THE RELATIONSHIP BETWEEN EMOTIONAL INTELLIGENCE, HARDINESS AND JOB STRESS AMONG REGISTERED NURSES

A Dissertation

Presented to the
Faculty of the University of Sarasota

In partial fulfillment of
The Requirements for the Degree of

Doctor in Business Administration

by

Linda A. Tjiong

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The purpose of this study was to examine the relationship between emotional intelligence, hardiness and the perceived job related stress among registered nurses. The study was conducted based on Salovey and Mayer' (1990) and Goleman's (1995) theories on Emotional Intelligence; Kobasa, Maddi, & Kahn's (1982) theory on Hardiness; and Spielberger & Vagg's (1999) theory on Job Stress. Three instruments were utilized: the Emotional Intelligence Scale, Personal Views Survey III, and Job Stress Survey.

Both convenient and random sampling techniques were utilized to obtain the sample. The participants of this study were 123 registered nurses who responded either through class contact, a random survey of nurses on registry list, or through their employment settings.

The Emotional Intelligence mean scores were slightly higher than the test author's normative data. The group's Hardiness Attitude mean score was within the normative group range of being "hardy," however, Cronbach's Alpha was only .58 suggesting some psychometric limitations with this measure for the present sample. The group's Job Stress Index score (mean = 24.34, with a standard deviation of 12.01) was slightly higher than the normative group mean score (mean = 20.19, with a standard deviation of 10.06), supporting the notion of nursing being a stressful profession.

There was a significant relationship between emotional intelligence and the hardiness measure (r .460, p = .000); which suggested the possibility of overlapping characteristics of emotional intelligence and the hardiness measure. No statistically significant relationships were noted between emotional intelligence and job stress (r -.095, p = .296), nor was there a relationship between the hardiness measure and job stress (r -.158, p = .082).

Analyses of variance showed no difference in the nurses' emotional intelligence based on their education, areas of practice, or years of experience. In addition, no statistically significant differences were noted in job stress based on their areas of practice. An exploratory multiple regression analysis showed hardiness being a better predictor of job stress than emotional intelligence, although not significantly so.

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CHAPTER ONE: THE PROBLEM

The Problem

During the last half of the century, the United States has rapidly changed from industrial, to a service, then to an information society and economy. Technological advancements and inventions within this lifetime have significantly changed the way people work and live. Furthermore, changes in social values affect not only the workplace, but also the families and individuals in particular. In an environment with continuous changes, individuals experience stress at an increasing frequency. Too much stress has been found to undermine one's health, happiness, attitude, and performance. Medical research has shown that stress is a contributing factor in heart disease, cancer, and accidents (Appelbaum, 1981). In addition, continuous stress has been known to cause depression, anxiety, burnout, disorganization, ineffectiveness, low morale, obesity, drug abuse, alcoholism, and violence (Matteson & Ivancevich, 1989).

Similar to other industries, health care organizations have been undergoing dramatic changes and have adopted other industries' method of rational and scientific management. Health care researchers have examined objective measures such as cost per patient, cost per procedure, length-of-stay, productivity, staff turnover rate, readmission rate, mortality rate, clinical outcomes, and patient satisfaction. The changes in government funding, third party reimbursement, and health care regulations require that

health care organizations respond by re-organization, restructuring, and re-engineering of the patient care services (Cooper, 1998). As a result, the environment where nurses work also has changed. Nurses report the effect of job strain ranging from dissatisfaction with the job, role confusion, apathy, stress, and burnout, and many eventually leave the profession entirely (Moore, Kuhrik, Kuhrik, & Katz, 1996; Seago & Faucett, 1997).

In recent years the nursing shortage has become a serious concern in the health care industry, especially since nurses provide the primary clinical services. Registered nurses (RN's) make up the largest professional group in most health care organizations. The Department of Health and Human Services predicts that there will be an increasing difference between supply and demand of nurses every year. By the year 2000 there will be a shortfall of 300,000 Registered Nurses in the United States. The Florida Hospital Association recently reported that there were 219,890 Registered Nurses licensed in Florida. However, the Florida Hospital Association also reported a significant turnover rate of 15 percent among the Registered Nurses and a vacancy rate of 11.2 percent in 1998 (Florida Hospital Association, 1999). Without a doubt, nurses are among the most valuable human resources, particularly in labor-intensive service organizations (i.e., hospitals). Since nurses have become scarce resources, recruitment, retention and management of nurses is more important than ever (Sieloff, 1999). One of the strategies to manage and retain nurses effectively is to mentor nurses to understand and develop their strengths, and coach them to manage their work-related stressors.

