how students perceived their readiness for practice and the effects of the clinical internship on those perceptions. Qualitative content analysis was used to study Research Questions 1 and 2. Content analysis is frequently used in nursing research and in this study was used to help relate the findings from individual participants to the results obtained in the quantitative portion of the study (Patton, 2002). Content analysis also was used to obtain a deeper understanding of the aim of the study, which was to examine the perceptions of readiness of beginning practice skills in senior baccalaureate nursing (BSN) students who complete an internship experience during their final semester. Information from the study volunteers was used to provide a better understanding of the experience of being a student nurse who is anticipating beginning practice as a graduate nurse. This perspective resonates with the philosophical underpinnings of phenomenology, in which the lived experience in everyday life is explored (Marshall & Rossman, 2006). No identifiers were used in reporting the findings.

Three main phases of qualitative content analysis (preparation, organizing, and analysis) were used in this study. The written transcripts were read several times to allow the investigator to become immersed in the data. Open coding of words and phrases were noted during reading of the transcripts. The coding was classified into

groups to describe and increase understanding of the phenomenon. Sub-categories were sometimes used to cover and describe all the content within each category in an easily understandable manner (Elo & Kyngas, 2008). The final identified categories and sub-categories were reviewed with several of the interviewed students to establish trustworthiness of these categories. Inclusion of quotes by the participants increased the contextual richness of the sub-categories and increased transferability of the study (Marshall & Rossman, 2006). Information obtained during the interviews was compared for agreement with the quantitative data obtained from the individual participants. Direct links between information obtained in the interviews and the data from the CFRPS were identified and described in detail to either support or negate the theoretical framework of the study.

Summary

Perception of readiness for practice as a graduate nurse in the roles of provider of care, designer/manager/coordinator of care, and member of the nursing profession was the dependent variable of interest in this study. An explanatory mixed methods design was used to test the research hypotheses and answer the research questions of the study. The CFRPS was used as a self-report instrument to evaluate students' perception of readiness for practice as a beginning practitioner. Students were invited to complete the CFRPS twice during their final semester of study. The internship group completed an assigned clinical internship experience between the first and second administration of the CFRPS. The comparison group did not have a

clinical internship experience and completed the CFRPS in the first half of the semester and again at the end of the semester.

Data gathered at both times during the study were used to assess the psychometric properties of the CFRPS. Quantitative data from the CFRPS was then used to test Hypotheses 1 - 5. These hypotheses examined the influence of independent variable in the clinical learning environment, individual student characteristics, and individual school characteristics on students' perceptions of readiness for practice following a clinical internship experience.

Sixteen students participated in interviews after completing the CFRPS for the second time. The information from these interviews was used to enhance, explain, and validate information obtained from the quantitative portion of the study.

Chapter IV

Findings

The aim of this study was two-fold. First, the psychometric properties of the *Casey-Fink Readiness for Practice Survey* ©2008 used in this study to measure readiness for practice were assessed. Second, factors such as the number of hours, type of experience, practice site during the final semester clinical experience, individual student characteristics, and individual school characteristics were examined for possible influence on student perception of readiness for practice.

Data collection for the study occurred twice during the students' final semester in their baccalaureate school of nursing (See Appendix K). Data were collected using the CFRPS from senior baccalaureate nursing students who had not yet begun their final clinical experience (Group 1A). During the Intervention Phase, students completed their nursing curricular coursework and their internship experience. Additional students (Group 1B), who had already completed the initial few days of their internship experience (up to 32 hours), were enrolled and completed the CFRPS. Finally, data were collected again using the CFRPS and in short interviews during the Post-Internship Phase of the study. All eligible students at the participating schools were invited to complete the CFRPS during the Post-Intervention phase of the study, even if they had not completed the CFRPS earlier in the semester (Group 2). Data were collected from interviews with students from Group 1 who were selected for interviews based on criteria developed to represent variables in the study, for example, high and low results on the first CFRPS, private

and public schools, types of internship experiences, and number of hours in the clinical internship experience.

Participants

Study participants were recruited from twenty-three baccalaureate schools of nursing in Kansas and Western Missouri. Seventeen schools of nursing expressed initial interest in participating in the study and fifteen schools agreed to participate in the study (Table 2).

Table 2

Participating Schools

| School | Eligible Students | Internship Hours | Type of School | Type of Program |
|-------------------------------------|----------------------|---------------------|-------------------|--------------------|
| Avila University | 43 | 132 | Private | Traditional |
| Baker University | 38 | 84 | Private | Traditional |
| Bethel College | 50 | NA | Private | Traditional |
| Cox College | 23 | 252 | Private | Accelerated |
| Emporia State University | 33 | 200 | Public | Traditional |
| Fort Hays State University | 27 | 84 | Public | Traditional |
| Graceland University | 9 | 96 | Private | Traditional |
| Kansas Wesleyan University | 28 | NA | Private | Traditional |
| MidAmerican Nazarene University | 46 | 210 | Private | Traditional |
| Research College of Nursing | 54 | 210 | Private | Traditional |
| University of Kansas Medical Center | 98 | 320 | Public | Traditional |
| University of Missouri Kansas City | 64 | 300 | Public | Traditional |
| University of Central Missouri | 17 | 104 | Public | Traditional |
| Wichita State University | 60 | 180 | Public | Traditional |
| William Jewell College | 23 | 156 | Private | Traditional |
| | 26 | 156 | Private | Accelerated |

The potential pool of study participants from these fifteen schools was 639. Students from two of the participating schools (78 students) did not have internship courses in their curriculum and were included in the study as a comparison group.

Participating schools of nursing represented both private and public universities and colleges that offered traditional and/or accelerated programs of study.

Group 1 Participants

Data for Group 1A were collected from January 28, 2009 to April 3, 2009. Data from the students in the internship group were collected prior to the first day of the scheduled internship experience in ten schools. The final pool of eligible students enrolled in, but not yet starting their clinical internship course during the final semester was 330. Completed surveys were received from 308 students (93%) prior to their first day of the clinical internship experience. Data from students not enrolled in an internship course (comparison group) were collected during the first half of the spring semester. Completed surveys were received from 64 of the 78 students (82%) of the students in the comparison group.

A potential 205 students in three schools had already started their internships before data could be collected. Data for Group 1B were collected from February 2, 2009 to February 6, 2009. These students had completed less than 32 hours in their clinical internship experience which included orientation hours at their various assigned facilities. CFRPS surveys were completed and returned by 110 students (54%). An additional 26 students had already completed more than half of their scheduled clinical internship hours and were not invited to participate in the first administration of the CFRPS.

Analysis of demographic characteristics and CFRPS scores were analyzed to establish homogeneity of the groups. Participants from Group 1A and group 1B were

combined to create the total Group1. Group1 was then split into two groups. Group 1C included all students scheduled to complete a clinical internship experience and Group1D included students not participating in a clinical internship experience.

Group 2 Participants

CFRPS. Data collection for Group 2 participants began on March 3, 2009 and was completed on May 15, 2009. The CFRPS surveys were distributed by the investigator to potential candidates at the conclusion of their clinical internship experience and/or at the conclusion of the semester. The response rate for Group 2A (internship group) was 75%, 423 out of 561 surveys were returned. In Group 2B (comparison group), surveys were distributed to 78 students and 60 were returned, for a response rate of 77%.

Interviews. At the beginning of the study, students from each school volunteered to participate in a brief interview at the conclusion of the study. Purposive sampling was used to select sixteen students for the interviews. At least one volunteer was selected from each school for the interviews ensuring a variety of types of schools, types of internship settings, types of internship schedules, and number of internship hours. A variety of total scores on the first completed CFRPS were evident in the final group of interview participants. The interviews were completed by the investigator, either by telephone or in person, between May 7, 2009 and June 5, 2009. Information from these interviews was used to provide clarification and additional information related to the role of the clinical internships in the student's perceived readiness for practice as a graduate nurse. Three students

were contacted by phone for a second interview to confirm themes identified by the investigator.

Group 3A and Group 3B Participants

Participants from Group 2A and 1C who completed all items on Part 5 of the CFRPS twice during the study (322 students) became Group 3A (matched response internship group). Participants from Groups 1D and 2B completing the CFRPS twice during the study (47 students) became Group 3B (matched response comparison group).

Demographic Data

Group 1 Participants

Group 1A. Participant's ranged in ages from 20 – 54 years with a mean age of 26.66 ± 6.89 years (see Table 4). Most students were female (90%), Caucasian (84.4%) and enrolled in schools with a traditional curriculum (94%). Average GPA reported by the students was $3.43 \pm .30$ and 21% of the students reported having a prior non-nursing degree (baccalaureate or higher). Previous health care work experience was reported by 84% of the participants, 74% were currently employed and of these individuals, 84% were currently employed in a healthcare related position. The mean average hours worked per week while in school was 17.46 ± 9.0 hours, with a maximum of 48 hours per week reported.

Group 1B. An additional 110 students who had completed 6 to 36 hours of their clinical internship experience were recruited to participate in the study. Student mean age was 25.2 (± 6.41) years and ranged from 21-51 years. Most students were

female (88%) and Caucasian (79%) and enrolled in schools with a traditional curriculum (95%). Average GPA reported by the students was 3.65 (\pm .29) and 17.3% of the students reported having a prior degree (baccalaureate or higher). Previous health care work experience was reported by 95.5% of the participants with 90% reporting that they were currently employed and 88% of these individuals were currently employed in a healthcare setting. The mean average hours worked per week while in school was 17.66 (\pm 8.45) hours, with a maximum of 48 hours per week reported.

Table 3

Demographic Characteristics of Group 1

| | <u>Group 1</u> | <u>Group 1A</u> | <u>Group 1B</u> |
|----------------------------------|----------------|-----------------|-----------------|
| | N (%) | N (%) | N (%) |
| Female | 431 (89.4) | 334 (90) | 97 (88.2) |
| Male | 51 (10.6) | 38 (10) | 13 (11.8) |
| Ethnicity | | | |
| Caucasian | 401 (83.2) | 314 (84.4) | 87 (79.1) |
| Black | 35 (7.3) | 29 (7.8) | 6 (5.5) |
| Asian | 20 (4.1) | 13 (3.5) | 7 (6.4) |
| Hispanic | 18 (3.7) | 10 (2.7) | 8 (7.3) |
| Native American | 1 (<1) | 0 | 1 (<1) |
| Other | 7 (1.4) | 6 (1.6) | 1 (<1) |
| Prior Healthcare Experience | | | |
| Nurse Aide | 171 (35.5) | 124 (33.3) | 47 (42.7) |
| Other | 95 (19.7) | 73 (19.8) | 22 (14.4) |
| Multiple | 152 (31.5) | 116 (31.2) | 36 (32.7) |
| None | 63 (13.1) | 59 (15.9) | 5 (4.5) |
| Currently Employed | | | |
| Yes | 374 (77.6) | 275 (73.9) | 99 (90) |
| No | 108 (22.4) | 97 (26.1) | 11 (10) |
| Currently Employed in Healthcare | | | |
| Yes | 317 (84.8) | 230 (84) | 87 (88) |
| No | 57 (15.2) | 45 (16) | 12 (12) |

Group 1B was very similar to the participants recruited for Group 1A of the study except that an increased percentage reported current employment and previous work experience in a healthcare setting. These findings provided justification for combining Groups 1A and 1B to create Group 1.

Group 2 Participants

Group 2. The number of participants completing the CFRPS during the post-intervention phase, either post-internship experience or at the end of the semester, was 483. Participants' ages ranged from 20 – 54 with a mean age of 26.34 ± 6.78 years (see Table 5). Most students were female (90%) and Caucasian (84%) and enrolled in schools with a traditional curriculum (88%). Average GPA reported by the students was 3.45 and 21.9% reported having a prior degree (baccalaureate or higher). Prior health care work experience was reported by 86.3% of participants, 77.8% were currently employed and of these individuals, 83.7% were currently employed in a healthcare related position. The mean average hours worked per week while in school was $17.63 (\pm 9.29)$ hours, with a maximum of 54 hours per week reported. The total number of participants and demographic characteristics of participants in Group 2 was almost identical to the total number of participants and demographic characteristics of participants in Group 1. Subjects in Group 2 were split into two groups, (Group 2A and Group 2B) based on participation in a clinical internship experience during the study.

Group 2A. The internship group consisted of 423 subjects with ages ranging from 20 – 53 with a mean age of 26.21 ± 6.780 years. Most students were female

(91%), Caucasian (86%), and enrolled in schools with a traditional curriculum (87%). Average GPA reported by the students was $3.46 \pm .31$ and 22% reported having a prior degree (baccalaureate or higher). Previous health care work experience was reported by 77.8% of the participants, 76.8% were currently employed and of these individuals, 86.5% were currently employed in a healthcare related position. The mean average hours worked per week while in school was 17.28 ± 8.81 hours, with a maximum of 48 hours per week reported.

Table 4

Demographic Characteristics of Group 2

| | Group 2 | Group 2A | Group 2B |
|---|------------|---------------------------|---------------------------|
| | N (%) | Internship Group N (%) | Comparison Group N (%) |
| Gender | | | |
| Female | 435 (90.1) | 386 (91.3) | 49 (81.7) |
| Male | 48 (9.9) | 37 (8.7) | 11 (18.3) |
| Ethnicity | | | |
| Caucasian | 407 (84.3) | 366 (86.5) | 41 (68.3) |
| Black | 36 (7.5) | 22 (5.2) | 14 (23.3) |
| Asian | 19 (3.9) | 16 (3.8) | 3 (5) |
| Hispanic | 15 (3.1) | 13 (3.1) | 2 (3.3) |
| Native American | 3 (<1) | 3 (<1) | 0 |
| Other | 3 (<1) | 3 (<1) | 0 |
| Prior Healthcare Experience | | | |
| Nurse Aide | 176 (36.4) | 157 (37.1) | 19 (31.7) |
| Other | 90 (18.6) | 82 (19.4) | 8 (13.3) |
| Multiple | 151 (31.3) | 133 (31.4) | 18 (30) |
| None | 66 (13.7) | 51 (12.1) | 15 (25) |
| Currently Employed | | | |
| Yes | 376 (77.8) | 325 (76.8) | 51 (85) |
| No | 107 (22.2) | 98 (23.2) | 9 (15) |
| Currently Employed in healthcare | | | |
| Yes | 315 (83.7) | 278 (85.5) | 37 (72.5) |
| No | 61 (16.2) | 47 (14.5) | 14 (27.5) |

Group 2B. The comparison group consisted of 60 subjects with ages ranging from 20 – 54 with a mean age of 27.27 ± 6.77 years. Most students were female (82%), Caucasian (68%) and enrolled in schools with a traditional curriculum (100%). Average GPA reported by the students was $3.35 \pm .29$, and 12% reported having a prior non-nursing degree (baccalaureate or higher). Participants reported having previous health care work experience (75%), 85% were currently employed and of these individuals, 72.5% were currently employed in a healthcare related position. The mean average hours worked per week while in school was 19.87 ± 11.75 hours, with a maximum of 50 hours per week reported.

Several minor, but potential differences in the groups were noted. The percentages of females and Caucasians were smaller in the internship group (Group 1A) but still represented the majority of the participants. In addition, Group 1 B reported fewer participants with a prior non-nursing degree and current health care related work experience. These apparent differences in the groups were considered during analysis of the data.

Matched Response Groups 3A and 3B

Following completion of data collection, data from students completing all items on Section 5 of the CFRPS twice during the semester were matched (see Table 5). A total of 325 matched responses were found in the internship group (Group 3A) and 47 responses were matched in the comparison group (Group 3B).

The characteristics of the matched group members were very similar to the characteristics of the whole group (Group 3). It was determined that the matched

group participants provided adequate representation of the whole group in the analysis of Hypotheses 1 and 2.

Table 5

Demographic Characteristic of Matched Response Group 3 Participants

| | Group 3 Total Group N (%) | Group 3A Internship Group N (%) | Group 3B Comparison Group N (%) |
|----------------------------------|---------------------------------|---------------------------------------|---------------------------------------|
| Gender | | | |
| Female | 334 (89.8) | 295 (90.8) | 39 (83) |
| Male | 38 (10.2) | 30 (9.2) | 8 (17) |
| Ethnicity | | | |
| Caucasian | 318 (85.5) | 284 (87.4) | 34 (72.3) |
| Black | 23 (6.2) | 14 (4.3) | 9 (19.1) |
| Asian | 14 (3.8) | 12 (3.7) | 2 (4.3) |
| Hispanic | 13 (3.5) | 11 (3.4) | 2 (4.3) |
| Native American | 1 (<1) | 1 (<1) | 0 |
| Other | 2 (<1) | 2 (<1) | 0 |
| Prior Healthcare Experience | | | |
| Nurse Aide | 171 (35.5) | 114 (35) | 15 (31.9) |
| Other | 95 (19.7) | 71 (21.4) | 7 (14.8) |
| Multiple | 152 (31.5) | 110 (33.8) | 14 (29.8) |
| None | 63 (13.1) | 30 (9.2) | 11 (23.4) |
| Currently Employed | | | |
| Yes | 308 (77.6) | 264 (76) | 44 (84.6) |
| No | 91 (22.4) | 83 (24) | 8 (15.4) |
| Currently Employed in healthcare | | | |
| Yes | 264 (82.5) | 234 (88.6) | 30 (68.2) |
| No | 67 (17.4) | 30 (11.4) | 14 (31.8) |

Interviews

Sixteen students were interviewed by the investigator after they had completed the second CFRPS. At least one participant from each school with a scheduled clinical internship experience was included in the study. Two students from the comparison group were interviewed and one student enrolled in an

accelerated program was interviewed. A wide range of total mean scores on the initial CFRPS were represented in the group.

Data Analysis

Psychometric Evaluation of the CFRPS

This study conducted a psychometric analysis of the CFRPS, including exploratory factor analysis to identify subscales, or factors, within the scale. The identified factors were explored for their relationship with the three components of readiness for practice: provider of care; designer/manager/coordinator of care; and member of the nursing profession.

