

EMOTIONAL INTELLIGENCE LEVELS IN BACCALAUREATE-PREPARED
EARLY CAREER REGISTERED NURSES

A Dissertation
Submitted to the Graduate Faculty
of the
North Dakota State University
of Agriculture and Applied Science

By

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In Partial Fulfillment
for the Degree of
DOCTOR OF PHILOSOPHY

Major Department:
School of Education

July 2012

Fargo, North Dakota

North Dakota State University
Graduate School

Title

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DOCTOR OF PHILOSOPHY

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ABSTRACT

The increasing complexity of the healthcare environment calls for increasing emotional intelligence (EI) competence in nurses so as to establish effective relationships that facilitate positive patient outcomes. Because nurses need to be competent in EI, it is important to determine if professional nursing programs prepare graduates in emotional intelligence and whether years of professional experience contribute to development of emotional intelligence.

This study assessed the emotional intelligence competence of 164 baccalaureate nursing alumni who graduated during the years 2007-2010 from three Benedictine institutions in the Midwest to see if there was growth of EI with experience as a registered nurse, and to determine if age, gender, grade point average (GPA), and years of total healthcare work experience prior to graduation predicted EI. Participants completed the Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT) and a demographic survey.

Findings from this study indicated 79.4% of participants were competent or higher on the MSCEIT total EI score. Percentages of nurses scoring in the competent or higher range on each of the four branch scores of perceiving, using, understanding and managing emotions were 80.6%, 72.7%, 84.2%, and 84.9% respectively. An independent-sample *t*-test found no significant differences on EI scores between graduates with 1-2 years compared to 3-5 years of experience as a registered nurse. Results of a linear stepwise regression for determining the usefulness of age, GPA, gender, years of total healthcare experience prior to graduation and years of experience as an RN to predict the total EI score on the MSCEIT revealed being female as a significant predictor ($p = .015$). Being female was a significant predictor for the using emotions branch ($p = .047$). Significant predictors of EI on the understanding emotions branch

were GPA ($p < .001$) and being female ($p = .023$). There were no significant findings regarding the perceiving and managing branches of the MSCEIT.

The findings of this study indicate there is work to be done to improve the EI competence of nursing graduates. Continued research on the topic of EI and nursing is needed to build the knowledge base on how to promote positive patient outcomes.

ACKNOWLEDGEMENTS

The completion of this study has not been carried out as a solo journey. There have been numerous individuals who have assisted me in completing this major undertaking.

First I'd like to thank Dr. Chris Ray, who assumed the role of chair in the middle of my study. His guidance and prompt feedback was invaluable and enabled me to move forward when I felt "stuck." I am sincerely appreciative of his expertise, insight and support. I am also extremely grateful to my committee members, Dr. Myron Eighmy, Dr. Mary Margaret Mooney, and Dr. Diane Fladeland for their advice, support and valuable critique of this study. My colleagues at the University of Mary, across many disciplines and too many to mention, were also sources of support and assistance as I moved along, and I hope they understand my overwhelming gratitude. I'd like to say a special thank-you to Sue Sande who readily assisted me in getting the tables and formatting completed.

I am also profoundly grateful to my professional colleagues at The College of St. Scholastica, Dr. Marty Witrak, and College of St. Benedict, Dr. Carie Braun, for their encouragement and willingness to assist me in collecting data from their institutions. I would not have been able to complete this study without their assistance.

My family deserves my sincerest thanks for enduring the angst I expressed over the struggles I had with getting this study completed. My children, Amanda, Kyle and Brittany have always supported my continuing educational endeavors. Finally, and most importantly, to my husband Bruce, who likely felt very neglected, I am lovingly thankful for his support and steadfastness in putting up with me working late nights and weekends in order to complete this study.

DEDICATION

This dissertation is dedicated to my deceased parents, John and Noan Schooler, who instilled in me the value of an education.

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CHAPTER ONE. INTRODUCTION

Background and Nature of the Problem

Increasingly, the healthcare environment is being affected by many forces that impact nursing education. Forces that impact nursing education include implementation of new delivery models, downsizing of the available professional nursing workforce, increased patient acuity levels with decreased lengths of stay, and rapidly changing technology (Hinshaw, 2006; Weber, 2007). Furthermore, the Baby Boomer generation is aging, calling for increased client services (Kimball, Joynt, Cherner, & O'Neil, 2007). As life expectancy increases, risks for chronic disease rise (Kimball et al., 2007). The United States population is also expected to grow by nearly 20% between 2000 and 2025, creating a demand for more healthcare providers (Kimball et al., 2007). As a result of ongoing changes, complex demands, and increasing expectations of consumers in today's competitive healthcare marketplace (Hagenow, 2001; Huy, 2002), nursing graduates must not only be competent in technical and critical thinking skills, but also be equipped to manage "soft" people skills (Kerfoot, 1996). "Soft" people skills have been identified as emotional intelligence (EI) skills (Goldenberg, Matheson, & Mantler, 2006). Emotional intelligence skills are critical components of professional nursing practice and include the ability to demonstrate empathy and self-awareness, along with motivating others, and demonstrating excellent interpersonal skills (Cadman & Brewer, 2001; Reeves, 2005; Simpson & Keegan, 2002). What's more, emotional intelligence skills are thought to buffer the negative effects of conflict and stress inherent in today's healthcare arena (Barbuto & Burbach, 2006; Cummings, Hayduk, & Estabrooks, 2005; Gooch, 2006).

The national nursing shortage and limitations of fiscal resources increase the pressure that nurses face and highlight the need for graduates who can sensitively handle stressful situations

(Freshman & Rubino, 2002). By 2025, the United States will experience a shortage of professional nursing staff of nearly 260,000 registered nurses (Buerhaus, Auerbach, & Staiger, 2009). This shortage is anticipated to worsen as Baby Boomers age and coupled with factors such as high nurse turnover will create added stress for nurses in their ability to provide quality care that consumers demand (American Association of Colleges of Nursing [AACN], 2009). The overall stressful work environment nurses face, affected by factors such as increased use of unlicensed assistive personnel, inadequate staffing, requirements for working overtime, and difficult patient loads, further jeopardizes patient outcomes (Hinshaw, 2006). High levels of emotional intelligence are needed by graduates to create a stable nursing workforce that will decrease nursing turnover and thereby ease shortages (Feather, 2009). The positive impact that emotional intelligence has on relationship building promotes collaboration and teamwork which fulfills the goal of providing quality, cost-effective care to improve patient outcomes (Vitello-Cicciu, 2003).

While the concept of emotional intelligence was originally defined by Salovey and Mayer (1990), Daniel Goleman is credited with popularizing the concept of emotional intelligence through his best-selling books *Emotional Intelligence: Why It Can Matter More than IQ* (1995) and *Working with Emotional Intelligence* (1998b). Emotional intelligence involves the ability to perceive emotions, incorporate sentiments related to emotions, comprehend the meaning of those emotions, and deal with them (Mayer & Salovey, 1997; Salovey & Mayer, 1990). Mayer and Salovey's model (1997), classified as an ability model, is constructed in hierarchical fashion, with perception of emotion considered the most basic skill and management of emotions as the most complex skill. In contrast to the ability model developed by Mayer and Salovey (1997), Goleman (1998b) and Bar-On (1997) identified emotional intelligence as non-cognitive and

developed mixed trait-based models. Goleman (1998b) claimed that emotional intelligence included personal traits such as motivation, optimism, adaptability, and warmth. Bar-On (1997) combined personality with emotional adaptation to structure his emotional intelligence model. The utilization of these models in research studies, particularly in areas such as leadership and career success, continues to grow.

Emotional intelligence has been increasingly noted in the literature as a determinant of successful leadership and career success. Goleman (1995) claimed that emotional intelligence is a predictor of both life and work success. Leaders with emotional intelligence have the ability to analyze the emotional side of problems, are effective team leaders and members, and work positively to resolve issues (Kerfoot, 1996). Barbuto and Burbach (2006) found that empathy is a predictor for leadership emergence. Successful nurse leaders demonstrate authentic concern and the ability to control their own emotions in addition to controlling the emotional climate of areas they supervise (Ashkanasy & Daus, 2002; Fuimano, 2004; Vitello-Cicciu, 2003). Due to the need for nurses to respond and interact within complex, high-stress working environments, it is essential that professional nurses possess emotional intelligence skills so they can provide better services to healthcare consumers (Davis, 2005; Freshman & Rubino, 2004; Jaeger, 2003; Reeves, 2005) and respond effectively to uncertainty and change (Freshman & Rubino, 2002).

Watkin (2000) stated that emotional intelligence is the primary factor affecting excellence in the workplace for all levels of employees; emotional intelligence makes up more than 85% of what determines successful leadership and should be used to determine hiring decisions. Emotional intelligence has a major impact on healthcare effectiveness as it directly relates to patient safety, improved clinical outcomes, and overall profitability (Wheeler, 2005). Prospective employers increasingly seek employees with emotional intelligence skills, listing

interpersonal skills as the most important quality (Liptak, 2005; Poon Teng Fatt, 2004).

Individuals with emotional intelligence will more likely acquire desired positions, move up the career ladder, and promote their organizations (Goleman, 1998b). Yoder (2005) found that emotional intelligence was integral in the development of a leaderful organization.

Today's consumers expect clinical excellence and increasingly personalized and empathetic care. Successful nurse leaders are capable of developing a service orientation in collaboration with all healthcare constituents (Kerfoot, 1996). Individuals with high emotional intelligence are better equipped to identify and respond to emotional needs and are therefore more successful in establishing relationships (Mayer, Roberts, & Barsade, 2008), which leads to positive outcomes not only for the patient but also for the family, healthcare provider, and healthcare system (Duffy & Hoskins, 2003).

Duffy and Hoskins (2003) developed a model that gave emphasis to the collaborative role nursing plays within the healthcare system. The Quality-Caring Model© focuses on how caring relationships improve patient outcomes (Duffy & Hoskins, 2003). The development of quality collaborative relationships based upon a foundation of fairness and empathy is critical in promoting safe work environments (Squires, Tourangeau, Laschinger, & Doran, 2010). Furthermore, better patient care results when nurses possess emotional intelligence behaviors that enable them to develop positive relationships that foster positive mental health for themselves and colleagues (Davis, 2005). A nurses' ability to understand emotional reactions may improve patients' treatment outcomes as mutually acceptable interventions are implemented (Birks & Watt, 2007). Educational programs must respond to the need to prepare graduates who are able to sensitively handle patients' emotions.

Emotional intelligence can be acquired through appropriate education (Mayer & Caruso, 1999). Including the topic of emotional intelligence and emotions in leadership courses has been shown to improve team performance (Ashkanasy & Dasborough, 2003). Nevertheless, despite the identification that emotional intelligence skills are critical for professional nursing practice, curricula rarely assist the student in cultivating these skills (Jaeger, 2003). If nurse educators have low levels of emotional intelligence and self-awareness (Cadman & Brewer, 2001; Freshwater & Stickley, 2004), it is not surprising that undergraduate nursing students felt that emotional intelligence was not sufficiently addressed within their coursework (Rochester, Kilstoff, & Scott, 2005).

To address the changes in the healthcare delivery system and improve patient outcomes, the American Association of Colleges of Nursing (AACN, 2008) voiced the need for nursing programs to place increased emphasis on the skills of collaboration and customer service in nursing curricula. As demands of the complex healthcare system escalate, increased numbers of baccalaureate degree prepared nurses are needed because they have curricular instruction in key areas of effective thinking, leadership and communication, beyond that which is obtained by nurses who have completed two year associate degree or hospital-based diploma programs (U.S. Department of Labor, 2007). AACN established guidelines for nursing curricula and expected outcomes of bachelor's prepared graduates in *The Essentials of Baccalaureate Education for Professional Nursing Practice*. Statements within this document are reflective of emotional intelligence attributes. AACN (2008a) stated it is critical that graduates have developed necessary foundational leadership abilities to function within the rapidly changing healthcare arena, with particular skills in (a) establishing and sustaining positive and productive working relationships, (b) teamwork, (c) interprofessional collaboration and communication, and (d)

conflict resolution strategies. The definition of professionalism contained in this document addresses the emotional intelligence concepts of altruism, respect, and caring. Caring is often referred to as the essence of nursing (Leininger, 1984). Caring is referred to in *The Essentials of Baccalaureate Education for Professional Nursing Practice* as empathy the nurse has for the patient and the delivery of compassionate and sensitive care (AACN, 2008a). The National League for Nursing Accrediting Commission (NLNAC; 2006, 2008) also has established guidelines for the accreditation of nursing programs. The NLNAC (2008) accreditation manual states that the curricula for registered nursing programs must address interdisciplinary collaboration. Concepts of emotional intelligence are identified in the core competencies specified in the NLNAC accreditation guidelines, which identify the need for nursing to address customer satisfaction and manage interactions within the healthcare delivery system (NLNAC, 2006). Furthermore, the necessity to establish strategic partnerships, including the larger partnerships with communities to improve healthcare outcomes (NLNAC, 2006), implies the need to effectively utilize emotional intelligence competencies.

Emotional intelligence competencies foundational to accreditation standards in nursing are also upheld in the values supported through higher education at Benedictine institutions. Benedictine values that parallel emotional intelligence competencies include listening carefully and engaging in dialogue even when one disagrees (Klassen, Renner, & Reuter, 2001). Listening also means being respectful, non-judgmental and tolerant of differing viewpoints (Association of Benedictine Colleges and Universities (ABCU), 2007; Klassen et al., 2001; The College of St. Scholastica, n.d.). The *Rule of St. Benedict* states in the Prologue: "listen with the ear of your heart..." (The Order of St. Benedict, Inc., 1981, p. 15). The Benedictine values of respect and hospitality extended through welcoming others and recognizing each individual as unique, as

well as incorporating servant leadership and developing emotional wellness are also inherent in emotional intelligence (ABCU, 2007; Klassen et al., 2001; The College of St. Scholastica, n.d.; University of Mary, n.d.) Overall competencies expected by graduates of Benedictine institutions of higher education are highly characteristic of emotional intelligence. Competences include the need to function effectively within a complex and diverse society and to communicate effectively. In addition, the ability to gather and process information to draw conclusions without bias and remain open to new options if new information becomes available are noted outcomes that mirror competencies of emotional intelligence (ABCU, 2007; Klassen et al., 2001; The College of St. Scholastica, n.d.; University of Mary, n.d.). Today's healthcare arena calls for nurses who possess emotional intelligence and competence in this area is fostered through a Benedictine collegiate experience.

Significance of the Problem

Emotion is a core construct in nursing (Freshwater & Stickley, 2004; McQueen, 2004; Smith, Profetto-McGrath, & Cummings, 2009), and determining the impact of nursing educational preparation on emotional intelligence levels needs further investigation. Emotional intelligence has been associated with empathy (Mayer, Caruso, & Salovey, 1999; Rochester et al., 2005; Schutte et al., 2001) and effective interpersonal relationships (Schutte et al., 2001), which are key characteristics of quality nursing. Utilizing emotional intelligence to recognize and understand how emotion affects nursing care is critical (Bellack et al., 2001; Freshwater & Stickley, 2004; Gooch, 2006; Kerfoot, 1996; McQueen, 2004; Reeves, 2005; Smith et al., 2009). The profession of nursing deals with human relationships, which often leads to conflict in stressful healthcare environments (Morrison, 2008). Stressful work environments for nurses create threats to patient safety (Institute of Medicine, [IOM] 2003). Emotional intelligence

qualities play a key role in managing stressful environments and the successful practice of nursing. In particular, caring relationships are at the heart of professional nursing practice and a primary element of nursing curricula (Duffy, 2003). Understanding the impact of the emotions nurses deal with in the complexity of the healthcare arena, as well as the effect of creating a positive emotional environment to improve patient outcomes, decrease turnover, improve morale, increase job satisfaction, and strengthen commitment to organizational goals, demonstrates how vital it is to develop emotional competence in nursing graduates (Stichler, 2007). However, it remains difficult to evaluate the effectiveness of the affective domain of emotional intelligence. The need for nurses to be prepared in emotional intelligence highlights the importance of determining if graduates of professional nursing programs are competent in emotional intelligence and whether years of professional experience contribute to development of emotional intelligence (EI). In addition, determining what factors may predict EI could provide useful information to nursing programs and professional practice partners. Results from a study of this nature have curricular and continuing professional development implications given the importance of emotional intelligence in today's complex healthcare arena and its impact on patient outcomes.

Statement of the Research Problem

While the literature about the importance of emotional intelligence (EI) in nursing is expanding, there is a paucity of literature supporting whether a baccalaureate degree nursing education and early work experience prepare registered nurses for using emotional intelligence in practice. The importance of interdisciplinary collaboration and leadership competencies, which are key emotional intelligence abilities, are emphasized in accreditation documents. In addition, university competencies and values and specific nursing program outcomes specify key elements

of emotional intelligence that students experience through the educational process. The increasing complexity of today's healthcare arena requires graduates that are emotionally intelligent; however, it was unknown quantifiably if a baccalaureate nursing education at a Benedictine college or university develops emotional intelligence skills in its graduates. Results from this study provide empirical evidence for nursing programs to consider related to factors that affect emotional intelligence development as well as an understanding of the emotional intelligence competence of current alumni.

Purpose of the Study

The purpose of this study was to assess the emotional intelligence competence of baccalaureate nursing graduates from Benedictine institutions in the Midwest to see if there was growth of EI with experience, and to determine if the variables of age, gender, grade point average (GPA), and years of total healthcare work experience predicted EI. The results of this study can be utilized for programs to consider regarding the characteristics of students that may predict EI as well as for use with curriculum assessment and planning purposes in creating strategies to improve overall EI and thus prepare graduates ready to effectively function within the challenging healthcare environment. Findings may also provide evidence to healthcare organizations for the need to develop emotional intelligence skills in the existing healthcare workforce. However, the ultimate goal is to prepare graduates who are competent in EI, as evidence suggests those who are competent have the capacity to handle expected and unanticipated challenges and are thus better able to promote positive outcomes for the patient, family, healthcare provider and healthcare system.

Research Questions

The research questions utilized for this study were as follows:

RQ1: What is the level of emotional intelligence competence on the total and each of the four branch scores of the MSCEIT among baccalaureate prepared nurses who attended Benedictine institutions of higher education in the Midwest and graduated during the years 2007-2010?

RQ2: Are there any differences on the total and each of the four branch scores of the MSCEIT between recent nursing graduates and those with 3-5 years of professional nursing experience in baccalaureate prepared nurses who attended Benedictine institutions of higher education in the Midwest and graduated during the years 2007-2010?

RQ3: Do demographics of age, gender, GPA, years of total healthcare work experience, and years of work experience as a registered nurse predict emotional intelligence as identified on the total and each of the four branch scores of the MSCEIT in baccalaureate prepared nurses who attended Benedictine institutions of higher education in the Midwest and graduated during the years 2007-2010?

Definition of Terms

Baccalaureate Degree Program

A baccalaureate degree program is the level of education provided that leads to professional nursing practice. The four-year, university-based Bachelor of Science in Nursing (BSN) degree provides the nursing theory, science, humanities, and behavioral science preparation necessary for the full scope of professional nursing responsibilities, and provides the knowledge base necessary for advanced education in specialized clinical practice, research, or primary health care. (American Nurses Association, 2009, para. 2) This level of preparation is synonymous with the BS or BA degree with a major in nursing.

