

EMOTIONAL INTELLIGENCE: RELATIONSHIP WITH TRADITIONAL  
EVALUATION METHODS IN NURSING

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## ABSTRACT

Emotional intelligence (EI) is the ability to 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. EI is increasingly discussed in health care as having a potential role in nursing. The purpose of this descriptive study was to examine the causal relationship between EI scores and the traditional academic admission criteria (GPA) and evaluation methods of a baccalaureate nursing program. The sample included second semester upper division nursing students (n=85). EI was measured utilizing the Mayer- Salovey- Caruso Emotional Intelligence Test (MSCEIT). The results of the statistical analysis (MANOVA, ANOVA, and Pearson Correlational Coefficient) found no significant relationships or correlations with the current methods of evaluation for admission to nursing school or the evaluation methods used once students are in the nursing program. These results imply that assessing a nursing student's EI is measuring a different type of intelligence than that represented by academic achievement.

## DEDICATION

*“Now all glory to God, who is able, through his mighty power at work within us, to accomplish infinitely more than we might ask or think.” Ephesians 3:20*

I dedicate this dissertation work to my wonderful family. To my husband, Randy, you are my best friend and my biggest supporter. You have washed clothes, bought groceries, cooked meals and taxied our children more over the past five years than you ever imagined you would, and I love you and thank you for that. To my children, Clayton, Thomas and Lindy, I thank God for you every day. My prayer is that you will use the gifts and talents God has given you to make a difference in this world. To my parents, Tommy and Linda Haney, thank you for raising us to believe we could achieve any goal we set for ourselves. Your encouragement to continue my education even when I could not see the benefits made this final educational journey possible. And finally, I dedicate this dissertation to the memory of my grandmother, Moselle Chappell. She believed in the power and purpose of education in EVERY person’s life and would have championed my educational endeavor whole- heartedly.

## LIST OF ABBREVIATIONS AND SYMBOLS

$df$	Degrees of freedom: number of values free to vary after certain restrictions have been placed on the data
$p$	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
$<$	Less than
$=$	Equal to

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To the University of Alabama Nurse Educator EdD Steering Committee I want to thank you for the vision of this interprofessional degree and the continued efforts you put into making this an exceptional program. There is no doubt in my mind that the expertise of both the nursing and education faculty will allow me to more effectively impact the lives of the nursing students I teach.

## CONTENTS

ABSTRACT .....	ii
DEDICATION .....	iii
LIST OF ABBREVIATIONS AND SYMBOLS .....	iv
ACKNOWLEDGMENTS .....	v
LIST OF TABLES .....	ix
LIST OF FIGURES .....	x
1. CHAPTER I.....	1
a. Introduction.....	1
b. Significance.....	2
c. Background and History of Emotional Intelligence.....	4
d. Conceptual Framework.....	5
e. Operational Definitions.....	11
f. Purpose of Study .....	13
g. Summary .....	14
2. CHAPTER II.....	16
a. Review of Literature .....	16
b. Traditional Evaluation Methods in Nursing Programs .....	16
c. Emotional Intelligence and Workplace Success .....	17
d. Emotional Intelligence in the Nursing Profession .....	21
e. Emotional Intelligence in Nursing Education .....	24
f. Strengths, Weaknesses, & Recommendations.....	29
3. CHAPTER III .....	31

a. Methodology .....	31
b. Operational Definitions.....	31
c. Research Questions .....	33
d. Population and Sampling .....	34
e. Instrument .....	34
f. Reliability and Validity of Instrument.....	35
g. Procedure .....	36
h. Research Design.....	37
i. Analysis .....	38
j. Summary.....	41
4. CHAPTER IV .....	42
a. Results.....	42
b. Demographics .....	43
c. Research Question 1.....	44
d. Research Question 2 .....	46
e. Research Question 3.....	50
f. Research Question 4 .....	51
g. Research Question 5 .....	51
h. Summary of Results.....	52
5. CHAPTER V .....	53
a. Discussion .....	53
b. Findings and Implications to Research Questions.....	53
c. Limitations .....	62

d. Recommendations for Future Research .....	63
e. Recommendations for Nursing Education .....	63
f. Next Steps.....	64
g. Conclusion .....	65
REFERENCES .....	66
APPENDIX.....	77

## LIST OF TABLES

1 Research Questions and Statistical Analysis Method.....	40
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## LIST OF FIGURES

1. Four Branch Model of Emotional Intelligence .....7
2. Expanded Diagram of Four Branch Model of Emotional Intelligence....9

## CHAPTER I

### Introduction

Emotional Intelligence (EI) is defined as “The ability to 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, 1990,p.5). Goleman (1995) popularized EI in *Emotional Intelligence Why it can matter more than IQ*, and defined it as: “The capacity for recognizing our own feelings and those of others, for motivating ourselves and for managing emotions well in ourselves and in our relationships” (p.317). Based on these definitions, EI is emerging as a relevant topic in nursing education, nursing practice and nursing research.

EI is increasingly discussed as having a potential role in medicine, nursing and other health care disciplines. The potential role is related to how EI impacts the personal mental health of the practitioner as well as the professional practice of the health care provider (Birks, McKendree & Watt, 2009). EI and the emotional competencies of health care professionals have received relatively little attention compared with those of professionals in other disciplines who have used EI tools extensively to identify leadership and management qualities in their employees (Brackett, Rivers & Salovey, 2011). Although EI has been defined differently by researchers there are some common threads which include: a) EI is a different type of intelligence that includes cognitive and emotional components, b) EI varies among individuals, and c) EI is learned throughout life (Faguy, 2012). Emotional intelligence has been promoted as the “critical ingredient” in determining a person’s success in one’s personal, social and professional life (Goleman, 1995).

Nursing programs introduce students to the necessary content and clinical application to be a successful nurse. Nursing graduates must not only be competent in technical and critical thinking skills, but also be equipped to manage the emotions of patients, caregivers, and other professionals working to ensure optimal patient outcomes (Kerfoot, 1996; Codier, Muneno, Franey & Matsuura, 2010). EI skills are critical components of professional nursing practice (Codier et al., 2010). These EI skills include the ability to perceive, facilitate, understand and manage emotions for themselves as well as patients, caregivers, and other health care professionals. This study will investigate the relationship, if any, with the current methods of evaluation used in a baccalaureate nursing program and EI scores.

In summary, the body of research that identifies EI as important to the nursing profession is growing. However, little research has been published to identify if EI has an effect on the current methods of evaluation. This study will examine the effect of students EI scores with their performance from clinical and academic perspectives. Also the causal relationship of the current admission criteria of GPA and EI scores will be examined. If we know EI matters, it is important that those entering our nursing programs possess EI.

### **Significance of Study**

Attrition and retention rates have been issues of concern for nursing programs for decades (Newton & Moore, 2009). A tremendous amount of effort and fiscal resources are utilized to assist nursing students who are considered at risk of withdrawing from or failing in the program (Pence, 2011). The selection processes of nursing programs today are typically solely based on academic achievement (GPA); however, it is evident that non-academic skills such as empathy and emotional stability are important for success in nursing school and in the nursing profession (Landa & Lopez-Zafra, 2010; Davis Jenkins & Mabbett, 2010). Because these non-

academic concepts can be considered under the umbrella of emotional intelligence, EI is important for nursing students as well as practicing nurses (Codier, Muneno, Franey & Matsuura, 2010). The use of strictly academic criteria for admission to nursing school as well as traditional evaluation of academic achievement throughout the nursing program does not capture the non-academic skills (Benson, Martin, Ploeg & Wessel, 2012; Zysberg, Levy, & Zisberg, 2011). Faculty often mention concerns about students not “getting it” or not having the “calling” that nurses in the past had (Codier, Kamikawa, Kooker, & Shoultz, 2009). Faculty are worried that some students, while intellectually gifted, are many times lacking the interpersonal skills needed to be a “good nurse”. Some students successfully complete a nursing program only to realize nursing practice is not for them (Kovner, Brewer, Fairchild, Poornima, Kim, & Djukic, 2007; Brewer, Kovner, Yingrengreung, & Djukic, 2012).

Common concepts in nursing and EI include empathy and interpersonal skills (Goleman, McKee, & Boyayzis, 2006). Patterson & Begley (2011) concluded that most researchers agree that EI describes characteristics beyond technical skills and traditional cognitive intelligence. EI includes awareness and ability to monitor one’s own emotional responses and to understand the emotions of others (Mayer & Salovey, 1997). Professionalism, performance, and nursing intuition are EI attributes identified by practicing nurses as essential to providing quality care to their patients (Codier, Muneno, Franey & Matsuura, 2010; Davis, Jenkins & Mabbett, 2010). Nursing students should arguably have these characteristics upon graduation.

This study will examine the causal relationship between the traditional academic admission criteria (GPA) and traditional evaluation methods (final academic grade in two courses and final clinical evaluation in one course in the second semester of the upper division) of a baccalaureate nursing program and the EI scores of nursing students. The investigation to

determine if there is a causal relationship will contribute to the body of knowledge that supports using EI scores as a portion of the admission criteria for nursing school. Investigation of how the nursing students EI scores compare with their final letter grades and final clinical evaluations (meets expectations, needs improvement, unsatisfactory) will also add to the body of knowledge for nursing and is significant in determining whether EI testing should be supported by nursing programs. In addition, the study will also determine if there is a correlational relationship between the students' EI scores and the traditional evaluation methods (GPA) used for admission. Incorporating testing of EI for pre-nursing students as well as current nursing students can examine if EI effects students' attrition and success both clinically and academically.

### **Background and History of Emotional Intelligence**

Understanding the concept of EI requires investigation of its two terms. Since the late eighteenth century, psychologists have recognized a three part division of the mind: cognition (thought), affect (including emotion), and motivation (Wechsler, 1958; Gardner, 1995; Mayer & Salovey, 1995). Intelligence is typically used by psychologists to characterize the cognitive part of the brain sphere and how well this sphere functions. Emotions are included in the second affective sphere of mental functioning. This sphere includes emotions, moods, evaluations and other feeling states including fatigue or energy (Mayer & Geher, 1996). The third sphere is motivation and is considered secondary in defining emotional intelligence according to Mayer and Salovey (1997).

Emotional intelligence is a member of a group of cognitive abilities including; social (Cantor & Kihlstrom, 1987), practical (Sternberg, 1988) and personal (Gardner, 1983). EI is considered to include connections between emotions and cognition (Mayer & Salovey, 1997). In the 1980s the study of the mutual interaction of feelings and thoughts emerged (Mayer &

Salovey, 1997). Much of the research included studies of self-control and how moods bias people's thoughts. This research defined emotional intelligence as involving self-control, zeal, persistence, and self-motivation (Goleman, 1995b). Mayer and Salovey (1997) suggest that this definition is more the concept of motivational intelligence as opposed to EI.

The definition of EI preferred by Mayer and Salovey (1997), which is the one adopted for this study, includes the "ability to 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" (p. 3). The Mayer and Salovey conceptual development of EI includes not only intelligence research but also emotional research. While these two concepts, intelligence and emotion, have often times been seen as adversaries, researchers have focused on emotions contributing to thought rather than emotions "clouding" one's thoughts. The concept of EI used in this study is focused on the complex intellect of emotional reasoning in everyday life. There are general rules that can be employed in recognizing and reasoning with feelings. An example of this would be that certain universal emotional expressions exist and that people should be able to recognize them (Mandler, 1984). For example, an insulted person might be angry, and recognizing these reactions requires some form of intelligence. This is an assumption of the Mayer Salovey Four Branch Model of EI, which indicates that there are some "right" answers related to recognition of feelings (Mayer & Geher, 1996).

### **Conceptual Framework**

Mayer and Salovey's (1997) Four Branch Model of Emotional Intelligence serves as the framework for this study (Figure 1). The model divides the abilities and skills of EI into four areas: perception, facilitation, understanding and management of emotions. These areas were the

foundation to investigate the correlation between traditional nursing evaluation methods and the EI scores of nursing students. The Four Branch Model of Emotional Intelligence evolved from years of research by John Mayer and Peter Salovey that has distinguished EI from cognitive intelligence (Mayer & Salovey, 1995).