Content validity of the survey was addressed using a panel of experts. This panel included a nurse educator involved in curriculum development, a nurse educator involved in clinical internship experiences, and two nurse preceptors involved in student internships and new graduate orientation. The group reviewed the twenty items on part 5 of the CFRPS for fit with the definition of perception of readiness for practice as a graduate nurse to assume the roles of provider of care, designer/manager/coordinator of care, and member of the nursing profession (Appendix L)

Members rated seventeen or the twenty of the items as either “fits well with perception of readiness for practice” or “fits with perception of readiness for practice”. Item #19 on the CFRPS was rated as a minimal fit by one member of the group. This item, “I am satisfied with choosing nursing as a career”, was thought to measure satisfaction with a career choice instead of perception of being ready to

begin practice in this career. “Writing reflective journals/logs provided insights into my own clinical decision-making skills” (# 15) and “Simulations have helped me feel prepared for clinical practice” (#14) were also rated as a minimal fit by two members of the group. The two group members reported that these items were more indicative of effectiveness of learning techniques. The other two members of the group remarked that they rated these two items as “fits with perception of readiness for practice” because of how they were worded in the survey. They felt that the questions asked participants to specifically identify the impact of the activities on their readiness for practice. These three items were marked for further consideration in evaluation and possible revision of the tool.

Scale Item Analysis. The CFRPS was developed to examine the characteristics of nursing students enrolled in a senior practicum, or internship, course; determine which skills or procedures are difficult for senior nursing students to perform independently; determine the level of confidence and comfort experienced by senior nursing students; determine perceptions of readiness and preparedness for the professional nursing role; and determine reasons why students entered nursing (R. Fink, personal communication , September 23, 2009).

Ferketich (1991) recommended that a minimum sample size of 200 to 300 or 1.5 to 2 times the number of items was necessary to conduct a meaningful item analysis. In this study, the sample sizes of both the pre intervention Group 1 and the post intervention Group 2 were adequate to complete the item analysis.

Individual items on the scale were examined for measures of central tendency. A four-point Likert Scale was used for these items so a normal distribution predicted a mean close to 2.5. Actual results from data collected from Group 1 (both internship and comparison groups) showed individual item means ranged from 2.3 to 3.5 with only two items less than 2.5 (item #1, “communicating with physicians” and item #15, “journals provided insights”). Responses from 1-4 were recorded on all except three items. Responses for items (#2, “communicating with patients from diverse populations”, # 7 “ability to problem solve”, and #19 “choosing nursing as a career”) were recorded as 2 – 4. The item mean for the entire twenty item scale was $2.95 \pm .30$ indicating a response of “agree” or “strongly agree” more often than “disagree” or “strongly disagree.

As was anticipated, means of student responses for Group 2 were higher than the means of Group 1. Item responses 1-4 were chosen on all items except #18, “identifying safety risks” and #7, “ability to problem solve” (scored as 2-4). The item mean for all twenty items on the scale was 3.18, with a low of 2.46 (item #15, “journals provided insight”) and a high of 3.62 (item # 19, “choosing nursing as a career”). Further analysis of the group split into internship and comparison groups showed a slightly higher overall mean score for the internship group (3.19) than for the comparison group (3.11).

The CFRPS is a new instrument designed for use following a clinical internship. The instrument’s authors used the CFRPS in a study of baccalaureate nursing students in Colorado from August, 2008 to May, 2009. The Cronbach’s

alpha for the 20 item Likert scale in part 5 of the CFRPS, was estimated at .69 for the study (R. Fink, personal communication, August 23, 2009).

The CFRPS was used in the current study to measure perception of readiness for practice in all baccalaureate senior nursing students and data were gathered both before and after a clinical internship experience. Cronbach's alpha for the 20 item scale in Part 5 of the CFRPS was calculated for Group 1 and again for Group 2. In addition, Cronbach's alpha was calculated separately for responses from individuals in the internship group and from individuals in the comparison group (see Table 6). If individuals did not complete all items on the scale, the data were not included in the analysis. In all cases, the Cronbach's alpha was greater than .70 which is considered acceptable for a new instrument (Ferketich, 1990).

Further examination of the item-total statistics for Group 2 revealed that Cronbach's alpha would be increased from .825 to .839 with the deletion of two items, #15 "journals provided insights" and #14 "simulations". These two items were marked for possible deletion from calculation of the total score for the scale. Examination of the item correlations indicated that item #2 "communicating with patients from diverse populations" could also be considered for deletion from the scale as no inter-item correlations greater than .3 were noted for the item. The Cronbach's alpha for the scale decreased slightly to .835 with the removal of this item. These three items were marked for further review. Based on these findings, all further analysis of data for this study and computation of total scores and mean scores were based on the remaining 17 items in Part 5 of the CFRPS.

Table 6

Estimates of Cronbach's Alpha

| | Number of responses | Cronbach's alpha |
|------------------------------|---------------------|------------------|
| Pre-Intervention – 20 items | | |
| Group 1 | 460 | .816 |
| Group 1A | 350 | .815 |
| Group 1B | 110 | .789 |
| Post Intervention – 20 items | | |
| Group 2 | 477 | .825 |
| Group 2A (internship) | 419 | .824 |
| Group 2B (comparison) | 58 | .836 |
| Post Intervention – 17 items | | |
| Group 2 | 477 | .835 |

Factor analysis. Confirmatory factor analysis with an oblims oblique rotation was used to identify subscales, or factors, in the identified 17 items on Part 5 of the CFRPS for both Group 1 and Group 2A (internship group). Data from individuals not completing all 17 items on the CFRPS were not included in the factor analysis. The results of the two analyses were almost identical, and only the post intervention internship (Group 2A) data analysis will be discussed. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (.863) and a significant Bartlett's Test of Sphericity ($p=.000$), indicated that the data were appropriate for further analysis. Correlations between items were on average greater than .30.

A standard analysis using Eigenvalues >1 was run, with an initial breakdown of the items into four factors, which accounted for 52.254% of the variance (Table 7). Other rotations (Varimax and Equimax) were also reviewed and did not suggest

any changes in the factor structure. The four factor Oblimins oblique rotation solution was used for the remainder of the analysis.

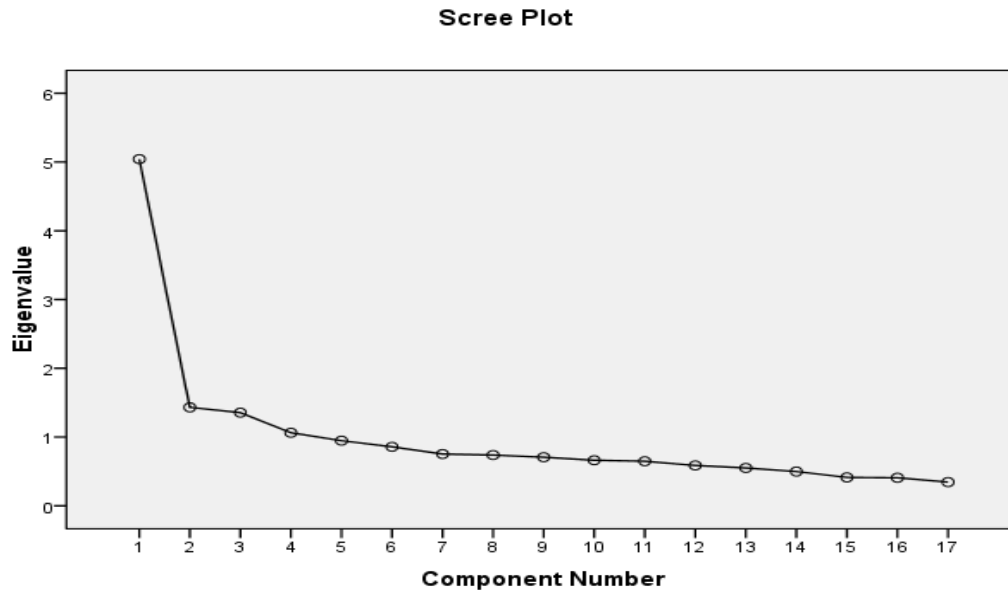


Figure 2. Scree Plot for 17 item Principal Component Analysis

When loadings less than .3 were suppressed, two items showed crossloading on two factors. “Identifying safety risks” (#18) and “ability to problem solve” (#7) crossloaded on Factors 1 and 3. The two items were placed in Factor 1 based on conceptual fit with other items in the factor.

Cronbach’s alpha, inter-item correlations, and item-total correlations for the four factor groupings were examined (see Table 8). A Cronbach’s alpha $>.70$, evidence of inter-item correlations $>.30$, and item-total correlations $>.40$ were considered evidence of good internal reliability of the factors.

Table 7

Oblimin Oblique-Rotated Loadings, Principal Components Analysis of the CFRPS

| Item | Question # | Factor | | | |
|--|------------|--------|-------|-------|-------|
| | | 1 | 2 | 3 | 4 |
| I feel comfortable knowing what to do for a dying patient | 16 | .703 | | | |
| I am comfortable delegating tasks to the nursing assistant | 3 | .620 | | | |
| I feel confident communicating with physicians | 1 | .549 | | | |
| I am confident in my ability to problem solve | 7 | .445 | | -.301 | |
| I feel comfortable taking action to solve problems | 17 | .422 | | | |
| I feel confident identifying actual or potential safety risks to my patients | 18 | .337 | | -.338 | |
| I have difficulty prioritizing patient care needs | 5 | | -.736 | | |
| I have difficulty recognizing a significant change in my patient's condition | 9 | | -.704 | | |
| I have difficulty documenting care in the electronic medical record | 4 | | -.648 | | |
| I feel overwhelmed by ethical issues in my patient care responsibilities | 8 | | -.556 | | |
| I am satisfied with choosing nursing as a career | 19 | | | -.868 | |
| I feel ready for the professional nursing role | 20 | | | -.689 | |
| I have had opportunities to practice skills and procedures more than once | 10 | | | | -.809 |
| I am comfortable asking for help | 11 | | | | -.767 |
| I am comfortable communicating and coordinating care with interdisciplinary team members | 16 | | | | -.646 |
| My clinical instructor provided feedback about my readiness to assume an RN role | 6 | | | | -.538 |
| I use current evidence to make clinical decisions | 12 | | | | -.457 |
| Percent of Variance (Total = %) | | 29.558 | 8.449 | 7.991 | 6.255 |
| Cronbach's alpha | | .695 | .643 | .687 | .714 |

Table 8

Factor Item Analysis

| Item | M | SD | Item Total Correlation | Alpha if deleted |
|--|------|------|------------------------|------------------|
| <i>Factor 1 Cronbach's Alpha = .695</i> | | | | |
| <i>Problem-solving and Communication</i> | | | | |
| I feel confident communicating with physicians (#1) | 2.87 | .679 | .340 | .687 |
| I am comfortable delegating tasks to the nursing assistant (#3) | 3.23 | .628 | .406 | .661 |
| I am confident in my ability to solve problems (#7) | 3.22 | .495 | .511 | .633 |
| I feel comfortable knowing what to do for a dying patient (#16) | 2.72 | .723 | .393 | .672 |
| I feel comfortable taking action to solve problems (#17) | 3.18 | .496 | .517 | .631 |
| I feel confident identifying actual or potential safety risks to my patients (#18) | 3.28 | .490 | .470 | .645 |
| <i>Factor 2 Cronbach's alpha = .643</i> | | | | |
| <i>Daily Issues in Patient Care</i> | | | | |
| I have difficulty documenting care in the electronic medical record (#4) | 3.26 | .747 | .377 | .623 |
| I have difficulty prioritizing patient care needs (#5) | 3.12 | .583 | .499 | .525 |
| I feel overwhelmed by ethical issues in my patient care responsibilities (#8) | 3.16 | .587 | .372 | .608 |
| I have difficulty recognizing a significant change in my patient's condition (#9) | 3.18 | .581 | .471 | .544 |
| <i>Factor 3 Cronbach's Alpha = .687</i> | | | | |
| <i>Member of the Nursing Profession</i> | | | | |
| I am satisfied with choosing nursing as a career (#19) | 3.62 | .551 | .528 | NA |
| I feel ready for the professional nursing role (#20) | 3.28 | .629 | .528 | NA |
| <i>Factor 4 Cronbach's Alpha = .714</i> | | | | |
| <i>Delivery of Safe Care</i> | | | | |
| I am comfortable communicating and coordinating care with interdisciplinary team members (#13) | 3.24 | .570 | .524 | .646 |
| I use current evidence to make clinical decisions (#12) | 3.21 | .531 | .438 | .680 |
| I am comfortable asking for help (#11) | 3.63 | .521 | .538 | .644 |

| Item, Factor 4, cont. | M | SD | Item Total Correlation | Alpha if deleted |
|--|------|------|------------------------|------------------|
| I have had opportunities to practice skills and procedures more than once (#10) | 3.35 | .529 | .508 | .652 |
| My clinical instructor provided feedback about my readiness to assume RN role (#6) | 3.29 | .669 | .382 | .710 |

The first factor consisted of six items: “communicating with physicians” (#1), “delegating tasks to the NA” (#3), “ability to problem solve” (#7), “knowing what to do for a dying patient” (#16), and “taking action to solve problems” (#17). The Cronbach’s alpha for this factor was .695, which is acceptable for reliability of the subscale. The mean of the inter-item correlations was .295, slightly below the recommended .30. Item-total correlations ranged from .340 to .517. The item-total correlation for the item “communicating with physicians (#1) was lower than the recommended .40, but if the item was deleted the Cronbach’s alpha would decrease from .695 to .687. The item was retained in the subgroup. Conceptually, the items in this subgroup focused on “problem-solving and communication” involved in the care of patients.

The second factor consisted of four items and included “documenting care in the electronic medical record” (#4), “prioritizing patient care needs” (#5), “ethical issues in patient care responsibilities” (#8), and recognizing a significant change in my patient’s condition” (#9). Cronbach’s alpha for this factor was .643 which is slightly low for reliability of the subgroup. Mean of the inter-item correlations was .320. Item-total correlations ranged from .372 to .499. The item-total correlation for

the items “documenting in the electronic medical record” (#4), and “ethical issues in patient care responsibilities ” (#8) were both slightly lower than the recommended .40, but if the items were deleted from the subscale, the Cronbach’s alpha would be substantially decreased from .643 to .623 or less. Conceptually, the items in this subgroup focused on “daily issues in patient care”.

The third factor had only two items, “satisfied with nursing as a career” (#19) and “ready for the professional nursing role” (#20). The Cronbach’s alpha on this factor was .687, and the item total correlation between the two items was .528 indicating a good correlation between these two items. In general, having only two items in a subgroup is not recommended and additional items would strengthen the subgroup. The two items included in the group fit well together and directly addressed how the participants felt about becoming a “member of the nursing profession”.

The fourth factor included the items “feedback from clinical instructor” (#6), “opportunities to practice skills” (#10), “asking for help” (#11), “using current evidence to make clinical decisions” (#12), and “communicating and coordinating care with interdisciplinary team members” (#13). Cronbach’s alpha was .714, and considered adequate for the scale. The mean of the inter-item correlations was .341. Item-total correlations ranged from .382 to .538. The item-total correlation for the items “feedback from clinical instructor”(#6) was slightly lower than the recommended .40, and if the item was deleted from the subscale, the Cronbach’s alpha would only marginally decrease from .714 to .710. The item did not cross load

on any other factor and does not decrease the internal reliability of the sub-scale. Conceptually, the items in this sub-group focused on the “delivery of safe care” for patients. The only item that was marginal for a fit with this subgroup was item #13, “communicating and coordinating care with interdisciplinary team members”. This item would also seem to fit with the first factor, communication and problem-solving, or with the third factor, becoming a member of the nursing profession.

Reports of the factor analysis results from the Colorado study conducted by the original developers of the CFRPS were compared to the results of the factor analysis of the current study. The four factors identified by the developers of the CFRPS included: “Professional Identity”, “Clinical problem-solving”, “Trials and Tribulations” and “Learning Techniques”. On comparison, one factor identified by the authors as “Learning Techniques” was comprised of two items, “simulations” (#14) and “journals proved insights” (#15) that were eliminated from calculation of the total scale score in the current study. The other 18 items on Section 5 of the CFRPS were distributed among the remaining three factors identified by the developers. The composition of these three factors identified in the Colorado study did not match the factors identified in the current study.

Cronbach’s alpha was then calculated for the factors as described in the developer’s Colorado study using data from the current study. Cronbach’s alphas of these factors were .743 for Clinical Problem-solving, .646 for Professional Identity, and .619 for Tasks and Tribulations. These findings were not superior to the values already described and no changes were made to the subgroups in the current study.

Students also were asked to answer three questions related to their perceived confidence in caring for two, three, or four patients on a medical-surgical unit (Section 4). Students rated their level of confidence on a 5-point Likert-type scale ranging from “1, not confident” to “5, very confident”.

No reports of data analysis of these three questions were available from the Colorado study, but it was felt that the information gathered in this section was pertinent to the goals of the current study in determining perception of readiness to assume the role of provider of care as a graduate nurse. The Essentials of Baccalaureate Nursing Education specifically defines “provider of care” as a nurse delivering safe, evidence-based client care (AACN, 2008b). The three items measuring level of confidence (LOC) were evaluated twice during the final semester of study.

A Cronbach’s alpha of .892 was calculated for participants in Group 1. Inter-item correlations were high (.825) between “level of confidence caring for 3 patients” (LOC3) and “level of confidence caring for 4 patients” (LOC4), but this was expected. The item-total correlation was .826, also high. Potentially, one of the items, either LOC3 or LOC4 could be eliminated from the survey.

For Group 2, Cronbach’s alpha of .839 was calculated, an alpha of .839 for Group 2A (internship group), and an alpha of .836 for Group 2B (comparison group). Inter-item correlations for LOC3 and LOC4, and item-total correlations for LOC3 remained high. ANOVA results did not show any significant difference in LOC scores between non-internship and internship groups. Although the correlations

between LOC3 and LOC4 were high, leaving both items in the scale is recommended. A more general concern to the validity of these items in the study is that students are often placed in internship sites that are not medical-surgical sites or where care of three to four patients would not be appropriate. Because the study is based on the *AACN Baccalaureate Essentials for Nursing* (AACN, 2008b) recommendation that students be prepared as a nurse generalist, and the question specifically asked for level of confidence in caring for medical-surgical patients, the data were kept in the study for further analysis.

Analysis of Hypotheses

Analysis of Hypothesis 1: Readiness for practice scores will increase following completion of a clinical internship experience in the final semester of a baccalaureate nursing program.

An increase in item, section, and total mean scores were anticipated based on Bandura's Theory of Self-efficacy. Hypothesis 1 stated that participant's post-test scores for readiness for practice will be higher compared to pre-test readiness for practice scores following completion of a clinical internship experience in the final semester of a BSN program. Paired t-tests were used to determine if there were significant pre to post differences in total mean scores, sub group scores, and individual item mean scores. Groups 3A and 3B were used in analysis of this hypothesis.