Nursing Accreditation

Nursing accreditation is acquired through a nongovernmental peer review process that operates in accordance with nationally recognized standards established for the practice of accreditation in the United States. Accreditation by the Commission on Collegiate Nursing Education (CCNE), one of two national accrediting bodies for nursing programs, is intended to accomplish at least five general purposes:

1. To hold nursing programs accountable to the community of interest – the nursing profession, consumers, employers, higher education, students and their families, nurse residents – and to one another by ensuring that these programs have mission statements, goals, and outcomes that are appropriate to prepare individuals to fulfill their expected roles.
2. To evaluate the success of a nursing program in achieving its mission, goals, and expected outcomes.
3. To assess the extent to which a nursing program meets accreditation standards.
4. To inform the public of the purposes and values of accreditation and to identify nursing programs that meet accreditation standards.
5. To foster continuing improvement in nursing programs – and, thereby, in professional practice. (AACN, 2009, para. 2)

Emotional Intelligence (EI)

Emotional intelligence is the capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth. (Mayer, Salovey, & Caruso, 2004, p. 197)

Mayer, Salovey and Caruso's Four Branch Model of Emotional Intelligence

Mayer, Salovey, and Caruso developed a model of testing emotional intelligence called the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). The MSCEIT is an ability-based test designed to measure four branches of the EI model of Mayer and Salovey. These branches include:

1. **Perceiving Emotions:** The ability to perceive emotions in oneself and others as well as in objects, art, stories, music, and other stimuli
2. **Facilitating Thought:** The ability to generate, use, and feel emotion as necessary to communicate feelings or employ them in other cognitive processes
3. **Understanding Emotions:** The ability to understand emotional information, to understand how emotions combine and progress through relationship transitions, and to appreciate such emotional meanings
4. **Managing Emotions:** The ability to be open to feelings, and to modulate them in oneself and others so as to promote personal understanding and growth (Multi Health Systems, Inc., 2010).

Benedictine Institutions

Benedictine institutions are institutions whose mission and vision are guided by the

principles and values of the founding and sponsoring religious Benedictine communities.

Founding principles and values are based on writings included in *The Rule of St. Benedict* (The Order of St. Benedict, Inc., 1981).

Registered Nurse

In order to work in the nursing profession, all nurses hold one or more credentials depending on their scope of practice and education. To achieve the registered nurse (RN) title,

an individual must graduate from a state-approved school of nursing (baccalaureate program, associate degree program, or diploma program and pass a licensing examination called the National Council Licensure Examination for Registered Nurses (NCLEX-RN) (American Nurses Association, 2009, para. 1). Licensed practical and licensed vocational nurses (known as LPNs or LVNs, depending on the state in which they work) provide basic nursing care. They work under the direction of registered nurses and doctors. Licensed practical and licensed vocational nurses must complete a state-approved educational program, which usually takes 1 year (United States Department of Labor, 2012, para.1, 3). They also must pass an exam (NCLEX – PN).

Years of Total Healthcare Work Experience

Years of total healthcare work experience include the total number of years that the participant has worked in a professional healthcare environment, regardless of whether or not the participant held a registered nurse position.

Years of Work Experience as a Nurse

Years of work experience as a nurse includes the number of years that the participant has worked as a registered nurse. These years do not need to be consecutive. The majority of registered nurses with zero to three years of experience are typically employed in hospitals. Other employment areas for early career registered nurses include clinics, home healthcare agencies, and nursing homes.

Assumptions

Several assumptions exist that require consideration in interpreting the findings. This study relies partially on self-report data and it is assumed that participants will truthfully answer the demographic survey questions and give their full effort and honest responses to the MSCJET questions. Secondly, it is assumed that the Mayer, Salovey and Caruso Emotional Intelligence

Test, Version 2.0 is a reliable and valid instrument for measuring emotional intelligence.

Reliability and validity for the instrument are discussed in Chapter three. Finally, it is assumed that self-reported Grade Point Average (GPA) is an indication of general intelligence.

Delimitations

Several additional limitations and delimitations exist that may limit the generalizability of the study's results. First, the participants in this study are representative only of graduates from the Benedictine institutions studied; therefore, generalizations to other baccalaureate degree nursing graduates may not be valid. Secondly, the abilities of registered nurses to perceive, facilitate, understand and manage emotions may have been influenced by multiple life events apart from the nursing curriculum or professional work experience involving patient care. Third, variations in findings may be due to cultural differences which may affect how emotions are perceived and used by individuals. Fourth, this study is limited to those participants who have access to a computer with Internet access, have a valid e-mail address in the nursing department databases and for those who regularly check their inbox for new messages. Fifth, participants are from a cross-sectional design comparison, rather than a longitudinal design comparison, which also limits the ability to make generalizations. Sixth, participants constitute a convenience sample the researcher had permission to access. Seventh, only participants who chose voluntarily to complete the questionnaire and the MSCEIT are included, thus limiting the generalizability as those who chose not to participate may have different responses to the survey questions. Finally, data for analysis could only be used for those participants who completed the entire MSCEIT. The MSCEIT is a 141 item survey that takes 30-45 minutes to complete. Many participants may have chosen not to complete the survey due to its length.

CHAPTER TWO. LITERATURE REVIEW

The purpose of this study was to assess the emotional intelligence competence of baccalaureate nursing graduates from Benedictine institutions in the Midwest to see if there was growth of EI with experience, and to determine if the variables of age, gender, GPA, and years of total healthcare work experience predicted EI. This chapter addresses the literature about emotional intelligence. The background and history of emotional intelligence is discussed followed by discussion of the literature regarding emotional intelligence and the profession of nursing. Completing the chapter is a description of the conceptual framework for the study. Duffy and Hoskins' (2003) Quality-Caring Model was the framework utilized.

Background and History of Emotional Intelligence

Interest in emotional intelligence arose from the increasing realization that there was something existed beyond intellectual competence that contributed to an individual's success in life (Maree & Eiselen, 2004). Individuals who score high on emotional intelligence scales are better equipped to understand, identify, and reason about emotions and utilize this information to analyze how emotion impacts their decisions, in addition to managing the emotions of others (Mayer, Salovey, & Caruso, 2008). Personal satisfaction and job success are also linked to higher levels of emotional intelligence (Salovey & Grewal, 2005). Emotional intelligence, popularly identified as "soft skills" or "people skills," alludes to the overall ability of an individual to manage everyday pressures (Bunker & Wakefield, 2004; Goldenberg et al., 2006). From the developing interest in emotional intelligence, three primary theoretical conceptualizations of the relationship between emotional intelligence and success in life arose (Maree & Eiselen, 2004). These models were developed by (a) Salovey and Mayer (1990), (b) Goleman (1995, 1998b), and (c) Bar-On (1997).

As models of emotional intelligence developed, the conceptualizations diverged into two areas known as the ability model and the mixed trait-ability model (Mayer, Roberts, et al., 2008; Petrides & Furnham, 2000). Ability models theorize emotional intelligence as an ability requiring thought in interpreting emotional functions (Mayer & Caruso, 1999; Mayer & Salovey, 1997; Mayer, Salovey, Caruso, & Sitarenios, 2003; Mayer, Salovey, et al., 2004) while mixed trait-ability models conceptualize the integration of multiple personality and other traits with emotional processing (Bar-On, 2000, 2001; Goleman, 1995, 1998b). Both the ability model and mixed model have been identified as useful when appropriate consideration is made of the contextual situation (Van Rooy, Viswesvaran, & Pluta, 2005). The mixed model has been linked to usefulness in employment selection considerations while the ability model has been considered valuable for EI development programs (Van Rooy, Viswesvaran, et al., 2005); however, much debate has arisen over which model is the most suitable to measure the concept of EI (Goldenberg et al., 2006). The models, along with their corresponding instruments used to measure the emotional intelligence constructs, were originally developed by (a) Salovey and Mayer, (b) Goleman, and (c) Bar-On. The three emotional intelligence instruments are presented in Table 1.

The Salovey and Mayer Model

Salovey and Mayer (1990) identified emotional intelligence as a classification of intelligence. In order to classify intelligence scientifically, it must fulfill standard criteria (Mayer et al., 1999). Salovey and Mayer (1990) identify that emotional intelligence meets the three areas deemed critical in order to be considered a standard intelligence: (a) capacity to be objectively measured as a group of abilities, (b) meet identified correlational standards that are unique, yet related, and (c) the abilities should advance as individuals age and gain experience.

Table 1

Comparison of Three Emotional Intelligence Instruments

Name	Model type	Format	Description
Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) Vol. 2.0	Ability model	Performance test	<ul style="list-style-type: none"> • 141 items • Scores include a total EI score, 2 area scores, 4 branch scores, and 8 individual tasks Primary branch scores include: <ul style="list-style-type: none"> ▪ perceiving emotions ▪ facilitating thought ▪ understanding emotions ▪ managing emotions <ul style="list-style-type: none"> • Measured by expert and consensus scoring
Goleman Emotional Competency Inventory	Mixed model	Self-report	<ul style="list-style-type: none"> • 360 feedback tool based on an evaluation of an individual by a supervisor, colleagues, and staff who report to that individual • 18 competencies measured in 4 categories: <ul style="list-style-type: none"> ▪ self-awareness ▪ self-management ▪ social awareness ▪ social skills
Bar-On Emotional Quotient Inventory (EQ-i)	Mixed model	Self-report	<ul style="list-style-type: none"> • 133 items • 15 competencies measured in 5 meta-factors: <ul style="list-style-type: none"> ▪ Intrapersonal ▪ Interpersonal ▪ stress management ▪ adaptability ▪ general mood

The abilities in this model are classified into four levels, or branches, one building on the other, beginning with (a) the ability to perceive emotions, moving to (b) using emotions to problem solve, (c) comprehending emotions, and finally (d) managing emotions (Mayer et al., 1999; Mayer, et al., 2004; Mayer & Salovey, 1997). (See Mayer and Salovey’s Four-Branch Model, Figure 1.)

The *Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)* is a 141 item tool that measures the four branches and is based on the work of Salovey and Mayer’s (1990) theoretical model. The first foundational level involves the ability to distinguish, assess, and convey

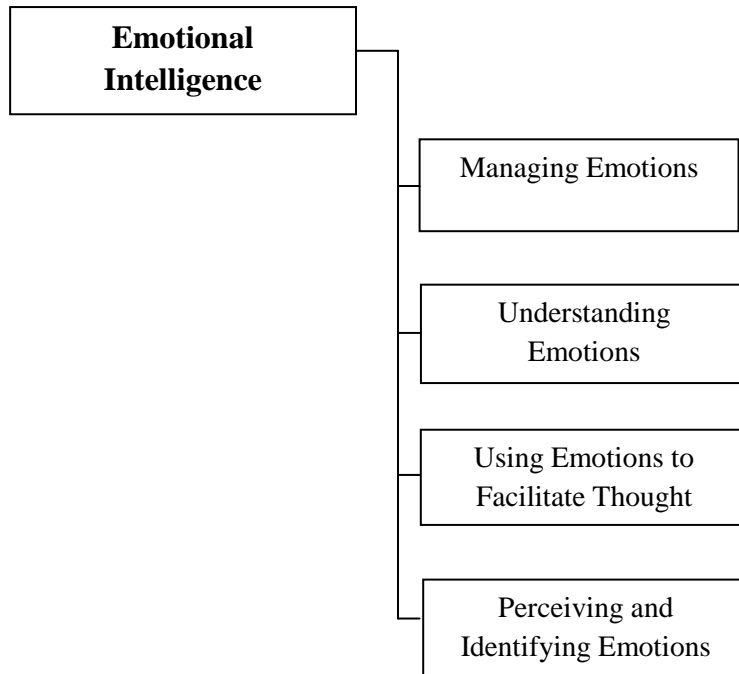


Figure 1. Mayer and Salovey’s Four-Branch Hierarchical Model.

emotions in self and others (Mayer et al., 1999, 2004). Perceiving emotions in the MSCEIT includes recognizing feelings in self and others (Mayer, Salovey & Caruso, 2002). The tool analyzes the ability to detect emotion in voices, facial expressions and through interpretation of artistic images (Mayer et al., 2002). Furthermore, the ability to distinguish true or sincere from false or dishonest expression of emotion is identified (Mayer & Salovey, 1997). There is evidence that individuals who are able to convey their feelings skillfully demonstrate more empathy toward others (Mayer, DiPaolo, & Salovey, 1990) and are more socially responsive and better equipped to develop support systems (Salovey, Bedell, Detweiler, & Mayer, 1999).

The second branch, facilitating thought, is related to the ability to use emotions to process information and to use that information to anticipate feelings in response to life situations (Mayer et al., 1999, 2004). This branch indicates how an individual processes thoughts based on past experience with emotions (Mayer et al., 2002). At this level, the ability to consider multiple

points of view and to use emotions to facilitate thought is developed. For example, good moods lead to positive thoughts and bad moods lead to negative thoughts. Additionally, moods have an impact on an individual's reasoning abilities (Mayer & Salovey, 1997) and may contribute to creative problem solving (Mayer, et al., 2002). Specifically, this branch focuses on the ability to use emotions to engage in analytical decision-making and problem-solving (Mayer et al., 2002).

The third branch, understanding emotions, involves the ability to distinguish similarities and differences in the intensity of emotions, such as liking and loving, and that sadness may result from loss (Mayer et al., 1999, 2004). At this level, the ability to label specific emotions with words occurs (Salovey et al., 1999). Life experiences facilitate the development of these abilities. Development within this branch also includes the ability to combine emotions and to understand complex feelings (Mayer & Salovey, 1997). For example, frustration and anger may intensify to rage if the situation escalates (Mayer et al., 2002). This level captures the importance of considering how emotions may vary when engaging with others and how knowledge of emotions improves self-understanding (Mayer et al., 2002).

The fourth and most complex ability is purposeful management of emotions to foster growth both intellectually and emotionally (Mayer et al., 1999, 2004; Mayer & Salovey, 1997). It is at this level that the individual is capable of remaining calm in the face of frustration and also has the insight to disengage in stressful situations and to allow time to process thoughts in order to respond appropriately (Salovey et al., 1999). Managing emotions effectively results from deliberate thought about personal feelings and the emotions experienced followed by using those emotions to enhance decision-making (Mayer et al., 2002). At this level, the ability to neither exaggerate nor minimize the importance of an emotion is recognized, and moods are managed to achieve intended outcomes (Mayer et al., 1999, 2004; Mayer & Salovey, 1997).

Goleman's Model

Goleman's (1998a, 1998b) ideas on emotional intelligence were originally identified as an individual's potential to incorporate practical skills which were grouped into five categories: (a) self-awareness, (b) motivation, (c) self-regulation, (d) empathy, and (e) adeptness in relationships. As interest in EI expanded, Goleman (1995, 1998b) and Boyatzis (1982) integrated their ideas and stated that "emotional intelligence is observed when a person demonstrates the competencies that constitute self-awareness, self-management, social awareness, and social skills at appropriate times and ways in sufficient frequency to be effective in the situation" (Boyatzis, Goleman, & Rhee, 1999, p. 3).

As research progressed, Goleman's model was further developed, and the skills were condensed into four categories: (a) self-awareness, (b) self-management, (c) social awareness, and (d) social skills (Boyatzis et al., 1999). The definition of emotional intelligence was clarified as "the capacity for recognizing our own feelings and those of others, for motivating ourselves and for managing emotions effectively in ourselves and others" (Wolff, 2005, p. 2). Furthermore, Goleman stated that the development of emotional competence stems from emotional intelligence and is a critical factor in facilitating optimal job performance (Wolff, 2005).

Goleman envisions emotional intelligence as a group of competencies that can be assessed through the Emotional Competency Inventory (ECI) (Boyatzis et al., 1999; Wolff, 2005). The Emotional Competency Inventory (ECI) measures 18 competencies grouped into the four clusters identified above and is a self-report, 360-degree feedback tool based upon the evaluation of an individual by a supervisor, colleagues, and staff who report to that individual

(Goleman, Boyatzis, & McKee, 2002; Wolff, 2005). It is not intended for administrative use, such as hiring, salary, and promotion decisions, but rather for developmental purposes (Wolff, 2005).

The first of the four clusters in the ECI is self-awareness and includes three competencies. Emotional self-awareness includes knowing how emotions affect self and others. Second, accurate self-assessment is accepting constructive feedback and recognizing areas needed for growth, and the third competency is demonstration of self-confidence (Goleman et al., 2002; Wolff, 2005).

The second cluster is self-management and includes six competencies. They are emotional self-control which is displayed when one is able to remain calm in the face of frustration. Transparency is described as an authentic manner of living espoused values. The third competency is adaptability, which is described as the ability to handle rapid changes and multiple challenges. Achievement is the fourth competency and is the drive to continuously improve as well as the value of lifelong learning. Initiative is the drive to excel and to take advantage of opportunities rather than waiting. Lastly, optimism is the competency that describes the individual who can see the value in all learning situations, whether positive or negative (Goleman et al., 2002; Wolff, 2005).

Social awareness is the third cluster of the tool; it includes the competencies of empathy, organizational awareness, and service orientation. Empathy is described as the ability to sense unspoken emotions and to see others' perspectives. This characteristic enables an individual to relate to differing perspectives of people from diverse backgrounds. Organizational awareness includes the ability to understand the political pressures, values, and unspoken guidelines occurring within an organization. A service orientation is the last competency within this cluster

and includes making oneself available at times needed as well as monitoring for customer satisfaction to do what is needed for continuous improvement (Goleman et al., 2002; Wolff, 2005).

The fourth and final cluster in the Emotional Competency Inventory tool is relationship management. Six competencies make up this cluster. Inspiration describes the competency that excites people to make work meaningful while leading others with vision. Influence, the second competency in the final cluster, describes the ability to be convincing, engaging, and capable of rallying support for action on identified initiatives. Third, developing others describes the competency for realistically supporting others in reaching their goals. These individuals serve as mentors and offer meaningful feedback. The fourth competency is change catalyst and describes individuals who recognize when change is needed, effectively break down barriers to change, and find ways to institute change even when facing stiff opposition. Fifth, conflict management abilities describe the individual capable of bringing issues to the table for discussion while recognizing all viewpoints and then finding solutions that are amenable to all. The final competency of teamwork and collaboration describes the ability of leaders to develop collegial working relationships while demonstrating a sense of respect, collaboration, and helpfulness. Individuals with this competency are described as having the talent to engage others enthusiastically into the collective work of an organization (Goleman et al., 2002; Wolff, 2005).

Bar-On's Model

The Bar-On theoretical model defines emotional-social intelligence as “an array of interrelated emotional and social competencies and skills that determine how effectively individuals understand and express themselves, understand others and relate with them, and cope with daily demands, challenges and pressures” (Bar-On, 2010, p. 57). The Emotional Quotient

Inventory (EQ-I), a 133-item, self-report tool, was developed by Bar-On to assess the theoretical constructs of the model (Bar-On, 2006). The five meta-factors that frame the model are (a) intrapersonal, (b) interpersonal, (c) stress management, (d) adaptability, and (e) general mood (Bar-On, 1997, 2000, 2006, 2007, 2010). Fifteen competencies are identified within the five meta-factors in this model and are described below.

The first category of intrapersonal factors includes competences of (a) self-regard, (b) emotional self-awareness, (c) assertiveness, (d) independence, and (e) self-actualization (Bar-On, 1997, 2000, 2006, 2007, 2010). Bar-On (2007) describes this category as having insight into one's emotions, including self-awareness of strengths and weaknesses as well as the ability to control the expression of feelings in a constructive manner. Self-regard is seen as having the capacity for self-acceptance and self-satisfaction while emotional self-awareness is described as having the capability to understand one's own emotions, including how, why, and what caused them. Assertiveness includes the skill required to express feelings in a constructive manner, and independence consists of having the capacity to form one's own opinions and judgments without a consistent need of support from others. Finally, self-actualization is described as enjoying the lifelong process of self-improvement.

The interpersonal meta-factor includes (a) empathy, (b) social responsibility, and (c) interpersonal relationships (Bar-On, 1997, 2000, 2006, 2007, 2010). Empathy is described as caring about others while demonstrating an awareness and understanding of others' feelings (Bar-On, 2007). The second competency within the interpersonal category is social responsibility and is depicted by Bar-On (2007, 2010) as being a productive member of society. The third competency, interpersonal relationships, is defined as the ability to develop and maintain healthy, fulfilling relationships.