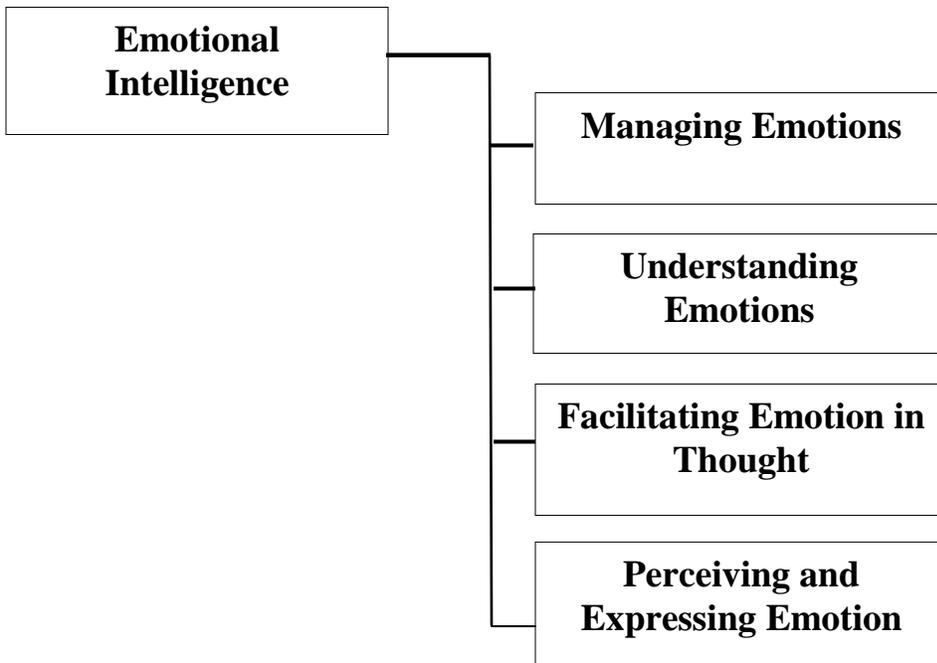
This model is also known as the Ability Model of Emotional Intelligence. There are other models and instruments, known as Trait Emotional Intelligence Models, which conceptualize EI as a “trait” or “talent” that you are born with. The Four Branch Model distinguishes EI from being defined as a trait or a talent. Traits, as identified in other EI Models, are defined as characteristics or certain ways a person behaves (Mayer & Salovey, 1997). Talents, which are also the focus of some EI models, can include non - intellectual abilities such as athletic skill at a certain sport (Mayer, Salovey, & Caruso, 2000).

The Four Branch Model of EI, as shown in Figure 1, reflects four branches of emotional intelligence: a) perception of emotion; b) facilitation of emotion c) understanding and analyzing emotions, and d) management of emotion. The order of the branches, from perception to management, represents the degree to which the emotional intelligence ability is integrated within the rest of an individual's major psychological subsystems, or overall personality from basic to higher levels (Mayer, Salovey & Caruso, 2004). Each of the four branches is associated with abilities that support or are related to that particular branch.

The first branch of this model is the perception of emotion. This involves the ability of a person to fundamentally recognize emotion, such as nonverbal perception and expression of emotion in the face and voice. The second branch, facilitation of emotion, relates to a person's ability to use emotions in thought. This includes the capacity of emotions to assist thinking and the ability to recall an emotion clearly. The third branch, understanding and analyzing emotions,

entails the ability to recognize relationships between emotions and differentiate them from one another. This branch reflects one's ability to understand the outcomes of emotions. Branch four is management of emotions. This branch involves managing emotions in the context of one's goals, self-knowledge, and social awareness; managing both negative and positive emotions in a way that is appropriate for the current setting (Mayer & Salovey, 1997; Mayer, Salovey & Caruso, 2004).

Figure 1.  
Four Branch Model of Emotional Intelligence



Mayer, J., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. J. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications* (p.10). New York, NY: Basic Books.

This study investigated the causal relationship of EI scores of nursing students with the traditional admission criteria (GPA) and the traditional evaluation methods (final academic grade in two courses and final clinical evaluation in one course) that are currently being used at a traditional baccalaureate nursing program in the southeast United States. Mayer and Salovey's

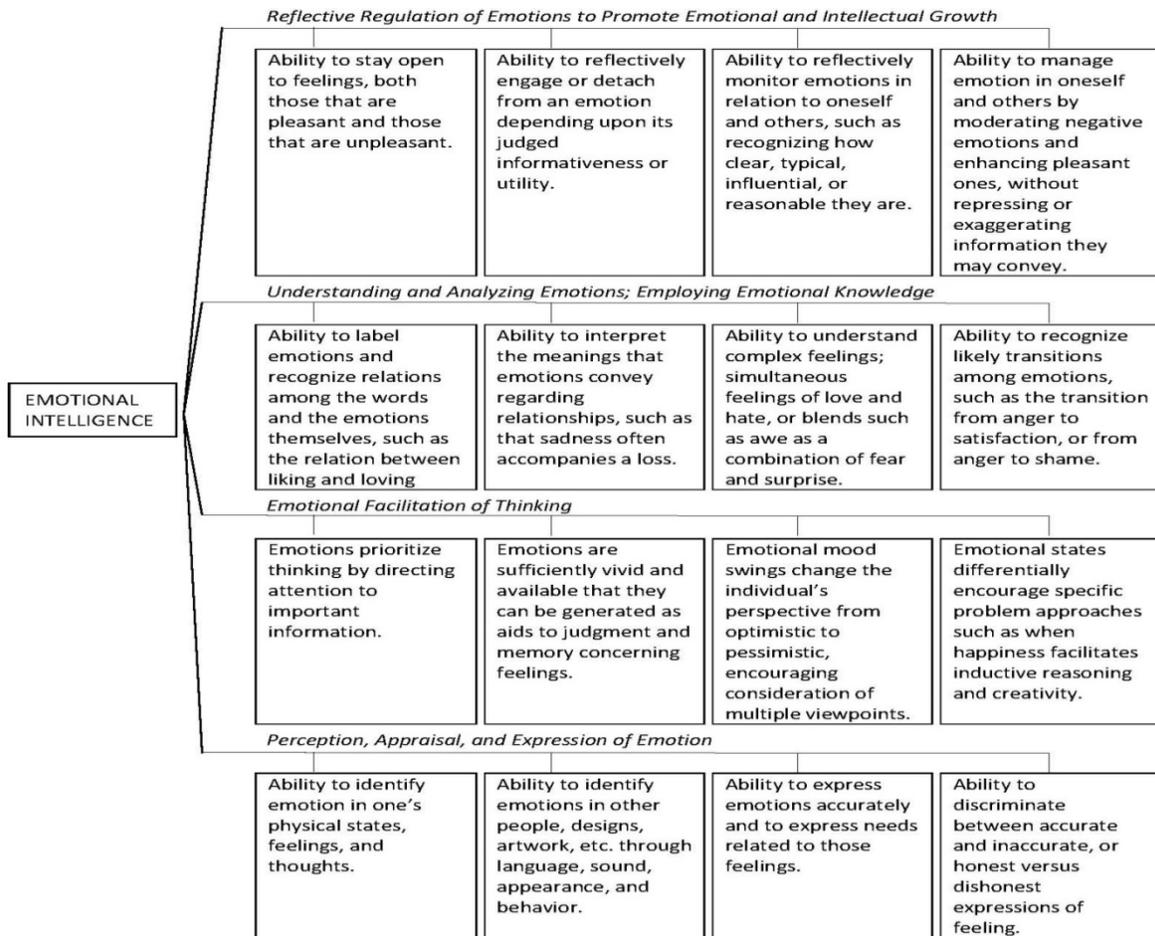
Four Branch Model of Emotional Intelligence will serve to frame the premise that EI is an ability that can impact the success of nursing students both clinically and academically. The purpose of this study is to determine if the ability to perceive, facilitate, understand and manage emotions is correlated with those who are successfully admitted to nursing school as well as how successful they are clinically and academically once admitted.

The four branches, as illustrated in Figure 2, are arranged from basic to higher psychological processes. The lowest branch represents simple abilities of perceiving and expressing emotion. Each branch has four descriptive abilities. To the left of each branch are the abilities that emerge relatively early in development. The abilities that are to the right in each individual branch represent those that develop later, typically in the adult personality. The ability in each branch of the model applies to emotions internally and in others (unless specifically noted otherwise). As each branch is discussed in detail the four boxed abilities in each branch will be referred to as boxes 1-4 moving from left to right.

The lowest branch, *Perception, Appraisal, and Expression of Emotion*, represents how an individual can identify emotions and emotional content. Very young children, even infants, can distinguish the facial expressions of their parents. This is representative of branch one box one. Box two in the first branch represents a person's ability to identify emotions in other people, in pictures, and in language, this is usually mastered in the elementary years. Box three includes the ability of a person to express emotions accurately and the needs related to those feelings. Box four represents those who have progressed to the point that they are able to differentiate between honest and dishonest expressions of feeling. This might include recognizing an expression that is masking the real emotion; such as the smile of a patient who is in extreme pain, but smiling for the benefit of their family (Mayer & Salovey, 1997).

The second branch, *Emotional Facilitation of Thinking*, has four boxes as well that progress in level of ability from left to right. This branch deals with how a person can use emotion to assist intellectual processing. An infant will cry when they need to be fed,

Figure 2  
Expanded Diagram of Four Branch Model of Emotional Intelligence



Mayer, J., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. J. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications* (pp.13). New York, NY: Basic Books

which is an example of using an emotion to signal that a need must be met. As this branch progresses from boxes one through four the model represents the emotional maturity of a person to use emotions to make decisions. Box three of the second branch is illustrated by a person who

is able to use their emotions to make progress towards a goal. An example would be a young man who is a senior in high school who has always dreamed of being a nurse. His insecurity and pessimistic mood about his high school GPA may lead him to only apply to community colleges where an associate degree in nursing can be pursued. If he is encouraged and his emotional state becomes more positive he may apply to four year institutions where he can pursue a baccalaureate degree. The final box in the second branch is representative of a person who is capable of using an emotion such as happiness to facilitate creativity (Mayer & Salovey, 1997).

The third branch, *Understanding and Analyzing Emotions*, and its four boxes are representative of understanding emotions and using emotional knowledge. As one developmentally matures they can go from recognizing similarities between liking and loving and annoyance and anger (box one) to understanding that feelings are complex and you may actually simultaneously be able to love and hate (box three). The final box in this branch can be illustrated by the ability to recognize when someone, or oneself feels unlovable thus rejects the care of another because of the fear of later rejection (Mayer & Salovey, 1997).

The fourth and highest branch of the Four Branch Model of EI, *Regulation of Emotions*, involves the conscious regulation of emotions that lead to emotional and intellectual growth. In the first box of this branch, a person is able to remain open to feelings. For example, a parent may teach their child to “count to five” when they are angry. As these boxes progress they represent a person who is able to separate emotions from behavior (box two). Box four represents the ability to manage ones emotions or the emotions of others by regulating how long one focuses on a negative emotion as opposed to a positive one. An example of reflective regulation in box four might be a nurse’s ability to mourn the loss of a patient, who has died of

cancer, and reflect on that sadness but be able to focus on the positive impact of that patient's life in order to provide care to the grieving family.

In summary, the theoretical model for this study, the Mayer and Salovey Ability Model of Emotional Intelligence, has been researched, developed and modified over the last 20 years by John Mayer and Peter Salovey. This model focuses on emotions and their interactions with thought (Mayer & Salovey, 1997; Salovey & Mayer, 1990). The Four Branch Model is based on emotional intelligence including a set of abilities that account for how ones emotional perception and understanding vary. The model conceptualizes EI as the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in self and others (Mayer & Salovey, 1997). For this study the researcher wanted to know if the ability to perceive, facilitate, understand and manage emotions is correlated with those who are successfully admitted to nursing school as well as how successful they are clinically in one nursing course and academically in two nursing courses once admitted. These abilities have been identified as important characteristics for nurses (Codier et al., 2010). Using the ability model of EI in this research allowed for identification of students with high, middle or low EI and the correlation with success in the two second semester nursing courses.

### **Operational Definitions**

For the purpose of this study the following operational definitions are used.

*Fundamentals of Professional Nursing Practice.* This course utilizes the nursing process as a framework for critical thinking, decision-making, and nursing practice. Students engage in clinical skills related to communication and basic care techniques developed through simulation and practice with clients on the clinical unit. This is the first nursing course that has a clinical component and is taught in the second semester of the upper division.

*Pharmacology for Nursing Practice.* A required course in the BSN program that introduces the student to the role of pharmaceutical agents in assisting patients with health problems throughout the lifespan. This is a non-clinical course taught in the second semester of upper division.

*Upper Division.* Nursing designated (NUR) courses following core curriculum completion.

*Clinical.* Nursing designated courses that contain theory and clinical component hours.

*Non Clinical.* Nursing designated courses that only contain a theory component.

*EI Total Raw Score.* This MSCEIT score provides an overall index of the respondent's emotional intelligence.

*High EI.* Total Raw EI MSCEIT score of greater than 106.

*Middle EI.* Total Raw EI MSCEIT score of 94-106.

*Low EI.* Total Raw EI MSCEIT score of less than 94.

*Branch emotional intelligence scores.* The MSCEIT yields four individual Branch scores.

*Branch 1A perceiving emotions score.* Indicates the degree to which the respondent can identify emotion in himself or herself and others.

*Branch 2 A facilitating thought score.* Indicates the degree to which the respondent can use his or her emotions to improve thinking.

*Branch 3 An Understanding Emotions score.* Indicates how well the respondent understands the complexities of emotional meanings, emotional transitions, and emotional situations.

*Branch 4 An Emotional Management score.* Registers how well the respondent is able to manage emotions in his or her own life and the lives of others.

*Admission GPA.* Cumulative grade point average of core curriculum requirements.