Among nurses' strengths are the cognitive intelligence or intellectual capabilities to perform the clinical and technical skills (Henderson, 1966; Benner, 1984). However, cognitive intelligence is only a small part of what makes nurses function as caring health

care professionals. It is every health care leader's dream to work with a group of nurses who are proficient in rendering physical, psychological and emotional care to their patients. Nevertheless, it is just as important for the nurses to understand their own emotions in facing life and death situations, have empathy for their patients and families, be able to regulate their emotions, and successfully manage their work-related and personal stressors (Huston, 1990). Thus, in addition to cognitive intelligence, nurses must also possess and demonstrate emotional intelligence. By discounting the importance of emotional intelligence, and focusing only on clinical knowledge, technical skills, and the bottom line numbers, health care leaders could very well miss a great opportunity to gain positive outcomes from nursing, particularly since the constructs of emotional intelligence are inherently part of the nursing profession.

Problem Background

Cognitive intelligence has been associated with success in academic and professional accomplishments. Although cognitive intelligence is certainly an important ingredient for success, researchers have found that it is not the only indicator for success. In fact, studies show that cognitive intelligence, as often reflected by the Intelligence Quotient or IQ, may be related to less than twenty percent of the real-world success. The rest, more than eighty percent, may be related to other forms of intelligence. Emotional intelligence has been found as a better determinant than IQ for one's success in life (Goleman, 1995; Goleman, 1998a). The popularity of emotional intelligence is perhaps due to the inadequacy of the cognitive intelligence test to predict success in life. Emotional intelligence is a form of intelligence beyond academic knowledge and

cognitive problem solving capacity. It represents a broader trend toward examining the personal attributes and skills that link academic intelligence with actual performance and interpersonal relationships at work (Cooper & Sawaf, 1997).

Salovey and Mayer (1990) defined emotional intelligence as the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use that information to guide one's thinking and actions. An individual with emotional intelligence understands his or her feelings and uses these feelings to make good decision in life. Some examples of characteristics of one with emotional intelligence are being able to manage distress and control impulses, being motivated and remaining hopeful and optimistic even in the midst of life changes and setbacks. In addition to the personal competence of understanding and managing one's own emotion, Goleman (1995) also includes social or interpersonal competence. Interpersonal competence includes having empathy or an understanding of how others feel, being able to get along well with other people, managing emotions in relationships, and being able to persuade or lead others.

Corporate management has relied on cognitive intellect and the utilization of rationality and objective data as the bases in decision-making processes. Management scientists promote the disconnection between emotions and rational management. Some scholars also feel that emotionality and rationality are antithetical. They have fostered a widespread belief in structured rationality and the premise that statistics, data analysis, and conceptual brilliance can drive organizations to pinnacles of success. Unfortunately success is often realized at the expense of disembodied relationships, dissatisfaction, and increasing organizational stress (Cooper & Sawaf, 1997).

Ashforth and Humphrey (1995) wrote that until recently, management and organizational behavior researchers had failed to study the effects of emotions on organizational and individuals' lives. The ability to understand and manage one's emotions is just as important as the ability to manage stressors in one's life. Emotions are an essential and unavoidable element of organizational life. Feelings of pride, disappointment, happiness, sadness, fear, satisfaction, dissatisfaction, loyalty and commitment are just some of the emotions that can be found in any organizational environment.

Fortunately, in the health care research arena objective data analyses have been balanced with subjective outcomes. In addition to the typical management studies, there have been many studies exploring issues related to nurses' job satisfaction, satisfaction with their roles, nursing work-related stress, and the to cope with stress (Agho, 1993; Collins, 1996; Folcarelli, Crawford, Duprat, & Clifford, 1997; Kangas, Kee, & McKee-Waddle, 1999). However, the current review of the literature lacks studies as well as conceptual applications of emotional intelligence in nursing.