Stress management is the third meta-factor in Bar-On's theoretical model and has stress tolerance and impulse control as key competencies (Bar-On, 1997, 2000, 2006, 2007, 2010). Stress tolerance is described as the ability to manage emotions by remaining calm in the face of frustration and utilizing effective coping techniques to handle ambiguity in a positive manner (Bar-On, 2007, 2010). Impulse control is seen as an essential competency in controlling actions during negative circumstances (Bar-On, 2007, 2010).

The fourth meta-factor is adaptability and contains the competencies of (a) reality testing, (b) flexibility, and (c) problem solving (Bar-On, 1997, 2000, 2006, 2007, 2010). The competency of reality testing refers to the ability to relate between what is perceived and what actually exists (Bar-On, 2007, 2010). Flexibility competence is identified as the ability to adapt to new and changing situations (Bar-On, 2007, 2010) and to change thinking when evidence supports when one may have been wrong (Bar-On, 2007). The third competency under this meta-factor is problem solving and is seen by Bar-On (2007) as having the ability to identify problems and systematically consider multiple alternatives in order to develop a fitting solution.

The final meta-factor category identified in Bar-On's model is general mood, which has optimism and happiness as sub-factors (Bar-On, 1997, 2000, 2006, 2007, 2010). Bar-On (2007) characterizes people with this ability as being happy, upbeat, positive, and well-adjusted to life. Optimism is identified as having a positive outlook even when faced with life's challenges (Bar-On, 2007, 2010). Finally, Bar-On (2007, 2010) describes happiness as feeling fulfilled and enjoying life, and is associated with an upbeat and enthusiastic demeanor (Bar-On, 2007, 2010).

Emotional Intelligence and the Profession of Nursing

Caring is the central premise upon which the profession of nursing is based. Arising from the core concept of caring is the assertion that working with human relationships has

emotional roots (Freshwater & Stickley, 2004; McQueen, 2004; Smith et al., 2009). The affective domain is as integral a part of nursing as is the technical aspect of care. Emotions are encased within human relationships, necessitating that one whose work arena is human relationships possess skills requisite to sensitively respond to complex demands (Bellack, 1999; Freshwater & Stickley, 2004; Heffernan, Griffin, McNulty, & Fitzpatrick, 2010; McQueen, 2004). Emotional intelligence competencies provide the foundation for successful nursing practice (Bellack, 1999; Codier, Kamikawa, Kooker, & Shoultz, 2009; McQueen, 2004; Wheeler, 2005), as nurses must examine emotional information in order to make effective practice decisions (Akerjordet & Severinsson, 2004; Beauvais, Brady, O'Shea, & Griffin, 2011; Kooker, Shoultz, & Codier, 2007). Emotional intelligence has been linked to increased job satisfaction, improved patient outcomes and customer satisfaction, productive working relationships, and decreased turnover (Codier, et al., 2009; Güleriyüz, Güney, Aydın, & Aşan, 2008; McQueen, 2004; Molter, 2001; Vitello-Cicciu, 2003). Nursing education has the responsibility to prepare students to effectively meet the needs of the dynamic work environment within which they practice (Smith et al., 2009).

The nursing education included in a baccalaureate nursing curriculum prepares nurses for a broad scope of practice. The American Association of Colleges of Nursing (AACN) in conjunction with the American Organization of Nurse Executives (AONE) and the American Nurses Association (ANA) identifies the baccalaureate degree as the minimum educational level required for professional nursing practice (AACN, 2010). AACN (2010) further identifies the baccalaureate degree as vital for nurses to improve the quality of care because the curriculum includes:

a broad spectrum of scientific, critical-thinking, humanistic, communication, and leadership skills, including specific courses on community health nursing not typically included in diploma or associate-degree tracks. These abilities are essential for today's professional nurse who must be a skilled provider, designer, manager, and coordinator of care. Nurses must make quick, sometimes life-and-death decisions; understand a patient's treatment, symptoms, and danger signs; supervise other nursing personnel; coordinate care with other health providers; master advanced technology; guide patients through the maze of health resources in a community; and teach patients how to comply with treatment and adopt a healthy lifestyle. (AACN, 2010, para. 3)

The Commission on Collegiate Nursing Education (CCNE) establishes evaluation criteria for the accreditation of baccalaureate and higher degree nursing programs (CCNE, 2009). CCNE requires that baccalaureate programs incorporate *The Essentials of Baccalaureate Education for Professional Nursing Practice* (AACN, 2008) in the curriculum (CCNE, 2009). Essential VI, Interprofessional Communication and Collaboration for Improving Patient Health Outcomes, identifies the key behaviors needed by the graduate to improve patient care (AACN, 2008). Teamwork and the need to develop collegial relationships in order to enable open communication and leadership practices to develop respect and trust within the healthcare environment is highlighted in this Essential (AACN, 2008) and correlates with emotional intelligence competencies.

Nurses, to a greater extent than any other member of the healthcare team, are in a position to consider all needs of the patient; therefore, high levels of EI become critical for establishing effective relationships that contribute to quality of care (Simpson & Keegan, 2002). Every nursing practice intervention calls for the integration of EI and, thus, EI has been regarded as the

“heart of the art” of the profession (Freshwater & Stickley, 2004). Emotional intelligence characteristics have been identified by both new nursing student graduates and their supervisors as necessary for optimal nursing practice (Rochester et al., 2005). Nurses with high EI levels create positive moods, thus directly relating to the ability to provide improved services (Davis, 2005). The patient or client holds top priority, and effective nursing care is delivered in such a manner that patients feel respected and are treated with dignity (Price, 2008).

Nurses must manage their own emotions as well as emotions of their patients with the overall goal of providing quality care that will result in increasing positive health outcomes (Bone, 2002). Goleman (1995) stated that helping patients manage their emotional distress is a form of disease prevention.

Codier, Kooker, and Shoultz (2008) found a strong connection between EI and increased nursing performance levels and emphasized the importance of cultivating a caring and respectful environment that supports effective communication and strong interpersonal relationship connections. Professionalism is rooted in caring, which also promotes participation in relationships to meet quality patient outcomes (Codier et al., 2009; Rao, 2006; Simpson & Keegan, 2002). The importance of nurse/physician communication based on mutual trust and professional respect in improving patient outcomes highlights the significant role EI plays (Weng, 2008). When nurses capitalize on emotional intelligence skills with personal and interpersonal abilities to handle rapidly changing client care situations, are calm in the face of frustration, and are able to establish an environment that is both compassionate and healing, overall patient care improves (Akerjordet & Severinsson, 2004; Gooch, 2006).

Effectively learning to manage emotional issues is central to professional growth (Akerjordet & Severinsson, 2007; Watson, 1985). Development of EI occurs as part of the

lifelong learning process, and successful practitioners reflect on their practice to develop new ways of thinking to support a healthy practice environment (Akerjordet & Severinsson, 2008). Emotional intelligence may expand over time and through professional education (Benson, Ploeg & Brown, 2010; Mayer & Caruso, 1999). Humpel and Caputi (2001) identified a positive relationship between years of professional nursing practice and emotional competence. In contrast, the number of years in nursing has also been found to have no effect on overall EI (Codier, Freel, Kamikawa, & Morrison, 2011; Codier, Kamikawa, & Kooker, 2011). Expertise in the development of caring relationships develops over time (Duffy & Hoskins, 2003), and can be fostered through role modeling and mentoring. The ability to care for others stems from the core concept that nurses must first practice self-care in order to have the emotional reserve to provide care for others (Heffernan, et al., 2010; Szwarczopf et al., 2007).

The literature search on the topic of emotional intelligence and nursing resulted in categorizing the information into the following three areas: (a) emotional intelligence and leadership, (b) emotional intelligence and career success, and (c) emotional intelligence and nursing education. A discussion of each category follows.

Emotional Intelligence and Leadership

Emotional intelligence is essential for leadership within the healthcare climate today (Hagenow, 2001; Herbert & Edgar, 2004). Goleman et al. (2002) identify characteristics distinguishing effective leadership that are categorized into personal attributes, such as self-awareness and self-management, and social competencies that include social awareness and relationship management. Self-awareness has been associated with having confidence when making hard decisions while self-management is needed to maintain high standards of fairness when considering such things as salary increases for favorite staff members (Freshman &

Rubino, 2004). Social skills related to EI include the wide range of abilities from the communication abilities needed to resolve conflict and implement disciplinary actions to the ability to develop rapport with top governing officials within the healthcare organization (Freshman & Rubino, 2004). Emotional intelligence allows the leader to see through situations to accomplish goals rather than focus on emotions thereby effectively capitalizing on emotions to make smart decisions (Akerjordet & Severinsson, 2004). Making smart decisions is fostered through a work environment that nursing leadership promotes to support a safety climate (Squires, et al., 2010).

Price (2008) states that “individuals who are especially worthy of development are usually ‘people oriented’ and ‘interpersonally competent’, and can work considerately and competently to achieve desired ends” (p. 32). These skills are EI characteristics. Development of the skills necessary to lead others requires not only the task-oriented duties typically associated with leading, but also development of interpersonal relationships (Skinner & Spurgeon, 2005) and taking time for self-reflection and self-assessment (Akerjordet & Severinsson, 2007; Fuimano, 2004; Pipe, 2008; Stichler, 2006). Supervisors must be competent in inspiring their workforce to improve the services they deliver (Price, 2008). Emotionally intelligent leaders have the ability to convey the message that the feelings of others are understood and take the time to recognize and appreciate the hard work of staff that can increase motivation and counterbalance stress (Segal, 2002).

A primary responsibility of nurse leaders is to convey professional empathy in the development of relationships with staff and clients (AACN, 2008; Eason, 2009). Nurse leaders with emotional intelligence create positive work environments where high performance is supported in a trusting atmosphere (Freshman & Rubino, 2004; Molter, 2003; Vitello-Cicciu,

2002). Establishing connections in a manner that conveys empathy deepens insight and understanding of information, and facilitates meeting the needs of others, resulting in increased satisfaction and deepened loyalty to organizations (Ashkanasy & Daus, 2002; Segal, 2002; Skinner & Spurgeon, 2005; Yoder, 2005; Young-Richie, Laschinger, & Wong, 2010). Leaders who demonstrate empathy actively listen, are open to perspectives that are different from their own (Goleman, 1998a, 1998b; Jordan & Troth, 2004; Kooker et al., 2007), and are able to pick up on the unspoken feelings in others (Yoder, 2005). They create an environment that empowers others by trusting and respecting the experience and knowledge of their colleagues (Freshman & Rubino, 2004; Yoder, 2005). An environment that supports open dialogue facilitates developing new insights into problem solving (Akerjordet & Severinsson, 2008). Leaders who perceive and acknowledge caring practices in staff create a caring environment (Pipe, 2008; Vitello-Cicciu, 2002) which establishes the foundation of trust to support a cooperative and collaborative working relationship (AACN, 2008; Simpson & Keegan, 2002). A supportive milieu fosters open communication which enables constructive feedback that cultivates confidence and builds a professional knowledge base (Akerjordet & Severinsson, 2004; Pipe, 2008; Rego, Sousa, Pina a Cunha, Correia, & Saur-Amaral, 2007). Leaders with emotional competence are aware of their own emotions, honest in expressing what they feel, able to identify and distinguish real from false emotional expressions, and able to accurately recognize emotions in others (Carroll, 2005; Feather, 2009; Pipe, 2008; Vitello-Cicciu, 2002, 2003; Weber, 2007). A leader with EI has the ability to utilize nonverbal communication to send and receive information that facilitates healing (Segal, 2002). These behaviors uphold the foundational branches of Salovey and Mayer's (1997) ability-based model to be able to perceive, appraise, express, and manage emotions.

Managing emotions is critical for effective leadership (McQueen, 2004; Segal, 2002; Stichler, 2006; Vitello-Cicciu, 2002, 2003) and includes being able to keep disruptive emotions under control (Carroll, 2005; Fuimano, 2004; Rego et al., 2007). Effective leaders establish constructive relationships, are empathetic, and acknowledge emotional data which are used in facilitating decision-making to improve outcomes (Ashkanasy & Daus, 2002). Low EI has been associated with interpersonal conflict and inability to cope (Mayer, Salovey, et al., 2008), whereas high EI has been associated with the ability to manage emotions and create an atmosphere that mitigates the negative effects of conflict and stress (Barbuto & Burbach, 2006; Cummings et al., 2005; Gooch, 2006). Self-awareness, key in identifying the emotions and feelings of others, signals the leader to exert positive influence in managing conflict (Ashkanasy & Daus, 2002; McQueen, 2004; Morrison, 2008; Simpson & Keegan, 2002) rather than reacting to it (Stichler, 2006).

Emotional intelligence competencies are also attributes found in servant leaders. Servant leaders are described as those who effectively manage difficult situations, have strong communication skills, and are able to pull back and assess circumstances before acting (Keith, 2010). Keith (2010) identifies listening, empathy and awareness as primary attributes of servant leaders. These attributes are common to those who possess emotional competence. Leaders who have highly developed listening skills, are empathetic and aware of the emotional implications of charged situations are able to create positive working teams to solve complex problems within the healthcare system (AACN, 2008; Greenleaf, 2003; McCallin & Bamford, 2007; Yoder, 2005). Nurses need to speak honestly and respectfully when dealing with interpersonal and work-related conflict. The American Nurses Credentialing Center (ANCC) identifies 14 Forces of Magnetism that typify excellence in nursing practice. Included in these required elements for

a healthcare agency to be deemed a Magnet facility is Force 13: Interdisciplinary Relationships. This force identifies the need for collaborative working relationships built on mutual respect. It also calls for the use of effective conflict management strategies (ANCC, 2009). Without an ability to manage tension and conflict present in healthcare today, physical and mental burnout occurs when nurses lose their desire to serve others, the desire which is the very basis for why many chose nursing as a profession (Weber, 2007).

Emotional Intelligence and Career Success

Individuals who possess EI characteristics are likely to have professional success and job satisfaction (Brown, George-Curran, & Smith, 2003; Emmerling & Cherniss, 2003; Güleriyüz et al., 2008; Kooker et al., 2007; Liptak, 2005). Codier et al. (2008) found higher EI scores for nurses on a clinical success ladder. Codier (2007) utilized the MSCEIT to measure EI in clinical staff nurses and found that higher levels of EI correlated with higher levels of performance. Less job-related stress and increased job satisfaction have been reported when professionals have the ability to recognize and manage stressful situations (Birks & Watt, 2007; Ogińska-Bulik, 2005). Considering the needs of others in making decisions and resolving conflict, along with the ability to form collegial working relationships in a positive manner, is vital and may be considered by some employers to be more important than education and experience (Connolly, 2002; Miller-Wilson, 2008). A teamwork orientation and strong interpersonal skills were identified as important professional characteristics related to EI (Connolly, 2002). Importantly, emotional intelligence may be a factor in career choice as people in the helping professions have been found to have a strong correlation with the second branch of Mayer and Salovey's (1997) model in facilitating thought, which is associated with understanding emotions and therefore linked to empathy (Caruso, Mayer, & Salovey, 2002; Mayer et al., 1999; Vitello-Cicciu, 2002).

Abraham (2000) identified the importance of nurses to be able to identify and control their own and others' emotions. To improve this ability, anger, stress, conflict, and time management education, along with coaching and counseling strategies are needed if nurses are to improve their emotional capacity. Furthermore, some authors advocate for organizations to recruit and retain nurses who possess these desirable abilities. People with high EI are better at managing their own emotions, and exhibit increased confidence and control over their work, which facilitates them to be more proactive in carrying out their job responsibilities positively (Goleman, 1998a, 1998b; Poon Teng Fatt, 2004; Sy, Tram, & O'Hara, 2006). They are also more effective in cultivating positive interpersonal relationships in the work environment (Borbasi & Jackson, 2005; Harrison & Fopma-Loy, 2010; McCallin & Bamford, 2007; Rosete & Ciarrochi, 2005) and are rated higher by supervisors as having abilities to meet organizational goals (Côté & Miners, 2006) and improve patient care (Lucas, Laschinger, & Wong, 2008). Importantly, teams with higher emotional intelligence levels outperform teams with low emotional intelligence. This is a key consideration for nursing because teamwork is critical to job performance (Jordan & Troth, 2004); however, Quoidbach and Hansenne (2009) found that a very pessimistic member of a group could negatively affect the entire group or that a very optimistic member of a group could improve a team's emotional outlook and impact career success.

Miller-Wilson's (2008) suggestions on developing EI to facilitate career success support Mayer and Salovey's (1997) foundational branch of measuring emotional intelligence by focusing on the development of self-awareness. Miller-Wilson (2008) suggests thoughtful analysis of reactions to stressful situations and monitoring the effect of one's actions on others. Fuimano (2004) supports the contention that self-awareness is essential in the development of EI.

Individuals with high EI are deemed more successful in their relationships due to their ability to convey empathy (Goleman, 1995; Vitello-Cicciu, 2003) and to identify and respond to emotions (Mayer, Salovey, et al., 2008). Furthermore, success in the working environment can be related to an individual's ability to understand the consequences of emotion-laden decisions and his/her skill in managing emotions (Mayer, Salovey, et al., 2008), thus decreasing job-related stress and protecting his/her own health status (Augusto Landa, López-Zafra, Berrios Martos, & Aguilar-Luzón, 2008; Ogińska-Bulik, 2005).

Emotional Intelligence and Nursing Education

Emotional intelligence is not determined at birth, but may develop over time and through education (Goleman, 1998a; Mayer & Caruso, 1999); however, educational programs have been criticized for not sufficiently developing the affective domain of learning and improving students' levels of EI (Jaeger, 2003; Rochester et al., 2005; Wilson & Carryer, 2008).

Identification of emotions and management of emotions, two components of Mayer and Salovey's (1997) four-branch model, improved emotional intelligence through the implementation of a theoretical training program illustrating that EI can be intentionally improved (Nelis, Quoidbach Mikolajczak, & Hansenne, 2009). A longitudinal study by Benson, Martin, Ploeg, and Wessel (2012) found little improvement in EI over the course of a four-year undergraduate program and suggested there should be intervention strategies to assist with EI development; however, in contrast, an earlier study found an association between years in a baccalaureate program and EI functioning (Benson et al., 2010).

Nursing educators are challenged with the uneven emotional maturity levels in their students (Jaeger, 2003). Emotional intelligence can be improved through classroom instruction and has been shown to correlate with academic performance (Jaeger, 2003). However, some

authors advocate for the consideration of EI in the admission process due to the fact that emotional issues are heavily ingrained as part of the profession, and nursing students should enter prepared to handle the complexity of working with relationship issues (Benson et al., 2012; Cadman & Brewer, 2001; Hurley, 2008; Zysberg, Levy, & Zisberg, 2011). In addition, the ability of students to understand and utilize emotions to facilitate thought has been linked to greater commitment to career choice (Brown et al., 2003).

Educators need to be aware of opportunities to nurture and develop students' self-awareness of abilities to interact with others, in addition to strategies to cope with difficult situations (Wilson & Carryer, 2008). Important lessons can be learned when students observe nurses who handle difficult situations in an emotionally intelligent manner (Freshwater, 2004; Stichler, 2006). Emotional competence develops when students are able to manage emotions in themselves and relate effectively with others by consciously choosing how to express their own emotions and by conveying empathy (Goleman, 1995, 1998a; Hunt, 2006; Vitello-Cicciu, 2002). Emotions that are recognized cognitively can be addressed to prevent distracting emotions from interfering with performance in the healthcare setting (Lam & Kirby, 2002). Unhealthy conflicts in workplace settings are perpetuated if students do not consider how their actions can affect everyone around them, including patients, fellow students, nurses, unlicensed assistive personnel, and physicians (Finkelman & Kenner, 2009; McQueen, 2004; Weber, 2007).