*Traditional Evaluation Methods-* includes final letter grades in Pharmacology for Nursing

Practice and Fundamentals of Professional Nursing Practice, and the final clinical evaluation for Practice and Fundamentals of Professional Nursing Practice.

*Final Letter grades are indicated in the chart below:*

98-100= A+	4.33	94-97 = A	4.0	91-93= A-	3.67
88-90 = B+	3.33	85-87 = B	3.0	83-84 = B-	2.67
80-82 = C+	2.33	77-79 = C	2.0	75-76 = C-	1.67
72-74 = D+	1.33	69-71 = D	1.0	67-68 =D-	.67
0-66 = F	00.00				

*Final Clinical Evaluations-* the clinical evaluation will be done by the students

clinical instructor and falls into three categories; meets expectations, needs improvement, or unsatisfactory.

### **Purpose of Study**

The purpose of this study is to determine: a) the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice b) the effect of BSN nursing students' branch emotional intelligence scores(perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) , (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice c) if there is a relationship between BSN nursing student's emotional intelligence raw branch scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) on their admission GPA d) if there is a relationship of BSN nursing student's emotional intelligence total raw score on their admission GPA, and e) the effect of BSN nursing students' emotional intelligence scores (high, middle, low) on their final clinical evaluations in Fundamentals of Professional Nursing Practice.

The following research questions were identified for this study:

1. What is the effect of BSN nursing students' emotional intelligence scores (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice?
2. What is the effect of BSN nursing students' branch emotional intelligence scores(perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) , (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice?
3. What is the relationship of BSN nursing student's emotional intelligence raw branch scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) on their admission GPA?
4. What is the relationship of BSN nursing students' emotional intelligence total raw score on their admission GPA?
5. What is the effect of BSN nursing students' emotional intelligence scores (high, middle, low) on their final clinical evaluations in Fundamentals of Professional Nursing Practice?

## **Summary**

Regulating and managing emotion is something everyone does, but the emotionally intelligent person does it especially well and has a way of meeting particular goals (Salovey & Mayer, 1990). Emotional intelligence includes the ability to perceive, facilitate, understand and regulate emotions in oneself and others (Mayer& Salovey, 1997). In the past 30 years, the research to identify these abilities as a distinct and separate intelligence has grown. The abilities identified in EI have been considered essential abilities for nursing students and practicing nurses throughout history; although the research to support these abilities has only begun to emerge in the nursing discipline the last two decades.

Mayer and Salovey's extensive research on emotional intelligence as an ability has found that emotional intelligence represents a connection between cognition and emotion. The development of the Four Branch Model of EI, which is based on the ability of a person to perceive, facilitate, understand and regulate emotions, has been identified as the model to frame this study. The importance of this study was based on the need to increase the body of knowledge related to EI in nursing education. Specifically, this study investigated the relationship between EI and the current traditional evaluation methods being used in a baccalaureate nursing program for admission and progression through the program.

## CHAPTER II

### **Review of Literature**

The primary purpose of this chapter is to present a systematic review of the literature pertinent to this study. The major topics of review were: traditional evaluation methods in nursing programs; EI and workplace success; EI and the nursing profession; and EI and nursing education. The chapter will conclude with the strengths, weaknesses and recommendations for further research endeavors.

#### **Traditional Evaluation Methods in Nursing Programs**

Overall, traditional academic variables have proven to be quite accurate in predicting success in nursing programs (Newton, Smith & Moore, 2007; Byrd, Garza & Neiswiadomy, 1999). Academic variables include a student's overall GPA, science GPA and in some programs scores on entrance exams such as the TEAS. The TEAS is a nursing aptitude test based on core knowledge of a nursing school applicant, particularly in relation to science knowledge (Newton et al., 2007; Potolsky, Cohen, & Saylor, 2003). Today non-academic variables are used less often to predict nursing student success and are rarely used as criteria for admission. Non-academic variables include: emotional intelligence, self-efficacy, interpersonal skills, and critical thinking ability (McLaughlin, Moutray, & Muldoon, 2008). These variables are measured through interviews, questionnaires, and psychometric testing (McLaughlin et al., 2008; Stewart & Dempsey, 2005). Non-academic variables help determine the students' compatibility with the nursing profession prior to starting the program as opposed to determining the probability that the student will successfully complete the nursing program (McCallum, Donaldson, & Lafferty, 2006). While the literature supports the relationship between academic variables and success, non-academic variables and success have also been studied and warrant additional research. The

literature supports that many times these non-academic variables can be difficult to define and measure.

### **Emotional Intelligence and Workplace Success**

Historically, individuals have been hired based on their intellect alone. However, in recent years, organizations have begun to find the value in hiring individuals who are more emotionally intelligent (Khalili, 2012). Success in the working environment was found to relate to a person's ability to make emotion-laden decisions and one's skill in managing emotions (Mayer et al. 2008). Research indicated that individuals, who have middle to high EI scores, were more likely to have professional success and increased job satisfaction (Brown, George-Curran, & Smith, 2003; Kooker, Shoultz, & Codier, 2007).

Brown et al. (2003) investigated the career commitment and decision making process of 288 college students from the Midwest who were actively involved in career decision making and vocational exploration. Students who had higher EI scores in the ability to perceive, access, and generate emotions in order to regulate emotion were more likely to report greater confidence in their career making decisions. This study was linked to results from another study conducted by Caruso and Wolfe (2001) that concluded that how a person manages his/her emotions and the emotions of others can significantly impact the satisfaction of a person's career choice.

When professionals had the ability to identify and manage stressful situations they reported less job-related stress (Birks & Watt, 2007; Oginska-Bulik, 2005). One researcher surveyed 330 human service workers, including physicians, nurses, teachers, probation officers and managers. The focus of the study was to explore the relationship between EI and perceived stress in the workplace, as well as EI and health-related consequences in the health service workers. The results revealed that the ability to effectively deal with emotions in the workplace

decreased job-related stress and increased overall health (Oginska-Bulik, 2005). Individuals with high EI are seen as more successful in their relationships due to their ability to convey empathy, which is a necessary ability in the workplace in order to decrease job related stress (Goleman, 1995).

The Mayer Salovey and Caruso Emotional Intelligence Test (MSCEIT), based on Mayer and Salovey's Four Branch Model of EI, was used to measure EI in a study that investigated the relationship between EI and leadership effectiveness in the workplace. The sample included 41 senior executives from a large public service organization. The results indicated that the executives with higher EI scores were more likely to achieve desired business outcomes and were considered more effective leaders by their subordinates than those with lower EI scores. The branch score from the MSCEIT, which indicates the capacity to perceive emotions, was identified as the best predictor of effective leadership in the 41 participants (Rosete & Ciarrochi, 2005).

People who demonstrated active listening and were open to perspectives different from their own were able to pick up on the unspoken feelings of others (Yoder, 2005; Goleman, 1998; Jordan & Troth, 2004). These abilities were identified as necessary in employees and leaders throughout organizations. The relationship between employees' EI and job satisfaction and job performance, as well as the effect of the interaction between managers' EI and employees' EI on job satisfaction and performance was the focus of a study by Sy, Tram and O'Hara (2006). One hundred and eighty-seven food service employees participated in the study. The findings indicated that employees with higher EI have higher job satisfaction. The relationship between EI and job performance in employees was not as strong. The findings of the relationship between employee EI scores and manager EI scores were interesting. The results indicated that the

manager's EI makes an important difference to employees who possess lower levels of EI. Employees with low EI can benefit greatly from a manager with high EI in helping the employee recognize and regulate their own and others emotions. The employees with high EI were more likely to perform well and report high job satisfaction regardless of their manager's EI.

Research linked high EI to a person's ability to better manage their own emotions and exhibit control over their work which allowed them to be proactive as they perform their job responsibilities (Goleman, 1998). This was further supported by research conducted by Cote' and Miners (2006) that examined emotional intelligence, cognitive intelligence and job performance in organizations. The findings indicated that being emotionally intelligent can compensate for low cognitive intelligence and suggests that organizations can be successful if they attract and retain people with high EI. Employees with high EI were rated by supervisors to have a better ability to meet organizational goals than those with lower EI scores (Cote' & Miners, 2006).

Team-work has been recognized as important in many professions including nursing. Managers and leaders with good EI skills improved team productivity and increased organizational effectiveness in health care organizations (Freshman & Rubino, 2004). One empirical study by Jordan and Troth (2004) concluded that teamwork is critical to job performance. The study consisted of 350 participants who were divided into 108 teams with an average of three people per team. The team members were administered a measure of emotional intelligence. EI indicators were positively linked with team performance. The researchers concluded that teams with higher EI levels outperformed teams with lower overall EI levels when given a specific problem solving task.

Quoidbach and Hansenne (2009) examined EI in relation to teamwork specific to healthcare teams in the workplace. The participants in this study included a total of 421 health care workers including; nurses, auxiliary nurses, and physiotherapists. The subjects worked in 23 health teams in a hospital in Belgium, with an average of 18 members per team. The researchers investigated the relationships between EI, performance, and cohesiveness in the 23 health care teams. Team performance was measured at four different levels: job satisfaction, chief nursing executives' rating, turnover rate, and health care quality. Results showed that health care quality was positively correlated with emotion regulation. Emotion regulation was also positively correlated with group cohesiveness. These results suggested that EI and, more specifically, the ability to regulate emotions, may provide an interesting new way of enhancing healthcare teams' cohesion and patient/client outcomes. Another study that linked EI to positive patient outcomes was conducted by researchers who surveyed over 400 occupational therapists who work in the mental health field (Chaffey, Unsworth & Fossey, 2012). Using the Swinburne University Emotional Intelligence Test to measure EI, the findings demonstrated a moderate relationship between EI scores of the therapists and intuitive aspects of clinical reasoning that contributed to improved patient outcomes.

A recent study used the ability based model of EI to examine teamwork effectiveness and EI among 346 full-time professionals and early career managers enrolled in a master's of business administration program at a large university (Farh, Seo & Tesluk, 2012). The researchers specifically reviewed the result of EI on teamwork effectiveness of the participants in relation to high managerial work demand job tasks. The findings indicated a positive correlation between teamwork effectiveness and high EI scores of the participants, which in turn resulted in increased job performance outcomes.

The literature showed evidence of a positive relationship between EI and workplace success across disciplines outside of nursing. There was a relationship between EI and increased job performance and decreased work related stress when employees have high EI scores. Regardless of the workplace setting; healthcare, business, or industry the literature identified EI constructs as positively impacting the workplace.

### **EI in the Nursing Profession**

Emotions were intertwined with human relationships, and thus if one's profession was primarily focused on human relationships, such as nursing, it was imperative that nurses possessed skills which allowed them to sensitively respond to other humans (Heffernan, Griffin, McNulty, & Fitzpatrick, 2010; McQueen, 2004). Emotional intelligence competencies provide the foundation for effective nursing practice (Codier, Kamikawa, Kooker, & Shoultz, 2009; Wheeler, 2005). Recognizing emotional information has been identified as important in making informed decisions in nursing (Akerjordet & Severinsson, 2010; Beauvais, Brady, O'Shea, & Quinn, 2011; Codier et al., 2009).

Akerjordet and Severinsson (2004) conducted interviews with mental health nurses to investigate how they viewed EI constructs impact on their nursing practice. The four themes that emerged from the qualitative interviews were: relationship with patients, supervision, motivation, and responsibility. These four themes from nursing practice were felt to be essential to the participants in their personal practice based on the EI constructs. The researchers concluded that EI stimulates the quest for a deeper understanding of a professional mental health nursing identity.

In the nursing profession, EI has been linked to improved patient outcomes, positive productive workplace relationships, workplace leadership, and decreased job turnover

(Vitello-Cicciu, 2003, Codier, Kooker, & Shoultz, 2008). The purpose of a 2009 study was to explore emotional intelligence, performance level, organizational commitment and retention of clinical staff nurses (Codier, Kamikawa, Kooker, & Shoultz, 2009). One hundred and ninety-three nurses were included in the study. The MSCEIT was used to measure the EI abilities of the nurses. The findings showed a positive correlation between EI scores of the clinical staff nurses and job performance and job retention variables. The clinical staff nurses with higher EI scores demonstrated higher performance levels, longer careers, and greater job retention.

The relationship between self-compassion and EI was investigated in a study that surveyed 135 nurses working in three different hospitals. The researchers' aim was to corroborate the belief that in order for nurses to be compassionate to patients and families they must first possess self-compassion. The nurses that participated in the study worked in acute care settings and cared for patients with diverse cultural backgrounds. The researchers asked the nurses to complete a trait measure of EI to determine the nurses EI scores and the Self-Compassion Scale (SCS) to identify the participant's level of self-compassion. The findings demonstrated a positive correlation between self-compassion and emotional intelligence (Heffernan, Griffin, McNulty, & Fitzpatrick, 2010).

Davis, Jenkins and Mabbet (2010) conducted a qualitative study to examine how district nurses, caring for patients outside of an acute care setting, recognize and handle their emotions and those of others. The researchers found that all of the nurses perceived EI as essential in providing quality care. The researchers concluded that providing care in the home is filled with complex emotional issues, and that EI has the potential to enhance care, teamwork and wellbeing in the district nursing setting.