The first t test for the 322 students participating in a clinical internship experience (Group 3A) revealed that the mean post score (M=3.24), was

significantly higher than the mean prescore ($M=2.99$), $t(321) = 14.9$, $p < .01$. This finding supports the hypothesis that scores on the CFRPS do increase following a clinical internship.

An increase in the sub-group scores from pre to post intervention also was predicted for Group 3A. Paired T-test analysis of the four factors showed a significant change in the scores for all four sub-groups. (see Table 9).

Table 9

Paired T-tests Pre and Post Intervention for 4 Factors

| Factor | PreTotal Mean | PostTotal Mean | t | df | p |
|--------|---------------|----------------|--------|-----|-------|
| 1 | 16.93(2.33) | 18.61 (2.23) | 14.455 | 339 | <.001 |
| 2 | 12.12(1.54) | 12.80 (1.66) | 7.257 | 345 | <.001 |
| 3 | 6.23(1.01) | 6.86 (1.08) | 10.372 | 349 | <.001 |
| 4 | 15.36 (1.92) | 16.83 (1.95) | 12.640 | 337 | <.001 |

T-test analysis of individual items, including the three Level of Confidence with two, three, and four patients items (Section 4), and the seventeen items on Section 5 of the CFRPS, showed significant increases in scores on all but one item. The change in score from pre internship ($M=3.55$) to post internship ($M=3.57$) for item #19, “I am satisfied with choosing nursing as a career”, was not significant ($t = .686$, $p=.487$). On this item, the satisfaction with the student’s choice of career did not change based on the internship experience. On reflection, this was not surprising, as the students were also happy with their career choice at the beginning

of the semester. This item may not be an indicator of perception of readiness for practice but rather an indicator of career choice as identified by one of the members of the panel of experts during the discussion of content validity.

Students in Group 3B (comparison group) also completed their coursework and graduated at the end of the semester. During the semester, these students reported clinical experiences that included two to three credit hours of clinical experience. This type of clinical experience has some elements that resemble the semester long clinical internship experience. These experiences were primarily on medical-surgical or critical care areas. Students were assigned to a nurse on the unit and contact with the clinical instructor was limited to occasional visits during the day. Assignment to the same unit or nurse was not an expectation of the clinical, but some students reported being assigned to the same unit for several weeks, often with the same nurse. Results from students in Group 3B were then examined to support the investigator's conclusion that the change in scores for Group 3A were, in fact, impacted by the clinical internship experience.

Because of the size disparity between the Group 3A and 3B, ANOVA analysis was not initially conducted and instead the confidence intervals of the total pre intervention scores of the two groups (Groups 1C and 1D) were examined (see Table 11). No significant difference was noted between the pre intervention scores of the two groups, indicating homogeneity of the groups at the beginning of the study. The same test was performed on the post test scores (Groups 2A and 2B)

supporting the hypothesis that the internship experience positively impacted the CFRPS scores.

Table 10

Total Score Means- Internship and Comparison Groups

| Group | Pre Intervention Score | | | Post Intervention Score | | |
|------------|------------------------|--------------|-------------------------|-------------------------|--------------|-------------------------|
| | N | Mean (SD) | 95% CI Lower / Upper | N | Mean (SD) | 95% CI Lower / Upper |
| Internship | 390 | 50.70 (5.29) | 50.50/51.28 | 418 | 55.12 (5.30) | 54.54/55.70 |
| Comparison | 56 | 49.61 (5.63) | 47.95/51.26 | 58 | 52.97 (5.34) | 47.95/51.26 |

Similar comparisons were completed between subgroup scores for the two groups (see Table 12). Group 3A (internship group) showed a significant increase in all four subscales. Group 3B (comparison group) also showed a significant increase on three of the four factors. Confidence intervals of the two means for each subscale were calculated and suggested that the two groups were not equivalent on two of the four sub-scales. ANOVA analysis of Factor 2, $F(1,396) = 15.486$, $p = <.001$ and Factor 4, $F(1,396) = 6.218$, $p = .013$ supported this conclusion. Factor 2 included items that focused on daily issues of patient care and items on Factor 4 focused on delivery of safe care.

There was a significant difference between the total post test scores and the subgroup scores of Groups 3A and 3B. This lends further support to the hypothesis that a clinical internship experience increases perceived readiness for practice in

senior baccalaureate nursing students. This contrasted groups analysis also supports construct validity of the scale.

Table 11

Post Intervention Factor Scores- Internship and Comparison Matched Response Groups

| Factor | Group 3A (Internship) Scores | | | Group 3B (Comparison) Scores | | |
|--------|------------------------------|--------------|-------------------------|------------------------------|--------------|-------------------------|
| | N | Mean (SD) | 95% CI Lower / Upper | N | Mean (SD) | 95% CI Lower / Upper |
| 1 | 340 | 18.31 (2.31) | 17.7 / 18.92 | 50 | 18.55 (2.23) | 18.33 / 18.76 |
| 2* | 345 | 12.82 (1.75) | 12.66 / 12.99 | 52 | 11.89 (1.58) | 11.47 / 12.30 |
| 3 | 347 | 6.90 (1.05) | 6.80 / 7.00 | 52 | 6.91 (.92) | 6.67 / 7.16 |
| 4* | 339 | 16.80 (1.98) | 16.61 / 16.99 | 50 | 16.16 (2.11) | 15.60 / 16.71 |

* - probable group difference

Analysis of Hypothesis 2. As the number of required clinical internship hours increases, there will be an increase in total and mean scores for readiness for nursing practice. This hypothesis is of interest to nurse educators for curriculum planning. Pearson's correlation analysis was conducted to test Hypothesis 2. It was anticipated that as the total number of hours increased, the perception of readiness for practice would also rise.

The number of clinical hours required for the clinical internship was determined by the school, and ranged from 84 to 320 hours. The schools were split into five groups based on the number of hours required in the clinical internship experience. No data were found in the literature to support how the number of hours

in each group should be determined, so a practical approach based on credit hours for the clinical internship experience was used. A clinical course of 126 contact hours would indicate a 3 credit hour course, 158 hours a four credit hour course, 210 hours a five credit hour course, and 252 hours a six credit hour course. The number of schools in each group varied from two to four. Change scores were calculated on matched responses from students in Group 3A and Group 3B (see Table 12).

Table 12

Clinical Internship Groups by Number of Required Hours

| Clinical Internship Hours | Number of participants | School |
|---------------------------|------------------------|--|
| < 125 | 74 | Baker University Fort Hays State University Graceland University University of Central Missouri |
| 126 - 157 | 61 | Avila University William Jewell College |
| 158 – 209 | 63 | Emporia State University Wichita State University |
| 210 - 252 | 56 | Mid American Nazarene University Research College of Nursing |
| >252 | 94 | Cox College University of Kansas Medical Center University of Missouri – Kansas City |
| Total | 398 | |

The original plan for the study was to include only students that had not completed any clinical internship hours prior to completion of the first CFRPS in

Group 3A. Exclusion of data from these participants would have created a very small group of students in the groups over 210 hours, comparison of pre scores between these students and all other students in Group 1 was completed. Pre total scores from participants recruited after completing 6 to 32 hours of their clinical internship were not significantly different from the scores calculated from other Group 1 respondents, $t(448) = 1.586, p = .114$. Inclusion of data collected from these participants who had started their clinical internship experience was supported. Final group sizes with matched scores varied from 61 to 94 students.

Pearson r correlation analysis ($r = .032, p = .487$) did not support the hypothesis of a positive relationship between the change score means and the groupings by clinical hours (see Table 13). Analysis of the total post scores ($r = -.046, p = .347$) also did not demonstrate a significant relationship with the groupings by clinical hours. Based on these results, Hypothesis 2 was not supported. There was no consistent increase in perception of readiness for practice as the number of clinical hours in the internship experience increased.

Table 13

Comparison of Mean Total Post Score and Mean Change Score by Clinical Hours

| Group | Total Post Score (SD) | Mean Post Score (SD) | Change Score (SD) |
|---------|-----------------------|----------------------|-------------------|
| <125 | 55.12 (4.93) | 3.25 (.29) | 4.01 (4.68) |
| 126-157 | 55.34 (5.49) | 3.23 (.33) | 5.20 (4.74) |
| 158-209 | 56.67 (4.61) | 3.34 (.27) | 2.97 (4.32) |
| 210-252 | 53.46 (5.71) | 3.08 (.32) | 4.16 (4.75) |
| >252 | 55.23 (5.27) | 3.26 (.31) | 5.46 (5.75) |

Analysis of Hypothesis 3. There will be no difference between total and mean scores between groups based on the type of clinical internship experience (concentration of hours) scheduled for the student. Clinical internships are defined as immersion experiences, but how this experience is scheduled varies tremendously according to the individual school. Hypothesis 3 proposed that whether the hours were scheduled in a concentrated period of several weeks, or spread throughout the semester there would not be a significant difference in how student's perceive their readiness for practice. A two sample mean confidence interval was used to examine Hypothesis 3.

Three types of immersion experiences were identified for the study (see Table 14). The first type of immersion experience (Group A) was scheduled throughout the majority of the semester. One or two days each week, students were assigned with a primary preceptor at their clinical internship site. In this group, total hours in the clinical internship experience varied from 100 – 300. The second type of immersion experience (Group B) was scheduled in a concentrated period of time within the semester. Hours in the clinical internship experience varied from 96 – 252. Students were also enrolled in other courses, nursing and/or non-nursing, during the scheduled clinical internship experience. The third type of immersion experience (Group C) was also scheduled in a concentrated period of time but was always scheduled at the end of the semester after students had completed other coursework. Scheduled hours in this clinical group ranged from 84 to 180.

Table 15

Groups by Type of Internship Experience

| Group | Type of Clinical Internship | Number of eligible participants | School |
|-------|---------------------------------|---------------------------------|--|
| A | Scheduled through the semester | 129 | Emporia State University Mid America Nazarene University University of Kansas Medical Center University of Missouri–Kansas City |
| B | Concentrated Concurrent | 97 | Cox College Graceland University Research College of Nursing University of Central Missouri |
| C | Concentrated End of Semester | 192 | Avila University Baker University Fort Hays State University Wichita State University William Jewell College |
| Total | | 418 | |

The type of clinical immersion experience was verified with school faculty prior to beginning data collection. Four to five schools were included in each group and the number of participants in each group varied from 97 to 192.

Means and confidence intervals were calculated for both the total post score and the average post score. Differences in total post scores and mean post scores were small but suggested that Group B was not equivalent to the other two groups (A and C).

Table15

Comparison by Type of Clinical Experience

| Group | A | B | C |
|---------------------------|---------------|---------------|---------------|
| Total Post Score | | | |
| Mean (SD) | 55.29 (5.26) | 53.25 (5.58) | 55.84 (5.05) |
| 95% CI Lower/Higher | 54.37 / 56.20 | 52.12 / 54.37 | 55.13 / 56.65 |
| Average Post Score | | | |
| Mean (SD) | 3.25 (.31) | 3.13 (.33) | 3.28 (.3) |
| 95% CI Lower / Higher | 3.20 / 3.31 | 3.07 / 3.2 | 3.24 / 3.33 |

The mean total post score of Group B was 53.25, lower than the mean total post scores of both Group A (55.29) and Group C (55.84). Examination of the confidence intervals for these groups reveals that the reported mean total post score of Group B does not lie within the 95% confidence level for either Group A or Group C. This indicates the probability that the groups are not equivalent in the perception of readiness for practice based on the type of clinical immersion experience. The confidence intervals of Groups A and C showed overlapping, indicating there was less than a 5% chance that these two group means were significantly different. ANOVA analysis, $F(2, 416) = 8.086, p < .001$ supported this assumption. Post hoc LSD analysis indicated that a difference of two points was required for the findings to be considered significant. The difference in scores seems small, but total post scores ranged from only 41 to 68, so a difference of two points is indicative of an 8% difference in perception of readiness for practice.

Participants in Group B were scheduled for concentrated clinical internship experiences during the semester that were concurrent with other coursework. The other two groups had either a semester long course concurrent with other coursework or a concentrated clinical internship at the end of the semester after other coursework had been completed. The type of clinical internship experience or concentration of hours scheduled for the student did impact the perception of readiness for practice in this study. Students experiencing a concentrated clinical internship experience within the semester had lower total and mean post scores than students in the other two groups. No significant difference was noted between students enrolled in a semester long clinical internship experience (Group A) and students experiencing a concentrated clinical internship experience at the end of the semester when other coursework had been completed (Group C).

Analysis of Hypothesis 4. There will be no difference in total and mean scores between groups assigned to traditional and non-traditional clinical areas in the senior internship experience. This hypothesis examined the final readiness for practice scores of students with non-traditional unit assignment with the final scores of students assigned to traditional units. A two sample confidence interval was used to test Hypothesis 4 using Group 2A participants.

In this study, students reported being assigned to a variety of units and in some cases to more than one unit during the clinical internship experience (see Table 16). For the purpose of this study, information about the type of unit was based on the primary assigned unit.

Table 16

Student Assignments by Type of Unit

| Site | N | Percent |
|------------------------------------|-----|---------|
| Traditional Medical Surgical Site | | |
| Adult M/S | 151 | 35.7 |
| Adult ICU | 78 | 18.4 |
| Pediatric M/S | 30 | 7.1 |
| Pediatric ICU | 9 | 2.1 |
| Non-Traditional Sites | | |
| OB (Labor & Delivery, Post Partum) | 43 | 10.2 |
| Emergency Department | 41 | 9.7 |
| OR/Perioperative Setting | 16 | 3.8 |
| NICU | 15 | 3.5 |
| Oncology/BMT | 14 | 3.3 |
| Mental Health | 3 | 0.7 |
| Ambulatory Care Setting | 2 | 0.5 |
| Rehabilitation | 2 | 0.5 |
| Other | 14 | 3.3 |
| Missing Data | 5 | 1.2 |

The type of site for the final internship experience was not expected to make a significant difference in perception of readiness for practice, as clinical experiences are designed to assist students to apply theoretical knowledge from the classroom into actual patient care settings. Traditionally, most clinical internships are scheduled within medical-surgical type units, whether adult or pediatric. The growing number of nursing students and the overall nurse shortage may soon mean that this typical placement is no longer an option. Non-traditional sites are already used by some schools but little data exists to support the use of these sites.

Typical medical-surgical units were identified as “Adult medical/surgical”, “Adult ICU”, “Pediatric medical/surgical”, and “Pediatric ICU”. A total of 268

students, or 64% of students completing the CFRPS at the end of their clinical internship experience, reported being assigned to these typical medical-surgical units. The remaining 150 students were assigned to a variety of inpatient and outpatient sites.

The total post score and the post score mean of both groups (traditional and non-traditional units) were almost identical (see Table 17). Examination of the confidence intervals around the means supported the null hypothesis that the type of clinical internship site did not significantly affect the perception of readiness for practice in these study participants. T-test analysis also supported this finding, $t(414) = .208, p = .835$.

Table 17

Mean Post Scores by Type of Clinical Internship Site

| Type of Site | N | Total Post Score | | Post Score Mean | |
|-----------------|-----|------------------|-------------------------|-----------------|-------------------------|
| | | Mean (SD) | 95% CI Lower / Upper | Mean (SD) | 95% CI Lower / Upper |
| Traditional | 267 | 55.15 (5.30) | 54.50 / 55.78 | 3.24 (.31) | 3.21 / 3.28 |
| Non-Traditional | 148 | 55.05 (5.44) | 54.17 / 55.93 | 3.24 (.32) | 3.19 / 3.29 |

Analysis of Hypothesis 5. There will be a predictive relationship between readiness for nursing practice scores and identified factors within the clinical learning environment (type of immersion experience, type of assigned unit), individual student characteristics (gender, age, ethnicity, prior or current healthcare experience, prior baccalaureate degree, and GPA) and individual school

characteristics (number of hours in the clinical internship, class size, school setting, and type of school (see Table 18).

Table 18

Correlations Total Post Score to Variables in the Clinical Environment, Individual Student Characteristics, and Individual School Characteristics.

| Variables | r | p |
|---|------|-------|
| <u>Clinical environment characteristics</u> | | |
| Type of Internship Experience | .117 | .011* |
| Setting of Immersion Experience | .010 | .835 |
| <u>Individual Student Characteristics</u> | | |
| Age | .039 | .401 |
| Gender | .028 | .543 |
| Ethnicity | .083 | .484 |
| Previous Healthcare Experience | .013 | .774 |
| Current Employment | .051 | .261 |
| Current Employment in Healthcare | .144 | .005* |
| Degree Higher than Baccalaureate | .042 | .362 |
| Hours worked | .043 | .392 |
| GPA | .010 | .828 |
| <u>Individual School Characteristics</u> | | |
| Number of Clinical Hours | .029 | .553 |
| Class Size | .045 | .330 |
| Rural or Urban Setting | .038 | .443 |
| Public or Private School | .086 | .061 |
| Traditional or Accelerated Program | .205 | .585 |

* = significant finding at .05

Two variables were included in the clinical environment category. The type of immersion experience was previously demonstrated to have a possible significant impact on the perception of readiness for practice. The second variable identified in the clinical learning environment was the type of assigned unit which did not demonstrate a probable impact on the perception of readiness for practice. Simple

linear regression with the type of immersion experience was significant, $F(1, 474) = 6.952, p = .009, \text{adjusted } R^2 = .012$. Regression analysis with both variables was not significant $F(2, 410) = .922, p = .398$. Effect size for the single variable of type of immersion experience was very low and would not be a significant predictor of perception of readiness for practice by itself.

Individual student characteristic variables including age, gender, ethnicity, prior healthcare experience, current employment, current employment in a healthcare setting, prior non-nursing baccalaureate degree, hours worked while in school, and GPA were then reviewed for a possible predictive correlation with total post scores. Characteristics were examined independently for correlation with total post scores.

Only one independent student variable, “current employment in healthcare” showed any significant correlation with the total post scores. In Group 3, 78% of the respondents identified that they were currently employed. Employment alone was not correlated with the total post score ($r = .045, p = .332$). Of the students reporting current employment, 315 (65%) identified working in a healthcare related position. The correlation of current employment in a healthcare related position showed a positive correlation with total post scores, $r = .142, p = .005$. Simple linear regression was computed. Results indicated that current employment in a healthcare related position significantly predicted total mean scores, $F(1, 379) = 7.838, p = .005, \text{adjusted } R^2 = .018$. This is a very low effect size and does not indicate an effect that is useful by itself.

The final category of variables reviewed for a predictive relationship with the dependent variable were individual school characteristics including number of hours in the clinical internship, size of the nursing class, urban versus rural setting of the school, private versus public school, and accelerated versus traditional program. None of the variables demonstrated any significant correlation with total post scores.