Nursing faculty members must draw upon their own self-knowledge of emotions to facilitate transference to students (Freshwater & Stickley, 2004); however, the stressful atmosphere of many higher educational institutions does not foster a caring environment that enables faculty to role model caring behaviors to students (Freshwater, 2004). The push for publication, non-competitive salaries, and workload issues overwhelm faculty, and the non-

nurturing environment interferes with the ability of faculty to display effective EI behaviors (Freshwater, 2004).

Integrating emotional intelligence concepts into nursing curricula develops self-awareness that influences the student's ability to engage in therapeutic relationships; however, it is argued that there are not enough opportunities provided for students to develop effective EI competencies (Freshwater, 2004; Harrison & Fopma-Loy, 2010; Por, Barribell, Fitzpatrick, & Roberts, 2011; Wilson & Carryer, 2008). It is suggested that self-awareness can be developed through the use of reflective journaling (Akerjordet & Severinsson, 2004; Benson et al., 2010; Harrison & Fopma-Loy, 2010; Hunt, 2006; Vitello-Cicciu, 2002; Wilson & Carryer, 2008) and through the effective use of "post-conferences" to focus on leadership theories and discussions about how to change the hostile work environments for baccalaureate nursing students (Weber, 2007). In addition, nursing practice experiences offer an opportunity for faculty to have an intentional dialogue with students regarding emotional situations, and therefore build their self-awareness and develop more effective communication strategies (Akerjordet & Severinsson, 2004; Vitello-Cicciu, 2002). It is suggested that learning strategies include having students engage in professional dialogue that supports openness to differing viewpoints (Finkelman & Kenner, 2009).

Ashkanasy and Dasborough (2003) suggest that content about emotions and emotional intelligence fits within leadership courses and its incorporation would have a positive impact on team performance. It has been suggested that, by increasing EI, students will eventually be in positions to provide more proficient management styles which facilitate teamwork, thereby improving patient outcomes; however, empirical studies of emotional intelligence are limited, and caution must be used in the interpretation of the data (Birks & Watt, 2007). Focusing on

emotion in the educational setting facilitates memory; thus, if students become emotionally involved in what is taught, they will have a heightened awareness of the content, assisting them to excel in the classroom and in the workplace (Jaeger, 2003). The importance of providing effective feedback so that defensiveness does not occur is an important element of leadership development. Leaders who address problem behaviors clearly and respectfully with objective and specific terms can assist with preventing defensive reactions (Wall, 2007).

Critical thinking has an important role with emotional intelligence due to the mental tools necessary to reason and how one uses them to control thoughts, feelings, desires, and actions (Elder, 1997). Development of these skills in students calls for focusing on the logic of what happens in situations in order to link feelings with thinking (Elder, 1997; Segal, 2002). Hunt (2006) suggests that service learning, a method that combines educational instruction with a related service in the community, provides a rich opportunity to develop emotional competence through reflection. Reflection assists with connecting theory to practice as it deepens self-awareness (Horton-Deutsch & Sherwood, 2008). This process allows emotional competence to build by incorporating group processes through considering the feelings of others, and helping develop an increased ability to self-manage feelings and responses to others (Horton-Deutsch & Sherwood, 2008).

The development of emotional competence has been identified as a key component contributing to a successful transition into practice by recent graduates (Rochester et al., 2005). Behaviors identified as critical to such success included (a) the ability to convey empathy and work with individuals from different backgrounds, (b) being able to learn from mistakes and accept constructive feedback, (c) the consideration of differing viewpoints prior to decision-making, (d) developing connections and utilizing peers to assist in problem solving on workplace

issues, (e) remaining calm in the face of frustration, and (f) the desire to do the best at their job (Rochester et al., 2005). The graduates reported that not all behaviors which contributed to their successful transition into practice were covered in their academic preparation.

Several research studies utilized the MSCEIT tool to measure EI in nurses. Shanta (2007) found that students did not develop EI in a hierarchical manner that was influenced by a liberal arts education and that nursing education did not improve the level of EI over that of a general education. Likewise, Jenkins (2006) found that education had no significant relationship with EI scores and that faculty experience in teaching nursing was not related to the total EI score. Results of a study by Freel (2009) demonstrated no significant relationship between EI scores and years of education in clinical nurses.

Demographic characteristics of age and gender in addition to GPA have been studied in their relationship to EI and are of particular interest to determine qualities of nursing students and graduates. Findings have been mixed regarding the association of age with EI. Some studies demonstrated a positive correlation with increased EI (Day & Carroll, 2004; Mayer & Salovey, 1997; Mayer et al., 2004; Van Rooy, Alonso, & Viswesvaran, 2005) while other studies found no association (Codier, Freel et al., 2011; Codier, Kamikawa, et al., 2011; Por, et al., 2011; Van Dusseldorp, Van Meijel, & Derksen, 2011). Studies regarding the relationship between gender and emotional intelligence have found a significant correlation between being female and having higher EI (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Ciarrochi, Chan, & Caputi, 2000; Day & Carroll, 2004; Mayer et al., 1999; Mayer et al., 2002; Palmer, Gignac, Manocha & Stough, 2005; Sánchez-Núñez, Fernández-Berrocal, Montanés, & Latorre, 2008; Schutte et al., 1998). The GPA of students has had mixed study results, with some studies indicating a correlation between a higher GPA and higher EI scores (Jaeger, 2003; Mayer et al.,

2004; Parker, Summerfeldt, Hogan, & Majeski, 2004; Schutte et al., 1998), while others demonstrated no association (O'Connor & Little, 2003; Por et al., 2011). The usefulness of identifying variables that may be helpful to the understanding of the potential students and graduates may have for developing EI.

Conceptual Framework for the Study

Duffy and Hoskins Quality-Caring Model

The provision of quality nursing care is a fundamental professional responsibility and is expected by recipients of care. In addition, quality nursing care is essential in meeting outcomes critical to accrediting bodies, insurance companies, healthcare agencies, and providers (Duffy & Hoskins, 2003). Evidence increasingly connects nursing care to measurable patient outcomes such as improved health, safety indicators, satisfaction, comfort, quality of life, and knowledge of care (Duffy & Hoskins, 2003). The work of nursing draws upon the relationships developed with patients and families as its key element. Watson (1985) identified the “essence of nursing” as caring. Caring has become the primary descriptor utilized by nurses to describe nursing practice (Duffy & Hoskins, 2003). Caring within the context of nursing occurs in all cultures with emphasis on the relationships that become established for the intention of fostering health and healing (Leininger, 1988). In addition, the collaborative relationships nurses build with all members of the healthcare team impact patient care outcomes because nurses are the primary providers of care whose role is to address the healthcare needs of patients and families (Duffy & Hoskins, 2003; Finkelman & Kenner, 2009).

One conceptual model that focuses on the importance of caring relationships is the Quality-Caring Model (Duffy & Hoskins, 2003). This model connects structure-process-outcomes to identify the focus of caring relationships. It is through the working relationships

among the interdisciplinary team with the patient and family that needs are addressed. Evidence-based nursing practice combined with biomedical and psychosociospiritual facets are assimilated within the model.

Within the Quality-Caring Model (Duffy & Hoskins, 2003), the first key element is structure, and it represents the impact of the causal past with participants and identifies primary influences that exist with the provider, patient, family, and system preceding the healthcare experience. The subconcept of phenomenal field has specific relevance to an individual (Watson, 1985) and represents the unique background variables exclusively impacting the provider, patient, family, or system. The concepts within the structure component affect the delivery process of care and could either directly or indirectly impact patient-care outcomes (Duffy & Hoskins, 2003).

The second key element in the model is process and represents the primary focus of caring relationships within the Quality-Caring Model. This component addresses the carative factors nurses convey to patients and families when providing care. In addition to using Watson's (1985) carative factors, Duffy and Hoskins (2003) elaborate on King's (1981) system theory that conveys that humans are complex and impacted by multidimensional systems which may include attitudes, beliefs, communication, connections, roles, and stress. In this Quality-Caring Model, caring relationships are defined as "human interactions grounded in clinical caring process. They incorporate physical work (doing), interaction (being with), and relationship (knowing)" (Duffy & Hoskins, 2003, p. 82).

Two specific relationship types, independent and collaborative, describe the process. Independent relationships include those between the patient/family and the nurse that nurses implement exclusively and for which they are held responsible. This is the relationship that is

the most crucial and integrates the beliefs, attitudes, and manner in which nurses partner with patients and families (Duffy & Hoskins, 2003). Collaborative relationships are those interactions and duties that nurses share with the interdisciplinary healthcare team (Duffy & Hoskins, 2003). The combination of the two relationship types, independent and collaborative, encompasses the relationship-centered professional encounters which entail a large portion of nursing's work. Nurses build trusting relationships through sensitive and respectful professional encounters to develop the necessary core for human connection (Duffy & Hoskins, 2003). As the connections are developed, new relationships form, creating feelings of being "cared for" that foster a safe environment to allow the recipient to engage in unfamiliar behaviors that improve health (Duffy & Hoskins, 2003). The ability to increase the depth and breadth of the caring relationship enables the nurse to develop an awareness of the individual patient's unique needs, sometimes prior to the patient's own awareness of those needs (Duffy, 2003).

Experience improves the ability of the nurse to balance the needs of the patient and family through independent relationships with the collaborative relationships needed for optimal patient outcomes (Duffy, 2003; Duffy & Hoskins, 2003). In this model, the role of the nurse is to collaborate with the patient and healthcare team, and to link them with unknown potential outcomes (Duffy & Hoskins, 2003).

Outcomes are the third major element in the Quality-Caring Model and are the results of the care provided. Two types of outcomes are represented. Intermediate outcomes are those that can affect the end-result outcomes and include goals for nursing care plans, clinical pathways, and the degree of agreement and participation from the patient in the plan of care. Terminal outcomes are primary factors that affect the future and may include patient satisfaction, diagnosis-related variables, financial implications, and quality of life. Within this outcome

element, subconcepts are similarly factored in as they were in the structural element (Duffy & Hoskins, 2003). The provider, patient, and system can be impacted at different times and unique sequences by both the intermediate and terminal outcomes. Duffy and Hoskins (2003) emphasize that system outcomes must be carefully considered due to the rapidly changing and competitive healthcare arena and that successful outcomes depend on the ability to balance the professional encounters of the independent and collaborative relationships.

Duffy and Hoskins (2003) state that the major proposition of this model is that positive patient outcomes result from the caring relationships. In addition, the healthcare providers and the healthcare system also benefit from effective caring relationships. Understanding that the structure-process-outcome elements can be influenced by time and circumstances is an important tenet of the Quality-Caring Model. The human interaction and influences of the relationships have unlimited variations that could affect any of the three central elements. See Figure 2.

Conceptual-Theoretical Linkage

There are areas of similarity between the Quality-Caring Model and the theory of emotional intelligence. Duffy and Hoskins (2003) emphasize that the nurse's ability to foster an awareness of interpersonal factors requires honest self-examination. Likewise, Mayer and Salovey (1997) and Goleman (1995, 1998a, 1998b) identify the ability to engage in self-awareness as foundational to EI. Furthermore, Duffy and Hoskins (2003) state that a nurse must consciously choose to see the good in others. The ability to maintain this positivity is supported through engaging in self-care activities such as eating properly, getting adequate rest and exercise, engaging in spiritual renewal, and practicing stress-reducing activities. Self-care activities allow the nurse to react to others in an accepting manner to promote healthy outcomes. Mayer and Salovey (1997) describe managing emotions in the self and others and the ability to

Structure (Causal Past)	Process Caring Relationships	Outcomes (Future)
Participants		Terminal Outcomes

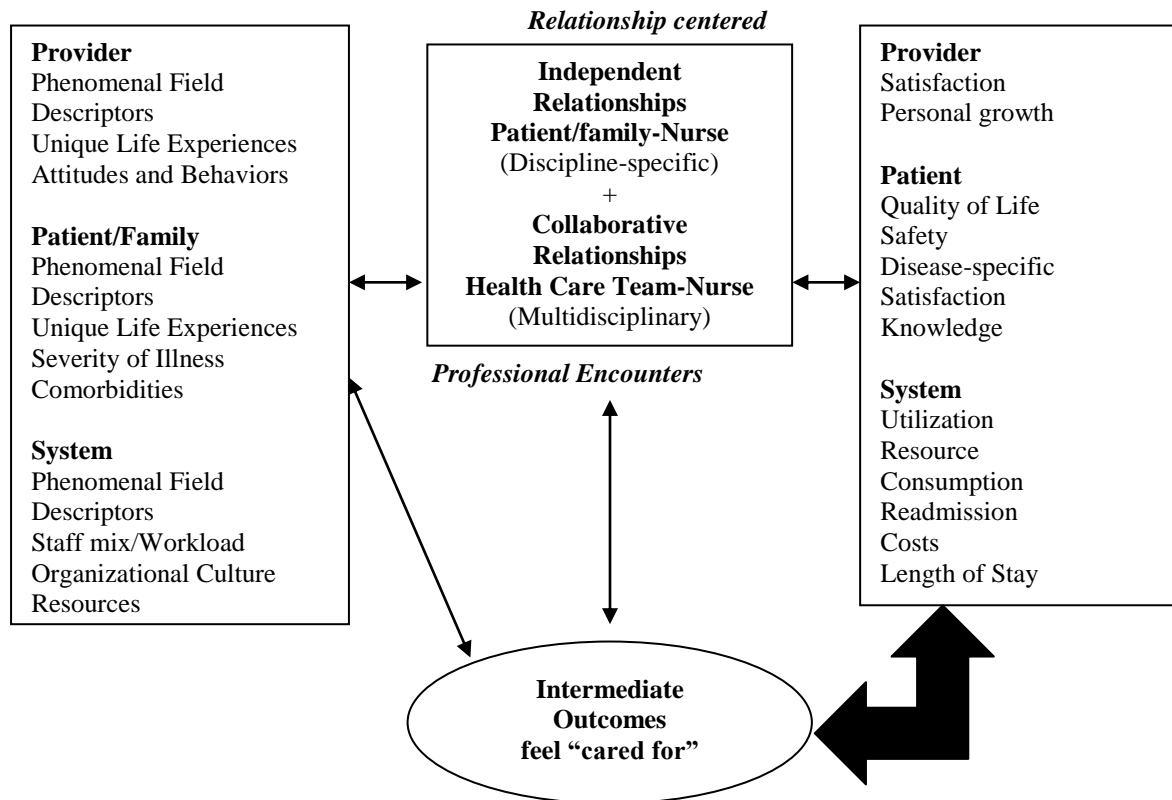


Figure 2. Schematic of The Quality-Caring Model. From “The Quality-Caring Model: Blending Dual Paradigms” (Duffy & Hoskins, 2003).

use emotional information consciously to respond to others as critical components of emotional intelligence.

The Quality-Caring Model (Duffy & Hoskins, 2003) is based on the development of successful relationships, and Mayer, Salovey, et al., (2008) consider individuals with high emotional intelligence to be more successful in their relationships due to their ability to identify and respond to emotions. In addition, EI can positively impact job performance since the establishment of relationships is vital to success (Codier et al., 2008; Mayer et al., 2004). Emotional intelligence has been associated with empathy (Goleman, 1998a; Mayer et al., 1999;

Vitello-Cicciu, 2003), and corresponds to the development of interpersonal relationships (Mayer, Salovey, Caruso, & Sitarenios, 2001; Schutte et al., 2001) and a service orientation (Goleman, 1998a). Mayer, Salovey, et al. (2008) stated that success in the working environment can be related to an individual's ability to understand the consequences of emotion-laden decisions and his or her skill in managing emotions. Individuals with EI have the ability to utilize nonverbal communication to send and receive information that facilitates healing (Segal, 2002) as conveyed by Duffy and Hoskins (2003) in the establishment of caring relationships for the purpose of health and healing. This process is similar to how an individual identifies emotions and the associated relationships and then uses that information to reason and problem solve with EI (Mayer et al., 2001). These interactions between emotions and relationships are noted in Mayer and Salovey's (1997) ability-based model of emotional intelligence as the ability to perceive, appraise, and express emotions and to use emotions to assist thought.

In summary, the literature review covered the background and history of emotional intelligence models and instruments used to measure emotional intelligence constructs. Emotional intelligence and nursing were discussed with three primary themes: (a) emotional intelligence and leadership, (b) emotional intelligence and career success, and (c) emotional intelligence and nursing education. Finally, the conceptual framework for this study, Duffy and Hoskins' Quality-Caring Model, was presented followed by an explanation of the conceptual-theoretical linkage between the Quality-Caring Model and emotional intelligence. In Chapter Three, an in-depth discussion of the Methodology used to conduct this study will be presented.

CHAPTER THREE. METHODS

The purpose of this study was to assess the emotional intelligence competence of baccalaureate nursing graduates from Benedictine institutions in the Midwest to see if there was growth of EI with experience, and to determine if the variables of age, gender, GPA, and years of total healthcare work experience predicted EI. This chapter describes the methodology utilized to conduct this study. The research questions, study population, consent process, instrumentation, data collection procedures, variables, research design and methods of data analysis are discussed.

Research Questions

The research questions utilized for this study were as follows:

RQ1: What is the level of emotional intelligence competence on the total and each of the four branch scores of the MSCEIT among baccalaureate prepared nurses who attended Benedictine institutions of higher education in the Midwest and graduated during the years 2007-2010?;

RQ2: Are there any differences on the total and each of the four branch scores of the MSCEIT between recent nursing graduates and those with 3-5 years of professional nursing experience in baccalaureate prepared nurses who attended Benedictine institutions of higher education in the Midwest and graduated during the years 2007-2010?; and

RQ3: Do demographics of age, gender, GPA, years of total healthcare work experience, and years of work experience as a registered nurse predict emotional intelligence as identified on the total and each of the four branch scores of the MSCEIT in baccalaureate prepared nurses who attended Benedictine institutions of higher education in the Midwest and graduated during the years 2007-2010?

Population

The population for this study consisted of baccalaureate-prepared registered nurses who graduated during the years 2007-2010 from three Benedictine institutions of higher education located in the Midwest. The mission and values of the three Benedictine institutions were similar. The target population, selected for convenience, included all graduates with valid e-mail addresses. Benedictine institutions of higher education were selected due to the interest by the researcher in this particular population. Because the study was not intended to compare institutions, the participants were not asked to identify which of the three Benedictine institutions of higher education they had graduated from in an effort to increase confidentiality. Graduates from the years 2007-2010 were selected because one of the universities initially established their nursing student alumni database with e-mail contact information in 2007. This timeframe was also chosen due to the transient nature of valid e-mail addresses, and the decreasing chance of being able to contact many graduates beyond the past five years.

Description of Respondents

The nurses participating in this study were all baccalaureate graduates from three Benedictine institutions of higher education located in the Midwest during the years 2007-2010. The independent variables used in this study included age, gender, GPA, years of healthcare experience prior to graduation, and years of experience as an RN are described below.

Age. Ages of the nurses participating in this study were analyzed. The mean age of the participants was 26 years with a range of 22 – 51 years. The frequencies of participants' ages are found in Figure 3.