Kooker, Shoultz, & Codier (2007) used the conceptual framework of EI to analyze 16 stories written by nurses who had been asked to “write a story from your lived experience where nursing knowledge made a difference.” The researchers determined that all domains and competencies of emotional intelligence were identified across the 16 stories. Social awareness, social management and self-awareness were the most frequently identified concepts of EI. These emotional competencies were based on Goleman's emotional intelligence framework and align with the branches of the Four Branch Model of EI: perceiving, facilitating, understanding and managing emotions.

Some researchers have investigated the impact of EI development and intervention in the clinical nursing setting. One such study used a clinical rounds approach to provide EI intervention by having nurses reflect on emotions prior to and immediately after rounding on their patients. The nurses were asked questions like: “What is going on emotionally with your patient today?” and “What is going on with you emotionally today?” This research was conducted on a 24-bed inpatient oncology unit over a 10 month period of time. Findings, based on qualitative data, demonstrated that the nurses' identification of emotions in self and others were limited. The findings suggested that interventions in the clinical setting that were designed to improve emotional intelligence should be explored further (Codier, Freitas & Muneno, 2013).

A pilot study that yielded more promising results was conducted to explore the impact of a peer coaching intervention on EI abilities of nurse managers. An initial sample of 31 nurse managers was enrolled in the study. Only 15 of the managers completed the six month intervention and study, which included an initial training session on EI, followed by weekly one-to-one peer coaching sessions. All of the participants who completed the study perceived that the peer coaching intervention improved their EI abilities and overall management

performance. The findings also found a positive correlation between the nurse managers' EI scores and their perceived satisfaction with work-life balance (Codier, Kamikawa, & Kooker, 2011).

There was a dearth of literature related to EI and the nursing profession. The studies that were included in this review support a correlation between EI and nursing professionalism and practice. There was also evidence of a relationship between EI and job performance, retention and emotional wellness of nurses in the clinical setting.

### **EI in Nursing Education**

Another identified goal of nursing education is to prepare students to be effective in caring for patients and successful in the workplace (Vitello-Cicciu, 2002; McQueen, 2004). Nurse educators are challenged with the different levels of emotional maturity in students (Jaeger, 2003). Some research indicated that EI could be improved through classroom instruction (Jaeger, 2003). However, other research advocated for the consideration of EI in the nursing school admission process. Emotional issues were present in the clinical setting early in the curriculum, and it was reported that nursing students should enter school prepared to handle the complexity of working with emotional issues among their peers and the patients they were assigned (Benson et al., 2012; Zysberg, Levy, & Zisberg, 2011; Hurley, 2008). Unhealthy conflicts could occur in the clinical setting if nursing students did not consider how their actions affected the patient, fellow students, nurses and other health care personnel (Finkelman & Kenner, 2009; Weber, 2007). Another support of having EI as an admission criterion was the lack of clinical opportunities provided for students to develop effective EI competencies; therefore, admitting those who already have greater emotional intelligence was logical (Harrison & Fopma-Loy, 2010; Por, Barribell, Fitzpatrick, & Roberts, 2011).

The Commission on Collegiate Nursing Education (CCNE) required that baccalaureate programs incorporate the nine *Essentials of Baccalaureate Education for Professional Nursing Practice* (AACN, 2008; CCNE, 2009) in their curriculum. Two of the essentials were relevant to EI, Essential VI and Essential VIII, and linkages are supported in the literature. Essential VI: *Interprofessional Communication and Collaboration for Improving Patient Health Outcomes* focused on the importance of communication and team work in order to optimize the nurse's ability to have a positive impact on the patient and the health outcomes of the patient. The literature supported that nurses with emotional intelligence create positive work environments where optimal performance is supported in a trusting atmosphere ( Vitello-Cicciu, 2002; Freshman & Rubino, 2004). When nurses used emotional intelligence skills they were able to handle changing client care situations, remain calm, and establish an environment that was both healing and compassionate for the patient (Akerjordet & Severinsson, 2004).

Essential VIII: *Professionalism and professional values* identify the inherent values of altruism, autonomy, human dignity, integrity, and social justice as being fundamental to the discipline of nursing. In the literature, Goleman et al. (2002) identified EI characteristics of self-awareness and social competencies, which include social awareness and a desire for social justice. Professionalism, performance, and nursing intuition were EI attributes identified by practicing nurses as essential to providing quality care to their patients (Codier, Mueno, Franey & Matsuura, 2010; Davis, Jenkins, & Mabbett, 2010). The research indicated that professionalism was rooted in caring, which also promoted quality patient outcomes (Codier et al., 2009; Simpson & Keegan, 2002). Codier, Kooker, and Shoultz (2008) found a strong connection between EI and increased nursing performance which emphasized the importance of fostering respectful and caring environments that supported effective communication with

others. Effectively learning to manage emotional issues was central to professional growth and was easier for those who are emotionally intelligent (Akerjordet & Severinsson, 2004).

Emotional competence has been identified as a key component necessary for successful transition from nursing school to professional practice (Rochester, Kilstoff, & Scott, 2005). The aim of this study was to identify EI capabilities that were seen to be most important for successful nursing practice in the first 2-6 years following employment as registered nurses and to evaluate, through backward mapping, the degree to which these capabilities had been taught in the nurse's baccalaureate programs. The sample for this study consisted of 17 nurses who were 2-6 years post-graduation, working in a hospital setting, and who had been identified by their nurse managers as "high early career performers". The capabilities which were ranked as critical to a successful transition from nursing school to professional practice were: (a) the ability to convey empathy and work with individuals from different backgrounds, (b) the ability to learn from mistakes and accept constructive feedback, (c) the consideration of different viewpoints before making a decision, (d) utilizing peers to assist in problem solving of workplace issues, (e) the ability to remain calm when frustrated, and (f) the desire to do their best as a professional (Rochester et al., 2005). The participants reported that not all competencies that contributed to their successful transition were included in their academic preparation in nursing school. Since baccalaureate prepared nurses assumed more leadership roles in practice early in their careers, more emphasis may need to be placed on these competencies. Research supported the correlation between EI and leadership in nurses that impacts educational, organizational, staff and patient outcomes (Akerjordet & Severinsson, 2010).

Wessel et al. (2008) conducted a study that investigated the EI of students in nursing, physical therapy and health science programs. There were 154 total student participants from

across the three disciplines. The researchers sought to determine the relationship between EI and the constructs of: leadership, caring and moral judgment. The researchers found no correlation between EI and moral judgment among the students. There was a positive relationship found between EI and both the leadership and caring constructs. No major differences were found between the students in the three disciplines.

The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) was administered to 231 undergraduate and 102 graduate student nurses to examine the relationship between EI scores and nursing performance in the students. The final data set consisted of 87 students, including both undergraduate and graduate levels. The students nursing performance was measured using the Six Dimension Scale of Nursing Performance (6-D Scale). The students completed this self-report tool by ranking themselves in each of the six performance areas: leadership, critical care, teaching/collaboration, planning/evaluation, interpersonal relations and communications, and professional development. The results supported a significant relationship between total EI scores and total nursing performance. The four nursing performance subscales that were significantly correlated with participants overall EI scores were: teaching/collaboration, planning/evaluation, interpersonal relations and communication, and professional development (Beauvais, Brady, O'Shea & Griffin, 2010).

Using three methods of data collection, researchers investigated the relationship between EI scores of nursing students and their stress, coping, well-being, and professional performance. The three methods included: (a) measurement of EI, perceived stress and coping scales, and life satisfaction questionnaire, (b) audit of students' academic performance (GPA) and (c) mapping of EI teaching in the curricula. The findings indicated that students with higher EI scores reported experiencing less stress and those students who used "planful problem-solving" coping

strategies also had higher EI scores. There was no relationship found between EI scores and GPA in this study. Student nurses with high EI scores had a high perceived nursing competency score. Additionally, the researcher's analysis of the nursing curricula for this student population revealed few instances of EI components and emotional competency content integrated in the curricula (Por, Barriball, Fitzpatrick & Roberts, 2011).

There has been minimal research completed that investigates the correlation between EI and age, and gender. Some studies demonstrated a positive correlation with increased age and higher EI scores (Mayer & Salovey, 1997; Van Rooy, Alonso, & Viswesvaran, 2005), while others have showed no correlation (Codier, Freel, Kamikawa, & Morrison, 2011; Codier, Kamikawa, & Kooker, 2011; Van Dusseldorp, Van Meijel, & Derksen, 2011). The relationship between gender and emotional intelligence was slightly more consistent. Some research results indicated a positive correlation between the female gender and increased EI scores over the male counterparts (Sanchez-Nunez, Fernandez-Berrocal, Montanes, & Latorre, 2008; Mayer et al., 2002; Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Schutte et al., 1998).

Studies investigating the relationship between student GPA and EI had mixed results. A correlation between EI and higher academic performance was found in some studies (Jaeger, 2003; Mayer et al., 2004; Schutte et al., 1998). In these studies, the findings indicated that when EI content is introduced in a curriculum there is a positive relationship with academic performance. Other studies specifically looking at GPA as the criteria for academic performance found no correlation between GPA and higher EI scores (Por et al, 2011; O'Conner & Little, 2003). The aim of one study was to examine a new measure of EI that was based on the ability model of EI, and the MSCEIT instrument. The Audiovisual Test of EI (AVEI) focused primarily on the first branch of the ability model which was perception of emotion. The sample for the

study included 102 nursing students with a mean age of 25. The researchers compared the scores of EI, using the AVEI, with each students': GPA, psychometric exam score (equivalent to SAT), clinical practice grade, and Interpersonal Skills Workshop grade. The results indicated that the AVEI predicted achievement in clinical practice and grades in the interpersonal relations workshop. The students' GPA and traditional psychometric exam scores were not as good at predicting achievement in clinical practice and the student's grade in the interpersonal relation workshop (Zysberg, Levy & Zysberg, 2011).

The literature suggested that nurse educators are just beginning to explore and understand the role of emotions and emotional intelligence in education as a means to improve performance. The literature indicated a positive relationship between the EI of nursing students and constructs such as leadership, caring, clinical performance and coping.

### **Strengths, Weaknesses, and Recommendations**

There was a strong body of literature that supported the importance of EI in employees and employers in disciplines outside of nursing. The research indicated that persons with higher EI positively impact organizations by the ability to identify and manage their own emotions and the emotions of those around them. Empirical studies that investigated the correlation of EI with nursing practice were less numerous. Although only a few studies examining EI and nursing practice were conducted, findings indicated EI was positively correlated with job performance, work-life balance and patient care quality. The literature addressed EI and the positive effect, on students' ability to cope, manage stress and interact with patients. What was not as clear from the current literature was the relationship EI has with the evaluation methods being used in many nursing schools. There was a gap in the literature related to EI and how it might be used to impact admission criteria and evaluation in nursing programs. The intent of this research was to

contribute to the body of knowledge by providing empirical data supporting the role of EI in nursing education related to admission criteria and evaluation.

## CHAPTER III

### METHODOLOGY

The purpose of this study is fivefold: a) to determine the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice b) to determine the effect of BSN nursing student's branch emotional intelligence scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) , (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice c) to determine if there is a relationship between BSN nursing student's emotional intelligence raw branch scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) on their admission GPA d) to determine if there is a relationship of BSN nursing student's emotional intelligence total raw score on their admission GPA, and e) to determine the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final clinical evaluations in Fundamentals of Professional Nursing Practice. This chapter describes the methodology that will be utilized to conduct this study. The research questions, study population, consent process, instrumentation, data collection procedures, research design and methods of data analysis are discussed.

#### **Operational Definitions**

*Fundamentals of Professional Nursing Practice.* This course utilizes the nursing process as a framework for critical thinking, decision-making, and nursing practice. Students engage in clinical skills related to communication and basic care techniques developed through

simulation and practice with clients on the clinical unit. This is the first nursing course that has a clinical component and is taught in the second semester of the upper division.

*Pharmacology for Nursing Practice.* A required course in the BSN program that introduces the student to the role of pharmaceutical agents in assisting patients with health problems throughout the lifespan. This is a non-clinical course taught in the second semester of upper division.

*Upper Division.* Nursing designated (NUR) courses following core curriculum completion.

*Clinical.* Nursing designated courses that contain theory and clinical component hours.

*Non Clinical.* Nursing designated courses that only contain a theory component.

*EI Total Raw Score.* This MSCEIT score provides an overall index of the respondent's emotional intelligence.

*High EI.* Total Raw EI MSCEIT score of greater than 106.

*Middle EI.* Total Raw EI MSCEIT score of 94-106.

*Low EI.* Total Raw EI MSCEIT score of less than 94.

*Branch emotional intelligence scores.* The MSCEIT yields four individual Branch scores.

*Branch 1A perceiving emotions score.* Indicates the degree to which the respondent can identify emotion in himself or herself and others.

*Branch 2 A facilitating thought score.* Indicates the degree to which the respondent can use his or her emotions to improve thinking.