A power analysis was conducted to determine the appropriateness of the regression analysis for the two potentially predictive factors that were identified. It was calculated that a sample of at least 478 would be needed to detect a population $R^2 = .02$ (small effect size) using two predictors, with a 20% risk of a Type II error and a 5% risk of a Type I error. The current sample size was 380 indicating insufficient power to complete the regression analysis. Based on this information, the hypothesis that factors in the clinical learning environment, individual student characteristics, and school characteristics could not be supported or rejected.

Analysis of Research Questions

Information for the analysis of Research Questions 1 and 2 was gathered during interviews with 16 study participants to obtain additional information about their perceived readiness for practice and to validate information gathered through administration of the CFRPS. Open-ended questions were used to facilitate the interviews. The interviews were conducted within two weeks after completion of the clinical internship experiences and lasted from 12 to 20 minutes. The interviews were tape recorded, transcribed verbatim, and two follow-up calls were made to confirm common themes that were identified during the interviews.

Analysis of Research Question 1

During the final semester of the academic program, what are BSN students' perceptions about their readiness for practice as a graduate nurse? Research Question 1 explored how students defined readiness for practice and their own self-evaluation of readiness for practice as a graduate nurse. The most common theme identified from study participants was "confidence". One student described this confidence as "being able to walk into the room and feel like you know what you're doing and you won't be scared to do it". This confidence included having the clinical knowledge, technical skills, and communication skills necessary to do the job. Students also identified that they were confident in their skills as a beginning practitioner. Comments included "...knowing you have the tools to learn more", "knowing enough to start being a nurse", and "having the confidence and the skills to be there for the first day".

Student comments about the relationship of the clinical internship to their own perceived level of preparation as a beginning nurse generalist were mixed. Most students felt that the clinical internship experience was "helpful" and that they felt they could apply for a variety of positions as a new graduate nurse. One student commented "If I hadn't had it [this experience], I would feel a lot less prepared". Another student said "I feel there's so many things I want to do. I've applied to so many places and units, from med-surg, to mental health, to ICU, and surgery. And I think I feel real prepared to start in any of those areas."

Less positive statements about perceived readiness for practice as a beginning nurse generalist were made by four students. Common to these students was the site of their clinical internship experiences. These students were assigned to a variety of specialty, or non-traditional units, such as Neonatal Intensive Care, Pediatric Intensive Care, and Labor and Delivery units. These students stated that they would feel comfortable on these specific units, but would not feel comfortable walking into a general medical-surgical unit, “if I were to be put on a med surg floor or another unit along those lines, where I was getting 4 or 5 patients, I wouldn’t know what to do with myself. It’s a little scary, but I’m trying to prepare myself for that”. A student completing their internship experience in the neonatal intensive care unit said, “I feel comfortable in the NICU setting, but if I were to go into an adult ICU, I would feel completely lost”.

Comments about perception of readiness for practice as a beginning generalist were compared to scores on the LOC questions and total scores on the CFRPS. Students with positive comments about their readiness for practice as a nurse generalist consistently scored higher on either or both of these scores. Changes in total scores for these students ranged from -2 to +9. Changes in total scores for students with negative comments about their readiness for practice as a nurse generalist, were varied, changing from -1 to +4.

Two students not in clinical internship experiences commented that their clinical experience during the final semester “helped me a lot”. Both students were assigned to a single medical-surgical unit for the semester. They were not assigned

to a single preceptor, but were assigned to one nurse each day. An instructor was present in the facility, but had limited contact with the students, checking in on them once or twice daily. One of these students commented, “I was really intimidated by a med surg floor before coming into this semester. Just having to have four or five patients. But it was intimidating and to be able to manage it all and I just think this semester helped me get my feet wet and made me realize that I can take that many patients and I can do okay and yeah, it really helped.” The total post score for one of these students did not change, the total post score for the other student increased by one.

Students were also asked to identify how the clinical internship experience impacted their perception of readiness for practice based on the three roles defined by the AACN: provider of care, designer/manager/coordinator of care, and member of a profession. Students readily identified how the clinical internship experience impacted their perception of readiness for practice as a provider of care. They reported being comfortable or confident with the common tasks of assessing, providing basic care, and passing medications.

The most common theme identified in learning the role of designer/manager/coordinator of care included “teamwork”. Examples included “coordinating care”, “delegating to other students and the care techs”, and “communicating with physicians”. This theme matches part of the definition of designer/manager/coordinator of care used in this study. Some students equated the role of the designer/manager/coordinator of care with the position of the charge

nurse or manager, “I was never with the charge nurse...so I really didn’t see anything like that”.

The third role of the baccalaureate generalist nurse is as a member of the profession. Students identified this role as “being a real nurse”. Student comments included “being referred to as this patient’s nurse”, “respect that I would be graduating soon”, and being “treated as just another nurse”. This theme did not match the definition of member of the nursing profession as defined in this study. Their comments do seem to indicate that the study participants identified the role transition that would be occurring after graduation and also indicates an increase in confidence that occurred with feedback from others in the healthcare setting.

Themes identified analyzing Research Question 1 included “confidence”, “teamwork”, and “being a real nurse”. Students readily identified the impact of the clinical internship experience on the role of provider of care. They also identified “teamwork” as a theme for the role of designer/manager/coordinator of care. They were less sure of the role of member of a profession, interpreting this as being treated as a “real nurse”.

Analysis of Research Question 2

Are there specific factors in the clinical internship experience that have fostered or hindered students’ perception of readiness for practice? Research Question 2 was designed to elicit information from the study participants about specific factors within the clinical internship experience that they felt impacted their

perception of readiness for practice. Students were asked to describe factors that they felt helped or hindered their transition to the role of graduate nurse.

A common positive theme identified through the interviews was “learning the bigger picture”. Positive comments about the clinical internship included: “being treated as a nurse”, “learning how the hospital operates day to day”, seeing the “whole picture of the patient”, and “taking the full team on your own, because it gives you an idea about what your day will be like once you graduate”. All students reported starting out with lighter assignments and progressing to heavier and in some cases “full loads” on their assigned units, allowing them to gain confidence in their abilities.

A specific theme related to the “impact of preceptors” during the experience was identified and confirmed by all participants during the interviews. The relationship of the preceptor with the student was crucial to the outcome of the experience perceived by the student and provides support to prior research findings on the value of preceptorships. One student described the relationship with their preceptor as “a little bit like marriage”. On the CFRPS, the majority of the students (51.6%) reported having only one primary preceptor for their internship experience. An additional 23.8% reported having two preceptors, with the remainder of the students reporting three to ten preceptors. Several students perceived being with more than one preceptor or spending the majority of their time with the unit charge nurse as a negative impact on their experience.

Positive characteristics of preceptors included being supportive, patient, caring and encouraging. Other specific comments included: “She let me think on my own”, and “she was excited about nursing”. A very positive relationship with their preceptor and the difference between the internship experience and other clinical experiences was described by one student:

“It’s different than when you’re in clinical, you have your instructor right there, even though you have your preceptor there, they don’t want to make you nervous, and they will step away after they check everything...so it’s kind of like doing it on your own, and you’re more comfortable, and it’s great. I learned more in my internship, than in clinical, about being comfortable and confident. I mean if you’re more confident you do better.”

Negative comments related to the role of the preceptor included preceptors being too critical in the beginning of the experience, and not allowing students to perform skills or procedures. One student described this as “I could have started ten IVs, ...but she didn’t like to do IVs...Even other nurses would say let the student do the IV, and she would say no, not right now...” Another student reported that she was assigned with two different preceptors, one that allowed her to do everything, and the other that expected her to just watch. The student commented, “I’m a senior nursing student and I need to be doing it not watching. So when I’m a preceptor, I’m definitely going to let my student do the hands on, and encourage them.”

Two students reported being assigned with preceptors that were new graduates (within the past year). One felt that this was positive, “very nice to see a

new graduate, being in charge, taking charge, knowing how to do everything. I can see myself in that role in a year!” The other student expressed that they did not get as many opportunities to perform tasks themselves because their preceptor was still eager to do these things herself, “. . .a lot of things were still new to her, she liked getting her hand on. It was kind of an interesting experience, it wasn’t a matter of her not thinking I could do it, but she still liked doing those things, certain skills”.

A sense of discomfort or being “out of their comfort zone” was described by some students. One student commented that “being in a new place...it was really hard to be as independent as I think I could have been.” Another student commented that she did not think her experience was as positive as it could have been because she was placed in an area she didn’t like (med-surg instead of ICU). Other students reported that not being allowed access to the Pyxis medication system and the computer system had a definite negative impact on their experience.

Participation in other classes at the same time as the clinical internship experience was perceived as a negative by two students who were in a concentrated clinical internship experience scheduled within the semester. One student explained, “In the back of my mind was the class I was taking. Being ready to do a presentation in that class the next week. It was on my mind and the focus wasn’t on what I was doing”.

Additional information about preparation for entry into the nursing profession was gathered in the open text question in Section 6 of the CFRPS. Students were asked, “What could be done to help you feel more prepared to enter the nursing

profession?” Responses on the first administration of the CFRPS were predominantly related to more clinical time, or “hand-on time”. Students also wanted more “multiple patient assignments”. On the second administration of the CFRPS, some participants listed more clinical time, but requests for the clinical time were more specific. Examples included “more clinical time with a variety of patient assignments”, “experiences with dying patients”, and “more clinical time in the area I want to practice”. Responses also included requests for more pharmacology, more interaction with other healthcare professionals, and more emphasis on time management in earlier courses.

Additional Information Obtained from the CFRPS

Additional information was gathered on the CFRPS that was not used in the current study, but is of interest to the clinical internship experience in general. This information included: strategies used to prepare for the internship experience or used during the clinical experience; and identification of skills that participants felt least comfortable performing both before and after the internship experience.

In Section 2, students responded with “yes” or “no” to a list of strategies used for preparation for the internship experience. Response rate to this portion of the survey was 86.7% (419/483). The most frequently identified strategy was an orientation to the facility with a unit tour (67.5%). Almost half of the respondents reported meeting with their preceptor prior to the start of the clinical experience (49.7%), and discussing their personal learning needs with clinical faculty (45.1%). Additional strategies used during the internship experience included bringing a

medication reference or PDA to the clinical experience (48.7%), and setting daily goals with their preceptor(s) (49.7%). Less used strategies included practicing skills in the learning lab (27.5%), participating in a simulation assignment (25.3%), and developing a care plan for frequently seen diagnoses (21.3%). Only 18 students (3.7%) reported doing nothing to prepare for the clinical internship experience.

Study participants were asked to identify the three skills they were least comfortable performing each time they completed Section 3 of the CFRPS (see Table 19). The most frequently identified skill students were uncomfortable performing prior to beginning the clinical internship experience were “Intravenous (IV) starts” (33.1%), and “Responding to an emergency/Code/Changing patient conditions” (35.6%). Following the clinical internship experience, students reported feeling most uncomfortable with “Responding to an emergency/Code/Changing patient conditions” (37.9%). “IV starts” had decreased to 23.3% and “Chest tube care” increased from 17.6% to 23.9%.

Results were then examined to see if there were any differences in the results based on participation in the internship experience. In general, percentages in both the internship and comparison groups dropped between completion of the CFRPS at the beginning of the semester and completion of the CFRPS at the end of the semester. A few exceptions did occur. In the internship group, an increased percentage of students reported feeling uncomfortable performing “chest tube care”, “EKG/telemetry monitoring and interpretation”, “giving verbal report”, “NG tube/Dobhoff care”, and “trach care/suctioning”.

Table 19

Skills Students Reported They Were Least Comfortable Performing

| Skill | Internship N = 417 | | Comparison N = 62 | |
|--|-----------------------|-------|----------------------|-------|
| | Pre | Post | Pre | Post |
| Responding to an emergency/CODE/ changing patient condition | 39.9% | 36.2% | 31.9% | 25.0% |
| Intravenous (IV) starts | 33.6% | 23.9% | 30.6% | 19.4% |
| EKG/Telemetry monitoring/interpretation | 20.6% | 21.5% | 23.6% | 12.5% |
| NG tube/Dobhoff care | 14.8% | 18.2% | 16.7% | 15.3% |
| Trach care/suctioning | 16.0% | 17.2% | 16.7% | 11.1% |
| IV pumps/PCA pump operation | 9.7% | 13.9% | 9.7% | 13.9% |
| Central line care (dressing change, blood draws, discontinuing) | 11.9% | 11.1% | 20.8% | 16.7% |
| Bladder catheter insertion/irrigation | 11.3% | 8.9% | 9.7% | 13.6% |
| Blood draw/venipuncture | 11.5% | 7.5% | 11.1% | 11.1% |
| Wound care/dressing change/wound vac | 7.3% | 6.9% | 4.2% | 9.7% |
| Intravenous (IV) medication administration | 9.7% | 5.7% | 11.1% | 8.3% |
| Charting/documentation | 7.9% | 4.9% | 12.5% | 4.2% |
| Chest tube care | 9.5% | 4.3% | 11.1% | 5.6% |
| Assessment skills | 9.5% | 4.3% | 11.1% | 5.6% |
| Giving verbal report | 7.1% | 4.3% | 13.9% | 5.6% |
| Medication administration | 5.1% | 3.0% | 12.5% | 8.3% |
| Blood glucose monitoring device | 3.8% | 1.4% | 1.4% | 2.8% |
| Pulse oximetry | 2.0% | 0.6% | 13.9% | 1.4% |

In the comparison group, an increased percentage of students reported feeling uncomfortable performing “bladder catheter insertion/irrigation”, “blood glucose monitoring”, “IV pump/PCA”, and “wound care/dressing change/wound vac”. There was no specific pattern noted in the results but the information could be used by faculty to assist students and preceptors in planning learning experiences during the clinical internship.

Summary

Content validity of the CFRPS was addressed using a panel of experts who found consensus on all but two of the twenty items on Section 5 of the survey. These two items were marked for further consideration and were eventually removed from calculation of the final total scores for the study. Measures of central tendency were examined and selection of item choices was distributed among all options on most items. Means were slightly above average on surveys completed by both Groups 1 and 2. This above average mean was not unexpected as the study participants were senior students graduating at the conclusion of the semester. Item reliability and scale reliability was evaluated and a decision was made to include the three levels of confidence caring for three, four, and five patients in the study. A third item on original 20 item scale in Section 5 of the CFRPS was marked for elimination of calculation of the total and mean scores, based on the low inter-item correlations and the increase in Cronbach’s alpha noted with deletion of the item.

Cronbach’s alpha of the 17 item scale was .816 for Group 1 and .825 for Group 2. These findings are acceptable for a new instrument. Factor analysis of the

seventeen items revealed four factors. These factors were identified as “problem-solving and communication”, “daily issues”, “member of the nursing profession”, and “delivery of safe care”. Cronbach’s alpha of the 4 factors ranged from .642 to .714, slightly low for a new scale.

Total mean scores for students completing a clinical internship experience increased between the first and second collection of data using the CFRPS. This supported Hypothesis 1 and also provided support to the construct validity of the CFRPS.

Hypothesis 2 predicted that as the number of required clinical internship hours increased, there would be an increase in total and mean scores for readiness for nursing practice. Analysis of scores on the CFRPS did not support this hypothesis. At the conclusion of their clinical internship experience, students with fewer scheduled clinical hours reported feeling as confident as students with larger number of scheduled clinical hours.

Hypothesis 3 predicted that the way the hours were scheduled during the semester would not have an impact on CFRPS scores. Clinical internship experiences were scheduled in three ways: throughout the entire semester; concentrated during the semester concurrent with other coursework; and concentrated at the end of the semester when other coursework had been completed. The increase in post scores for students scheduled for their clinical internship experience in a concentrated period of time during the semester, was noted to be less than post scores for students scheduled for a concentrated internship at the end of the

semester or spread throughout the entire semester was noted. Based on these results, the hypothesis was not supported.

Hypothesis 4 predicted no difference would be noted in post scores for students related to the type of unit scheduled for the clinical internship experience. Experiences were classified as either traditional or non-traditional. This hypothesis was supported by the results of the two confidence interval means comparison and t-test analysis. Information obtained from students during interviews indicated that they did not feel their experience in a non-traditional unit adequately prepared them as a nurse generalist. This discrepancy in results needs further evaluation.

Hypothesis 5 looked for a possible predictable relationship between a number of variables in the clinical learning environment, individual student characteristic, and individual school characteristics. Positive correlations with total mean scores were found with only two variables, current employment in a healthcare environment and the type of immersion experience. Effect size for both of these variables was small and power analysis indicated that the sample size was not sufficient to reliably predict any relationships.

Qualitative content analysis of the interviews indicated a correlation between total post scores and the comments made by students. Themes identified in Research Question 1 included the identification of “confidence” as a major concept in defining readiness for practice and the role of provider of care, “teamwork” in the role of designer/manager/coordinator of care, and “being a real nurse” in the role of member of the nursing profession. Themes identified from Research Question 2

included “learning the bigger picture”, the “impact of the preceptor”, and “out of my comfort zone”.

Chapter V

Discussion, Conclusions, and Recommendations

Introduction

This study assessed the psychometric properties of the CFRPS, (Casey-Fink Readiness for Practice Survey[®] 2008). The CFRPS was used in this study to measure readiness for practice as perceived by senior baccalaureate nursing students completing a clinical internship experience. The number of hours in the clinical internship, the type of schedule or concentration of the clinical experience, and the type of practice site also were examined for possible influence on students' perception of readiness for practice.

The sample for the study included senior nursing students from fifteen baccalaureate schools of nursing located in Kansas and Western Missouri. Two of the schools' curriculums did not include a clinical internship experience and were included in the study as a comparison group. The majority of the students were enrolled in schools offering a traditional nursing curriculum, or a plan of study designed for an entry level position into nursing for students who do not have any other prior baccalaureate degree. Traditional programs are typically scheduled over four years of study including prerequisites. Participants from two schools of nursing were enrolled in a nursing program with an accelerated program. Students in accelerated programs already had a non-nursing degree and typically complete their nursing coursework in twelve to eighteen months.

Data collection occurred twice during the study. Students were asked to complete the CFRPS early in the semester or before their clinical internship experience (Group 1), and again at the end of the semester or after completion of their clinical internship experience (Group 2). The potential pool of participants was 636 students and 560 (88%) completed the CFRPS at least once. Results from 372 individual participants who completed the CFRPS twice during the semester were matched to allow for comparisons of total mean pre and post scores in portions of the study (Groups 3A and 3B). Study participants were primarily female and Caucasian with a mean age 26.26 years, very typical of baccalaureate nursing student enrollment in the Midwestern United States.