Purpose of the Study

There have been many studies on stress, hardiness, burnout and other stress related constructs. Since nursing is one of the high stress professions, many studies on stress related constructs have been conducted in the nursing population. As far as emotional intelligence goes, there has not been a published study in the health care specifically aimed at nurses. Most of the research studies on emotional intelligence have been conducted in conjunction with management development programs or in school

settings such as early childhood education programs (Goleman, 1995; Mayer & Salovey, 1997; Cooper & Sawaf, 1997).

The purpose of this study is to examine the relationship between emotional intelligence, hardiness and the nurses' perceptions of their work-related stress levels. Intuitively, emotionally intelligent nurses should be hardy individuals who therefore should perceive lower levels of job related stress.

Research Questions

Based on the review of the literature, it seems that there should be an overlap between emotional intelligence (Emotional Intelligence Quotient or EQ) and hardy individuals. Furthermore, due to their ability to recognize their own emotions and regulate their feelings, one could assume that these individuals might also experience lower work-related stress.

The following are research questions that are paramount for the present study. Are nurses who are emotionally intelligent more hardy? Do nurses who are emotionally intelligent perceive lower job-related stress? Do hardy nurses perceive lower job-related stress? What is the relationship between emotional intelligence and stress on the job, while using hardiness as a moderator variable? Are there differences in the nurses' levels of emotional intelligence based on their clinical practice or specialty areas? Are there differences in the nurses' levels of emotional intelligence and their educational background? Are there differences in the nurses' levels of emotional intelligence and how long they have practiced as nurses? Finally, do nurses who work in different clinical specialty areas experience different levels of work-related stress?

Research Hypotheses

The following null and alternative hypotheses are developed based on the above research questions.

H_o 1: There is no statistically significant relationship between the nurses' levels of emotional intelligence and hardiness.

H_a 1: There is a statistically significant relationship between the nurses' levels of emotional intelligence and hardiness. This prediction is based on the notion that the emotionally intelligent individual recognizes one's emotions and tends to be engaged or involved in a situation (Goleman, 1995). Kobasa (1979) also characterized hardy individuals with the tendency to involve oneself in the experience, rather than running away from the problem. Therefore, it seems that emotionally intelligent individual should also be hardy.

H_o 2: There is no statistically significant relationship between the nurses' levels of emotional intelligence and their perception of work-related stress.

H_a 2: There is a statistically significant relationship between the nurses' levels of emotional intelligence and their perception of work-related stress. Benner and Wrubel (1989) point out the complexity of coping with stress due to the emotions that are tied to the events resulting in positive and/or negative feelings. However, emotionally intelligent individual has the ability to regulate one's emotion and able to overcome their negative emotions or moodiness (Mayer & Salovey, 1993).

H_o 3: There is no statistically significant relationship between the nurses' levels of hardiness and their perception of work-related stress.

H_a3: There is a statistically significant relationship between the nurses' levels of hardiness and their perception of work-related stress. Matteson and Ivancevich (1989) explanation of individual differences include hardiness as one of the moderators that help explain why some people respond to a stressor positively, while others respond negatively. Hardy individuals believe on their ability to respond to and transform potentially negative situations to opportunities for growth and learning. Therefore, the study predicts that although hardy nurses encounter the same work-related stressors, they tend to be able to re-frame the situation and experience lower stress as a result.

H_o4: There is no statistically significant difference in the level of emotional intelligence based on the nurses' area of clinical practice.

H_a4: There is a statistically significant difference in the level of emotional intelligence based on the nurses' area of clinical practice. This finding will be a new discovery since there has never been a formal study to explore the nurses' emotional intelligence and personal qualities in relations to their clinical practice areas.

H_o5: There is no statistically significant difference in the level of emotional intelligence in nurses based on their educational background.