*Branch 3 An Understanding Emotions score.* Indicates how well the respondent understands the complexities of emotional meanings, emotional transitions, and emotional situations.

*Branch 4 An Emotional Management score.* Registers how well the respondent is able to manage emotions in his or her own life and the lives of others.

*Admission GPA.* Cumulative grade point average of core curriculum requirements.

*Traditional Evaluation Methods-* includes final letter grades in Pharmacology for Nursing Practice and Fundamentals of Professional Nursing Practice, and the final clinical evaluation for Practice and Fundamentals of Professional Nursing Practice.

*Final Letter grades are indicated in the chart below:*

98-100= A+	4.33	94-97 = A	4.0	91-93= A-	3.67
88-90 = B+	3.33	85-87 = B	3.0	83-84 = B-	2.67
80-82 = C+	2.33	77-79 = C	2.0	75-76 = C-	1.67
72-74 = D+	1.33	69-71 = D	1.0	67-68 =D-	.67
0-66 = F	00.00				

*Final Clinical Evaluations-* the clinical evaluation was done by the students clinical instructor and falls into three categories; meets expectations, needs improvement, or unsatisfactory.

## **Research Questions**

The research questions for this study are as follows:

RQ1: What is the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice?

RQ 2: What is the effect of BSN nursing student's branch emotional intelligence scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion), (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice?

RQ 3: What is the relationship of BSN nursing student's emotional intelligence raw branch scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) on their admission GPA?

RQ 4: What is the relationship of BSN nursing student's emotional intelligence total raw score on their admission GPA?

RQ 5: What is the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final clinical evaluations in Fundamentals of Professional Nursing Practice?

### **Population and Sampling**

The population for this study included baccalaureate nursing students who were enrolled in the second semester of the upper division of a nursing school located in the southeast United States. The students were chosen using a convenience sample. Students were only included if they were enrolled in the second semester and taking Fundamentals of Professional Nursing Practice and Pharmacology for the first time and were 19 years old or older. Those students who were repeating due to unsuccessful completion of either course were excluded. The repeating students were excluded to prevent creating confounding variables during the analysis.

### **Instrument**

The instrument used to measure emotional intelligence for the nursing student population was the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). This instrument was not classified as a self-reporting measure. The MSCEIT was administered by Multi-Health Systems Inc. The instrument consists of 141 items and takes approximately 30-45 minutes to complete. The MSCEIT is intended for individuals 17 years and older. The MSCEIT scoring includes an overall emotional intelligence score, two area scores and four branch scores. The scores utilized for this study included the standard scores for overall EI as well as each of the four branch scores.

Scoring on the MSCEIT is calculated based on two methods, consensus or expert scoring. Consensus scoring, matches an individual's scores with answers from thousands of respondents, and expert scoring is based on answers provided by a group of 21 experienced emotion researchers (Mayer et al., 2008, Mayer et al. 2004). The use of the consensus scoring method was chosen for the purposes of this research study. The MSCEIT can either be administered through booklet or online formats. The online format was used for this research study. The scores were electronically produced by Multi-Health Systems, Inc. (MHS) and sent to the researcher.

### **Reliability and Validity of Instrument**

The overall emotional intelligence test score reliability was  $r = .93$  for consensus and  $.91$  for expert scoring. The reliability of the four branch scores for consensus and expert scoring respectively are as follows: perceiving emotion  $r = .91$  and  $.90$ ; facilitating emotion  $r = .80$  and  $.77$ ; understanding emotion are  $r = .80$  and  $.77$ ; and managing emotion are  $r = .83$  and  $.81$ .

Validity was 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). 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 which

involved the determination that the test items covered the four ability branches (Mayer et al., 2002).

## **Procedure**

Data collection took place after institutional review board approval. Students were asked to participate by the investigator after the Fundamentals of Nursing Practice Course lecture had ended on the date the faculty member of the course designated. The students were taking Pharmacology for Nursing Practice and Fundamentals of Nursing Practice in the same semester so the students were enrolled in both courses. The students received written and verbal explanations of the study and an invitation to participate. The investigator obtained written informed consent from the participants prior to the students accessing the online Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT). The written consent was obtained prior to accessing the student's admission GPA (when they were admitted to the upper division of nursing), GPA in two courses and final clinical evaluations from Fundamentals of Nursing Practice from the Office of Nursing Student Services (ONSS). The students were asked to use their Campus Wide ID (CWID) as an identifier when completing the MSCEIT. In order to match the data with their MSCEIT scores and their admission GPA, final clinical evaluations in Fundamentals of Nursing Practice, and final letter grade in both the Pharmacology and Fundamentals of Nursing Practice Course, the Campus Wide ID (CWID) was used as the identifier.

The instructions were sent via email to each student and provided the link to the MSCEIT, along with the necessary access codes. The online MSCEIT was provided via Multi Health Systems (MHS) secure server and the results of the survey were accessed electronically by the investigator who was the only person with a log in and password unique to the

investigator account with MHS. The survey remained open for two weeks with a follow-up email sent by the researcher as a reminder after one week. The students were informed, verbally and in the written consent, that once all the data was collected (MSCEIT scores, demographic data, admission GPA, final clinical evaluations from Fundamentals of Professional Nursing Practice, and their final letter grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice) and paired using the CWID as the identifier, the researcher would de-identify the data by stripping the data set of the CWIDs to prevent any breach of confidentiality. Only the de-identified data was analyzed. The investigator was responsible for handling and storing all study data.

In order to gather the participant specific data from the Office of Nursing Student Services (ONSS), the investigator accessed records identifiable with the participants CWID. The investigator worked with the Records Specialist in the ONSS to compile the data. The investigator developed an excel spread sheet that included the CWID's of the students who consented to participate and who completed the MSCEIT online. The spread sheet had columns labeled: CWID, admission GPA, final letter grade in Fundamentals, Final letter grade in Pharmacology, and Final clinical evaluation grade from Fundamentals of Professional Nursing Practice. This data was retrieved electronically by the records specialist with the assistance of the investigator. The investigator then entered the emotional intelligence scores for the students in the excel spread sheet matching them with the CWID identifier. Once the emotional intelligence scores were added, the investigator deleted the CWID column from the spreadsheet.

### **Research Design**

A descriptive causal comparative design was used to examine the comparative relationship between BSN nursing students who have a high, middle, or low EI score and their

final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice; BSN nursing students who have a high, middle, or low EI score on final clinical evaluations (see Appendix A) in Fundamentals of Professional Nursing Practice; and BSN nursing student's branch emotional intelligence scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) , (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice.

A correlational design was used to examine BSN nursing students' raw EI scores and their admission GPA and BSN nursing student's emotional intelligence branch scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) and their admission GPA. Demographic data of age, sex and gender was used to determine if these variables predict EI. A quantitative method was used due to the availability of the MSCEIT survey as a sound measure of emotional intelligence.

### **Analysis**

The data results for the MSCEIT were scored by MHS, Inc. and sent to the researcher in an Excel spreadsheet. From this data the total emotional intelligence (EIQ) standard scores and each of the four branch standard scores of perceiving, using, understanding, and managing emotions were included in the analysis. The MSCEIT scores were 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). The total EI standard scores and individual branch scores of the participants were categorized as high, middle or low depending on the score. These category parameters were determined on the distribution of z scores based on .333 for the low score and .666 for the high scores. The categories were: (a) high scores, those who had EI scores of 107

and above, (b) middle category included those with EI scores of 94-106 and (c) the low category included those who had EI scores of 93 or below. Table 1 displays the research questions and the statistical method that was used to analyze the data.

Analysis of research question 1: What is the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice? The final letter grades were given an ordinal value by the researcher. The statistical method used for analysis of this question is MANOVA. The dependent variables are the final letter grades in Fundamentals of Nursing Practice and Pharmacology for Nursing Practice.

Analysis of research question 2: What is the effect of BSN nursing student's branch emotional intelligence scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion), (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice? The statistical method used for analysis of this question is MANOVA. The dependent variables were the final letter grades in Fundamentals of Nursing Practice and Pharmacology for Nursing Practice.

Analysis of research question 3: What is the relationship of BSN nursing student's emotional intelligence raw branch scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) on their admission GPA? The Pearson Correlation Coefficient method is used to analyze this research question.

Analysis of research question 4: What is the relationship of BSN nursing student's emotional intelligence total raw score on their admission GPA? The Pearson Correlation Coefficient method is used to analyze this research question.

Analysis of research question 5: What is the effect of BSN nursing student’s emotional intelligence scores (high, middle, low) on their final clinical evaluations in Fundamentals of Professional Nursing Practice? The three evaluation scores that were possible (meets expectations, needs improvement and unsatisfactory) were assigned an ordinal value by the researcher. The ANOVA statistical method was used to analyze this research question.

Table 1  
*Research Questions and Statistical Analysis Method*

<p>What is the effect of BSN nursing student’s emotional intelligence scores (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice?</p>	<p>MANOVA</p>
<p>What is the effect of BSN nursing student’s branch emotional intelligence scores(perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) , (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice?</p>	<p>MANOVA</p>
<p>What is the relationship of BSN nursing student’s emotional intelligence raw branch scores (perception of emotion; facilitation of emotion; understanding and analyzing</p>	<p>Pearson Correlation Coefficient</p>

emotions; management of emotion) on their admission GPA?	
What is the relationship of BSN nursing student's emotional intelligence total raw score on their admission GPA?	Pearson Correlation Coefficient
What is the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final clinical evaluations in Fundamentals of Professional Nursing Practice?	ANOVA

### **Summary**

This chapter included the procedure that was followed to conduct this study. Using the MSCEIT instrument to measure EI the researcher had quantitative data that could be analyzed to determine if emotional intelligence scores are comparative with the traditional evaluation methods used in the baccalaureate nursing program. The results of the statistical analysis for the research questions are reported in Chapter IV.

## Chapter IV Results

The purpose of this study was fivefold: a) to determine the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice b) to determine the effect of BSN nursing student's branch emotional intelligence scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion), (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice c) to determine if there is a relationship between BSN nursing student's emotional intelligence raw branch scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) on their admission GPA d) to determine if there is a relationship of BSN nursing student's emotional intelligence total raw score on their admission GPA, and e) to determine the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final clinical evaluations in Fundamentals of Professional Nursing Practice. Chapter IV will be organized around the five research questions.

RQ1: What was the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice?

RQ 2: What was the effect of BSN nursing student's branch emotional intelligence scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion), (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice?

RQ 3: What was the relationship of BSN nursing student's emotional intelligence raw branch scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) on their admission GPA?

RQ 4: What was the relationship of BSN nursing student's emotional intelligence total raw score on their admission GPA?

RQ 5: What was the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final clinical evaluations in Fundamentals of Professional Nursing Practice?

### **Demographics**

Demographic data are characteristics about the study participants and are important to the generalizability of the results (Gravetter & Wallnau, 2009). Each of the participants was enrolled in their second semester of the upper division of a BSN program at a Carnegie classification high research university. The second semester includes two courses. The first course is the Fundamentals of Professional Nursing Practice, which has both theory and clinical hours. The second course is Pharmacology for Nursing Practice which contains only theory hours. Demographic data collected on the participants included age, gender and ethnicity. Homogeneity refers to the similarity of demographics among a select study population (Gravetter & Wallnau, 2009). Each of the areas of demographic data collected for this study revealed the homogeneity of the sample.

The recruited sample size was 96 participants, however only 85 completed the entire survey and met the inclusion criteria. The age of participants ranged from 20 to 31 years with a mean of 21.46 years. There were 71 females (83.5 %) and 11 males (13 %) with three missing responses (3.5%). One participant self-identified as Hispanic or Latino (1 %). Four participants

self- reported as African – American (5 %) and the remaining 75 (88%) identified themselves as Caucasian. Five participants (6 %) did not identify their ethnicity.

### **Research Question 1**

What was the effect of BSN nursing student’s emotional intelligence scores (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice?

The Multivariate analysis of variance statistical test procedure was used determine if there is a relationship between the dependent variables (the final letter grade in Fundamentals of Nursing Practice and the final letter grade in Pharmacology for Nursing Practice) and the independent variables of EI scores ( categorized as high, middle, and low). The following formula was used for calculating the EI groups (high, middle and low) using z scores (33.3 percent was used to divide the groups).

Formula:

$$X = z \times \sigma + \mu.$$

$$\text{Or } X = .44 \times 15 + 100 = 107 \text{ and above for high EI group}$$

$$\text{Or } X = -.44 \times 15 - 100 = 93 \text{ and scores below for low EI group}$$

$$\text{Middle group} = 94-106$$

There was no statistical difference between groups (high, middle, low) based on overall EI scores and the final grade in Fundamentals of Professional Nursing Practice [F(2,82)=.683 p=.508] or the final grade in Pharmacology for Nursing Practice [F(2,82)= 1.171 p=.315].