Gender. Most participants were women; 14 were male (8%) and 151 (92%) were female. These numbers are not surprising in that they reflect the gender distribution of the

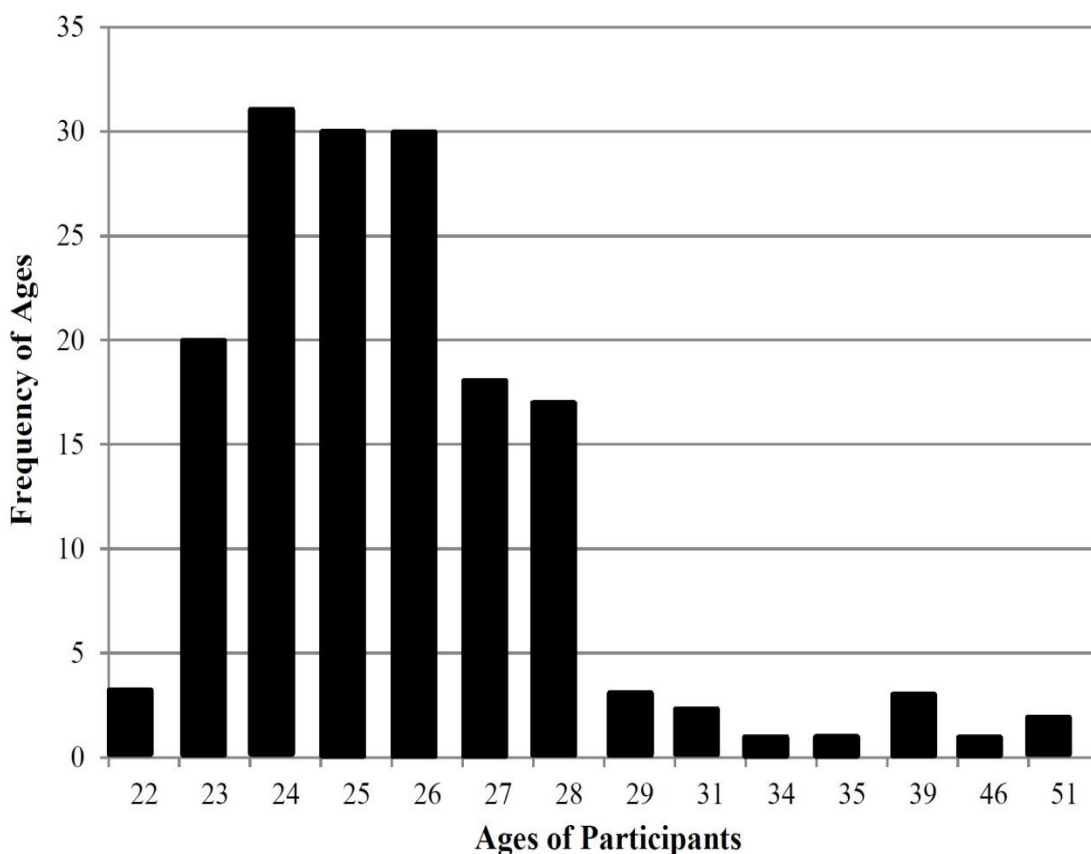


Figure 3. Age Frequencies of Study Participants.

general population of nurses. The Robert Wood Johnson Foundation (2011) reports that just over 7% of all RNs are men.

GPA. Three participants identified their cumulative GPA at graduation as a 4.00 (2%); 45 participants were at 3.75 – 3.99 (27%); 39 reported their GPA as 3.50 – 3.74 (24%); 54 as 3.00 – 3.49 (33%); six at 2.75 – 2.99 (4%); two at 2.50 – 2.74 (1%); and 15 who did not identify their GPA (9%).

Years of healthcare experience prior to graduation. The mean for the reported number of years of total healthcare experience prior to graduation was 2.67 years. The range of experience was from zero years of prior healthcare experience to 11 years. Forty-one participants had zero years of prior healthcare experience (25%); 14 had 1 year (8%); 32 had 2

years (19%); 25 had 3 years (15%); 13 had 4 years (8%); 12 had 5 years (7%); six had 6 years (4%); five had 7 years (3%); four had 8 years (2%); one had 9 years (1%); one had 10 years (1%); three had 11 years (2%); and, eight left the question blank (5%).

Years of experience as an RN. Twenty-three (14%) of the respondents indicated they had 1 year of experience as an RN at the time of completion of the survey; 42 (25%) indicated they had 2 years of experience; 33 (20%) had 3 years; 50 (30%) had 4 years; 13 (8%) had 5 years; and, four (3%) left the question blank.

Consent Process

An application to the Institutional Review Board at North Dakota State University was completed and approved (Appendix A). Following approval from North Dakota State University Institutional Review Board, approval from the Institutional Review Boards at the three Benedictine institutions of higher education were also obtained (Appendices B, C, and D). To de-identify the participants, web-based surveys were utilized. The consent letter was e-mailed to all baccalaureate prepared nursing graduates of 2007, 2008, 2009 and 2010 (Appendix E). Participation in this study was voluntary and participants were told they could discontinue the surveys at any point in the survey process.

Instrument

The instrument used to measure emotional intelligence of the population for this study was the Mayer-Salovey-Caruso Emotional Intelligence Test™ (MSCEIT). The MSCEIT performance measure was chosen because it does not rely on self-reporting. Self-reporting measures are less reliable measures because individuals answer questions based on what they perceive to be the best answer rather than on actual perceived ability (Brackett et al., 2006; Schutte et al., 1998; Van Der Zee, Thijs, & Schakel, 2002).

The MSCEIT was administered by Multi-Health Systems, Inc. and has 141 items. The MSCEIT is intended for individuals aged 17 and older and takes approximately 30-45 minutes to complete. The MSCEIT scoring includes an overall emotional intelligence score, two area scores, and four branch scores. Each of the four abilities is further measured in sub-sections of 8 tasks (Caruso, 2004; see Figure 4). The scores utilized for this study included the standard scores for overall EI as well as each of the four branch scores as data results can provide useful information on competence levels and therefore allow educators to plan curriculum to address areas where improvement is needed as well as to practice for professional development purposes.

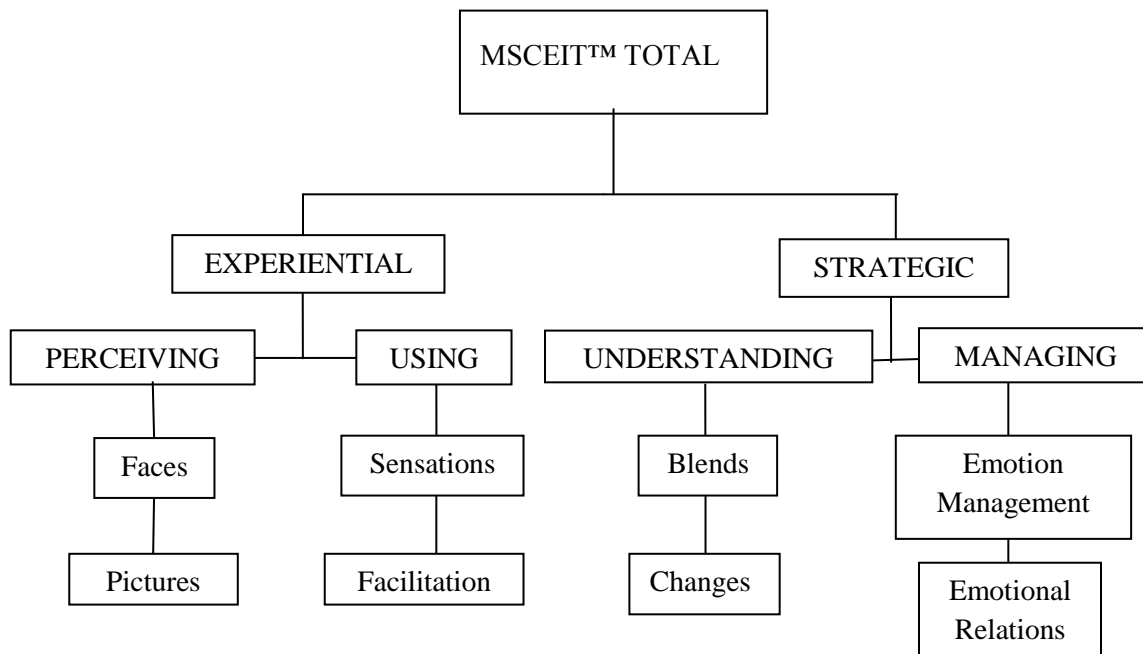


Figure 4. MSCEIT Scoring Hierarchy.

Scoring on the MSCEIT is calculated based on two methods. Consensus scoring, which matches an individual's scores with answers from thousands of respondents, and expert scoring which is based on answers provided by a group of 21 experienced emotion researchers (Mayer, Roberts, et al., 2008; Mayer et al., 2004). The use of the consensus scoring method was used for the purposes of this research study.

Administration of the MSCEIT could either be delivered through booklet or online formats. Comparison of booklet and on-line testing methods indicated that the two formats were indistinguishable (Mayer et al., 2003). The web-based administration was chosen for this research study because it allowed the researcher to distribute access to the survey via e-mail and the participants could take the MSCEIT at their convenience. This method saved mailing costs and the time required for participants to mail back the survey. The scores were electronically produced by Multi-Health Systems, Inc. and sent to the researcher.

Reliability and Validity of Instrument

The overall emotional intelligence test score reliability is $r = .93$ for consensus, and $.91$ for expert scoring. The reliability of the branch scores for perceiving emotion are $r = .91$ and $.90$ for consensus and expert scoring respectively. The branch scores for facilitating emotion show a reliability of $r = .79$ and $.76$ for consensus and expert scores and the branch scores for understanding emotion are $r = .80$ and $.77$ for consensus and expert scores respectively. Finally the branch score of managing emotion are $r = .83$ and $.81$ for consensus and expert scoring respectively (Mayer et al., 2002).

Validity is reported through the systematic sampling of two tasks to measure each of the branches of the instrument of perceiving, using, understanding and managing emotions. The tasks resulted from over a decade of research with theoretical connections demonstrated to each of the tasks (Mayer et al., 2004). Reasonable factorial validity has been demonstrated in that the MSCEIT yields one-factor solutions and the test can be modeled with two factors separating into the experiential and strategic areas (Mayer et al., 2004). Four-factor solutions reflected that the four branches could be individualized and had an excellent fit to the tests (Mayer et al., 2004). The MSCEIT was reported to have good face validity in that the test measured what was

intended (Mayer et al., 2002). In addition, the MSCEIT has been noted to possess content validity, the determination that the test items covered the four ability branches (Mayer et al., 2002).

Procedures

Following IRB approval by all institutions, the researcher initially contacted the nurse administrators of the two Benedictine institutions of higher education outside the one with which the researcher was affiliated. The two nurse administrators both voiced support for the study and connected the researcher with the appropriate administrative assistants who sent the e-mail consent letter through their alumni distribution system. A cover letter with the required NDSU consent content was sent to the participants via e-mail by administrative assistants at all three institutions. If the participant agreed to participate, they clicked “Yes, I agree” at the bottom of the consent letter. This directly connected them to the web-based demographic survey that was created using the website SurveyMonkey. The demographic survey consisted of questions regarding the year the nurse graduated, their age, gender, number of years of healthcare experience prior to graduation and cumulative GPA (Appendix F). The nurses were asked to provide their e-mail address for a prize drawing of a \$50 gift card if they completed both the demographic survey and the MSCEIT survey. In order to match the data on the demographic survey with their MSCEIT survey and to de-identify the participants, the nurses were instructed to create a special unique identifier to use on both surveys. The instructions at the end of the demographic survey provided the web address to the MSCEIT, along with the access codes.

The request and consent letter to participate in the study was sent out initially during the spring of 2011 with a follow-up request two weeks later. Survey responses were slow and another appeal was sent late spring to the target population of all nursing baccalaureate graduates

who completed their program of study during 2007-2010. At the end of the spring semester 84 participants had completed both surveys. It was determined that this still was not an adequate number to generate meaningful results. Subsequently, the researcher conducted a teleconference early fall 2011 with the nurse administrators of the two other Benedictine institutions of higher education to determine what additional strategies might assist in gathering the needed number of responses. One institution placed the plea to participate on their Facebook page. Both institutions agreed to re-send the consent letter with an introductory paragraph highlighting the need for graduates to participate as doing so would assist in addressing the Institute of Medicine's recommendation to increase the number of doctoral-prepared nurses. Responses continued to be slow. During the spring of 2012, the institution affiliated with the researcher began a process to update its alumni database. Phone calls were made to alumni and e-mail addresses were updated. It was found that a number of e-mail addresses were no longer used by the graduates as they now had a work e-mail or had changed their e-mail address. The researcher also contacted individuals who had connections with graduates from each of the other two institutions to request their assistance in encouraging participation of nurses who fit the criteria for participation in the survey. By the end of the spring 2012 semester it was determined that the total of 165 completed MSCEIT surveys would be sufficient in number to run the data analysis.

Upon retrieval of the dataset for the MSCEIT sent by Multi-Health Systems, Inc., it was found that many of the participants did not utilize the unique identifier they created on the demographic survey to use in place of their name on the MSCEIT survey. The researcher thus matched names from e-mail addresses provided for the prize drawing, or matched dates and times of completion of the demographic survey to the access time along with age and gender identified on both the MSCEIT and demographic surveys. There were 246 completed

demographic surveys and 165 completed MSCEIT surveys. Matching the data was not difficult due to half of the data that had previously been matched before it was determined that additional numbers were needed.

To determine the sufficiency of the sample size, the research questions were analyzed to identify the number of participants needed to achieve an α -level of .05 and require the power of .8. At this level, Cohen identified that 85 participants were needed to detect a medium effect size ($r = .3$) (as cited in Field, 2009). With 165 emotional intelligence scores submitted in the dataset by Multi-Health Systems, Inc., the sample size for research question one was met and the frequencies were calculated. Similarly, with a valid N of 149 complete datasets of all demographic data needed for research question three, the numbers were almost twice that needed. Sample size for the regression analysis in question three was also met using Green's formula for minimal sample size of 104 plus the number of predictors (5) to equal 109 (as cited in Field, 2009, p. 222). Sample size for research question two was calculated using Lipsey's Sample Size per group to attain a power of .80 with an effect size of .50 at an $\alpha = .05$ (as cited in Creswell, 2005). Using this criterion, the sample sized needed in each group was 65. This number was met as the statistical t -tests that compared the two independent groups each had an N of 65 and 96.

Due to the length of time necessary to collect the number of responses needed, an independent-sample t -test was conducted to determine whether there were any statistically significant differences on the emotional intelligence scores between the groups of nurses who completed the surveys between February – May 2011 and September 2011 – May 2012. No statistically significant differences were found (see Tables 2, 3).

Table 2

Standard Score Descriptive Statistics for Nurses Completing the MSCEIT Survey

	Group	N	Mean	Std. Deviation	Std. Error Mean
Branch 1 Perceiving Emotions	1	84	101.12	11.957	1.305
	2	81	98.68	12.020	1.336
Branch 2 Using Emotions	1	84	97.64	10.866	1.186
	2	81	97.92	14.080	1.564
Branch 3 Understanding Emotions	1	84	99.56	9.475	1.034
	2	81	97.30	10.263	1.140
Branch 4 Managing Emotions	1	84	98.46	8.295	.905
	2	81	98.37	11.777	1.309
Total EI Score	1	84	100.02	10.060	1.098
	2	81	98.18	12.060	1.340

Note. Group 1 completed the surveys between February – May 2011 and Group 2 completed the surveys between September 2011 – May 2012.

Research Design

This study utilized a cross-sectional quantitative survey design to assess emotional competence level and compare emotional intelligence scores of registered nurses with one to two years of experience following graduation with registered nurses who had three to five years of experience following graduation. Demographic data of age, gender, GPA, years of total work experience, and years of work experience as a registered nurse were used to determine if these variables predicted EI. The quantitative method was chosen due to the availability of the MSCEIT survey as a sound measure of emotional intelligence in addition to the ability to gather demographic data for analysis with emotional intelligence through use of a survey.

Table 3

Mean Differences Comparisons between Nurses Completing the MSCEIT

		Lavene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Branch 1 Perceiving Emotions	a	.022	.883	1.311	163	.192	2.447	1.867	-1.239	6.134
Branch 2 Using Emotions	b	7.082	.009	-.145	150.452	.885	-.284	1.963	-4.162	3.595
Branch 3 Understanding Emotions	a	.238	.626	1.472	163	.143	2.262	1.537	-.773	5.297
Branch 4 Managing Emotions	b	6.979	.009	.055	143.253	.956	.088	1.591	-3.057	3.233
Total EI Score	a	1.776	.185	1.064	163	.289	1.836	1.727	-1.573	5.246

Note: a = equal variances assumed; b = equal variances not assumed

Dependent and Independent Variables

The dependent variables that were measured included the total EI standard score and each of the four branch standard scores of perceiving, using, understanding and managing emotions on the MSCEIT. The scores were calculated through consensus scoring by Multi-Health Systems (MHS). These variables were continuous interval data. The independent variables included in this study were (a) age (interval data), (b) GPA (interval data), (c) gender (nominal data), (d) years of healthcare experience (ordinal data), and (e) years of experience as a registered nurse (ordinal data).

The theoretical interrelationships tested in this study were the variables of age, gender, GPA, previous healthcare experience, years of experience as a registered nurse and emotional intelligence. It was expected that a baccalaureate prepared nursing graduate would possess the values and competences necessary to develop caring relationships. This proposition is further

enhanced by the values and competences expected of a graduate from a Benedictine institution of higher education. The interplay of these concepts leads to career success, job satisfaction and effective leadership and therefore theoretically advances the nursing profession. Most importantly, the goal is to promote positive outcomes for the client, family, healthcare provider and healthcare system. The proposed model that was tested is demonstrated in figure 5.

Analysis

The dataset results for the MSCEIT, scored by MHS, Inc., were sent to the researcher in an Excel spreadsheet. From this spreadsheet, the total emotional intelligence standard scores and each of the four branch standard scores of perceiving, using, understanding, and managing emotions were selected, sorted and analyzed for competence levels. The MSCEIT scores are calculated as empirical percentiles and placed on a normal curve with an average score of 100 and a standard deviation of 15 (Mayer et al., 2002). Table 4 further clarifies the interpretation of the score ranges (Mayer, 2012).