In this chapter the research findings are discussed, interpreted, and compared to information from the literature. In the first section, the research findings regarding the psychometric properties of the CFRPS are discussed. In the second section, the research findings related to factors affecting the perception of readiness for practice are addressed. In the third section, strengths and limitations of the study are examined. In the fourth section, implications of the study for nursing education will be discussed. The final section provides recommendations for future use of the CFRPS and for further research on the perception of readiness for practice.

Discussion of Findings

Psychometric Properties of the CFRPS

The *CFRPS* was chosen for use in this study because of the ties between perception of readiness for practice and the theoretical components of the Theory of

Self-efficacy. Self-efficacy is defined as personal beliefs, or judgments, related to the performance of behaviors necessary to achieve valued outcomes (Bandura, 1997). For senior nursing students these outcomes include successful completion of their final courses and transition into the role of the beginning nurse generalist. The clinical experience provides an abundance of opportunities for the development of self-efficacy in the role of the beginning nurse generalist. Students who exhibit greater self-efficacy, or an increased perception of readiness for practice, will approach subsequent experiences with more confidence. For senior nursing students, an increased perception of readiness for practice may directly contribute to an easier transition into the professional workforce as a registered nurse.

The CFRPS is a new instrument, originally developed to explore the characteristics, level of confidence, and perception of readiness for practice of students enrolled in a senior practicum course. In the current study, the CFRPS was used to explore the concept of readiness for practice based on the three core roles of the baccalaureate nurse generalist; provider of direct and indirect care, designer/manager/coordinator of care, and member of the nursing profession (AACN, 2008b). The CFRPS was evaluated for content and construct validity, and item and scale reliability.

Measures of central tendency for each of the items on the scale were reviewed from both the pre and post intervention data. Students rated themselves at or slightly above average on the scale items. Because only senior nursing students in their final semester of study were included in the study, this was anticipated prior to

beginning data collection. Total scale scores and item means increased following the clinical internship experience, supporting construct validity of the CFRPS.

The use of a four item response scale contributed to a very narrow range of responses for study participants. During administration of the CFRPS the investigator was approached several times by study participants to ask if they could mark their responses to indicate a 2.5 or a 3.5 on the scale. Response scales from 1 to 10 (Banenko-Mould, 2004) and 1 to 100 (Jeffreys, 1998), were reported for other self efficacy scales in the literature allowing for a wider range of participant responses. Increasing the scale to at least 1-10 is recommended to allow participants to acknowledge these requests and would also provide a wider range of total score responses for data analysis.

Content validity of the twenty item survey in Part 5 of the CFRPS was evaluated using a panel of expert nurse educators and nurse preceptors. The group reviewed the items for fit with the perception of readiness for practice as a graduate nurse to assume the roles of provider of care, designer/manager/coordinator of care, and member of the nursing profession. Three items were examined in depth by the group. Item #19, "I am satisfied with choosing nursing as a career" was retained in the scale for final analysis. According to Bandura, to be successful, outcomes must be valued by the individual. Item #19 gives some evidence of whether the individual values becoming a nurse and is a good conceptual fit with the theory of self-efficacy.

Two other items, #14, "Simulations have helped me feel prepared for clinical practice", and #15 "Writing reflective journals/logs provided insights into my own

clinical decision-making skills” were recommended for deletion or revision on further versions of the CFRPS, and were not used in computation of total scores in the current study. These items also had low inter-item correlations and low total item correlations supporting the decision to withdraw these items from calculation of the total score. The items provide valuable information to nurse faculty in curriculum evaluation but are more reflective of the effectiveness of teaching techniques than of perceived personal confidence. In support of the decision to eliminate data from these two items in calculation of total scores, the investigator noted that students at several sites asked about how to respond to these two questions if they were not required to complete clinical journals or simulations as part of their final semester clinical experience.

Another item, “communicating with patients from diverse populations” (#2), showed no inter-item correlation $>.3$ with any other item on the scale and a low item total correlation of $.368$. This item was not included in the calculation of the total score for the scale. Rewording of this question is recommended. Communication skills are crucial to safe and competent care of patients, but this question focused on communication with patients from diverse populations. Communication with patients from diverse populations is essential to practice, but many students have limited opportunities to practice this skill based on the location of their school and their individual clinical assignment(s). All other items in the scale showed inter-item correlations between $.3$ and $.7$ with several other items in the scale and adequate item

total correlations. These items were supported for calculation of the total score for each study participant.

Cronbach's alpha was calculated to assess reliability of the scale with various groups in the study, including all pre-intervention subjects (Group 1) and the total and split groups of post-intervention subjects (Group 2). Cronbach's alpha for the original 20 item scale was adequate for a new instrument and increased with elimination of items #2 "communicating with patients from diverse populations", #14 "writing reflective journals", and #15 "simulations". This supported the decision to remove the three items and supported internal consistency of the final seventeen items on the scale.

Factor analysis was completed using the final seventeen identified items. All items loaded onto four factors in the initial oblimin oblique analysis and accounted for 52% of the total variance. The first identified factor included six items that emphasized problem – solving and communication. The second factor was comprised of four items that focused on aspects of daily care of the patient. The third factor included items that emphasized the role of the professional nurse. The final factor consisted of five items focusing on the safe delivery of patient care. Initial evaluation of the factors showed a conceptual fit with the definitions of the roles of the baccalaureate nurse generalist, supporting construct validity.

A concurrent study of 336 subjects in Colorado was completed in the spring of 2009 by the instrument developers (R. Fink, personal communication, August 23, 2009). A Cronbach's alpha of .69 for the 20 item scale in Part 5 of the instrument

and results of a four factor analysis were reported by the instrument developers. Results of the factor analysis from the Colorado study were compared to the results of the factor analysis from this study. There was no consistent matching of items in the factors between the two studies. Review of the items in the subcategories in the Colorado study also demonstrated a conceptual fit with the definitions of provider of care, designer/manager/coordinator of care and member of the nursing profession, and comparable Cronbach's alpha for the factors. This indicates that the placement of items in the factor groupings was not stable.

At present, the seventeen identified items on the CFRPS fit together well as a total and are considered an indicator of overall readiness for practice. The inconsistencies of placement of the items into subgroups were supported during interviews at the conclusion of the study. Students were readily able to identify how their clinical internship experience impacted their readiness for practice as a provider of care. They were less sure about how the roles of designer/manager/coordinator of care and member of the nursing profession were impacted by their clinical internship experience.

Review of the original descriptions of these roles in the *Essentials of Baccalaureate Education for Professional Nursing Practice* (2008b) and the previous publication of the *Essentials of Baccalaureate Education for Professional Nursing Practice* (1998) may support some of the confusion felt by the students. As an example, roles of the baccalaureate generalist nurse are found on pages 8 and 9 of the 2008 document. Under the role of provider of care, the document states, that "in

this role, nurses are patient advocates and educators”, yet under the definition of members of the profession on page 9, it states, “Baccalaureate generalist nurses are members of the profession and in this role are advocates for the patient and for the profession”. This is only one example of many overlaps in the descriptions for the three roles. This may support the construct validity of the 17 item scale for total score calculations and use as a single scale rather than being used as subscales.

The lack of clarity about the roles may also indicate that educators are not effectively guiding students to recognize these specific roles of the baccalaureate nursing generalist or that there is not sufficient emphasis on the roles of designer/manager/coordinator of care and member of the nursing profession in current curriculums. Further testing with more subjects or combining results from studies might help clarify this issue.

Rewording of current items or creating additional questions should also be considered. Item #2, “communicating with patients from diverse populations” should be rewritten to measure communication with patients and families. Additional items that address patient advocacy, life-long learning, use of electronic information sources, and self-evaluation of their own practice would strengthen the relationship of the CFRPS with the AACN definition of the beginning nurse generalist (AACN, 2008b).

Construct validity of the CFRPS was supported by hypothesis testing. Based on Bandura’s theory of self-efficacy, total scores, sub group scores, and item scores were predicted to increase following a clinical internship experience.

Construct validity of the CFRPS also was assessed using a contrasted-groups approach. Results from students in the internship group 2A, were compared to results from the comparison group 2B. Both groups showed a significant increase in total post scores. Based on comparison of two mean confidence interval testing and t-test results, a potentially significant difference between the total post mean scores of the two groups was noted. This lends further evidence to support construct validity of the scale. Because of the size disparity between the two groups, repetition of the study with a larger group of students not enrolled in a clinical internship experience is recommended.

In summary, the overall assessment of the CFRPS is that the instrument is a reliable and valid new instrument to assess the perception of readiness for practice in senior baccalaureate nursing students. Although originally designed to test students after a clinical internship experience, it also was used in this study to measure the perception of readiness for practice in students who did not have a clinical internship experience. This study demonstrates that it is equally effective in measuring perception of readiness in students at any point during their final semester of study and can be used to measure changes during the semester.

Variables Affecting Perception of Readiness for Practice

Effect of a Clinical Internship. Drawing from Bandura's theory of self-efficacy, students who are enrolled in a clinical internship are expected to have a greater perceived readiness for practice than students who do not have a concentrated clinical immersion experience during their final semester. Students who are assigned

with a primary preceptor on a single unit for a period of time have the opportunity to experience many of the antecedents to self-efficacy explained by Bandura.

Mastery performance is the strongest antecedent to the development of self-efficacy. During the clinical internship experience, students assume the role of the nurse graduate with support and supervision of their assigned preceptor. The opportunity to practice the role in a safe environment allows the student to be successful, or to develop the confidence that they will be successful in reaching their goal of being a registered nurse.

The clinical internship experience also allows students to see aspects of the professional nursing role that they might not see during non-internship clinical experiences. A common theme identified by students in the interviews was “learning the bigger picture”. Students commented about learning about the whole patient, the unit, and the hospital. They felt that being able to take a full patient load and work side by side with other nurses gave them a realistic idea of what they would be doing on a daily basis after graduation. The reduction of anxiety about their future role, supports Bandura’s antecedent concept of physiologic feedback and should lead to reduced anxiety during the transition to the first work experience.

Because the instructor is not present on the unit, the student has more opportunity to assimilate into the clinical environment. The theme of “being a real nurse” was clearly identified in the student interviews. Students reported that they were introduced as “nurses”, instead of students and were respected as part of the team. Students also commented on the “impact of preceptors” during their

interviews. Preceptors were role models for the students, an example of vicarious experience, but also provided the antecedent to self-efficacy of verbal persuasion. Preceptors gave immediate feedback to the students and students described them as being patient, caring, supportive, and encouraging.

Quantitative data analysis of CFRPS scores showed that total scores and subgroup scores all significantly increased after the clinical internship experience was completed. Students not enrolled in a clinical internship experience also reported an increase in total scores, but a comparison of the confidence intervals of the mean total score indicated that the difference in the post scores between the two groups was significant. Further examination showed a probable significant difference between the two groups on two of the four subgroup means.

All individual item mean scores increased after the clinical internship experience. Item increases were significant, except for Item #19, “satisfied with nursing as a career”. Item #19 may be an indicator of happiness with a career choice rather than perception of readiness to begin that career but still provides valuable evidence for nursing education. The information obtained from item #19 is important because it confirms that students in the internship experience do not perceive a disconnect between the role of the nurse presented in academia and the role of the nurse in the workplace. Educators sometimes are cited for “shielding” students from the realities of everyday nursing practice. In the clinical internship experience, students are separated from the clinical instructor and introduced into nursing practice under the supervision of a practicing unit nurse. Students reported being

treated as a “real nurse” and assuming responsibility of a full team assignment. While students cannot fully understand the role they are about to begin, they leave the clinical internship experience still happy with their career choice. The question could be reworded to see if their perception of the role of the nurse changes as a result of the clinical experience. A better alternative is to delete the item from the scale portion of the survey and change it to an open-ended question in another section of the survey to provide valuable information to assess the perceived academic-practice gap.

Effects of variables in the clinical learning environment. The number of hours each student spent in the clinical internship experience, how the internship hours were scheduled during the semester, and the setting of the internship experience were all evaluated for their effect on perceived readiness for practice. Because clinical experience is a primary source of information for the development of self-efficacy, it was anticipated that with additional hours spent in the internship experience, the total mean scores on the CFRPS would increase. This was not indicated by participants in this study. The mean score of students completing less than 120 hours in a clinical internship did not differ significantly from students completing over 300 hours in the experience. During interviews, most students indicated the number of hours spent with their preceptors was “just right”. In the group of students that were interviewed, a few students felt the experience was too long, and others wanted more hours, but no patterns of hours actually spent in the clinical internship experience to hours of clinical time desired was observed. As an

example, one student in a 320 hour internship experience wanted more hours, while a student in a 96 hour internship experience stated that the internship was longer than needed.

The overall impression from the study is that students accept the length of internship decided by their school. This may indicate that faculty are doing a good job of mentally preparing students for their role as a graduate nurse. In schools that did not have a clinical internship experience, students were enthusiastic about their final clinical experience and indicated that support from both their clinical instructor and the nurses they were assigned to during the semester were important to their feelings of readiness for practice. As schools of nursing struggle to find clinical internship placements, this finding may support decisions to decrease the total number of hours in the clinical internship experience.

The traditional setting for clinical internships identified in the literature was the medical-surgical unit. In this study, 63.6% of the study participants were assigned to traditional sites, defined as any adult or pediatric medical-surgical or intensive care unit. The rest of the participants were assigned to non-traditional sites, including area such as surgery, labor and delivery, and mental health. Nine of the thirteen schools reported that they allowed the students to request the type of unit, or used a lottery system to allow students to choose their preference of assigned unit. The remaining four schools chose the type of unit, and all schools reported that they made all final decisions regarding placement.

Results of a comparison of two sample confidence means of the groups and t-test analysis did not show any significant difference in total mean scores. Students who completed their clinical internship experience in non-traditional sites rated their perception of readiness for practice similarly to students assigned to traditional sites. This finding was not supported in post clinical internship interviews. Students assigned in non-traditional sites stated that they felt comfortable in the areas they had been assigned, but would not feel comfortable on a general medical-surgical unit. The disparity between the scores on the CFRPS and the comments may indicate that the total mean score from the CFRPS may not be a specific measurement of perception of readiness for practice on a medical-surgical unit but rather an overall sense of readiness for practice as a beginning nurse irrespective of a specific setting.

This raises questions that were not answered in this study, but should be considered in future studies. If students are not interested in employment on a medical surgical unit following graduation, does assigning them to a medical surgical unit for their internship make sense, or make them more anxious both during the clinical internship and in their first graduate position? During the interviews, some students talked about being out of their “comfort zone”, and the time it took to adjust to a new site. Would going to a site of their choice allow them to assimilate into their surroundings more quickly? Could they gain even more self-confidence in a placement of their choice?

The reverse also needs to be studied. In recent years, graduates have secured employment in an area of their choice with relative ease. During the interviews with

these 2009 graduates, many reported experiencing difficulty finding employment in their area of choice. Completion of a clinical internship experience in their area of choice was viewed by the students as important to their employment opportunities. However, students who completed their clinical internship experience in a specialty area and had been hired to a medical-surgical unit expressed doubts about their ability to handle a four to five patient assignment. To address both of these concerns, the following question needs to be studied. If a student's overall perception of readiness for practice is high, will doubts about being hired to a specific type of unit affect their overall integration into beginning practice? This will require following a student from their clinical internship experience through their first year of employment as a registered nurse.

The final factor examined that directly relates to the clinical learning environment was the way that the hours were scheduled during the clinical internship experience. Students completed a clinical internship experience that was scheduled in one of three ways: a one to two day per week clinical throughout the entire semester; a concentrated internship scheduled over several weeks during the semester; or a concentrated internship scheduled for several weeks at the end of the semester when all other coursework had been completed. When the means of the individuals in each type of scheduled groups were compared, the mean of the group scheduled for a concentrated internship during the middle of the semester, was lower than the mean of the other two types of internship. Some insight into this apparent difference in scores was gained through the interviews. Students in the group

scheduled for a concentrated clinical internship experience during the semester related that they were also enrolled in other courses and that they were sometimes distracted by other assignments in these courses. Students in the semester long internship course were also enrolled in other courses, but the scheduling of this type of internship experience was familiar to the students from prior clinical courses, and did not create a new type of stress for the students. Students enrolled in an internship at the end of the semester may experience decreased stress because other coursework has all been completed and they are anticipating graduation at the conclusion of the internship experience.

The antecedent of physiological feedback described by Bandura supports these findings. The decreased stress experienced by students following a traditional clinical pattern (internship throughout the semester), or by students who know they have already completed all other coursework (clinical internship experience at the end of the semester) may allow students to concentrate more on achievement of outcomes rather than on their own anxieties.

In summary, there was no clear indication that increasing the number of hours of the clinical internship experience or assigning the students to a traditional medical-surgical unit significantly increases the student's perception of readiness for practice. There is evidence that in this study, students' perception of readiness for practice was increased with either a semester long clinical internship experience that followed the familiar pattern of one or two days a week on the clinical unit, or with a

concentrated clinical internship experience at the end of the semester after students had completed other academic coursework.

Effects of Individual student characteristics. A variety of individual student characteristics were explored in the study. These characteristics included student age, gender, ethnicity, prior and current work experience, prior non nursing degree, and current GPA.

The mean age of students enrolled in the study was 26.26 years with a range of age from 20 to 54 years. Age did not exert an influence on the perception of readiness for practice in this study. Most of the literature had suggested that more mature students had an increased motivation to succeed and would exhibit an increased sense of self-confidence as they progressed through the curriculum. In contrast, Ofori and Charton (2002) reported that older students actually had decreased self-efficacy. In this study, no correlation between age and perceived self-efficacy for readiness for practice was demonstrated.

The role of gender and ethnicity in nursing has been discussed but not thoroughly studied. Muldoon and Reilly (2003) reported that a gender bias exists for occupations based on skills performance instead of academic performance. They speculated that with the increased emphasis on academics, more males would choose nursing as a profession. The national percentage of men in nursing continues to remain low at 5.8%. The percentage of men enrolled in this study was 10.4%, which is comparable to the percentage of male baccalaureate nursing students in the United States (AACN, 2009a). The majority of students participating in this study were

Caucasian, 83.4%, compared to a nationwide average of 74% (AACN, 2009b). No apparent difference in perceived self-efficacy for readiness for practice was noted in this study based on gender or ethnicity.