*Descriptive Statistics for RQ1 (Utilizing Appendix B raw data)*

B1group	EI	Mean GPA	Std. Deviation	N
Final 324	1.0(low)	2.5111	.56299	28
	2.0(middle)	2.5736	.46235	36
	3.0(high)	2.6814	.50022	21
Final 326	1.0(low)	2.9043	.56573	28
	2.0(middle)	2.8239	.50651	36
	3.0(high)	3.0476	.53006	21

*Summary of MANOVA for RQ1 (Utilizing Appendix B raw data)*

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F
EI Group	Final 324	.351	2	.175	.683
	Final 326	.664	2	.332	1.171
Error	Final 324	21.044	82	.257	
	Final 326	23.240	82	.283	
Total	Final 324	587.034	85		
	Final 326	741.541	85		

Tests of Between-Subjects Effects

Source	Dependent Variable	Sig.
EI Group	Final 324	.508
	Final 326	.315

\*Computed using alpha=.05

## Research Question 2

What was the effect of BSN nursing student's branch emotional intelligence scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion), (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice?

A multivariate analysis of variance statistical test procedure was used determine if there is a difference between the dependent variables (the final letter grade in Fundamentals of Nursing Practice and the final letter grade in Pharmacology for Nursing Practice) and the independent variables (EI branch scores): a) Branch 1, perception of emotion, b) Branch 2, facilitation of emotion, c) Branch 3, understanding and analyzing emotions and d)Branch 4, management of emotion. Each branch score was categorized high, middle, or low using the same formula for z scores used in RQ1.

*Summary of Descriptive Statistics MANOVA for: Branch 1 Perception of Emotion scores, Branch 2 Facilitation of Emotion scores, Branch 3 Analyzing of Emotion scores, Branch 4 Management of Emotion scores*

B1group	Mean GPA	Std. Deviation	N	
Final 324	1.0 (low)	2.6374	.55842	23
	2.0 (middle)	2.4770	.47790	30
	3.0 (high)	2.6344	.48932	32
Final 326	1.0 (low)	3.0139	.53665	23
	2.0 (middle)	2.7333	.53528	30
	3.0 (high)	2.9894	.50400	32

B2group		Mean GPA	Std. Deviation	N
Final 324	1.0 (low)	2.5213	.56741	23
	2.0 (middle)	2.7300	.44307	31
	3.0 (high)	2.4726	.49288	31
Final 326	1.0 (low)	2.8396	.59320	23
	2.0 (middle)	3.0216	.44693	31
	3.0 (high)	2.8387	.56314	31
B3group		Mean GPA	Std. Deviation	N
Final 324	1.0 (low)	2.5306	.51456	32
	2.0 (middle)	2.5825	.51100	40
	3.0 (high)	2.6915	.47986	13
Final 326	1.0 (low)	2.9066	.51656	32
	2.0 (middle)	2.8830	.57243	40
	3.0 (high)	2.9731	.48070	13
B4group		Mean GPA	Std. Deviation	N
Final 324	1.0 (low)	2.5088	.48031	34
	2.0 (middle)	2.5670	.55373	27
	3.0 (high)	2.6942	.48093	24
Final 326	1.0 (low)	2.8821	.51798	34
	2.0 (middle)	2.8519	.50115	27
	3.0 (high)	2.9996	.59751	24

*Summary of MANOVA for Branch 1 Perception RQ2*

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F
B1 Group	Final 324	.046	2	.023	.093
	Final 326	.269	2	.134	.544
B2 Group	Final 324	2.795	2	1.398	5.628
	Final 326	2.028	2	1.014	4.109
B3 Group	Final 324	.686	2	.343	1.381
	Final 326	.877	2	.439	1.777
B4 Group	Final 324	1.448	2	.724	2.915
	Final 326	.841	2	.420	1.704

Tests of Between-Subjects Effects

Source	Dependent Variable	Sig.
B1 Group	Final 324	.911
	Final 326	.584
B2 Group	Final 324	.007
	Final 326	.023
B3 Group	Final 324	.262
	Final 326	.181
B4 Group	Final 324	.065
	Final 326	.194

\*Computed using alpha=.05

There was no statistical difference between groups (high, middle, low) based on Branch 1( perception of emotion) EI scores and the final grade in Fundamentals of Professional Nursing Practice [F(2,82)= .093 p=.911]or the final grade in Pharmacology for Nursing Practice [F(2,82)= .544p=..584].

There was a statistical difference between groups ( middle and high) based on Branch 2( facilitation of emotion) EI scores and the final grade in Fundamentals of Professional Nursing Practice [F(2,82)= 5.628 p=.007] and the final grade in Pharmacology for Nursing Practice

[F(2,82)=4.1097p=.023]. However, the Tukey Post Hoc analysis showed no significant difference between the middle and high groups. The researcher used the Tukey Post Hoc analysis because it is a conservative measure of differences.

*Tukey HSD Summary for Branch 2 Facilitation of emotion*

Dependent Variable	(I) B2Group	(J) B2 group	Sig.
Final 324	1.0 ( low)	2.0( middle)	.291
		3.0 ( high)	.933
		2.0 ( middle)	1.0( low)
		3.0 ( high)	.116
	3.0 ( high)	1.0( low)	.933
		2.0( middle)	.116
Final 326	1.0 ( low)	2.0( middle)	.386
		3.0 ( high)	1.000
		2.0 ( middle)	1.0( low)
		3.0 ( high)	.325
	3.0 ( high)	1.0( low)	1.000
		2.0( middle)	.325

There was no statistical difference between groups (high, middle, low) based on Branch 3( understanding and analyzing emotions) EI scores and the final grade in Fundamentals of Professional Nursing Practice [F(2,82)= 1.381 p=.262] or the final grade in Pharmacology for Nursing Practice [F(2,82)=1.777 p=.181].

There was no statistical difference between groups (high, middle, low) based on Branch 4( management of emotion) EI scores and the final grade in Fundamentals of Professional Nursing Practice [F(2,82)=2.915 p=.065] or the final grade in Pharmacology for Nursing Practice [F(2,82)=1.704 p=.194].

### Research Question 3

What was the relationship of BSN nursing student's emotional intelligence raw branch scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) on their admission GPA?

The Pearson's correlation coefficient statistical analysis was used to determine the relationship ( if any) between each individual branch score of EI (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) on the MSCEIT and that same participants GPA when they were admitted to the upper division of the BSN program.

There was no significant difference between admission GPA and students EI branch scores. None of the subscale scores; perception of emotion; facilitation of emotion; understanding and analyzing emotions; or management of emotion correlated with admission GPA.

#### *Summary of Pearson Correlation Coefficient for each Branch EI score and Admission GPA* Correlations

		Admission GPA
Admission GPA	Pearson Correlation	1
	Sig. (2-tailed)	
	N	85
Branch 1	Pearson Correlation	-.012
	Sig. (2-tailed)	.914
	N	85
Branch 2	Pearson Correlation	.052
	Sig. (2-tailed)	.683
	N	85
Branch 3	Pearson Correlation	.102
	Sig. (2-tailed)	.351
	N	85
Branch 4	Pearson Correlation	.095
	Sig. (2-tailed)	.386
	N	85

#### Research Question 4

What was the relationship of BSN nursing student's emotional intelligence total raw EI score on their admission GPA?

The Pearson's correlation coefficient statistical analysis was used to determine the relationship (if any) between the participants total EI score on the MSCEIT and that same participants GPA when they were admitted to the upper division of the BSN program.

There was no significant difference between admission GPA and students EI raw scores. There was not a correlation between the EI scores and the admission GPA.

*Summary of Pearson Correlation Coefficient for total EI score and Admission GPA*

#### Correlations

	Admission GPA	Total Raw EI Score
Admission GPA Pearson Correlation Sig. (2-tailed) N	1  85	.075  .497  85
Admission GPA Pearson Correlation Sig. (2-tailed) N	.075  .497  85	1  85

#### Research Question 5

What was the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final clinical evaluations in Fundamentals of Professional Nursing Practice?

The data for research question five was collected. After reviewing the data, analysis did not occur due to the homogeneity of the data. All participants received the same score on the final clinical evaluations. The reasons for this will be discussed in Chapter V.

### **Summary of Results**

There was not a significant difference between participant's total EI scores and their final grades in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice. Of the four branch scores (perception of emotion, facilitation of emotion, understanding and analyzing emotions, and management of emotion) only facilitation of emotion showed a significant difference between the middle and high groups and the final grades in both Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice. Using the conservative Tukey post hoc analysis for branch 2 (facilitation of emotion) revealed no significance for this branch and the final grades in the courses.

There was no correlation found between the participants total EI scores and individual branch scores and their GPA used for admission to the upper division of the nursing program. Due to the homogeneity of the data for RQ 5 the Analysis of Variance statistical analysis could not be conducted. The analysis for all five questions showed no differences or correlations with EI scores and the traditional methods of evaluation used in the BSN program of the participants. Chapter V will be a discussion of the analysis for this study and the research that supports the findings of this study.

## Chapter V

### Discussion

This chapter presents a summary of the study findings and conclusions drawn from the data presented in Chapter 4. The purpose of this study was fivefold: a) to determine the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice b) to determine the effect of BSN nursing student's branch emotional intelligence scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion), (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice c) to determine if there was a relationship between BSN nursing student's emotional intelligence raw branch scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) on their admission GPA d) to determine if there is a relationship of BSN nursing student's emotional intelligence total raw score on their admission GPA, and e) to determine the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final clinical evaluations in Fundamentals of Professional Nursing Practice. Chapter V will discuss the study findings and conclusions for each research question, overall study limitations and implications for future research and nursing education.

#### **Findings and Implications to Research Questions**

The demographic data and the research questions that directed the study helped guide the discussion and future recommendations in the area of EI and traditional nursing education evaluation methods. The demographic findings were homogenous in all three of the areas where data was collected. The demographic data of age, race and ethnicity were asked of each

participant. The age of participants ranged from 20 to 31 years. Seventy-four of the participants were between the ages of 20-23. Six of the participants were between 24-31 years of age. Of the 82 participants, who responded to the gender question, 71 were female. With ethnicity, as with age and gender, the sample was overwhelmingly homogenous. Only five of the participants reported being of an ethnicity other than Caucasian. This meant that 75 of the 80 participants who disclosed their ethnicity were white. The sample was thus primarily made up of white female participants in their early 20s. For this reason, the results were not generalizable to the population as a whole. However, this “snapshot” of demographic characteristics was fairly representative of traditional baccalaureate programs in the southeast United States (AACN, 2013).

RQ1: What was the effect of BSN nursing student’s emotional intelligence scores (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice? For the statistical analysis, the participants were grouped in either high, middle, or low EI groups based on the z scores of a normative sample. Based on the z scores for this study the participants with an EI score of 107 and above were placed in the high group. Participants with scores of 94-106 were placed in the middle group and those with a score of 93 or below were in the low EI score group. The findings from this study reported that the students’ total EI scores had no effect on the final grade earned in Fundamentals of Nursing Practice and Pharmacology for Nursing Practice. For example, there were several students who had a high GPA in one or both of the courses and had total EI scores below 93 which placed them in the low EI group. Likewise, there were students with low GPAs in the courses who had EI scores greater than 107 which put them in the high EI group. These findings were consistent with the findings of Por, Barriball, Fitzpatrick and Roberts (2011) who conducted a study that

investigated the relationship between EI scores of nursing students and their stress level and problem solving coping strategies as well as their academic performance (GPA). They found that nursing students with higher EI scores reported experiencing less stress and used better coping strategies throughout nursing school. However, as in this study, the relationship between EI scores and GPA was not found to be significant.

The descriptive statistics of the EI scores of the participants in this study were noteworthy. The EI scores of the participants can provide an understanding of the emotional intelligence make-up of the sample as a whole. Emotional intelligence as assessed by the MSCEIT, involved four components or branches which described the ability to perform the following tasks: a) perceive emotions, b) access, generate, and use emotions to assist thought (facilitate), c) understand emotions and emotional knowledge, d) regulate emotions so as to promote emotional and intellectual growth (Mayer, Salovey & Caruso, 2002). The total EI score was a global score and was a summary of the participant's performance in all four branches. This was the score used in the analysis of RQ1. The researchers, who designed the MSCEIT, refer to the total EI score as the MSCEIT Total EIQ (emotional intelligence quotient) score. The overall EIQ scores, which were used for analysis for this sample, ranged from 55.2- 128.7. This was a wide range of scores and one that was telling of the wide variation of the participants emotional intelligence abilities as defined by the MSCEIT. There were 28 participants whose EIQ scores placed them in the low EI group. Thirty-five of the participants had a total EIQ score in the middle range of 94-106 and twenty participants had EIQ scores in the high range of 107 or above. Thus, 65 of the 85 participants in this study had EIQ scores that fell below 107.