Secondly, group comparisons were calculated in SPSS by entering data from the scored MSCEIT dataset Excel spreadsheet on the total and each of the four branches of perceiving, using, understanding and managing emotions along with data gathered from the demographic survey Excel spreadsheet on years of experience as a registered nurse. The years of experience as a RN was calculated and entered as one through five by comparing the year the participant graduated and the date they completed the demographic survey. The participants were grouped into two groups, with one group comprising those nurses with one to two years of experience and the second group with those nurses who had three to five years of experience. The *t*-test of independent means was calculated from this data for the total emotional intelligence standard

Baccalaureate Nursing Curriculum
 Benedictine Institution of Higher Education
 (University/College Values and
 Competences)
 Affective Domain

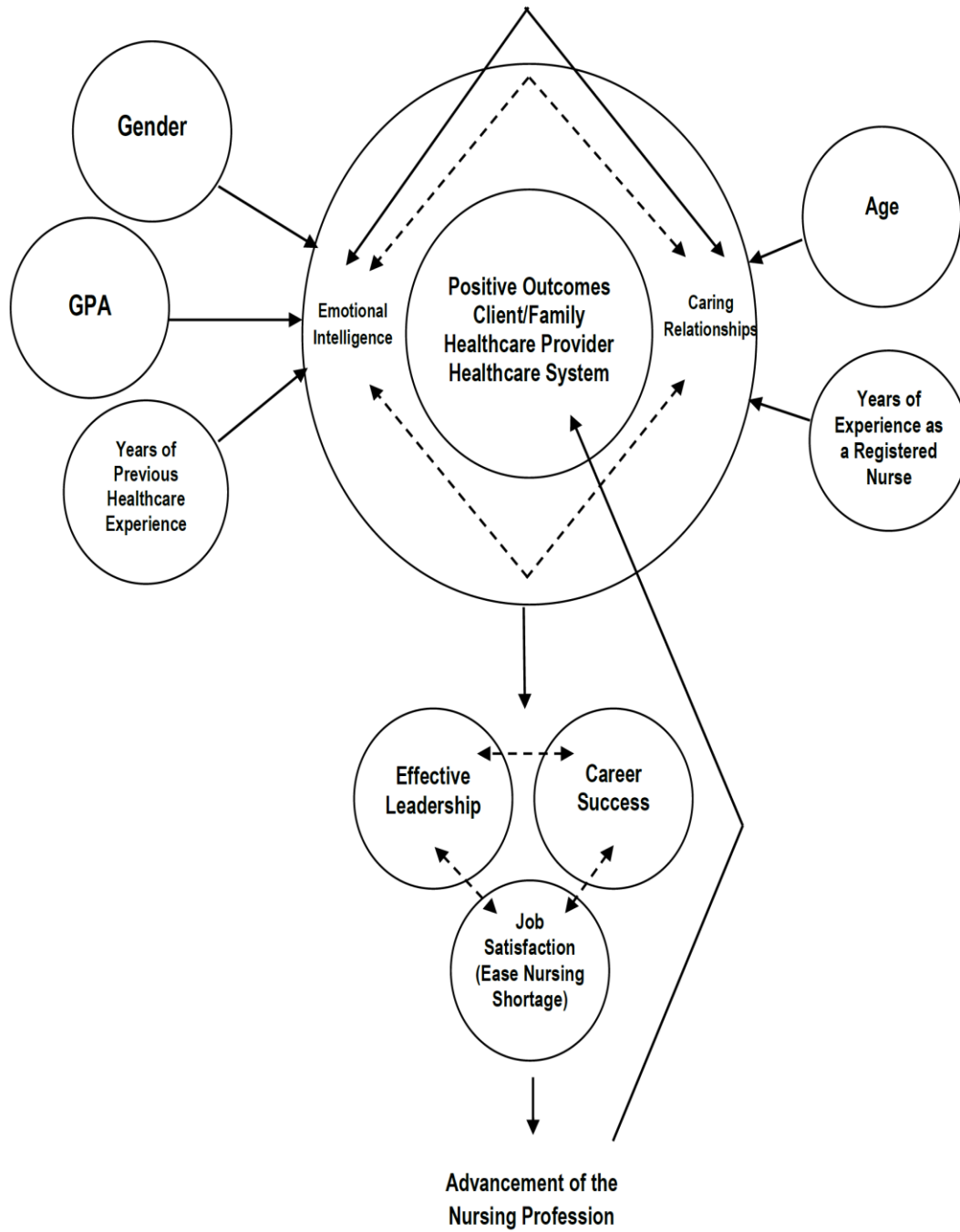


Figure 5. Proposed Theoretical Model Schematic

Table 4

MSCEIT Guidelines for Score Interpretation

Score Range	Qualitative Description
0 - < 70	Improve
≥ 70 and < 90	Consider Developing
≥ 90 and <110	Competent
≥ 110 and <130	Skilled
≥ 130	Expert

score and for each of the standard scores for the four branches of perceiving, using, understanding, and managing emotions. The alpha level of significance was set at $p < .05$.

Finally, the independent variables for the study along with the total emotional intelligence standard score and the four branch standard scores of perceiving, using, understanding and managing emotions were entered into SPSS from the demographic Excel spreadsheet and the scored MSCEIT dataset for analysis. The independent variables were coded to allow statistical analysis. Age was entered as the actual ages of the participants (interval data). The participants self-reported GPA at the time of graduation was coded as interval data: one = 2.0-2.49; two = 2.5-2.74; three = 2.75-2.99; four = 3.0-3.49; five = 3.5-3.74; six = 3.75-3.99; and seven = 4.0. Gender was coded as nominal data with 0 = *male*, and 1 = *female*. Years of healthcare experience prior to graduation was entered as actual years reported by the participants (interval data), and years of experience as a registered nurse as interval data previously described. A linear stepwise regression method was utilized to compute whether the independent variables predicted emotional intelligence. The alpha level of significance set at $p < .05$.

This chapter provided a summary of the procedure followed to conduct this study. A detailed explanation of the statistical analysis for the research questions, along with supporting tables, is reported in Chapter four.

CHAPTER FOUR. RESULTS

The purpose of this study was to assess the emotional intelligence competence of baccalaureate nursing graduates from Benedictine institutions of higher learning in the Midwest to see if there was growth of EI with experience, and to determine if the variables of age, gender, GPA, and years of total healthcare work experience predicted EI. Two instruments were used to gather data: A demographic survey collected the independent variable information on age, gender, GPA, years of total healthcare work experience and total years of experience as an RN; and the MSCEIT survey to collect the dependent variable data on emotional intelligence. This chapter will report the findings related to each of the three research questions posed for this study.

Research Question One

Research question one addressed the level of emotional intelligence competence on the total and each of the four branch scores of the MSCEIT among baccalaureate prepared nurses who attended Benedictine institutions of higher education in the Midwest and graduated during the years 2007-2010. The valid number of respondents who completed the MSCEIT survey and whose scores were utilized for statistical analysis was 165. Using SPSS, version 18, the total standard emotional intelligence score and each of the four branch standard scores of perceiving emotions, facilitating thought, understanding emotions, and managing emotions were entered and frequencies for each were identified. From this data, percentages were calculated. The breakdown of scores for the total emotional intelligence standard score and each of the four branch standard scores as defined by Mayer (2012) are listed in Table 5.

Table 5

MSCEIT Total and Branch Standard Scores

	Score Ranges				
	Improve	Consider Developing	Competent	Skilled	Expert
	0 - < 70	≥70 and < 90	≥90 and < 110	≥110 and < 130	≥130
Branch 1 Perceiving Emotions	0 (0%)	32(19.4%)	104 (63.0%)	27 (16.4%)	2 (1.2%)
Branch 2 Using Emotions	2 (1.2%)	43 (26.1%)	90 (54.5%)	30 (18.2%)	0 (0%)
Branch 3 Understanding Emotions	0 (0%)	26 (15.8%)	122 (73.9%)	17 (10.3%)	0 (0%)
Branch 4 Managing Emotions	3 (1.8%)	22 (13.3%)	124 (75.2%)	16 (9.7%)	0 (0%)
Total EI Score	2 (1.2%)	32 (19.4%)	105 (63.6%)	26 (15.8%)	0 (0%)

Number and percentage of nurses' scores in each category of the score ranges on the total EI and each of the 4 branch scores ($N = 165$) of the MSCEIT.

Overall Emotional Intelligence

The findings for the total EI standard score indicated that 105 nurses scored in the competent range and 26 scored in the skilled range for a total of 80% scoring in the competent range or higher. For nurses scoring < 90, 32 fell in the consider developing range and 2 in the improve scoring range, for a total of 20% below the competent level. The average standard score for the total EI was 99.08 with a range of 64.49 – 128.81.

Perceiving Emotions

Branch one (perceiving emotions) standard score findings indicated 104 nurses fell in the competent range. Twenty-seven scored in the skilled range, and two scored in the expert range,

for a total of 80.6% falling in the competent or higher range on this branch. Falling below the competent range were 32 in the range of consider developing and zero in the improve range, for a total of 19.4%. The average standard scores for branch one (perceiving emotions) was 100.11 with a range of 69.61 - 131.99.

Using Emotions

Branch two (using emotions) standard scores found 90 nurses scoring in the competent range and 30 scoring in the skilled range, indicating 73% of nurses scored competent or above. There were 43 in the consider developing range, and 2 in the improve range for a total of 27% of the nurses falling below the competent level. The average standard score for branch two (using emotions) was 97.77 with a range of 65.82 - 128.49.

Understanding Emotions

Branch three standard scores (understanding emotions) identified that 122 nurses scored in the competent range and 17 who scored in the skilled range, for a total of 84% of the nurses scoring in the competent and above category. Twenty six nurses scored in the consider developing range and zero scored in the improve range, for a total of 16% scoring less than competent in understanding emotions. The average standard score for branch three (understanding emotions) was 98.64 with a range of 74.08 - 118.81.

Managing Emotions

Branch four (managing emotions) standard scores had 124 nurses scoring in the competent range and 16 scoring in the skilled range for a total of 85% scoring in the competent and above range. Of those falling below the competent level for managing emotions, 22 scored in the consider developing range and 3 in the improve range for a total of 15%. The average standard score for branch four (managing emotions) was 97.97 with a range of 54.58 – 118.91.

Research Question Two

The second research question sought to answer whether there were any differences on the total and each of the four branch scores of the MSCEIT between recent nursing graduates and those with 3-5 years of professional nursing experience among baccalaureate prepared nurses who attended Benedictine institutions of higher education in the Midwest and graduated during the years 2007-2010. Using SPSS, an independent-sample *t*-test was conducted to determine whether there were any statistically significant differences on the emotional intelligence scores between graduates with 1-2 years of experience as an RN compared to RNs with 3-5 years of experience. This parametric test was chosen as the variances in these two groups were expected to be equal. The participants were all baccalaureate degree in nursing graduates from Benedictine institutions of higher education that had similar values and were located in the same geographic region. The graduates from the three institutions were all educated with curriculums that were nationally accredited by the Commission on Collegiate Nursing Education. Graduates with 1-2 years of experience were selected to comprise one group and graduates with 3-5 years of experience in the other. These groups were specifically chosen to determine if early professional nursing experience had any impact on emotional intelligence scores and because access to one of the nursing databases was limited to the past five years.

Results of the *t*-tests on the total standard score and each of the standard scores on the four branch scores of perceiving, facilitating, understanding and managing emotions on the MSCEIT did not reveal any significant differences between these two groups. Levene's Test did indicate that there was homogeneity of variance between the group with one to two years of experience and the group with three to five years of experience on all four branch scores as well as the total EI scores.

Overall Emotional Intelligence

On the total standard score of the MSCEIT, nurses with one to two years of experience following graduation scored just slightly lower ($M = 98.97, SE = 1.225$) than nurses with three to five years of experience following graduation ($M = 99.19, SE = 1.227$), though the difference was not statistically significant $t(159) = -.124, p = .901$. Group Statistics data and Independent Samples Test data are reflected below in Tables 6 and 7.

Table 6

MSCEIT Standard Score Descriptive Statistics for Nurses with 1-2 and 3-5 Years of Experience

	Years of Experience	N	Mean	Std. Deviation	Std. Error Mean
Branch 1 Perceiving Emotions	1-2	65	100.43	10.910	1.353
	3-5	96	99.78	12.880	1.315
Branch 2 Using Emotions	1-2	65	97.01	12.083	1.499
	3-5	96	98.26	12.907	1.317
Branch 3 Understanding Emotions	1-2	65	98.40	9.109	1.130
	3-5	96	98.57	10.588	1.081
Branch 4 Managing Emotions	1-2	65	97.97	9.070	1.125
	3-5	96	98.38	10.850	1.107
Total EI Score	1-2	65	98.97	9.876	1.225
	3-5	96	99.19	12.023	1.227

Perceiving Emotions

Branch one (perceiving emotions) standard scores on the MSCEIT comparing nurses with one to two years of experience following graduation scored just slightly higher ($M = 100.43, SE = 1.353$) than nurses with three to five years of experience following graduation ($M = 99.78, SE = 1.315$), $t(159) = .333, p = .740$.

Table 7

Mean Differences Comparisons between Nurses with 1-2 and 3-5 Years of Experience

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Branch 1 Perceiving Emotions	2.307	.131	.333	159	.740	.648	1.948	-3.199	4.495
Branch 2 Using Emotions	1.509	.221	-.622	159	.535	-1.257	2.021	-5.249	2.734
Branch 3 Understandi ng Emotions	1.816	.180	-.104	159	.917	-.168	1.609	-3.347	3.010
Branch 4 Managing Emotions	.201	.655	-.256	159	.798	-.418	1.634	-3.644	2.809
Total EI Score	1.692	.195	-.124	159	.901	-.224	1.800	-3.779	3.332

Using Emotions

Branch two (using emotions) standard scores on the MSCEIT comparing nurses with one to two years of experience following graduation scored just slightly lower ($M = 97.01$, $SE = 1.499$) than nurses with three to five years of experience following graduation ($M = 98.26$, $SE = 1.317$), $t(159) = -.622$, $p = .535$.

Understanding Emotions

Branch three (understanding emotions) standard scores on the MSCEIT comparing nurses with one to two years of experience following graduation scored just slightly lower ($M = 98.4$, $SE = 1.130$) than nurses with three to five years of experience following graduation ($M = 98.57$, $SE = 1.081$), $t(159) = -.104$, $p = .917$.

Managing Emotions

Branch four (managing emotions) standard scores on the MSCEIT comparing nurses with one to two years of experience following graduation scored just slightly lower ($M = 97.97$, $SE = 1.125$) than nurses with three to five years of experience following graduation ($M = 98.38$, $SE = 1.107$), $t(159) = -.256$, $p = .798$.

Research Question Three

Research question three addressed the demographics of age, gender, GPA, years of total healthcare work experience, and years of work experience as a registered nurse to see if they predicted emotional intelligence as identified on the total and each of the four branch scores of the MSCEIT in baccalaureate prepared nurses who attended Benedictine institutions of higher education in the Midwest and graduated during the years 2007-2010. The independent variables of age, gender, GPA, years of total healthcare experience prior to graduation and years of work experience as an RN were chosen as the literature had addressed these variables in association with emotional intelligence and the researcher sought to determine if this held true in the current study population. A linear stepwise regression method was utilized to compute whether the independent variables predicted emotional intelligence. This method allowed the researcher to determine which predictor variable(s) were most significant in predicting each of the four branch scores that support overall EI as well as the total EI. Data results provided important information regarding known variables that could impact nursing education as well as ongoing professional development. The descriptive statistics for the total and each of the four branch scores of the MSCEIT are found in Table 8.

All five independent variables were initially entered to determine their overall association with the total emotional intelligence standard score as the initial theory indicated the existence of

Table 8

MSCEIT Total and Branch Standard Scores Descriptive Statistics

	Mean	Std. Deviation	Minimum	Maximum	N
Branch 1 Perceiving Emotions	100.110865	12.3546560	69.609567	131.987344	149
Branch 2 Using Emotions	97.767047	12.8250696	65.818501	128.490323	149
Branch 3 Understanding Emotions	98.637875	9.8765383	74.084636	118.81488	149
Branch 4 Managing Emotions	97.968095	10.2105297	54.582373	118.913162	149
Total EI Score	99.077866	11.3906696	64.488373	128.808578	149

such a combined relationship. Analysis indicated that 10.4% of the variance between the predictor variables and emotional intelligence could be explained by the model (Table 9).

Table 9

Linear Regression Analysis of Overall Association of Predictor Variables with the Total EI Standard Score for Study Participants

Model	R	R Square	Adjusted R Square	St. Error of the Estimate
1	.323 ^a	.104	.073	10.9664730

a. Predictors: (Constant), Gender, GPA, PostGradExp, PriorHealthCareExp, Age

The ANOVA revealed that the model was a significant fit for the data overall $p = .007$ (Table 10). The Beta values in Table 11 indicate the individual contribution of each predictor to the model. The linear regression method for determining the ability of the variables to predict the total EI standard score revealed gender as a significant predictor. The data results indicated four percent of the variance between gender and the total standard score on the MSCEIT could

Table 10

ANOVA^b Summary Table for Overall Association of Predictor Variables with the MSCEIT Standard Score

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1004.924	F	400.985	3.334	.007 ^a
	Residual	17197.685	143	120.264		
	Total	19202.608	148			

a. Predictors: (Constant), Gender, GPA, PostGradExp, PriorHealthCare Exp, Age

b. Dependent Variable: SS_TOT

Table 11

Overall Association of All Predictor Variables with the MSCEIT Total Standard Score

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	St. Error	Beta	t	
1 (Constant)	74.173	7.450		9.956	.000
PostGradExp	-.705	.770	-.076	-.916	.361
Age	.508	.245	.193	2.079	.039
GPA	1.477	.913	.131	1.617	.108
PriorHealthCare Exp	-.872	.408	-.194	-2.138	.034
Gender	9.689	3.405	.232	2.845	.005

be explained (Table 12). The ANOVA and Beta coefficients further supported the significance of gender in predicting the total EI standard score at $p = .015$ (Tables 13, 14). Females, on average, scored 8.37 points higher than males on this branch. Being female, in this instance, was a significant predictor. The coefficient for gender (8.336) is significantly different from 0 ($t = 2.473, p < .015$).

Table 12

Linear Stepwise Regression Analysis of the MSCEIT Total EI Standard Score Predictors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.200 ^a	.040	.033	11.1988352

a. Predictors: (Constant), Gender

Table 13

ANOVA Summary Table for Association of Significant Predictor Variables with the MSCEIT Total Standard Score

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	766.764	1	766.764	6.114	.015 ^a
Residual	18435.845	147	125.414		
Total	19202.608	148			

a. Predictors: (Constant), Gender

Table 14

Overall Association of Significant Predictor Variables with the MSCEIT Total Standard Score

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	91.413	3.233		28.276	.000
Gender	8.336	3.371	.200	2.473	.015

The data analysis from the linear stepwise regression method for determining the ability of the variables of age, GPA, gender, years of total healthcare experience prior to graduation and years of experience as an RN to predict the standard score on branch two, using emotions, revealed gender as a significant predictor. The data results identified 2.7% of the variance between gender and the standard score on branch two could be explained (Table 15).

Table 15

Linear Stepwise Regression Analysis of the MSCEIT Branch Two (Using Emotions) Standard Score Predictors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.163 ^a	.027	.020	12.6969470

a. Predictors: (Constant), Gender

The ANOVA and Beta coefficients further explain the significance ($p = .047$) of gender as a variable that predicts the branch two standard score on the MSCEIT (Tables 16, 17). For every unit increase in gender, a 7.65 increase in the total standard score for EI on the MSCEIT is predicted, holding all other variables constant. Being female, in this instance since female was coded 0/1 (0 = *male*, 1 = *female*), was a marginally significant predictor. The coefficient for gender (7.65) is significantly different from 0 ($t = 2.00$, $p = .047$).

Table 16

ANOVA Summary Table for Association of Significant Predictor Variables with the MSCEIT Branch Two (Using Emotions) Standard Score

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	645.165	1	645.165	4.002	.047 ^a
Residual	23698.232	147	161.212		
Total	24343.397	148			

a. Predictors: (Constant), Gender

The data analysis from the linear stepwise regression method for determining the ability of the variables of age, GPA, gender, years of total healthcare experience prior to graduation and years of experience as an RN to predict the standard score on branch three, understanding emotions, revealed GPA in model one and GPA and gender in model two as significant predictors. The data results identified 10.4% of the variance between GPA and the standard

Table 17

Overall Association of Significant Predictor Variables with the MSCEIT on Branch Two (Using Emotions) Standard Score

Model		Unstandardized Coefficients		Standardized Coefficients		
		<i>B</i>	Std. Error	Beta	<i>t</i>	Sig.
1	(Constant)	90.736	3.665		24.755	.000
	Gender	7.647	3.822	.163	2.000	.047

score on branch two could be explained in model one and 12.9% of the variance with both GPA and gender could be explained in model two (Table 18).

Table 18

Linear Stepwise Regression Analysis of the MSCEIT Branch Three (Understanding Emotions) Standard Score Predictors

Model	<i>R</i>	<i>R</i> Square	Adjusted <i>R</i> Square	Std. Error of the Estimate
1	.332 ^a	.110	.104	9.3479510
2	.376 ^b	.141	.129	9.2149075

a. Predictors: (Constant), GPA

b. Predictors: (Constant), GPA, Gender

The ANOVA and Beta coefficients further explain the significance ($p = .000$) of GPA and gender as variables that predict the branch three standard score on the MSCEIT (Tables 19, 20). For every unit increase in GPA and gender (female), a 3.24 and 6.37 respective increase in the understanding emotions standard score for EI on the MSCEIT is predicted, holding all other variables constant. GPA and gender were significant predictors. The coefficients for GPA and gender (3.24 and 6.37) are significantly different from 0, GPA ($t = 4.31, p < .000$), and gender ($t = 2.30, p < .023$).