Data on three aspects of work experience were gathered during the study. Based on Bandura theory of self-efficacy, it was anticipated that work experience in the health care environment would positively impact self-efficacy for readiness for practice. This was based on the premise that being in the work environment would allow individuals to see the role of the nurse through role modeling and overall anxiety would be reduced because of familiarity with the setting, terminology, or personnel. In a study of nursing students, Lee, Mawdsley, and Rangeley (1999) reported that approximately half of the students worked while in school and that the majority of these students were employed in the healthcare environment. Only 29% indicated that they perceived an increase in their clinical competence and confidence.

In the current study, no significant increase in perception of readiness for practice was noted based on prior health care experience or on current employment. There did appear to be a positive correlation between total mean scores and participants who were currently employed in a healthcare environment. This indicates that working in a healthcare environment becomes significant when the student is able to directly relate the experience to their current nursing education activities. Requiring, or encouraging, students to complete CNA (certified nurse aide) training prior to entering a baccalaureate nursing program is frequently reported. This may increase self-efficacy early in the program, but may not directly

impact students by the final semester of study. However, completion of CNA training may increase the possibility that the student is employed in a healthcare related position during the nursing program.

Educators frequently voice concern over the number of hours worked by students during the nursing program. No studies related to the effects of hours worked per week on clinical performance were found in the literature. Quirk, Keith, and Quirk (2001) studied high school students with paying jobs, and reported that academic grades dropped when students worked more than 13 hours per week. Participants in this study reported working from zero to fifty hours per week, with a mean of 17.62 hours per week. No correlation between the number of hours worked per week and the total post score for perception of readiness for practice was noted.

Data were gathered from students in the study related to prior educational experience and current cumulative grade point average. It was expected that successful completion of one academic degree would increase the chances of successful behaviors in a second educational program and/or increase self confidence in the clinical area. In this study, 108 students (19%) reported having a baccalaureate or higher degree in another field. The mean grade point average (GPA) of these study participants was 3.46 on a 4.0 scale. The range of GPAs was limited, from 2.67 to 4.0. The higher GPA was anticipated as most schools of nursing have minimum GPA admission requirements and students must maintain specified GPAs to progress through the program. The narrow range of students' reported GPA may have limited the ability of the analysis to detect a significant correlation.

In addition, individuals may not see prior or current academic success as an indicator of occupational, or performance success (Bandura, Barbaranelli, Caprara, and Pastorelli, 2001). Students may feel comfortable in the classroom, but not in the clinical setting. Nursing educators often describe this as an inability to apply the knowledge learned in the classroom to a clinical situation. No correlation was found between total post mean scores and either having a prior degree, or higher GPA. Based on these findings, prediction of perceived readiness for practice has no correlation with prior or current academic performance.

Effects of individual school characteristics. In addition to factors in the clinical environment, and individual student characteristics, individual characteristics of the schools may influence students' perception of readiness for practice. Participants completing a clinical internship experience in this study attended thirteen different schools. Individual characteristics of the schools including class enrollment, setting of the schools, and type of curriculum were examined to detect effect on the post score totals. Enrollment in the clinical internship courses ranged from 9 to 98 students and most students completed their internship experiences in an urban setting. Students from six public and seven private colleges or universities participated in the study. Most of the schools offered only a traditional curriculum and students completed their nursing courses in two to three years. Only two groups of students were enrolled in an accelerated nursing program and completed their nursing coursework in approximately twelve months. No significant correlation was

found between total post mean scores and any of these individual school characteristics.

Strengths and Limitations of the Study

Prior to beginning the study, attrition was identified as a major threat to internal validity of the study. To be able to compare scores pre and post clinical internship experience, participants were asked to complete the CFRPS twice during the semester. A total of 480 participants successfully completed the CFRPS at the beginning of the semester as they prepared for their final clinical experience. This represents an initial response rate of 75% (480 out of 636). At the end of the semester, 483 individuals completed the CFRPS, for a response rate of 76%. After data collection was complete, scores from individuals who completed the CFRPS at both the beginning and end of the semester were matched to compare pre to post scores. A total of 372 matched sets of pre and post data were collected, 325 in the group completing a clinical internship experience, and 47 in the comparison group. This represents a matched response rate of 77%. The excellent response rate was attributed to several factors. The first was the willingness of the course instructors to allow the investigator to personally come to the classroom at either the beginning or end of a class. All surveys were distributed and collected by either the investigator or a designee, encouraging continued participation in the study. Finally, the CFRPS is a short survey tool and most students were able to complete the survey in less than 20 minutes.

Participants for the study were not randomly chosen, but were selected based on the availability of baccalaureate schools of nursing within a specified geographic area. Study participants represented a variety of individual and school characteristics that demonstrated heterogeneity of the group and increased the potential generalizability of the study results. These individual and school characteristics were analyzed for impact on the study results and demonstrated that post scores did not vary significantly based on all but one of these factors (current employment in a healthcare related position).

Completing the CFRPS twice during the semester increased the risk that students would either remember the items on the survey, or that other learning experiences other than the clinical internship experience would impact their responses. Inclusion of a comparison group decreased the impact of this threat. Two schools without a clinical internship experience participated in the study as a comparison group. These students did complete a clinical experience during their final semester, but students were not assigned to a consistent unit or preceptor, thus not meeting the criteria of an immersion experience. Results from this comparison group did show an increase in total post mean scores, but unlike the internship group, the changes in total mean scores, two of the four subgroup scores, and several individual item scores were not significant.

As variables in the study were examined, groups were examined for homogeneity of pre score results and group size. No significant difference in pre score total means was found. Size of the groups was more problematic. Group

composition changed with each variable that was examined. Levene's test of homogeneity was conducted with every ANOVA analysis and if group size or power was limited, comparisons of mean confidence intervals were used instead of ANOVA analysis.

Data in the study were gathered using the CFRPS as the only measurement tool. Use of only one instrument was considered a potential weakness in the study. In addition, the CFRPS is a self-report instrument. Use of a self-report instrument was appropriate because measurement of perception of readiness for practice is an evaluation of self-efficacy of the individual student and best assessed by self-report. Use of a mixed methods explanatory research design increased the strength of the study with the addition of information obtained from interviews at the end of the study. Quantitative data alone did not provide an understanding of why the results were significant or non-significant. Allowing study participants to describe how they defined readiness for practice and to identify important factors in the clinical internship experience provided additional rich, contextual information to the quantitative data. This information was used to validate information obtained on the CFRPS.

The CFRPS is also a new instrument and reliability and validity was examined at various times in the study and with various groups in the study. Revisions to some of the items on the CFRPS have been recommended to strengthen the reliability and validity of the instrument.

On the CFRPS, the conceptual fit of the 17 items used to calculate total pre and total post scores to the overall definition of readiness for practice is clear. Less clear is the conceptual fit of the 17 items to the three subcategories of readiness for practice used in the study. These three subcategories were defined by AACN in the *Essentials of Baccalaureate Nursing Education* (2008a) and include provider of care, designer/manager/coordinator of care, and member of the nursing profession. Two items clearly fit with member of the nursing profession. The other items all fit with provider of care, but many could also conceptually fit with the role of designer/manager/coordinator of care. Revision of the scale items would help to clarify the fit of some items and the addition of more questions to support the subcategory of member of a nursing profession is recommended.

Analysis of Hypotheses 3 and 4 would have been strengthened with the use of equivalence testing instead of superiority testing. The intent of Hypothesis 3 and Hypothesis 4 was to show that the variables produced similar, or equivalent, responses. Superiority testing is based on the premise that one treatment, or variable, has a superior influence on the outcome variable. In essence, it can only state that there is evidence of a significant difference between the two variables. As the power of the study increases, the possibility of finding a significant difference increases due to random error that occurs in any sample. The question then becomes what is clinically significant versus what is statistically significant. Equivalence testing can be used to determine similarity between the effects of two variables because the null hypothesis states that the groups differ by more than a clinically significant amount

(Barker, Luman, McCauley, & Chu, 2002). This allows the investigator to determine the level of clinical significance and to examine whether the results fall outside these parameters.

Implications for Nursing Education

Clinical education has been a mainstay of nursing education since inception of the profession. Changes in clinical education have occurred though the years based primarily on events occurring in the world of medicine. The body of evidence related to clinical education is slowly growing and being recognized as crucial to the evolution of nursing education.

The CFRPS is a valid and reliable tool for evaluating the self-perception of readiness for beginning nursing practice. Seventeen items on the CFRPS provide a broad base of questions that allows students to rate their capabilities and feelings related to nursing. Item revision and the addition of several items to strengthen the subscales of designer/manager/coordinator of care and member of a nursing profession are recommended.

The study results demonstrated a consistency of responses when administered to students in a variety of school and internship settings. It was administered to students in both private and public colleges and universities, in rural and urban internship settings, and in traditional or accelerated programs of study. Age, gender ethnicity, current GPA, and history of a prior non-nursing degree did not impact study results.

Overall, students scored higher post score totals and means. This included students experiencing a clinical internship experience and students completing a traditional clinical experience. Students experiencing a clinical internship experience demonstrated significantly higher post score totals and means than students not in a clinical internship experience. This supports the assumption that a clinical internship experience increases the perception of readiness for practice. It also provides some reassurance to schools without clinical internships that an increase in perception of readiness for practice still does occur. This may also indicate that in general, faculty provide experiences and emotional support for students during their final semester that increases their perception of readiness for practice.

Several concepts that could impact nursing curriculum development that were explored in the study included the number of hours in the clinical internship experience, how the internship hours were scheduled, and the type of unit assigned to the student. Surprisingly, the number of hours in the clinical internship experience did not impact the total and mean post scores. Early in the semester, students commented that more clinical time would be helpful. At the conclusion of the study, this comment was less pervasive. Students looked forward to the internship experience and seemed to anticipate that it would meet their needs prior to graduation. This suggests the possibility that students accept the number of hours decided by the individual school as appropriate and that the clinical internship experience itself rather than the number of hours is most important to the perception of readiness for practice. As nursing school enrollments continue to rise,

confirmation of this finding may lend support to the reduction of total internship hours during the final semester of the curriculum.

Three types of internship experiences were included in the study and participants in all three groups demonstrated a significant increase in total post scores. Findings did suggest that a concentrated internship experience in the middle of the semester, when students are still enrolled in other coursework, might not be as effective as other types of internships included in this study. Significantly higher post total mean scores were reported by students completing internships scheduled one or two days throughout the entire semester (modeled after most other clinical experiences during the nursing program) and internships completed at the end of the semester when all other coursework has been completed. Students reported feeling pressured with other coursework during their internship experiences even when they were not physically attending these classes during their concentrated internship experiences.

Students were assigned to a variety of nursing units for their clinical internship experience. In this study, traditional medical surgical sites were defined as adult or pediatric medical surgical or intensive care units. Students assigned to all other units were grouped together as non-traditional sites. No significant difference in total post scores was noted. Medical-surgical sites have always been considered as first choice by faculty for clinical internship experiences. Students often complain about site placement if they want to begin their nursing practice on a non-traditional unit, for example, surgery or labor and delivery. Many institutions look for

experience on a specialty unit during an internship experience when hiring new graduates. These findings lend support to the consideration for placement of students on non-traditional sites if students have a preference for a specific specialty area. In turn, this might allow more options for students who want placement on the more traditional sites. Allowing students more choice in internship sites might also contribute to their self-efficacy because they are working towards a goal that has more meaning for them.

Recommendations for Future Research

Revisions to the CFRPS and further reliability and validity testing are recommended. This study was conducted in a limited geographic area in Kansas and central Missouri. Testing in other areas of the country and repeated studies to confirm the impact the type of internship experience, the number of clinical hours, and the type of assigned unit is essential.

The continued use of mixed methods research is also recommended. The measurement of self-efficacy is task, or experience specific, and measurement by both qualitative and quantitative methods is essential to a full understanding of the data collected.

The CFRPS was originally developed for administration to baccalaureate nursing students as they completed a clinical internship experience. This study has demonstrated that the CFRPS can also reliably be used for senior baccalaureate nursing students prior to the internship experience, and for students who do not have a clinical internship experience. This is important because faculty may wish to

review data at the beginning of the semester to assist in goal development for the internship experience. For example, if a student rates themselves as “strongly disagree” or “disagree” on the item “I have difficulty recognizing a significant change in my patient’s condition”, then faculty can assist the student and preceptor to plan activities that would expose students to experiences designed to increase their confidence in this skill.

The current study examined the students’ perception of their own readiness for practice prior to beginning practice. The next logical step is to determine whether a self-reported perception of readiness for practice is a significant indicator of how well the graduate will transition from the role of nursing student into practice as a new graduate. Following a group of graduating students from the end of their clinical internship experience and through the first year of practice could provide valuable information about the use of the CFRPS as a predictor of successful transition into practice and retention in the workforce.

The CFRPS was created using information gathered from the Graduate Nurse Survey that was also developed by Dr. Regina Fink and Kathy Casey, MSN. The Graduate Nurse Survey is an established instrument used to gather data from new graduates at intervals through their first year of employment and could be used to provide data for comparison to the perceived readiness for practice scores.

This study contributes to the broad base of knowledge related to clinical education practices. As a mainstay of nursing education, the clinical experience

must evolve to meet the growing needs of the nursing shortage and the increased safety and healthcare needs of an aging population.

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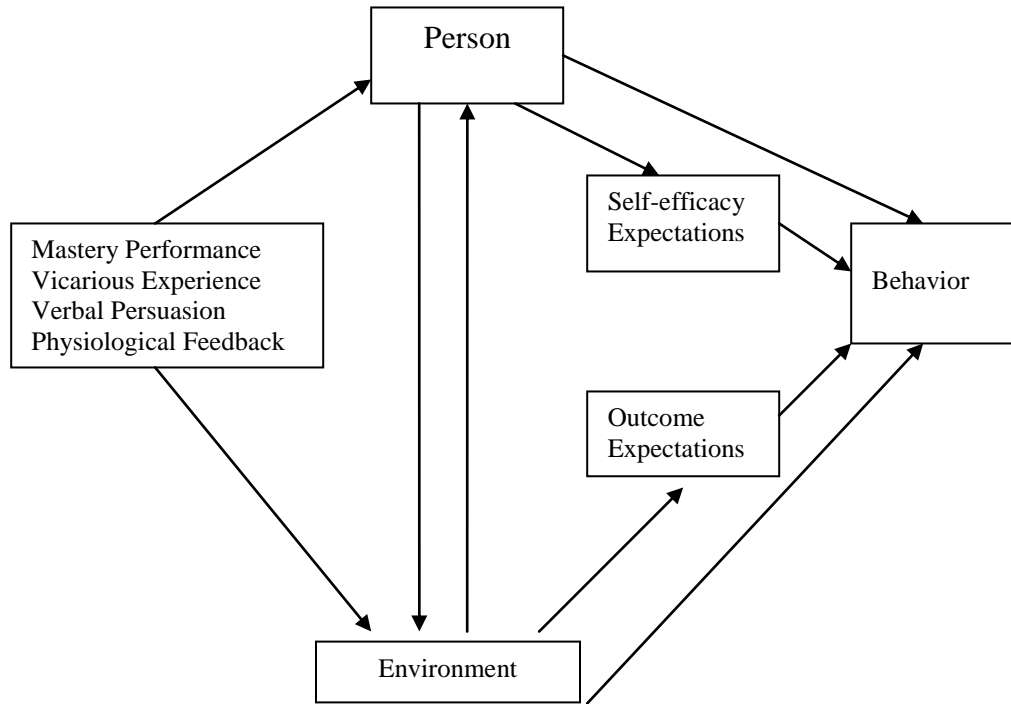
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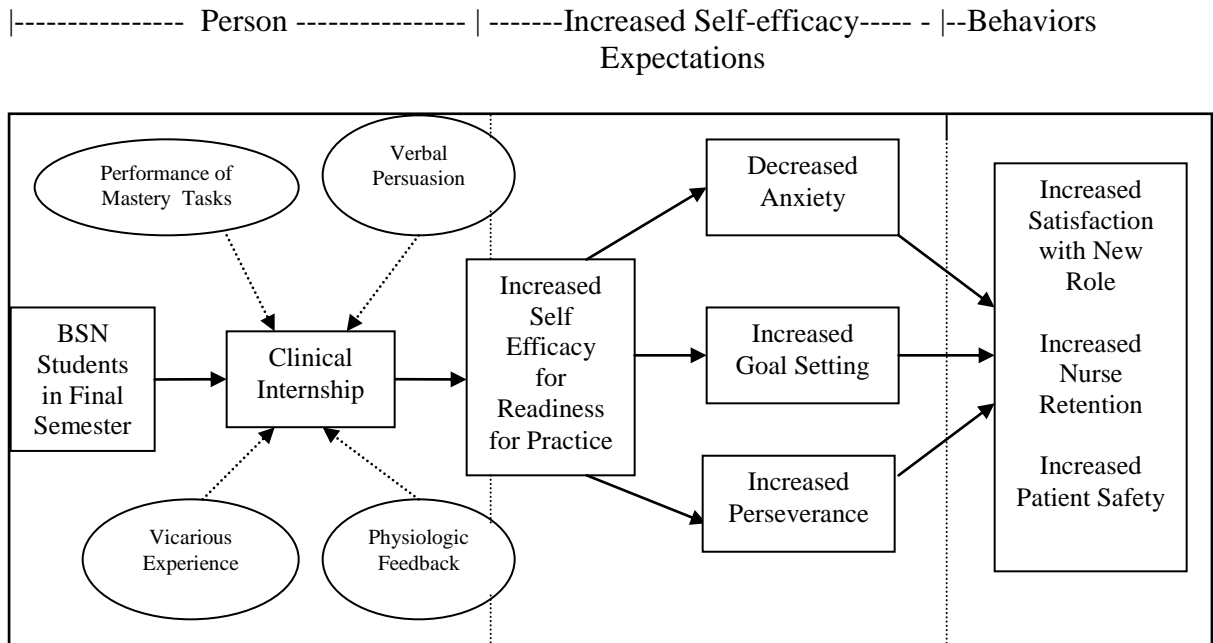
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Appendix A

Bandura's Theory of Self-efficacy Model



Appendix B
 Role of Readiness for Practice in Self-efficacy Model



Appendix C

Schools of Nursing Participating in the Study

Avila University – Kansas City, MO

Baker University –Topeka, KS

*Bethel College - North Newton, KS

Cox College - Springfield, MO

Fort Hays State University - Hays, KS

Graceland University – Independence, Missouri

*Kansas Wesleyan University – Salina, KS

MidAmerican Nazarene University - Olathe, KS

Research College of Nursing – Kansas City, MO

UMKC School of Nursing - Kansas City, MO

University of Kansas - Kansas City, KS

University of Central Missouri –Lee's Summit, MO

Wichita State University - Wichita, KS

William Jewell College – Liberty, Missouri

* = no clinical internship experience during final semester

Appendix D
Casey-Fink Readiness for Practice Survey © 2008

Section 1-----

Please fill in the blank or circle the response that represents your individual profile.