RQ2: What was the effect of BSN nursing student's branch emotional intelligence scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions;

management of emotion), (high, middle, low) on their final grade in Fundamentals of Professional Nursing Practice and Pharmacology for Nursing Practice? For RQ2 the participants' four individual branch scores and their relationship to the final grades earned in the two courses were analyzed. The branch scores of the participants were grouped into high, middle, and low using the same ranges as those used for total EI in RQ1. Based on the statistical analysis none of the four EI branch scores of the participants had an effect on the final grades of participants in Fundamentals of Professional Nursing or Pharmacology for Nursing Practice. The following paragraphs provide a more detailed assessment of the analysis of each of the branches.

The statistical analysis indicated that there was no effect of Branch 1 (perception of emotion) EI scores and the final grades in Fundamentals of Professional Nursing ( $p=.911$ ) or the final grade in Pharmacology for Nursing Practice ( $p=.584$ ). Branch one assessed the participant's ability to recognize how an individual and those around the individual are feeling. Emotional perception involved paying attention to and accurately decoding emotional signals in facial expressions, tone of voice and artistic expressions (Mayer, Salovey & Caruso, 2008). The participant scores for Branch 1 ranged from 65.69-135.27. This showed a vast difference in scores of the participants. Twenty three participants scored in the low range, 29 scored in the middle range and 31 scored in the high range.

Branch 2 was the facilitating thought branch. This branch assessed how a participants thought and other cognitive activities are informed by his or her experience of emotions. The MANOVA analysis showed that there was an effect between the participant's EI scores who scored between 94- 106 and those who scored 107 or higher (middle and high groups) and the final grade in Fundamentals of Professional Nursing Practice ( $p= .007$ ) and the final grade in

Pharmacology for Nursing Practice ( $p=.023$ ). However, the Tukey Post Hoc analysis, used because it is a conservative measure of differences, showed no significant difference in the effect of the participants EI scores in the middle and high groups and the final grades in either course. The EI Branch 2 scores ranged from 56.57-152.61. The breakdown was 23 participants scored in the low range, 30 participants scored in the middle range group and 32 participants scored in the high range. Facilitating thought focuses on how emotions affect the cognitive system and as such can be harnessed for more effective problem-solving, reasoning, decision-making and creative endeavors (Mayer, Salovey & Caruso, 2002). Of the four individual branch scores assessed, Branch 2 had the highest number of participants who scored in the high range. Emotions were found to change the way people think, creating positive thoughts when a person is happy and negative thoughts when a person is sad (Forgas, 1995). These changes in emotions, which were assessed in Branch 2 of the MSCEIT, enable people to see things from different perspectives, which is important for nurses in order to provide effective patient care to the diverse group of patients cared for in the health care system today (Mayer & Hanson, 1995; Chaffey, Unsworth & Fossey, 2012).

Branch 3 scores assessed the participants understanding of emotions. This branch involved the assessment of the participant's ability to label emotions and to recognize there are groups of related emotional terms (Ortony, Clore, & Collins, 1988). Understanding what leads to various emotions is a critical component of emotional intelligence and important for nurses in dealing with their own emotions in relation to patients, caregivers, and other interdisciplinary professionals (Codier, Kooker, & Shoultz, 2008). Knowledge of how emotions combine and change over time was important for nurses in understanding day to day clinical situations and in enhancing one's own self-understanding (Davis, Jenkins & Mabbet, 2010).

Statistical analysis revealed the Branch 3 EI scores did not have an effect on the participants final grades in Fundamentals of Nursing Practice ( $p=.262$ ) or Pharmacology for Nursing Practice ( $p=.181$ ). The EI scores for Branch 3 ranged from 65.20 to 117.40. These scores were significantly lower than the average scores for Branch 1 or Branch 2. The participants scores fell into the following ranges for Branch 3: 32- low, 39- middle and only 12 in the high range. The four branch model of EI identified the branches as hierarchical. Thus Branch 3, understanding emotion, represents a more developmentally advanced ability than Branch 1 or 2 (perceiving or facilitating emotions). The lower overall scores for this branch were attributed to the fact that this study's participants were early in their nursing curricula (in the second semester of a five semester program). Further research with this same sample pool at the end of the nursing curricula would reveal if the emotional intelligence related to understanding emotions was improved as a student progresses through the curricula after having more theory content and clinical opportunities.

The final set of branch scores (Branch 4) assessed the participant's ability to manage emotions. Managing emotions is the ability to manage emotions in you and in others. These branch scores assessed how participants manage emotions at appropriate times. The ability to work with feelings in a judicious way, rather than acting on them without thinking is also assessed by the questions related to Branch 4. The ability to manage emotions is identified as crucial in the nursing profession (Codier et al., 2009; Wheeler, 2005). Understanding the ability to manage emotions successfully often entailed the awareness, acceptance, and use of emotions in problem solving and literature identified these abilities as important for success in nursing school and in the nursing profession (Landa & Lopez-Zafra, 2010; Davis Jenkins & Mabbett, 2010). The statistical analysis demonstrated that Branch 4 scores had no effect on the final

grades in the two academic courses (Fundamentals of Nursing Practice,  $p=.065$ ; Pharmacology for Nursing Practice,  $p= .194$ ). The participants EI scores for Branch 4 ranged from 55.23 to 131.27. High, middle and low ranges were: 34, 26 and 23 respectively. While overall these scores were slightly *higher* than Branch 3 scores they were still lower than the participant's scores in the areas of perceiving and facilitating emotions.

In summary, none of the four branch scores (perception of emotion, facilitation of emotion, understanding emotions, and management of emotion), were found to have an effect on the nursing students GPA in Fundamentals of Nursing Practice or Pharmacology for Nursing Practice. As in the findings from RQ1, there were participants whose EI branch scores were low who had high GPA's in the courses, and some participants who had high EI branch scores that had low GPAs in one or both of the courses. The relationship of GPA with individual EI branch scores was not found in the literature.

However, the overall academic performance (GPA) of nursing students has been studied in relation to EI scores and the findings were the same as the results of this study with no relationship found between the two variables ( Por et al, 2011). Jaeger (2003) conducted a study and findings indicated a positive relationship between EI scores and academic performance. However, the positive relationship was found after the graduate students, who made up the sample, had been taught EI content that was purposefully integrated into the curricula.

RQ 3 and RQ 4: What was the relationship of BSN nursing student's emotional intelligence raw branch scores (perception of emotion; facilitation of emotion; understanding and analyzing emotions; management of emotion) on their admission GPA? and What was the relationship of BSN nursing student's emotional intelligence total raw score on their admission GPA? These questions analyzed the relationship between total EI scores (EIQ) and individual

branch scores on the admission GPA of students who were accepted into the upper division of the BSN program. The statistical analysis indicated that there was not a correlation between the total EIQ scores or the individual branch scores and the student's admission GPA. The admission GPA of the participants range from 3.36-4.17. The highest GPA possible within the system used at the institution where the research was conducted is a 4.22. Fifty-five of the 85 students were admitted into the nursing program with GPAs that were consistent with an A average on all their pre-requisite course work. The results of this study indicated that EI scores (EIQ and branch scores) did not correlate with the admission GPA's of the participants. Therefore, the sample results indicated that EI and academic performance (GPA) were measuring two different things. The relationship of entering GPAs and EI scores for nursing students was not found in the literature. Thus this study addressed the gap in the literature related to GPA and EI for BSN nursing students.

Academic variables (GPA) were the sole criteria for admission for the BSN program where this study was conducted. This strictly academic criterion was common for many BSN programs in the country (AACN, 2013). Literature indicated EI testing in the nursing school admission process should be considered because nursing students needed to be prepared upon entering school to handle the complexity of working with emotional issues among interdisciplinary health care team members and the patients they would be assigned to care for in the clinical setting (Benson et al., 2012; Zysberg, Levy, & Zisberg, 2011). Due to the lack of clinical opportunities provided for students to develop effective EI competencies once admitted into nursing programs, other empirical research suggested only admitting students to nursing programs who have high EI (Harrison& Fopma-Loy, 2010; Por, Barribell, Fitzpatrick & Roberts, 2011).

RQ 5: What was the effect of BSN nursing student's emotional intelligence scores (high, middle, low) on their final clinical evaluations in Fundamentals of Professional Nursing Practice? This research question was intended to determine if there was a relationship between EI scores and the clinical evaluations of the students in the Fundamentals of Nursing Practice course. The clinical evaluations were completed by a faculty member who had 8-16 nursing students in the clinical setting throughout the semester. The faculty evaluated the students using a clinical evaluation tool (see appendix A) which is used throughout the clinical nursing courses in the BSN program. Students were evaluated on their performance in the clinical practice lab and simulation lab as well as during their clinical rotations in the hospital. During the hospital rotations the students provided "hands on" nursing care. The faculty evaluated the students on their technical skills as well as their interpersonal and professional skills (see appendix A). When the researcher collected the clinical evaluation grade data, it indicated that all of the participants received the same score of satisfactory. The possible clinical evaluation grades were unsatisfactory, needs improvement or satisfactory. The researcher discovered, after speaking with faculty in the course, that if a student received an unsatisfactory grade on their final clinical evaluation they were considered unsuccessful in the course and have to repeat the course the following semester. The clinical evaluation variable was one that should be evaluated in relation to EI scores. This research question was included in an effort to assess if there was a relationship between EI scores and clinical evaluation grades (clinical performance of the participants). If a different type of instrument was used to evaluate clinical performance, such as the Clinical Performance Instrument (CPI), which was used in a study by Lewis (2011) that evaluated the relationship between EI and clinical performance of physical therapy students, a different finding could have occurred.

The five research questions identified for this study did not show that EI scores ( total EI or branch scores) had any effect on the traditional evaluation methods (GPA) used in the nursing program. This finding was consistent with the small amount of literature that has assessed EI and GPA in nursing education (Por et al, 2011). The variation in scores for both the total EI score and the individual branch scores indicated that the students enrolled in the second semester of the upper division varied in their emotional abilities. The lack of an effect or correlation between EI and academic evaluation (GPA) for this sample pool implied that for these participants there was a difference in what was measured by traditional academic evaluation (GPA) and EI using the MSCEIT instrument. The literature indicated that emotional intelligence was indeed a distinct and defensible type of intelligence (Mayer, Salovey & Caruso, 2002). Literature also indicates that nurses need emotional intelligence, which is separate from academic performance (Rochester et al., 2005).

### **Limitations**

The study had limitations that were specific to the method and sample of the study. For example, sample selection was one of convenience. The sample was demographically homogeneous in age, gender and ethnicity, which made the results less representative or generalizable than they could be with a more diverse sample. The limitations of inferences drawn from the study were that the data was applicable only to nursing students in the early semesters of the BSN program of study.

Another limitation was the timing of the data collection for the participants. The MSCEIT required approximately 45 minutes to complete. The students were in their final week of the semester and were preparing for final exams in Fundamentals of Nursing Practice and

Pharmacology for Nursing Practice. The stress of taking 45 minutes away from their study time for finals could have led to a more hurried response time on the MSCEIT.

### **Recommendations for Future Research**

The ability model of EI contended that EI could be taught to a certain extent. Further research was needed to identify what EI content was in the nursing curricula. The researchers, who developed the MSCEIT also developed an EI skills program that served as a blueprint for EI content. Future research using a pre-test/post-test design using the EI skills content would yield valuable empirical data to the body of nursing knowledge. Studies of nursing students and nursing curricula are needed to identify if EI skills can be effectively taught and how the teaching of these skills impacts students. Another recommendation would be to replicate this study in a more diverse population of students and to conduct a longitudinal study across the curriculum to determine if EI scores changed.

### **Recommendations for Nursing Education**

The findings of this study can be used by nurse educators to further investigate how EI assessment can be used to incorporate EI training into traditional nursing instruction. Based on the findings of this study, nurse educators may wish to review clinical evaluation tools to determine if they are valid instruments for clinical evaluation in the nursing student population. A valid instrument to determine clinical evaluation paired with the results of the MSCEIT EI scores could provide direction for clinical instruction that this study was unable to evaluate due to the ineffective clinical evaluation method used. Further evaluation of the relationship between clinical and classroom grades and the MSCEIT scores is needed to determine if infusing EI content in the curricula could improve the nursing students ability to be successful in the nursing

profession. Since therapeutic communication and caring are core elements of nursing, nurse educators should consider including EI training in the curricula.

The findings of this study can also be used by nurse educators to further investigate utilizing EI assessment as criteria for admission. The results of this study show no statistical relationship between MSCEIT EIQ total scores or EI branch scores and the admission GPAs of the participants. This finding implies they are measuring two different abilities. Further evaluation of the relationship between admission GPA and MSCEIT EI scores is needed by nurse educators to determine if the MSCEIT is measuring abilities that would improve the selection process for nursing school applicants. The results of this study imply that using traditional admission criteria (GPA) and EI assessment could provide nurse educators with a better understanding of the students' academic ability and their emotional abilities. Using both as admission criteria can give nurse educators a more comprehensive understanding of the nursing school applicant's ability to be successful in their nursing program and profession (Romanelli, Cain & Smith, 2006).