Table 19

ANOVA Summary Table for Association of Significant Predictor Variables with the MSCEIT Branch Three (Understanding Emotions) Standard Score

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1591.334	1	1591.334	18.211	.000 ^a
	Residual	12845.476	147	87.384		
	Total	14436.809	148			
2	Regression	2039.289	2	1019.645	12.008	.000 ^b
	Residual	12397.520	146	84.915		
	Total	14436.809	148			

a. Predictors: (Constant), GPA

b. Predictors: (Constant), GPA, Gender

Table 20

Overall Association of Significant Predictor Variables with the MSCEIT Branch Three (Understanding Emotions) Standard Score

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	82.813	3.786		21.871	.000
	GPA	3.257	.763	.332	4.267	.000
2	(Constant)	77.018	4.505		17.095	.000
	GPA	3.244	.752	.331	4.311	.000
	Gender	6.372	2.774	.176	2.297	.023

There were two branches of the MSCEIT that had no significant findings. The linear stepwise regression method for determining whether the independent variables of age, gender, GPA, years of healthcare experience prior to graduation, and years of experience as a registered

nurse could predict emotional intelligence for branches one and four, perceiving emotions and managing emotions, found no significant predictors among the variables.

Gender, being female, was identified as a significant predictor for the total EI standard score as well as using and understanding emotions branch standard scores. Since the male participants in this study were limited in number ($N = 14$), descriptive statistics were analyzed to determine the competence levels of males (Table 21).

Table 21

MSCEIT Standard Score Descriptive Statistics for Males

	N	Minimum	Maximum	Mean	Std. Deviation
Branch 1 Perceiving Emotions	14	69	104	90.68	10.742
Branch 2 Using Emotions	14	70	119	94.9	13.469
Branch 3 Understanding Emotions	14	66	110	89.75	11.143
Branch 4 Managing Emotions	14	78	109	92.63	9.713
Total EI Score	14	75	109	93.06	8.508
Valid N (listwise)	14				

Frequencies for the total standard emotional intelligence score and each of the four branch standard scores of perceiving emotions, facilitating thought, understanding emotions, and managing emotions for males were identified. From this data, percentages were calculated. The breakdown of scores into categories for the total emotional intelligence standard score and each of the four branch standard scores as defined by Mayer (2012) are listed in Table 22.

Table 22

MSCEIT Total and Branch Standard Scores for Males

	Score Ranges				
	Improve	Consider Developing	Competent	Skilled	Expert
	0 - < 70	≥70 and < 90	≥90 and < 110	≥110 and < 130	≥130
Branch 1 Perceiving Emotions	0 (0%)	5(35.71%)	9 (64.29%)	0 (0%)	0 (0%)
Branch 2 Using Emotions	1 (7.14%)	6 (42.86%)	7 (50.00%)	0 (0%)	0 (0%)
Branch 3 Understanding Emotions	0 (0%)	5 (35.71%)	9 (64.29%)	0 (0%)	0 (0%)
Branch 4 Managing Emotions	0 (0%)	4 (28.57%)	10 (71.43%)	0 (0%)	0 (0%)
Total EI Score	1 (7.14%)	5 (35.71%)	8 (57.15%)	0 (0%)	0 (0%)

Number and percentage of male nurses' scores in each category of the score ranges on the total EI and each of the 4 branch scores ($N = 14$) of the MSCEIT.

In summary, this chapter presented the statistical analysis computed on each of the three research questions posed for this study related to emotional intelligence in baccalaureate nursing graduates of Benedictine institutions of higher education. Chapter five discusses the implications and recommendations consequential to the findings.

CHAPTER FIVE. DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

The purpose of this study was to assess the emotional intelligence competence of baccalaureate nursing graduates from Benedictine institutions in the Midwest to see if there was growth of EI with experience as a registered nurse and to determine if the variables of age, gender, GPA and years of total healthcare work experience prior to graduation predicted EI. This chapter discusses the findings and implications for each of the research questions. This chapter also includes the study limitations, suggestions for future research, and summary and conclusions.

Discussion of Findings

The sample in this study included alumni of three Benedictine institutions of higher education located in the Midwest. Participants were nurses who graduated with a baccalaureate degree in nursing between the years 2007-2010. The study participants completed two quantitative questionnaires: a demographic survey that collected data on age, GPA, gender, years of total healthcare work experience prior to graduation, and years of experience as a registered nurse; and the Mayer, Salovey, and Caruso Emotional Intelligence Test that provided the data utilized to assess the total EI score as well as scores on each of the four branches of perceiving, using, understanding, and managing emotions.

A difficult aspect of collecting the data for this study was the very low response rate and the subsequent lack initially of a sample size sufficient for drawing meaningful conclusions. Three e-mail requests were sent to the nursing alumni. As a result of the continued low response rate, the researcher, working through administrative assistants at the three Benedictine institutions, requested the redistribution of the consent letter to the target population. The researcher contacted the nurse administrators of the two institutions with which the researcher

did not have an established relationship and conducted a phone conference to discuss strategies to increase participation. The administrators voiced strong support for continuing with the proposed study and agreed to write an introductory paragraph to the consent letter in an effort to increase participation. Response rates continued to be slow. One nurse administrator agreed to put a message on their nursing alumni Facebook page to encourage participation; however, responses were still few in number. An enlightening moment came when the institution the researcher had a relationship with conducted phone interviews with alumni to update contact information in their database. It was found that many of the former students had changed their e-mail addresses and had not received the requests to participate. The researcher attempted additional strategies to reach the intended recipients. Nurses connected with the institutions were contacted to request their assistance in encouraging eligible alumni to complete the surveys. Eventually a sufficient number of responses for data analysis were obtained.

The recommendation resulting from this process is to instill in undergraduate and graduate students the importance of contributing to the advancement of the profession by participating in nursing research. It is understood that participants have the right to participate or not, or to withdraw from a study at any time; however, the professional obligation to promote the profession through research should be emphasized. The Institute of Medicine has recommended that the number of nurses with a doctorate be doubled by 2020 (IOM, 2010). For this target to be met, the pool of doctoral candidates in all nursing roles must be increased and their research supported. Educational programs need to continue efforts to instill the value of life-long professional development and emphasize ways in which students can support methods to drive forward national initiatives that contribute to the development of the profession.

Discussion and Implications for Research Question One

Research question number one addressed the level of emotional intelligence competence on the total and each of the four branch scores of perceiving, using, understanding, and managing emotions on the MSCEIT among baccalaureate prepared nurses who attended Benedictine institutions in the Midwest and graduated during the years 2007-2010.

Overall Emotional Intelligence

Study findings indicated that 80% of the participants demonstrated overall competence in emotional intelligence. Of those scoring in the competent or higher range, nearly 16% scored above the average in the skilled range. The overall average total standard score on the MSCEIT was 99 which falls within the competent range of 90 to < 110. A study conducted by Codier, et al. (2009) also found the average total standard score of 193 clinical staff nurses to be 99. Freel (2009) conducted a study of 142 staff nurses and found their overall EI score to be slightly higher at 101.

The most troubling finding of this study was the percentage of nurses who did not score in the competent range or higher on the overall total score on the MSCEIT. Twenty percent, or 1 in 5 nurses who participated in this study, did not reach 90 or above on the total emotional intelligence standard score. The participants in this study were exposed to the Benedictine values throughout their educational experience and it would be expected that these values, in combination with the nursing curriculum, would prepare a higher percentage of nursing alumni to meet competence levels. Codier (2007) also reported 37% of nurses in her study fell below the competent level on the total emotional intelligence score. The results of this study indicate further research on EI in nurses should be explored to determine how to improve EI competence. Little research has been conducted on nurses' EI; hence, little is known about EI competence

levels in the practicing nurse population. These results also raise the question as to whether or not nurses who receive poor performance evaluations are also low in EI. Further research is needed to determine if nurses who score poorly in performance exams are low in EI.

Smith et al. (2009) indicated that there is substantial evidence for the need to deliberately include concepts of EI in nursing education. However, it is difficult to obtain support of faculty outside the mental health realm to add additional content to an already over-crowded curriculum. Codier (2007) and Freshwater and Stickley (2004) concur in finding that, overall, nursing curriculum is devoted to technical skills and very little, if any, content is focused on developing emotional competence. The development of EI is critical in today's work environment that is increasingly stressed by shortages of staff, regulatory constraints, and demanding consumers. Students need the capability to handle the emotional nature of the profession in order to effectively care for patients and handle the practice environment (Smith, et al., 2009). The challenges of the demanding work environment may affect development of nurses' emotional intelligence (Akerjordet & Severinsson, 2007; Codier, 2007; Cummings, et al., 2005; Montes-Berges & Augusto, 2007; Rochester et al., 2005). The inability to manage stress may be due to low EI, which may partially explain what contributed to the 20% of nurses in this study who didn't meet competence in overall emotional intelligence scores.

Given the evidence that EI improves patient outcomes, the goal must be to prepare all baccalaureate nursing graduates to be competent in EI. Effective methods to assess this affective domain within nursing education also need further research and development. It is much more difficult to criticize a student's ability to demonstrate the affective behaviors of caring, empathy, ability to get along with others, teamwork and collaboration skills than it is to critically evaluate psychomotor and cognitive abilities. Nursing faculty have a difficult time critically assessing a

student's lack of the "soft" skills. This difficulty may be due to faculty who lack of EI competence. Moreover, because nursing is a caring profession, faculty may have difficulty critiquing perceived ineffective caring behaviors in others.

Perceiving Emotions

In this study, slightly over 80% of the participants scored in the competent range or higher on branch one (perceiving emotions) of the MSCEIT. Codier (2007) reported only 59% of the population in a study of clinical staff nurses scored in the competent range. It is unknown whether or not the nurses in Codier's study were baccalaureate-prepared. All graduates of nursing programs must pass the NCLEX examination to obtain a license to practice; however, this examination is not intended to measure EI competence, and, therefore there is no minimum standard measure to hold graduates accountable to in this area.

The average standard score in this study for branch one was 100.11, which was similar to other nursing studies (Freel, 2009; Shanta, 2007). With one in five nurses in this study and two in five in Codier's study scoring less than competent on this branch score, much work needs to be done in developing self-awareness. When students discuss how they handled emotional situations during a post-clinical conference and consider how they might do it similarly or differently in future situations, they develop self-awareness. It has been suggested that reflective journaling and mentoring within nursing experiences may facilitate the development of EI (Akerjordet & Severinsson, 2004, 2007; Freshwater & Stickley, 2004). Journaling about what is felt or perceived in an experience assists in developing self-awareness. One primary concern that may limit incorporating journaling as an assignment is that many faculty do not value this method of assessment, but rather prefer the more objective measures of critical thinking demonstrated through care plans and care mapping. Additionally, students may see this

assignment as unnecessary paperwork that they don't perceive as beneficial. Faculty need to be educated on the value of measures that develop self-awareness so they will subsequently convey the importance on to students.

Key areas measured on branch one (perceiving emotions) of the MSCEIT include the ability to detect emotion in expressions and to distinguish sincerity of emotions (Mayer, et al., 2002; Mayer & Salovey, 1997). Of particular importance is the evidence that those who are able to convey their feelings adeptly are much better at demonstrating empathy toward others (Mayer, et al., 1990). The ability to convey empathy is paramount in a profession that must sensitively care for patients at some of their most vulnerable moments. Once again, stressful, chaotic work environments may interfere with development of this skill. Since many practicing nurses don't have adequate time to spend with patients in order to develop the caring and meaningful relationships that allow the exchange of emotion to be recognized, it is even more important that this skill be developed during the academic years.

Using Emotions

Branch two scores for using emotions found only 72.7% of the participants in this study scoring in the competent or higher range. Codier's (2007) study had similar results with 74% scoring competent or higher on this branch of the MSCEIT. Reported averages on branch two of studies on nurses in practice were 97.77 in this study while other studies found slightly higher averages on this branch (Freel, 2009; Shanta, 2007).

At the branch two level, Mayer and Salovey (1997) state that the ability to consider multiple points of view and to use emotions to facilitate thought are demonstrated. Furthermore, they explain that moods have an impact on an individual's reasoning abilities and may influence problem-solving (Mayer, et al., 2002). Nurses with high EI levels create positive moods, which

directly relate to the ability to provide improved services (Davis, 2005). Effective thinking within the context of highly charged emotional situations that nurses encounter is paramount for positive patient outcomes. Nurses must examine emotional information to understand the context of the patient's situation in order to make effective practice decisions (Akerjordet & Severinsson, 2004; Beauvais, et al., 2011; Kooker, et al., 2007). Because 27% of nurses participating in this study scored less than competent in the area of using emotions, measures need to be implemented to facilitate improvement. If faculty are competent in EI, the likelihood of their students being competent increases. Post clinical conferences might be an additional avenue during which scenarios can be discussed that exemplify how emotions were effectively used to problem solve.

Understanding Emotions

In the current study, a greater percentage of the participants scored in the competent range or higher on branch three (understanding emotions) of the MSCEIT. Eighty four percent of nurses scored in the competent or higher range in understanding emotions and 89% scored similarly in Codier's (2007) study. The average standard score for this study was 98.64, which was slightly lower than the scores found in similar studies (Freel, 2009; Shanta, 2007).

Development within branch three also includes the ability to understand complex feelings and the nature of changing emotions depending on circumstances (Mayer, et al., 2002; Mayer & Salovey, 1997). In healthcare, understanding the nature of changing emotions is critical. Nurses are expected to be sensitive to patient situations and demonstrate caring and empathy.

Establishing caring relationships includes the ability to understand what patients are experiencing and is important for effectively promoting positive patient outcomes. Since 16% of the participants in this study did not meet competence levels, work remains in developing this

ability. Development of this skill could be facilitated through effective mentoring by faculty and healthcare staff. As mentioned earlier, post-clinical conferences that devote a portion of time to discussing how emotional patient situations were handled and how the situation was dealt with, effectively or not, could bring about an understanding of how emotions and effective care connect.

Managing Emotions

Scores on the fourth and highest branch of the MSCEIT (managing emotions) identified that 84% of the participants in this study compared to 77% in Codier's (2007) study met competence levels. The average standard score for managing emotions in the current study was 97.99, which, however, was lower than scores found in other studies (Freel, 2009; Shanta, 2007). Managing emotions is the most complex branch in the hierarchical structure of Mayer and Salovey's theoretical model (Mayer et al., 1999, 2004; Mayer & Salovey, 1997). Effective management of emotions allows the ability to disengage in stressful situations and process thoughts that allow appropriate response (Salovey et al., 1999). Having the majority of nurses in this study meet the competence level in managing emotions demonstrates that they are capable of creating environments that are healing and compassionate. The concern at the managing emotions level is for the 16% who may not be capable of managing stress and tension in the work environment. Such lack of ability may lead to physical and mental burnout. Educational content on management of stress and conflict management is critical to future success of graduates and methods to foster this development are needed; however, as reported earlier, it is difficult for students to learn EI when many faculty do not have requisite EI to role model professional competence. Leadership in the practice environment can also mitigate stress and enable open communication in resolving conflict.

The results of this study support findings of other studies on EI that development of emotional intelligence did not follow the model of hierarchical structure of Mayer and Salovey's (1997) model (Freel, 2009; Jenkins, 2006; Shanta, 2007). According to the theoretical model, scores on each successive level are contingent upon mastering the level below. Participants in this study had higher scores on the third and fourth branches of understanding emotions (98.64) and managing emotions (97.97) than the second branch of using emotions (97.77). The participants in this study had their highest score on the first level, perceiving emotions (100.11), as the model suggests. Research needs to be conducted to further test the model since inconsistencies exist. Perhaps it is due to the varied educational content on emotions and how to perceive, use, understand, and manage them. Smith et al. (2009) suggested further studies be conducted regarding the nature of emotions in relationship to decisions nurses make in practice. This may explain the aspects of using and understanding emotions within the theoretical model. Additional studies to test the theory of the hierarchical structure of Mayer and Salovey's (1997) model need to be explored.

Discussion and Implications for Research Question Two

Research question two addressed whether there were any differences on the total and each of the four branch scores of the MSCEIT between recent nursing graduates and nurses with 3-5 years of professional nursing experience in baccalaureate prepared nurses who attended Benedictine institutions in the Midwest and graduated during the years 2007-2010. Findings from the *t*-tests revealed that there were no significant differences between nurses with 1 to 2 years of professional experience compared to nurses with 3 to 5 years of experience as a registered nurse.

Findings from some previous research studies that analyzed years of professional experience and emotional intelligence had varied results. The present study findings were supported by findings of similar studies that found no association between emotional intelligence and years of professional nursing practice (Codier, Freel et al. 2011; Codier, Kamikawa et al., 2011) and in contrast to findings by Benson et al. (2010) who reported EI was associated with years of professional nursing experience. Humpel and Caputi's (2001) study of mental health nurses found no increase in EI during the first three to five years of professional nursing experience, but significant increases in nurses with six and above years of experience. Since the study findings of the current study were limited to nurses with up to five years of experience, it would be interesting to note if scores increased in this population with additional years of experience. Early years of professional nursing practice may not be the best time-frame to determine emotional intelligence competency as many nurses are consumed with adjusting to the challenges of a chaotic acute care work environment. In addition, many of the values associated with EI competence may become engrained in nurses during early years of practice as they develop according to the role models and environment within which they practice. Additional research examining EI levels with a larger sample size over a longer period of time as well as a wider sample of Benedictine institutions beyond the three studied would expand the knowledge gained through this research study. Age did not emerge as a significant predictor in this study's participants as Salovey and Mayer's (1990) theory proposed, likely due to the average age of the participants being only 26 years old.

Studies comparing the emotional intelligence levels of nursing students over their academic experience in a baccalaureate program found conflicting results. Benson et al. (2010) reported a statistically significant association between years in the program and higher EI

functioning in one group of nursing students. In contrast, Larin et al. (2011), and Benson et al. (2012) found no significant changes in EI in nursing students from the beginning to the end of their four year undergraduate program. Shanta (2007) found no association in EI in groups of students beginning baccalaureate programs compared to students completing their baccalaureate program of study. If emotional intelligence is deemed important and has direct linkages to improved patient outcomes as the literature suggests, it can't be emphasized enough that EI and methods to develop and assess EI must be valued by faculty and included within the curricular structure. Petrides and Sevdalis (2010) identified the need to research how nurses are able to manage emotions in self and others, how they convey empathy, and how effectively they manage conflict within a stressful work environment. Answers to these questions would provide helpful information to educators in terms of specific measures that would develop emotional competence in their students.

Discussion and Implications Related to Research Question Three

Research question three addressed whether demographics of age, gender, grade point average, years of total healthcare work experience, and years of work experience as a registered nurse predicted emotional intelligence as identified on the total and each of the four branch scores of the MSCEIT in baccalaureate prepared nurses who attended Benedictine institutions in the Midwest and graduated during the years 2007-2010.

In determining which factors might predict overall emotional intelligence scores in baccalaureate graduates from Benedictine institutions, a linear regression analysis was utilized. Results indicated gender was a significant variable. Being female was found to be statistically significant ($p = .015$). This finding has been supported by theory and by results in numerous other studies (Brackett et al., 2006; Ciarrochi et al., 2000; Day & Carroll, 2004; Mayer et al.,

1999; Mayer, Salovey et al., 2002; Palmer et al., 2005; Van Rooy et al., 2005). In contrast, no significant differences were found between male and female nurses in a study of EI in 98 mental health nurses (Van Dusseldorp et al., 2011) and in a study on EI, caring, and generational differences in 442 clinical nurses employed on various units in acute care (Codier, Freel, et al., 2011).