1. **Age:** _____ years

2. **Gender:**
 - a. Female
 - b. Male

3. **Ethnicity:**
 - a. Caucasian (white)
 - b. Black
 - c. Hispanic
 - d. Asian
 - e. Other
 - f. I do not wish to include this information

4. **Other non-nursing degree (if applicable):** _____

5. **What previous health care work experience have you had:**
 - a. Nursing assistant
 - b. Medical assistant
 - c. Volunteer
 - d. Unit secretary
 - e. EMT
 - f. EMT - Paramedic
 - g. Externship
 - h. Nurse Intern or Advanced Care Partner
 - i. Other: (please specify) _____

6. **Currently employed:**
 - a. Yes
 - b. No

7. **If yes (question #6), are you employed in a healthcare related position:**
 - a. Yes
 - b. No

8. **Average # hours worked/week while enrolled in BSN program:** _____ hours

9. Why did you select a career in nursing (choose one):

- a. To care for others
- b. To help people cope with illness
- c. Have always wanted to be a nurse
- d. Career switch
- e. To educate myself on diseases/health problems
- f. Job security
- g. To make more money
- h. Hours of work/flexible schedule
- i. Career advancement opportunities
- j. Not sure why
- k. Other _____

10. Current GPA _____

11. Type of BSN program enrolled:

- a. Traditional
- b. Accelerated
- c. Worksite
- d. CHOICE
- e. Other: _____

12. Are you enrolled in an employer supported scholarship program?

- a. Yes
- b. No

13. School of Nursing attended _____

14. Month/year started in BSN program: _____

Section 2-----

15. Clinical Area of Senior Practicum experience:

- a. Adult M/S
- b. Adult ICU
- c. Oncology/BMT
- d. OB (L&D, POST PARTUM)
- e. Pediatric M/S
- f. Pediatric ICU
- g. NICU
- h. Mental Health
- i. Ambulatory Care Setting
- j. Rehabilitation
- k. Emergency Department
- l. OR/Perioperative Setting
- m. Other: _____

16. Was your clinical practicum experience at your current place of employment?

- a. Yes
- b. No

17. What setting was your clinical practicum experience located:

- a. Urban setting
- b. Rural setting

18. How many clinical hours were you required to complete during your senior practicum?

_____ Hours

19. How many hours did you spend with your unit charge nurse?

_____ Hours

20. How many primary preceptors did you have during your senior practicum experience?

_____ Preceptors

21. Were you required to review NCLEX-RN questions during your senior practicum course?

- a. Yes
- b. No

22. If yes (question 21) how many questions/week did you review? # _____

23. What did YOU do to prepare for your senior practicum experience: (may select more than one answer)

- a. Practice skills in learning lab
- b. Participate in simulation assignment
- c. Develop a care plan
- d. Bring medication reference or PDA to clinical
- e. Set daily goals with preceptor
- f. Meet with preceptor prior to start of clinical experience
- g. Orient to facility/tour unit
- h. Discuss personal learning needs with clinical faculty
- i. Did nothing to prepare
- j. Other: _____

Section 3-----

List **three** skills/procedures you are **most uncomfortable performing** independently at this time? *Select from list below.*

1. _____
2. _____
3. _____
4. _____ I am independent in all skills listed below

List of skills

- Assessment skills
- Bladder catheter insertion/irrigation
- Blood draw/venipuncture
- Blood glucose monitoring device
- Central line care (dressing change, blood draws, discontinuing)
- Charting/documentation
- Chest tube care
- EKG/Telemetry monitoring and interpretation
- Giving verbal report
- Intravenous (IV) medication administration
- Intravenous (IV) starts
- IV pumps/PCA pump operation
- Medication administration
- NG tube/Dobhoff care
- Pulse oximetry
- Responding to an emergency/CODE/changing patient condition
- Trach care/suctioning
- Wound care/dressing change/wound vac
- Other _____

Section 4-----

Please answer each of the following questions by placing a mark inside the **box/circle**:

What is your current level of confidence in managing a patient care assignment on an adult Medical/Surgical unit:

| | NOT CONFIDENT | | | VERY CONFIDENT | |
|-----------------------|----------------------|---|---|-----------------------|---|
| | 1 | 2 | 3 | 4 | 5 |
| Caring for 2 patients | | | | | |
| Caring for 3 patients | | | | | |
| Caring for 4 patients | | | | | |

Section 5

| | STRONGLY DISAGREE | DISAGREE | AGREE | STRONGLY AGREE |
|---|------------------------------|-----------------------|-----------------------|---------------------------|
| 1. I feel confident communicating with physicians. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I am comfortable communicating with patients from diverse populations. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I am comfortable delegating tasks to the nursing assistant. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. I have difficulty documenting care in the electronic medical record. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I have difficulty prioritizing patient care needs. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. My clinical instructor provided feedback about my readiness to assume an RN role. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. I am confident in my ability to problem solve. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. I feel overwhelmed by ethical issues in my patient care responsibilities. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. I have difficulty recognizing a significant change in my patient's condition. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. I have had opportunities to practice skills and procedures more than once. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11. I am comfortable asking for help. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. I use current evidence to make clinical decisions. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. I am comfortable communicating and coordinating care with interdisciplinary team members. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. Simulations have helped me feel prepared for clinical practice. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15. Writing reflective journals/logs provided insights into my own clinical decision-making skills. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. I feel comfortable knowing what to do for a dying patient. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17. I feel comfortable taking action to solve problems. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18. I feel confident identifying actual or potential safety risks to my patients. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19. I am satisfied with choosing nursing as a career. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20. I feel ready for the professional nursing role. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Section 6

What could be done to help you feel more prepared to enter the nursing profession?

Thank you for completing this survey!

Appendix E
Letter to Participants

January, 2009

Dear Nursing Student,

I am conducting a study of nursing students enrolled in a BSN degree program. I am interested in learning about your perception of confidence and readiness to enter the nursing profession.

The purpose of this letter is to ask you to take part in this study. If you agree to participate, please complete the attached survey, *Casey-Fink Readiness for Practice* ©2008. This survey should take approximately 10-15 minutes to complete. All of your answers will be kept completely confidential. The study results will have no identifying information on it and no individual identities will be used in any reports or publications that may result from this study.

The survey asks for your thoughts on being a nursing student at the end of your BSN program. There is no benefit to you for participating in this study and there will be no reimbursement provided. There will be no financial costs to you as a result of taking part in this study. The survey results may help schools and colleges of nursing better prepare nursing students in the future.

Thank you in advance for assisting with and taking the time to participate in this study.

Sincerely,

Janet Reagor RN, MS
University of Kansas Medical Center
School of Nursing

Appendix F

Informed Consent Perceived Readiness for Practice of Senior Baccalaureate Nursing Students

INTRODUCTION

As a person who is currently enrolled in their final semester of a baccalaureate nursing program, you are being invited to participate in a research study about the perception of readiness for practice following a clinical internship experience. This research study is being conducted through the University of Kansas Medical Center with Cynthia Teel, PhD, RN as primary investigator and Janet Reagor, MS RN as co-investigator. Participation in the study will take place at a location designated on your college/university campus. Approximately 200 subjects will be enrolled in the study.

You do not have to participate in this research study. Before you make a decision to participate, you should read the rest of this form. The main purpose of research is to benefit future students, patients, and society in general. You might get personal benefit from participating in this study, but you should understand that the purpose of research is to create new knowledge.

BACKGROUND

The shortage of RNs in the workforce is a serious concern. Coupled with increasing numbers of older and more acutely ill patients, and a nurse faculty shortage, changes in the clinical education model are being considered. The clinical internship experience is considered a mainstay of final preparation for the role of the graduate nurse, yet clinical internships vary in the number of required hours, type of assigned units, and how the hours are scheduled.

PURPOSE

The purpose of this study is to examine characteristics of the clinical internship experience that influence the perception of readiness for practice of senior level baccalaureate students. These results will contribute to a body of knowledge that may influence changes to the nursing education model.

PROCEDURES

If you are eligible and decide to participate in this study, your participation in the survey will last approximately 15 minutes in an assigned area at your school. Your participation will involve answering questions both prior to and following your clinical internship, about how prepared you feel you are to assume the role of a graduate nurse. Volunteers will also be asked to participate in a 15 – 20 minute interview following completion of the internship experience.

RISKS

There are no known risks to participation in the study. There may be other risks that have not yet been identified, and unexpected side effects that have not been previously observed may occur.

NEW FINDINGS STATEMENT

You will be informed if any significant new findings develop during the course of the study that may affect your willingness to participate in this study.

BENEFITS

You are unlikely to benefit from participating in this study. It is hoped that additional information gained in this research study may be useful in the education of other pre-licensure nursing students

ALTERNATIVES

Participation in this study is voluntary. Deciding not to participate will have no effect on your educational or health care experience.

COSTS

There are no costs to you related to participation in the study.

PAYMENT TO SUBJECTS

There is no payment for participating in the study.

INSTITUTIONAL DISCLAIMER STATEMENT

If you believe you have been injured as a result of participating in research at Kansas University Medical Center (KUMC), you should contact the Director, Human Research Protection Program, Mail Stop #1032, University of Kansas Medical Center, 3901 Rainbow Blvd., Kansas City, KS 66160. Compensation to persons who are injured as a result of participating in research at KUMC may be available, under certain conditions, as determined by state law or the Kansas Tort Claims Act.

CONFIDENTIALITY

Efforts will be made to keep your personal information confidential. Researchers cannot guarantee absolute confidentiality. If the results of this study are published or presented in public, information that identifies you will be removed.

QUESTIONS

You have read the information in this form. Janet Reagor (co-investigator) has

Appendix G
Letters of Consent

February 18, 2009

Janet Reagor
833 Kendall Road
Peculiar, MO 64078

Dear Janet-

Thank you for your interest in using the Casey-Fink Readiness for Practice © 2008 survey. I give you permission to use the survey tool for your research project.

Please call me if you have any questions regarding the survey.

Sincerely,

A handwritten signature in cursive script that reads "Kathy Casey".

Kathy Casey, RN, MSN
Clinical Faculty
University of Colorado, Denver
Regis University, Denver

1/09/09

Janet, we would be willing to participate in your study and have 38 students projected to graduate 5/09. No separate IRB permission is necessary, as long as you have KUMC IRB approval. I included Cindy Light in this email, as she coordinates the Capstone (internship) experience. She can let you know when they start their experiences for spring so that we can survey students before and after their Capstone experience.

Thanks, Kay Osinski

Kay Osinski, MS, RN, CMSRN, CNE
Assistant Dean, Baker University School of Nursing
Stormont-Vail Campus, 1500 SW 10th Street
Topeka, Kansas 66604
Phone: 785-354-5867
Fax: 785-354-5832



AVILA UNIVERSITY

January 23, 2009

Janet Reagor
833 Kendall Road
Peculiar, MO 64078

Dear Janet,

This is to confirm that you have my permission as the Dean of the Avila University School of Nursing for students to participate in your study, "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students".

Sincerely,

Susan H. Fetsch, RN, PhD
Robert Wood Johnson Executive Nurse Fellow
Dean and Professor
School of Nursing
t: 816.501.3672
f: 816.501.2413

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AVILA UNIVERSITY

March 6, 2009

Janet Reagor
School of Nursing

Dear Janet,

Your request for the research project entitled "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students" has been approved by the Research Review Board as submitted. It is understood that your research is expected to be completed by January 2010. If you make any major changes in the research project or need to make changes in the timeframe, please notify the board.

I hope that your research goes well and is productive. If you have any further questions, please do not hesitate to call me at 816-501-3759 or by making an appointment in the Academic Affairs Office.

Sincerely,

Sue King, Ph.D.
Chair, Research Review Board
Vice Provost for Academic Affairs

SMK:ebh

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North Newton, Kansas
67117-0531

• Department of Nursing

*Bethel
College*

1/28/2009

Janet Reagor
833 Kendall Road
Peculiar, MO 64078

Dear Janet:

This letter will serve as tentative confirmation of your utilizing our senior nursing students in your research study "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students," pending approval by our internal review board of the college.

Thanks for contacting us regarding the participation in the study. I'm looking forward to working with you and I believe our students will benefit from being a part of this study and experiencing the nursing research process up front and personal.

Sincerely,

Phyllis J. Miller, MS, RN, FHCE
Interim Director of Nursing
Bethel College

www.bethelks.edu





January 23, 2009

Janet Reagor
833 Kendall Road
Peculiar, MO 64078

Dear Ms. Reagor:

As Dean of the School of Nursing at Cox College, contingent upon approval of your own IRB committee, I agree to allow students to participate in your study "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students". Please let me know if you need anything further from me to complete your study.

Regards,

A handwritten signature in cursive script that reads "Charlotte Ward".

Dr. Charlotte Ward, Dean
Department of Nursing

1423 North Jefferson Avenue • Springfield, Missouri 65802 • 417/269-3401 • 417/269-3586 fax • 866-898-5355 toll free

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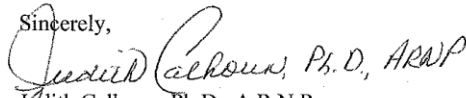
January 24, 2009

Janet Reagor
833 Kendall Road
Peculiar, MO 64078

Dear Janet:

As department chair of Emporia State University Newman Division of Nursing, I agree to allow senior nursing students to participate in your study regarding "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students." My approval is contingent upon the approval of Emporia State University's IRB committee.

Sincerely,


Judith Calhoun, Ph.D., A.R.N.P.
Division Chair

An Equal Opportunity Employer



February 6, 2009

Janet Reagor
University of Kansas Medical Center
833 Kendall Road
Peculiar, MO 64078

Dear Ms. Reagor:

Your application for approval to use human subjects, entitled "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students," has been reviewed. I am pleased to inform you that your application was approved and you may begin your research as outlined in your application materials.

The identification number for this research protocol is 09053 and it has been approved for the period 2/1/09 to 6/15/09.

If it is necessary to conduct research with subjects past this expiration date, it will be necessary to submit a request for a time extension. If the time period is longer than one year, you must submit an annual update. If there are any modifications to the original approved protocol, such as changes in survey instruments, changes in procedures, or changes to possible risks to subjects, you must submit a request for approval for modifications. The above requests should be submitted on the form Request for Time Extension, Annual Update, or Modification to Research Protocol. This form is available at www.emporia.edu/research/docs/irbmod.doc.

Requests for extensions should be submitted at least 30 days before the expiration date. Annual updates should be submitted within 30 days after each 12-month period. Modifications should be submitted as soon as it becomes evident that changes have occurred or will need to be made.

On behalf of the Institutional Review Board, I wish you success with your research project. If I can help you in any way, do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads 'Joella Mehrhof pf'.

Joella Mehrhof
Chair, Institutional Review Board

pf

An Equal Opportunity Employer

DATE: February 16, 2009

TO: Janet Reagor
FROM: Fort Hays State University Institutional Review Board for Human Subjects Research

STUDY TITLE: Perceived readiness for practice of senior baccalaureate nursing students
IRB REFERENCE #: 09-013
SUBMISSION TYPE: New

ACTION: APPROVED
APPROVAL DATE: 2/12/09
EXPIRATION DATE: 12/31/09
REVIEW TYPE: Expedited

REVIEW CATEGORY: Expedited review category # 7

Thank you for your submission of materials for this research study. The Fort Hays State University Institutional Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received expedited based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

If you have any questions, please contact Leslie Paige at lpaige@fhsu.edu or 785-628-4349. Please include your study title and reference number in all correspondence with this office.



#1 University Place
Lamoni, Iowa 50140

RE: Perceived Readiness for Practice of Senior Baccalaureate Nursing Students

Dear Janet,

Congratulations! This is to inform you that your project proposal was reviewed through Graceland University's Institutional Review Board's exempt review process and has been accepted as an approved topic of study. You have agreed to comply with the conditions set forth in the signed General Agreement that discuss the pursuit of research involving human subjects. You may therefore proceed with your study.

If we can be of further assistance, please do not hesitate to contact us at the number below. Best wishes for a successful study.

Sincere Regards,

Lisa Thomas, Ph.D.
IRB Committee Member

General Agreement

I agree to the following conditions in pursuit of research involving human subjects:

1. to avoid procedures that inflict physical or mental harm or otherwise threaten the well-being of subject.
2. to provide the proper surveillance of this project to ensure that the rights and welfare of the human subjects are protected.
3. to report any adverse subject reaction(s) to the IRB.
4. that subjects are not to be exposed to risks greater than they would be exposed to in daily life without documenting that the benefits to individuals and/or society outweigh the risks involved.
5. to obtain informed consent from all participants, in language they can understand, of possible risks and/or danger that is associated with their participation in the study. Consent will include documentation of what the researcher told subjects, validation of subjects' understanding of possible or potential risks associated with their participation, and subjects' agreement to participate in spite of these risks.
6. to assure that no subject will be coerced or forced to participate, and anyone choosing to withdraw be allowed to withdraw from the research at any time without penalty or negative consequence. Prospective participants who are part of a class would not be required to participate. Extra credit or alternative experience will be available for the subject to select.
7. to assure that subject's privacy will be protected, whenever it is necessary, by assignment of a code number. Confidentiality will be employed at all times and will be used when anonymity is not practical.
8. to assure that participants are not deliberately misled or kept naive, unless it had been determined that the use of such deception is justified by the study's prospective scientific, educational, or applied value. It must be determined that equally effective alternative procedures that do not use deception are not feasible. In no case will researchers deceive subjects about significant aspects of the research that would affect their willingness to participate. However, if, in the course of research, subjects have been deliberately misled or deceived as part of the research, they must be informed as to the nature of and reason for the deception.
9. to take reasonable measures to honor all commitments made to research participants.
10. to plan and conduct research in a manner consistent with federal and state laws and regulations, as well as to adhere to professional standards of researchers' disciplines.
11. to submit to the IRB for review any substantive additions to or changes in research procedures proposed, and to agree to request renewal of approval for any project continuing more than one year.