### **Next Steps**

The next step for this research is to seek IRB approval to conduct longitudinal research on the same participant pool by administering the MSCEIT to the participants in their final semester of the BSN nursing curricula. This could provide longitudinal data to determine if the present curricula and the clinical experiences in semesters three, four and five impact EI scores. Also, replicating this study with students enrolled in an RN to BSN nursing program is of particular interest to the researcher. Comparing the MSCEIT results of the traditional BSN students with those of RN to BSN students could provide insight into the level of emotional intelligence of students prepared at the ADN versus BSN educational level.

## **Conclusion**

As the literature indicated, the selection processes of nursing programs today focus primarily on academic achievement (Landa & López-Zafra, 2010; Davies et al., 2010). Nursing faculty are concerned that while students excel academically in their pre-nursing course requirements, they do not always see this academic success translating into nursing students who have the ability to monitor their own emotional responses and to understand the emotions of those requiring nursing care (Mayer & Salovey, 1997). According to Romanelli, Cain, and Smith (2006), one factor that may be contributing to this problem is the students who academically qualify for entrance into nursing school lack the emotional maturity that connects with caring, empathy and commitment to professional standards.

In the last 20 years, research on emotional intelligence as an essential ability for nursing has emerged. Mayer and Salovey's four branch EI model and the MSCEIT instrument developed by the researchers to measure this ability was used in this study to explore if the current academic measures being used for admission to nursing school had any relationship with the persons emotional intelligence scores. This research study found no significant relationships or correlations with the current methods of evaluation for admission to nursing school or the evaluation methods currently used once students are in the nursing program. These results indicated that assessing a nursing student's emotional intelligence was measuring a different type of intelligence than that represented by academic achievement. This study opened the door for more research to ensure that nursing education is preparing graduates who are able to respond to patient's emotional cues appropriately and are able to establish effective therapeutic relationships with not only patients but also an interprofessional team of health care providers.

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Appendix A Final Clinical Evaluation Tool

**THE UNIVERSITY OF ALABAMA  
CAPSTONE COLLEGE OF NURSING  
Final Summary of Student Progress in Clinical Nursing Course**

Student Name \_\_\_\_\_ CWID Number \_\_\_\_\_

Course Number \_\_\_\_\_ Semester \_\_\_\_\_ Faculty \_\_\_\_\_

Numerical Theory Grade _____  Clinical Grade _____	Meets Expectations	Needs Improvement	Unsatisfactory	<b>Provide anecdotal behavioral comments as indicated.</b>
<b>Critical Behaviors:</b>				<b>Comments:</b>
1. Shows evidence of preparation for the clinical experience. (IV, VI, X)				
2. Calculates medications correctly. (II, VII, X)				
3. Administers medications correctly. (II, VII, X)				
4. Maintains medical and surgical asepsis. (II, X)				
5. Performs psychomotor skills at expected competency level. (VII, VIII, X)				
6. Adheres to agency guidelines. (VI, VII, VIII, X)				
7. Gives accurate reports in the clinical setting. (II, III, X)				
8. Recognizes hazards and takes appropriate action. (II, VII, X)				
9. Demonstrates respect for the rights, dignity, and individuality of all persons including, but not limited to: maintaining confidentiality consistent with HIPPA regulations,, providing privacy, and avoiding stereotyping. (VII, X)				
10. Demonstrates caring behaviors when working with all persons. (II, VII, X)				
11. Establishes therapeutic relationships with persons. (III, IV, X)				

12. Makes nursing decisions that are within ethical-legal parameters and consistent with HIPPA regulations. (VIII, X)				
13. Demonstrates responsibility and accountability at a level consistent with the expected knowledge base. (I, II, IX, X)				
14. Utilizes the nursing process at a level consistent with the expected knowledge base. (IV, IX, X)				
15. Modifies behavior in response to guidance. (VI, X)				
16. Demonstrates behaviors consistent with professional nursing roles including, but not limited to: motivation, integrity, communication, leadership, organizational skills, ability to work under stress, appearance, punctuality, and attendance. (VI, VII, X)				
a. Anticipates, recognizes and meets person's needs (e.g., greets patients/visitors when entering room, introduces self to patients and visitors).				
b. Demonstrates sensitivity to patient needs (e.g., addresses comfort needs, listens to patient concerns, etc.)				
c. Considers patient's best interests in all aspects of patient care.				
d. Demonstrates cooperation and helpfulness to co-workers (e.g., when not busy offers to help other staff if needed).				
e. Properly delegates tasks when warranted.				
f. Seeks assistance when indicated.				
g. Demonstrates positive, enthusiastic approach in various interactions.				
h. Uses time wisely and productively.				
i. Displays eagerness to learn; seeks appropriate learning experiences.				
j. Adapts to changing unit and patient care demands.				

\*Roman numerals refer to program objectives.

Student Comments:

*Final Summary of Student Progress in Clinical Nursing Course*

Page 3

Faculty-Student Negotiated Plan for Improvement:

Faculty Signature\_\_\_\_\_

Date

Student Signature\_\_\_\_\_

Date

Office for Research  
Institutional Review Board for the  
Protection of Human Subjects  
THE UNIVERSITY OF

**ALABAMA**

RESEARCH

358 Rose Administration Building  
Box 870127  
Tuscaloosa, Alabama 35487-0127  
(205) 348-8461  
FAX (205) 348-7 189  
TOLL FREE (877) 820-3066

April 18, 2013

Michelle Cheshire, MSN  
Capstone College of Nursing  
The University of Alabama  
Box 870358

Re: IRB # 13-0R-134-ME: "Emotional Intelligence: Relationship with  
Traditional Evaluation Methods in Nursing"

Dear Ms. Cheshire,

The University of Alabama Institutional Review Board has granted approval for  
your proposed research.

Your application has been given expedited approval according to 45 CFR part  
46. Approval has been given under expedited review categories 5 and 7 as  
outlined below:

*(5) Research involving materials (data, documents, records, or specimens) that  
have been collected or will be collected solely for non-research purposes (such  
as medical treatment or diagnosis).*

*(7) Research on individual or group characteristics or behavior (including, but  
not limited to, research on perception, cognition, motivation, identity,  
language, communication, cultural beliefs or practices, and social behavior) or  
research employing survey, interview, oral history, focus group, program  
evaluation, human factors evaluation, or quality assurance methodologies.*

Your approval will expire on April 17, 2014. If the study continues beyond that  
date, you must complete the IRB Renewal Application. If you modify the  
application, please complete the Modification of an Approved Protocol form.  
Changes in this study cannot be initiated without IRB approval, except when  
necessary to eliminate apparent immediate hazards to participants. When the  
study closes, please complete the Request for Study Closure (Investigator)  
form.

**Please use reproductions of the IRB-stamped consent form.**

Should you need to submit any further correspondence regarding this  
application, please include the assigned IRB application number.

Good luck with your research.

Sincerely,

**AAHRPP DOCUMENT #192  
UNIVERSITY OF ALABAMA  
HUMAN RESEARCH PROTECTION PROGRAM  
Informed Consent for a Non-Medical Study**

**Study title:** Emotional Intelligence: Relationship with Traditional Evaluation Methods in Nursing

**Investigator's Name, Position, Faculty or Student Status:** Michelle Haney Cheshire, doctoral candidate

**Institution if other than or collaborating with UA:**

You are being asked to take part in a research study.

This study is called: Emotional Intelligence: Relationship with Traditional Evaluation Methods in Nursing. The study is being done by Ms. Cheshire and is being supervised by Dr. Melondie Carter, Associate Professor Capstone College of Nursing; Assistant Director, Office of Health Promotion and Wellness

**Is the researcher being paid for this study?** No.

**Is this research developing a product that will be sold, and if so, will the investigator profit from it?** No.

**Does the investigator have any conflict of interest in this study?** The investigator is a faculty member in the college where this research study is taking place. The researcher does not teach in the traditional BSN program and therefore has no faculty responsibilities associated with the BSN students' evaluations.

**What is this study about? What is the investigator trying to learn?**

You are being asked to participate in a dissertation research project to investigate the

1

relationship between Emotional Intelligence and traditional evaluation methods currently used in nursing school. The traditional methods being investigated are:

- Admission GPA to upper division
- Final letter grade in Fundamentals of Professional Nursing Practice
- Final letter grade in Pharmacology for Nursing Practice
- Final clinical evaluation

This research is being conducted by the completion of a Web based assessment. This assessment should take 30-40 minutes or less to complete.

2

**Why is this study important or useful?**

This knowledge is useful because it may benefit future nursing students. Course content may be added to increase emotional intelligence and emotional intelligence could be used as a factor in upper division admissions so GPA is not the only determinant.

**Why have I been asked to be in this study?**

You have been selected to participate in this study because you are a nursing student in the second semester of upper division.

**How many people will be in this study?**

About 90 other people will be in this study.

**What will I be asked to do in this study?**

You will be asked to complete the online emotional intelligence assessment. You will also be asked to give the investigator access to your GPA on admission to upper division, your final letter grade in both Fundamentals and Pharmacology and your final clinical evaluation. This information will be paired with your emotional intelligence

assessment and as soon as the data is paired your CWID will be removed from all the data.

**How much time will I spend being this study?**

It will take you about 30-40 minutes to complete the assessment.

**Will being in this study cost me anything?**

The only cost to you is the time required to complete the assessment.

**Will I be compensated for being in this study?**

You will not be compensated for your participation in this study.

**Can the investigator take me out of this study?**

No, the investigator cannot take you out of the study. At any time during the completion of the assessment, you may choose not participate by exiting the assessment or by not submitting the assessment.

**What are the risks (dangers or harms) to me if I am in this study?**

There is a minimal risk that you may become emotionally distressed during the emotional intelligence assessment. The 141 item assessment evaluates Emotional Intelligence through a series of impersonal questions. It tests your ability to perceive, use, understand, and regulate emotions based on scenarios typical of everyday life. You can choose not to participate in this study or not complete the survey at any time, if you experience emotional distress while taking this survey you can choose not to complete it and contact the UA counseling center at 205-348-3863.

**What are the benefits (good things) that may happen if I am in this study?**

There are no direct benefits to you for participating in this study. You may feel some benefit by knowing you have helped to determine if there is a relationship between emotional intelligence and the current methods used for admission to nursing school and the current methods for evaluation while in nursing school including the letter grades in class and the clinical evaluations. Your benefit in participation in this study is by knowing that you may have helped nursing students in the future.

**What are the benefits to science or society?**

This study will help nurse educators determine if there is a relationship between emotional intelligence and current methods of evaluation. Understanding this relationship may help nurse educators understand if emotional intelligence content and testing can benefit future nursing students.

**How will my privacy be protected?**

You can complete this online assessment in the location of your choice. The investigator will be the only one with access to your data before it is de-identified. Your de-identified data will be stored in a secure, password protected hard drive.

**How will my confidentiality be protected?**

You will be asked to enter your CWID as a part of this study. Your CWID will be used only to match your emotional intelligence assessment data with your:

- Admission GPA to upper division
- Final letter grade in Fundamentals of Professional Nursing Practice
- Final letter grade in Pharmacology for Nursing Practice
- Final clinical evaluation

The investigator will access this data from the Office of Nursing Student Services with the assistance of the Records Specialist. The Records Specialist will enter the data into an excel spread sheet and send it electronically to the investigator. Once the EI assessment data is entered into the spread sheet with the matching CWID then the CWID column will be deleted. The CWID will never be available in the data, in the dissertation, or published in any way. All information gathered from this study will

remain anonymous. Data will be kept on a secure, password protected hard drive that is accessible only to the researcher in a locked office. The spread sheet data compiled by the records specialist will also be secure on a password protected hard drive.

**What are the alternatives to being in this study? Do I have other choices?**

The alternative to being in this study is not to participate.

**What are my rights as a participant in this study?**

Taking part in this study is voluntary. It is your free choice. You can refuse to be in it at all. If you start the study, you can stop at any time. There will be no effect on your course grades or your relations with the Capstone College of Nursing, University of Alabama or the researcher.

The University of Alabama Institutional Review Board ("the IRS") is the committee that protects the rights of people in research studies. The IRB may review study records from time to time to be sure that people in research studies are being treated fairly and that the study is being carried out as planned.

**Who do I call if I have questions or problems?**

4

If you have questions about the research study right now, please ask them. If you have questions about the study later on, please contact the researcher, Ms. Michelle Cheshire, at 205-348-6318 or her faculty supervisor, Dr. Melondie Carter, at 205-348-9871. If you have questions, concerns, or complaints about your rights as a person in this research study, call Ms. Tanta Myles, the Research Compliance Officer of the University, at 205-348-8461 or toll-free at 1-877-820-3066.

You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at <http://osp.ua.edu/site/PRCO>Welcome.html> or email the Research Compliance office at [participantoutreach@bama.ua.edu](mailto:participantoutreach@bama.ua.edu).

After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the University Office for Research Compliance, Box 870127, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127.

I have read this consent form. I have had a chance to ask questions. I agree to take part in it. I will receive a copy of this consent form to keep.

I agree for the investigator to access my student records to collect my admission GPA and final grades in the courses that are outlined in this consent form.

Please initial: Yes \_\_\_\_\_ No \_\_\_\_\_

Signature of Research Participant

Date

Signature of Investigator

Date