Overall implications of this finding for both education and practice must be viewed with caution. Given the need to avoid any gender discrimination, equal opportunities for development of EI should continue in curricula planning and professional development efforts. Jenkins (2006) suggested concentrating efforts into increasing EI competence in faculty which could potentially result in increasing all students' development of EI. Vandervoort (2006) states that faculty with high EI may be more likely to be nurturing and thus develop self-esteem in students who will be more active in their own learning. Considering the fact that all nurses could benefit from an increased emotional competence level, cultivation of an environment that fosters EI development in nurses would have a positive impact upon all sectors within the healthcare system.

In the linear regression analysis of the MSCEIT branch scores for perceiving, using, understanding, and managing emotions, no significant predictors for EI were found in two of the branches. No predictors for EI emerged among the variables of age, gender, GPA, years of total healthcare work experience and years of work experience as a RN on branch one (perceiving emotions) and branch four (managing emotions).

In branch two of the MSCEIT (using emotions), being female once again was found to be a weak, yet statistically significant predictor ($p = .047$). Females in this study demonstrated they may be better able to consider multiple points of view in order to anticipate feelings related to life situations (Mayer et al., 1999, 2004). Anticipating feelings is especially important in

healthcare where rapidly changing patient conditions and major life-altering events occur. The consideration of multiple points of view in anticipation of emotional reactions is necessary in establishing good working relationships within interprofessional teams and with patients.

Finally, GPA and being female were statistically significant predictors in branch three (understanding emotions), (GPA, $p < .000$) and (female $p < .023$). Participants in this study who had higher GPAs and were female scored higher on understanding emotions. This finding may be related to the role critical thinking plays due to the analytical process used to consider connections between thoughts and feelings (Elder, 1997). This level is associated with being able to understand complex emotions (Mayer & Salovey, 1997). Effectively understanding emotions assists with developing independent (between patient/family and the nurse) and collaborative (between the healthcare team and the nurse) relationships that are integral to promoting positive patient outcomes (Duffy & Hoskins, 2003). GPA and being female have a positive association with EI in the theoretical model constructed by Mayer and Salovey (1997); thus the correlations of these variables with EI in this study were not surprising. Nevertheless, due to conflicting findings of other research studies, further theory testing must be undertaken to determine whether the theory predictions hold true with nurses.

Consideration of gender for any type of practical implications must follow the same precautions identified earlier. In addition, because of the few numbers of male participants in this study, the statistical results should be interpreted with caution. The identification of GPA being a predictor of EI has implications for nursing programs and offers support for establishing and maintaining higher GPA admission and progression standards. Until specific measures are empirically determined that improve EI, nursing programs may consider GPA as a benchmark for admitting students, knowing that higher GPAs are predictive of higher EI. However, caution

is advised due to conflicting research findings, and further research studies with nurses is suggested to determine if results are consistent in finding GPA as a significant predictor of EI.

Study Limitations

The participants for this study were nurses who graduated from three Benedictine institutions located in the Midwest during the years 2007-2010. Findings are not generalizable beyond the population studied; however, findings provide information that expands knowledge regarding the emotional intelligence levels of nurses. Additionally, since this was a convenience sample of graduates from the past five years, it is not known if EI would develop further over time.

Suggestions for Future Research

This study analyzed the EI levels of recent baccalaureate nursing graduates from three Benedictine institutions of higher education. A longitudinal study with this population could provide further information regarding the development of EI to determine if age and years of experience as an RN increases one's EI. Moreover, if graduates are practicing as professional nurses in Benedictine healthcare institutions, it would be interesting to study whether their EI improved as a result of being employed in a facility whose values complemented EI. Determining if there are differences in EI between graduates from Benedictine institutions and those from public or other private institutions would provide information on whether Benedictine values are a contributing factor in the development of emotional intelligence. If differences are found, it could be a strong recruiting factor for Benedictine nursing programs.

Additional suggestions for research include determining whether differences exist in EI levels between baccalaureate and associate degree prepared RNs. With multiple layers of preparation for nursing practice, knowing which preparation best prepares a graduate in EI would

provide evidence for future policy decisions on continuing the various levels of preparation. It would also be interesting to determine what the EI levels are of nurses who leave the profession early in their careers as this has direct implications on the nursing shortage. Furthermore, determining whether there is a correlation between EI and nurses who score poorly on performance evaluations would provide important information to healthcare managers as low EI has been shown to have direct ramifications for patient outcomes and the tone of the environment for co-workers. Finally, further studies using the MSCEIT ability model for assessing nurses would be helpful due to the difficulty in comparing findings of EI studies using self-report collection instruments.

Summary and Conclusions

The purpose of this study was to assess the emotional intelligence competence of baccalaureate nursing graduates from Benedictine institutions in the Midwest to see if there was growth of EI with experience as a registered nurse and to determine if the variables of age, gender, GPA, and years of total healthcare work experience prior to graduation predicted EI. Findings indicated not all participating nurses met the competence level on the MSCEIT. There were no differences in EI between nurses with 1 to 2 years of experience and nurses with 3 to 5 years of professional nursing experience. Gender was a significant predictor of the total score on the MSCEIT and on the branch two score, using emotions. GPA and gender were significant predictors for the score on the third branch, understanding emotions. Because scores did not follow the hierarchical theoretical underpinnings suggested by Mayer and Salovey (1997) additional theory testing with nurses is needed.

The results provided empirical evidence that not all graduates from Benedictine institutions participating in this study were competent in emotional intelligence even though the

educational preparation at these institutions provided an environment where the values were consistent with and supported the development of emotional intelligence. This is important because educational programs should prepare all graduates to be competent in EI. These findings have implications for education, practice and research. Codier (2007) and Beauvais et al. (2011) found a significant correlation between total EI and clinical practice. Nursing education must consider how to incorporate strategies within programs to cultivate EI development. The increasing complexity of the practice environment calls for increasing EI competence in nurses so as to establish effective relationships that support a culture of safety and facilitate positive patient outcomes. Nursing leadership in the practice arena should also consider how to foster the development of EI within all levels of nursing. Finally, continued research on the topic of EI and nursing is needed to build the knowledge base on how to promote positive patient outcomes.

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doi:10.1177/0734282910365059

APPENDIX A. NDSU IRB APPROVAL LETTER

NDSU

NORTH DAKOTA STATE UNIVERSITY

Institutional Review Board

*Office of the Vice President for Research, Creative Activities and Technology Transfer
NDSU Dept. 4000
1735 NDSU Research Park Drive
Research 1, P.O. Box 6050
Fargo, ND 58108-6050*

701.231.8995

Fax 701.231.8098

Federalwide Assurance #FWA00002439
Expires April 24, 2011

Thursday, October 21, 2010

Dr. Kathy Enger
School of Education
216B Family Life Center

Re: IRB Certification of Human Research Project:

**“EMOTIONAL INTELLIGENCE LEVELS IN BACCALAUREATE EARLY CAREER
REGISTERED NURSES: A COMPARATIVE STUDY”**

Protocol #HE11078

Co-investigator(s) and research team: **Glenda Reemts, Chris Ray**

Study site(s): **varied**

Funding: **n/a**

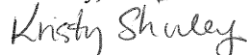
It has been determined that this human subjects research project qualifies for exempt status (category # 2) in accordance with federal regulations (Code of Federal Regulations, Title 45, Part 46, *Protection of Human Subjects*). This determination is based on the protocol form received 10/20/2010 and consent/information sheet received 10/20/2010.

Please also note the following:

- This determination of exemption expires 3 years from this date. If you wish to continue the research after 10/20/2013, the IRB must re-certify the protocol prior to this date.
- The project must be conducted as described in the approved protocol. If you wish to make changes, pre-approval is to be obtained from the IRB, unless the changes are necessary to eliminate an apparent immediate hazard to subjects. A *Protocol Amendment Request Form* is available on the IRB website.
- Prompt, written notification must be made to the IRB of any adverse events, complaints, or unanticipated problems involving risks to subjects or others related to this project.
- Any significant new findings that may affect the risks and benefits to participation will be reported in writing to the participants and the IRB.
- Research records may be subject to a random or directed audit at any time to verify compliance with IRB policies.

Thank you for complying with NDSU IRB procedures; best wishes for success with your project.

Sincerely,



Kristy Shirley, CIP, Research Compliance Administrator

NDSU is an equal opportunity institution.

APPENDIX B. UNIVERSITY OF MARY IRB APPROVAL LETTER

Glenda Reemts

From: Kimberly McDowall-Long
Sent: Thursday, December 09, 2010 11:36 AM
To: Glenda Reemts
Subject: OFFICIAL COMMUNICATION: IRB Proposal 259101510

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

Glenda Reemts
University of Mary
Nursing Division

RE: Emotional Intelligence Levels in Baccalaureate Early Career Registered Nurses: A Comparative Study, IRB Proposal 265120910

Dear Investigator,

The University of Mary Institutional Review Board has reviewed and approved the amended protocol for the previously approved study. The study as amended meets the qualifications for expedited review.

Conditions of Approval: There are five (5) conditions attached to all approval letters. All five conditions must be met, or the IRB's approval may be suspended.

1. No subjects may be involved in any study procedure prior to the IRB approval date or after the expiration date. (Principal Investigators and Sponsors are responsible for initiating Continuing Review proceedings.)
2. All unanticipated or serious adverse events must be reported to the IRB.
3. All protocol modifications must be IRB approved prior to implementation, unless they are intended to reduce risk. This includes any change of investigator or site address.
4. All protocol deviations must be reported to the IRB within 14 calendar days.
5. All recruitment materials and methods must be approved by the IRB prior to being used.
6. The IRB must be notified upon completion of research.

Principal investigators are responsible for making sure that studies are conducted according to the protocol and for all actions of the staff and sub-investigators with regard to the protocol. As a principal investigator, you may have multiple and possibly conflicting responsibilities to the IRB, the research subjects, and any sponsor. If you have any questions or concerns about this approval, please contact the Assistant Vice-President for Academic Affairs, the IRB Chairperson, in the Office of Academic Affairs.

Sincerely,

Kim Long, PhD
Chair, Institutional Review Board
Assistant Vice President for Academic Affairs
University of Mary
7500 University Drive
Bismarck, ND 58504
T: 701.355.8021
F: 701.255.7687

APPENDIX C. ST. SCHOLASTICA IRB APPROVAL LETTER

Glenda Reemts

From: Hensley, Robert [rhensley@css.edu]
Sent: Wednesday, November 10, 2010 3:03 PM
To: Glenda Reemts
Subject: Re: IRB Review Request

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Glenda:

Thank you for your quick response and for providing me with the essential documentation. Since your study was previously reviewed by the NDSU IRB and that CSS is one of several campuses from where you will be collecting data, it is exempt from further review on our campus. However, as a professional courtesy to me, could you send me a copy of your proposal so I can become acquainted with it? I am always interested in the research my colleagues are doing, especially when our campus is involved. I look forward to hearing from you soon. Take care.

Bob Hensley, Ph.D.
Chair, IRB
The College of Saint Scholastica

On Mon, Nov 8, 2010 at 3:04 PM, Glenda Reemts <greemts@umary.edu> wrote:

Dear Dr. Hensley,

I am a doctoral student at NDSU, Fargo, ND in the School of Education. I have obtained approval for my research from the IRB there and have attached the approval notice I received from them. Please let me know what further information or forms I may need to complete. Thank you so much for contacting me. Glenda

Glenda Reemts, PhD, MSN, RN

Acting Chair/Associate Professor

Department of Nursing

7500 University Drive

Bismarck, ND 58504

701-355-8173

From: Hensley, Robert [mailto:rhensley@css.edu]
Sent: Monday, November 08, 2010 1:47 PM
To: Glenda Reemts
Subject: IRB Review Request

APPENDIX D. ST. BENEDICTS IRB APPROVAL LETTER



Inspired Learning. Inspiring Lives.

December 10, 2010

Glenda Reemts

Dear Ms. Reemts;

This letter is to formally acknowledge your request for exemption for the protocol titled: *Emotional Intelligence levels in Baccalaureate Early Career Registered Nurses: A Comparative Study*. This project has been determined to meet the designated criteria for exemption from IRB review.

You may begin collecting data upon receipt of this letter. This approval expires December 10, 2011. Please notify the IRB if you require additional time to complete this project. Also, if there are other changes/modifications made to the research protocol that impacts the exempt status, you must obtain IRB approval before initiating these changes.

Thank you for your exemption submission. On behalf of the committee, best of luck in this research endeavor.

Sincerely,



Rachelle Larsen, PhD, RN
Chair of the Institutional Review Board
College of St. Benedict/St. John's University

APPENDIX E. CONSENT LETTER

NDSU North Dakota State University
College of Human Development and Education
Dept #2625, FLC 210D, Box 6050, Fargo, ND 58108
(701) 231-7210 Fax (701) 231 7416

Dear Nursing Graduate from the class of 2007, 2008, 2009 or 2010,

My name is Glenda Reemts and I am a doctoral student at North Dakota State University and chair of the nursing division at the University of Mary, Bismarck, ND. I am conducting a research study on emotional intelligence and believe the results will provide useful information to nursing faculty and potentially employers on the need to develop or support emotional intelligence behaviors in registered nurses. You have been selected because you are a baccalaureate graduate from a private Catholic Benedictine institution. Results of this study could be used to improve patient care and the working environment for healthcare professionals. Please read the consent form below. If you agree to participate, click on the link provided at the bottom of the consent. I thank you in advance for assisting me in my research study. Please note that you may receive several of these notices requesting your participation. If you have already completed the surveys, thank you so much for your time.

Sincerely,

Glenda Reemts

Title of Research Study: Emotional intelligence levels in baccalaureate degree prepared early career registered nurses: A comparative study

This study is being conducted by: Glenda Reemts

7500 University Drive

Bismarck, ND 58504

greemts@umary.edu or greemts1@midco.net

Dr. Kathy Enger - Advisor

North Dakota State University

College of Human Development and

Education

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Why am I being asked to take part in this research study? You are invited to participate in my research study on emotional intelligence because you are a 2007-2010 baccalaureate graduate from a *private Catholic Benedictine nursing program*.

What is the reason for doing the study? The purpose of this study is to assess the emotional intelligence competence of nursing graduates and to see if there is growth of emotional intelligence with experience. In addition, I am studying the overall emotional intelligence scores among registered nurses with zero, one, two, or three years of experience and to see if emotional intelligence is significantly related to age, gender, being a parent, GPA, years of healthcare work experience prior to graduation and years of work experience as a registered nurse. Results of this study will provide useful information to nursing programs for curriculum development and quality improvement purposes. Your participation will add to the body of nursing knowledge on the topic of emotional intelligence. In addition, findings may also suggest the need for healthcare organizations to develop emotional intelligence skills in registered nurses

in order to promote positive outcomes for the patient, family, healthcare provider and healthcare system.

Instructions: (it may be helpful to print this page of instructions)

1. You can access the online survey by clicking on, or cutting/pasting the address into your browser address box. The link to the survey is at the end of this consent form. The first survey is a brief demographic survey.
2. After the first survey, you will receive a set of codes and directions to enter the emotional intelligence survey, the MSCEIT. It will be helpful to print the code access provided to you. Click on the MSCEIT Survey link and follow the instructions.

Where is the study going to take place, and how long will it take? This web-based survey can be completed at a computer of the participant's choice. It will take approximately 30-45 minutes to complete.

What are the risks and discomforts? You do not have to know anything about this topic to participate, however, you may feel uncomfortable if you have a hard time deciding which answer to select or if the scores you receive are not what you expected.

What are the benefits to me? You will receive your individual results of this measurement of emotional intelligence. You may use the results for developing your own personal and professional improvement plan; however, you may not get any benefit from being in this research study.

What are the benefits to other people? The results of this study will add to the body of knowledge on emotional intelligence and nursing and provide input to nursing programs and healthcare employers that could be used to develop strategies to improve emotional intelligence.

Emotional intelligence has been linked to increased job satisfaction, career success, leadership and improved patient outcomes.

Do I have to take part in the study? Your participation is voluntary. You may discontinue the survey at **any** time prior to the end and all responses are immediately discarded. Only completed surveys can be used for data analysis. Your participation in this research is your choice. If you decide to participate in the study, you may change your mind and stop participating at any time without penalty or loss of benefits to which you are already entitled.

What are the alternatives to being in this research study? Instead of being in this research study, you can choose not to participate.

Who will see the information that I give? This study is confidential. You create your own user ID to enter in both the First name AND the Last name areas on the surveys. The results are sent to the researcher in an excel spreadsheet without identifying information. I cannot track who responds to this invitation. Thus, you may receive 2-3 invitations as friendly reminders. Thank you for your patience, and, if you have already completed the surveys, **thank you so much** for assisting me in my dissertation and adding to the collective body of nursing knowledge.

Will I receive any compensation for taking part in this study? Unless you wish to provide it, you do not have to supply contact information. For those that wish to enter, a \$50 gift card will be drawn from all participants who completed surveys at the conclusion of the data collection phase of the research. The probability of winning this \$50 gift card is dependent on the number of participants who complete the surveys.

What if I have questions? Before you decide whether to accept this invitation to take part in the research study, please ask any questions that might come to mind now. Later, if you

have any questions about the study, you can contact the researcher, Glenda Reemts, at 701-355-8173 or e-mail greemts@umary.edu or my advisor Kathy Enger, at 701-231-5776 or e-mail Kathy.Enger@ndsu.edu

What are my rights as a research participant? You have rights as a participant in research. If you have questions about your rights, or complaints about this research, you may talk to the researcher or contact the NDSU Human Research Protection Program by:

- Telephone: 701.231.8908
- Email: ndsu.irb@ndsu.edu
- Mail: NDSU HRPP Office, NDSU Dept 4000, PO Box 6050, Fargo, ND 58108-6050

The role of the Human Research Protection Program is to see that your rights are protected in this research; more information about your rights can be found at: www.ndsu.edu/research/irb

Documentation of Informed Consent:

You are freely making a decision whether to be in this research study. By clicking the link to the first survey below, means that

1. you have read and understood this consent form
2. you have had your questions answered, and
3. you have decided to be in the study.

If you **accept**, please click on the following link that will take you to the demographic survey:

<http://www.surveymonkey.com/s/LBYSPNK>

APPENDIX F. EMOTIONAL INTELLIGENCE DEMOGRAPHIC SURVEY

1. Please create a user ID that will match the user ID you enter on the MSCEIT survey. It is extremely important that your ID is typed exactly the same in order for the results of this study to be valid. Please use your first initial, last FIVE digits of your phone number and your favorite color. Don't use spaces. For example: g32589purple Please enter this as your First name AND Last name on the following MSCEIT survey.

2. Year you graduated:

3. How old are you?

4. Your gender is:

5. Number of years of healthcare experience PRIOR to graduation. For example: as a CNA, medication aide, ward clerk or LPN.

6. Your cumulative GPA at graduation was:

7. Please provide an email address if you wish to participate in the drawing for the \$50 gift card for completing BOTH surveys:

Please note: this is optional

8. Thank you for completing the demographic survey!

The second survey is the Emotional Intelligence survey, the MSCEIT. Please use the ID you created in question one of this survey: your first initial, last FIVE digits of your phone number, and favorite color. Enter this ID as your first name AND last name fields on the MSCEIT survey. You will need to copy and paste the following link into your Internet browser.

Then enter these two codes to access the survey:

1. Code: 7283001com

2. Password: MSCEIT

MSCEIT link: <http://www.mhsassessments.com>

For reference in the next survey, please reenter the ID you created in question 1 below:

Thank you so much for your time in participating in this research project! I am so grateful!

<http://www.etdadmin.com/cgi-bin/student/etd?siteId=328;submissionId=170681>