Date

Signed Name of Principal Investigator

Approved Disapproved

Date _____

Signed Name of Division/Dept. Head

Accepted Remanded

Signed Name of IRB Representative

Lisa Hamilton Thomas, Ph.D. _____ Date March 23, 2009

Division of Nursing Education

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KANSAS WESLEYAN
UNIVERSITY

www.kwu.edu

January 26, 2009

Janet Reagor
833 Kendall Road
Peculiar, MO 64078

Dear Ms. Reagor:

As Interim Chair of Kansas Wesleyan University Division of Nursing, we are willing to participate in Ms. Reagor's study "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students. I do not anticipate any problems once the study is approved by your IRB that ours will also approve our participation.

Sincerely,

A handwritten signature in cursive script that reads "Connie Neuburger".

Connie Neuburger, RN, MN
Associate Professor and Interim Chair
Division of Nursing Education

MIDAMERICA
NAZARENE UNIVERSITY

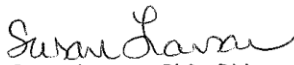
Division of Nursing

January 22, 2009

To Whom It May Concern:

^{SL}
As ~~Division~~ Chair of the Division of Nursing at MidAmerica Nazarene University, I give permission for our senior nursing students to participate in Janet Reagor's study: "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students." Please contact me with further questions,

Most Sincerely,


Susan Larson, PhD, RN
Chair and Professor
Division of Nursing

Research College of Nursing

2525 East Meyer Boulevard
Kansas City, Missouri 64132

Office of the President/Dean

816/995-2815



January 26, 2009

Dear Members of the Kansas University Medical Center IRB Committee,

This letter is submitted as verification of Research College of Nursing's willingness to participate in Ms. Janet Reagor's study "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students". This commitment is contingent upon approval of participation from Research College of Nursing's Human Subjects Committee. Once the study has been formally approved by the College's Human Subjects Committee, a follow-up letter will be provided to you as well as to Ms. Reagor.

Sincerely,

A handwritten signature in black ink that reads "Nancy O. DeBasio".

Nancy O. DeBasio, PhD, RN
Dean and Professor



Department of Nursing
University Health Center 106
Warrensburg, MO 64093
Office 660-543-4775
FAX 660-543-8304

January 26, 2009

Janet Reagor
833 Kendall Road
Peculiar, MO 64078

Dear Janet:

I am writing to confirm that we agree to allow students to participate in your study, "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students." Dr. Jo Riggs will serve as our contact faculty member in this regard.

Sincerely,

Julie Clawson, Chair



December 8, 2008

Janet Reagor
833 Kendall Rd
Peculiar, MO. 64078

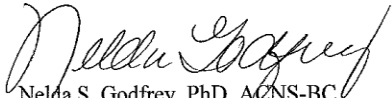
Dear Janet,

This is to confirm that you have the permission of the Associate Dean, Undergraduate Programs at the University of Kansas School of Nursing to survey students in the 2009 graduating class regarding their precepted clinical experiences.

David Martin (dmartin@kumc.edu) will be your contact for communicating with the students, as he is the course coordinator for NURS 490, Clinical Practicum.

Best wishes on your doctoral research.

Sincerely,



Nelda S. Godfrey, PhD, ACNS-BC
Associate Dean, Undergraduate Programs
Clinical Associate Professor



January 26, 2009

Janet Reagor
833 Kendall Road
Peculiar, MO 64078

Dear Ms. Reagor;

As the Associate Dean of the School of Nursing at UMKC, I agree to allow students to participate in your study "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students". Best wishes.

Sincerely,

A handwritten signature in cursive script that reads "Thad Wilson".

Thad Wilson, PhD, RN, FNP-BC
Associate Dean

[Faint, illegible text]

UNIVERSITY OF MISSOURI-KANSAS CITY
2220 Holmes St. • Kansas City, Missouri 64108-2676 • 816 235-1700 • Fax: 816 235-1701
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an equal opportunity institution



WICHITA STATE UNIVERSITY

School of Nursing

January 26, 2009

Ms. Janet Reagor
833 Kendall Road
Peculiar, MO 64078

Dear Ms. Reagor:

This is to confirm that I have agreed to allow Wichita State University nursing students to participate in your study "Perceived Readiness for Practice of Senior Baccalaureate Nursing Students." Student participation is contingent upon approval of the WSU IRB Committee. Dr. Alicia Huckstadt is Chair of the WCU IRB and can be contacted at alicia.huckstadt@wichita.edu .

Please let me know if you need additional information at this time. Best wishes for the success of your study.

Sincerely,

Juanita S. Tate, RN, PhD
Chairperson School of Nursing and
Associate Dean College of Health Professions



500 College Hill • Liberty, Missouri 64068-1896 • (816) 781-7700 • Fax (816) 415-5027
www.jewell.edu

January 26, 2009 .

Janet Reagor
833 Kendall Road
Peculiar, MO 64078

Dear Ms. Reagor:

As Interim Chair of the Nursing Department at William Jewell College, I agree to allow our nursing students to participate in your research study: *Perceived Readiness for Practice of Senior Baccalaureate Nursing Students*.

I believe you are also waiting final approval from William Jewell's IRB committee.

Sincerely,

Vicki L. Meek, MS, RN, CNE
Interim Chair
meekv@william.jewell.edu
816-415-7601

Appendix H

Student Identifier Form

| | |
|---|----------------------------------|
| <p>Create your own Unique Identifier for the study – for student use only Choose something you will remember! (Possible options include: initials, nickname, ID number)</p> | |
| <p>CFRPS #1</p> | <p>Place number sticker here</p> |
| <p>CFRPS #2</p> | <p>Place number sticker here</p> |

Appendix I
 Data Collection Form for School Characteristics
 (For use only by investigator)

| | |
|--|--|
| Name of School | |
| Consent letter received | |
| Contact Person Information | |
| Size of School | |
| Type of School (private or public) | |
| Size of class | |
| Clinical Course Description | |
| Number of hours required for the clinical internship | |
| Types of units assigned for the clinical internship | |
| Use of preceptors – yes/no, how many? | |
| Faculty contact with students and preceptors - frequency | |
| Start date for Clinical Internships | |
| End date for Clinical Internships | |
| Date, Time, and Location for Orientation to the study | |
| Date, Time, and Location for completion of CFRPS #1 | |
| Date, Time, and Location for completion of CFRPS #2 | |
| | |

Appendix J
Contact Information Sheet for Interview Volunteers

Name

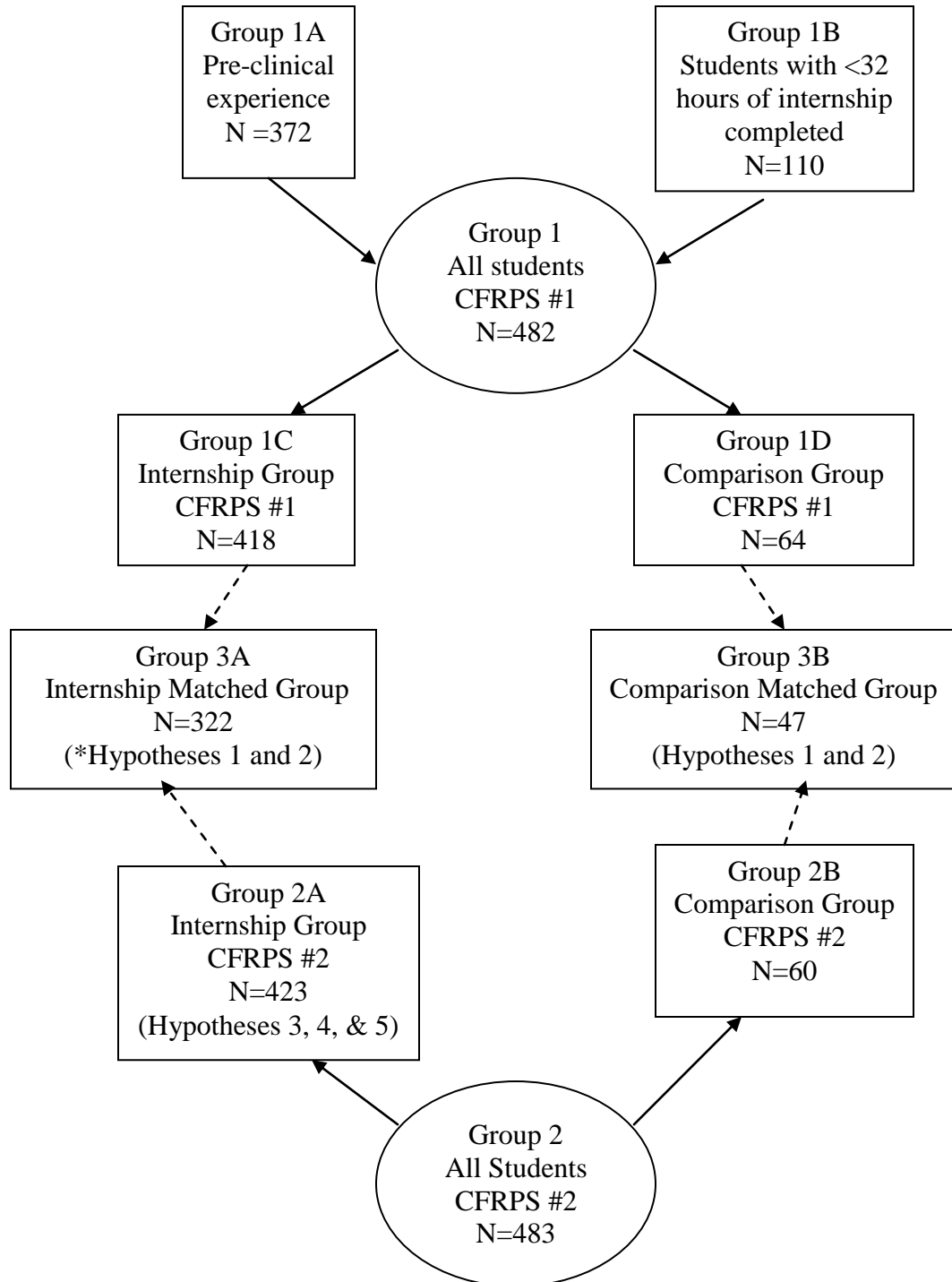
Best Contact Number

Best Day/Time to be Contacted

Last Scheduled Day of Internship

Appendix K

Data Collection by Groups



Appendix L
Content Validity Assessment

Please rate the following questions on how well they fit the definition of readiness for practice as defined below.

Readiness for practice is the ability as a graduate nurse, to assume the roles of provider of care, designer/manager/coordinator of care, and member of the nursing position (AACN, 2008).

- **Provider of care** – A nurse who evaluates client changes and progress over time, and has a beginning proficiency and efficiency in delivering safe, evidence-based client care
- **Designer/manager/coordinator of care** - An individual is capable of managing care transitions, is an active participant on the interprofessional care team, can identify system issues, and has working skills in delegation, prioritization, and oversight of care
- **Member of a profession** – An individual who is capable of evaluating one’s own practice, and assuming responsibility for supporting the nursing profession

| | Fits very well with definition | Fits with definition | Marginal fit with definition | Does not fit with definition |
|---|--------------------------------|----------------------|------------------------------|------------------------------|
| What is your current level of confidence in managing a patient care assignment on an adult Medical/Surgical unit: - Caring for 2 patients | | | | |
| What is your current level of confidence in managing a patient care assignment on an adult Medical/Surgical unit: - Caring for 3 patients | | | | |
| What is your current level of confidence in managing a patient care assignment on an adult Medical/Surgical unit: - Caring for 4 patients | | | | |
| I feel confident communicating with physicians. | | | | |
| I am comfortable communicating with patients from diverse populations. | | | | |
| I am comfortable delegating tasks to the nursing assistant. | | | | |
| I have difficulty documenting care in the electronic medical record. | | | | |
| I have difficulty prioritizing patient care needs. | | | | |

| | Fits very well with definition | Fits with definition | Marginal fit with definition | Does not fit with definition |
|---|--------------------------------|----------------------|------------------------------|------------------------------|
| My clinical instructor provided feedback about my readiness to assume an RN role. | | | | |
| I am confident in my ability to problem solve. | | | | |
| I feel overwhelmed by ethical issues in my patient care responsibilities. | | | | |
| I have difficulty recognizing a significant change in my patient's condition. | | | | |
| I have had opportunities to practice skills and procedures more than once. | | | | |
| I am comfortable asking for help. | | | | |
| I use current evidence to make clinical decisions. | | | | |
| I am comfortable communicating and coordinating care with interdisciplinary team members. | | | | |
| Simulations have helped me feel prepared for clinical practice. | | | | |
| Writing reflective journals/logs provided insights into my own clinical decision-making skills. | | | | |
| I feel comfortable knowing what to do for a dying patient. | | | | |
| I am comfortable taking action to solve problems. | | | | |
| I feel confident identifying actual or potential safety risks to my patients. | | | | |
| I am satisfied with choosing nursing as a career. | | | | |
| I feel ready for the professional nursing role. | | | | |

Appendix M
Glossary of Terms

Accelerated program – A nursing curriculum for adults who already have completed a bachelor’s or higher degree in a non-nursing discipline. These programs take 11 – 18 months to complete, including prerequisites. Students complete the same number of clinical hours as students enrolled in traditional programs (AACN, 2009).

Alternate clinical experiences – any clinical site or clinical learning experience that does not follow traditional clinical teaching models. For example, providing screening services at a school for the primary pediatric clinical experience.

Baccalaureate nurse generalist – Graduate of a baccalaureate school of nursing who is ready to assume the roles of provider of care, designer/manager/coordinator of care, and member of a profession (AACN, 2008b).

Class Size - a school independent variable – Represents the number of graduates per year from the represented college/university.

Clinical learning environment - a place where students can apply the knowledge they have learned in the classroom and begin to distinguish the differences between the “ideal” world of the classroom and the “real” world of clinical practice. The

clinical learning environment encompasses the effect of all the conditions and forces within a specific educational learning site.

Clinical Internship hours – The number of actual hours scheduled in the clinical internship experience.

Designer/manager/coordinator of care - An individual is capable of managing care transitions, is an active participant on the interprofessional care team, can identify system issues, and has working skills in delegation, prioritization, and oversight of care (AACN, 2008b).

Education –practice gap - “the dissonance between the knowledge and skills nursing students learn and use safely under supervision in the academic setting and those needed to function safely and independently in the practice setting” (Burns & Poster, 2008, p. 67).

Efficacy Expectations – Outcomes that an individual believes they are actually capable of achieving.

Enactive attainment - also called **Mastery performance or Performance of Mastery Tasks** – Repeated performance of an activity strengthens self-efficacy beliefs. Believed to be the strongest influence on self-efficacy.

GPA – grade point average – self reported by the study participants. Cumulative grade point average of all courses taken towards completion of the baccalaureate degree.

Healthcare experience – Defined as employment in a healthcare setting that has involved direct patient contact. Examples include: CNA, Unit secretary, radiologic technician.

Human agency is defined as acts performed intentionally by an individual for the purpose of obtaining a specific goal.

Immersion experience -clinical internship with a substantive number of hours in a consistent clinical setting over a concentrated period of time.

Internship - Used synonymously with **capstone experience or course, and clinical practicum** - concentrated experience in the healthcare environment designed to decrease “reality shock” by giving students a glimpse of “real practice” and assisting transition into the role of the graduate nurse.

Member of a profession – An individual who is capable of evaluating one’s own practice, and assuming responsibility for supporting the nursing profession (AACN, 2008b).

Nurse Sensitive Indicators: Measures of processes and outcomes—and structural proxies for these processes and outcomes (e.g., skill mix, nurse staffing hours)—that are affected, provided, and influenced by nursing personnel, but for which nursing is not exclusively responsible (AACN, 2008b).

Outcome expectations are defined as a person’s estimate that a given personal behavior will lead to certain outcomes. These expectations can be determined by the individual or another person.

Physiological Feedback - interpretation of symptoms, both physiologic and emotional, in relation to the ability to reach the desired goals. It is sometimes difficult to recognize physiologic symptoms as positive or negative feedback of an action.

Preceptor - An experienced nurse who functions as a role model, teacher, evaluator and support system for the less experienced individual over a limited period of time. The one to one relationship encourages learning and socialization, or an understanding of the total demands and expectations of the role of the nurse.

Prior baccalaureate degree – individuals have been granted a degree in a field other than nursing, regardless of when the degree was obtained.

Provider of care – A nurse who evaluates client changes and progress over time, and has a beginning proficiency and efficiency in delivering safe, evidence-based client care (AACN, 2008b).

Readiness for practice - the ability as a graduate nurse, to assume the roles of provider of care, designer/manager/coordinator of care, and member of the nursing profession.

Reality Shock - feelings experienced by graduates when the realities of the healthcare environment do not match their expectations. May result in dissatisfaction with the new role.

School setting – Differentiates schools by private colleges/universities and public colleges/universities.

Self-efficacy - judgments of personal capabilities. It is interpretation by the individual of their capability to perform a specific task.

Self-esteem - a broad concept that estimates how an individual feels about their overall sense of self worth. It is not specific to the outcome being considered.

Simulation Experience – Any type of controlled exercise that provides an opportunity for students to practice skills, communication, problem solving, and clinical reasoning in a “safe” environment. Usually described as high, medium, or low fidelity depending on the technologic level of equipment used during the experience.

Socialization to the profession – gaining an understanding of the total demands and expectations of the working role. Three specific role values: service (degree of commitment to the patient, humanity, and altruism), bureaucratic (loyalty to the hospital administration and nursing care delivery within the organization) and professional (dedication to knowledge, continued learning, evidence-based practice, and the nursing profession) are seen as crucial to successful integration into the workforce (Dobbs, 1988).

Traditional Clinical Model –Clinical experiences are planned to coordinate with theoretical content in the classroom. Students are assigned one to two patients, prepare a plan of care prior to the clinical experience and evaluate their care following the experience. Complexity of patient assignment increases throughout the program.

Traditional Program or Traditional Curriculum –plan of study designed for an entry level position into nursing for baccalaureate students who do not have any other prior baccalaureate degree. The programs are typically scheduled over 4 years of study including prerequisites.

Type of immersion experience – How the clinical internship hours are scheduled during the final semester. These hours may be scheduled concurrent with other courses, or students may be released from other courses during the experience. Hours may be scheduled throughout the semester, clustered during the semester, or concentrated at one point during the semester.

Type of assigned unit – Designation by the healthcare institution of the primary type of care provided on that unit. Examples include; medical, surgical, perioperative, labor and delivery, intensive care, emergency department.

Verbal persuasion also called **social persuasion** - any type of encouragement, verbal or non-verbal, that influences an individual regarding their abilities.

Vicarious experience – also called **role modeling** - raises and strengthens perceived self-efficacy by observing and/or sharing the performances of others.