H_a5: There is a statistically significant difference in the level of emotional intelligence in nurses based on their educational background. Nurses are educated through three different basic nursing education systems. Majority of nurses have Associate of Science degrees in Nursing from community colleges. Although there are very few programs remaining, some older nurses graduated from "Diploma program" from hospital sponsored Schools of Nursing. Nurses with Bachelor's degree in Nursing graduated from Colleges or Universities. Regardless of the educational preparation,

graduates from accredited nursing programs must pass the licensure examination to practice as Registered Nurses. In addition, some nurses continue their basic education (i.e., AS to BS, or BS to MS). These nurses are motivated by their desire to learn and fulfill their desire for personal achievement. This study will determine whether nurses with higher level of education also have higher level of emotional intelligence as evidence by their motivation for continuous self-improvement.

H_o 6: There is no statistically significant difference in the level of emotional intelligence in nurses based on the number of years of experience.

H_a 6: There is a statistically significant difference in the level of emotional intelligence in nurses based on the number of years of experience. (Salovey and Mayer (1990), Goleman (1998), and Cooper (1997) support that emotional intelligence can be learned and comes with maturity. This study will explore the assumption whether experience and longevity as practicing nurses help nurses to develop emotional intelligence.

H_o 7: There is no statistically significant difference in the level of work-related stress in nurses based on their area of clinical practice.

H_a 7: There is a statistically significant difference in the level of work-related stress in nurses based on their area of clinical practice. This finding will be a new discovery since there has never been a formal study to compare the levels of work related stress in nurses who work in different clinical practice areas.

Limitations/Delimitations

1. The study was limited to a convenient random sample of Registered Nurses in central Florida area. There may be a threat to the statistical validity due to small sample size and the exclusion of potential data from those who choose not to participate.
2. The participants have to be licensed and actively practice as a Registered Nurse; therefore, nurses who do not practice in nursing were excluded.
3. The study was limited to the nurses' perception of emotional intelligence, hardiness, and work-related stressors. The utilization of self-report questionnaires may increase the risk for "faking" good which is a potential threat to the construct validity of such study.
4. The sample (n=122) only represents a very small percentage of the total number (0.6%) of Registered Nurses in Florida. Therefore, the results may not be generalizable to the nursing population.

Definitions

The following are operational definitions clarified for the purpose of this study.

Alexithymia. Emotional flatness or dullness, which is characterized by the inability to understand and express one's own feeling and the inability to understand other's emotions (Goleman, 1995).

Burnout. A syndrome of physical and emotional exhaustion (Maslach, 1982).

Coping. Any attempt that an individual makes to avoid, minimize, or deal with the effects of stressors or stress (Matteson & Ivancevich, 1989).

Emotional intelligence. The abilities to monitor one's own feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and actions (Salovey & Mayer, 1990).

Emotional intelligence quotient (EQ). A measure of emotional intelligence - equivalent to Intelligence Quotient (IQ) which is a measurement of cognitive intelligence (Cooper, 1997).

Hardiness. The characteristics of hardy individuals include control (life manageability), commitment (strong life involvement), and challenge (perceive change as growth). It is a set of beliefs about oneself and the world one lives in (Kobasa, 1979).

Job Stress. Stress that one experience in the workplace which adversely effects employee productivity, health and well-being (Spielberger & Reheiser, 1994). Also referred to in the literature as work stress or occupational stress.

Nurse. Registered Nurse (RN) or licensed professional nurses who practice under the Florida Nurse Practice Act (Florida Statute #464).

Strain. It is the body's response to the messages of danger sent to it by the mind when one encounters stressful circumstances, which in turns prepares the body to fight or run away from it (Selye, 1974).

Stress. It is a non-specific response to any demand, whether pleasant or unpleasant (Selye, 1974). However, the popular definition of stress is a noun referring to physical, mental, or emotional tension or strain (Webster's, 1990).

Importance of the Study

There are several important implications related to the present study. First, it is important to determine whether the construct of emotional intelligence exists among nurses. Since emotional intelligence is thought to be learned and developed over one's lifetime, it is possible that nurses can develop higher levels of emotional intelligence. Second, since nursing is thought to be a high stress profession, managing nurses is one of the most challenging responsibilities for health care leaders, particularly in today's stressful environment of constant change. Therefore, it behooves health care leaders to identify factors that would help nurses to overcome their work-related stressors, while continuously developing them as professionals. Consequently, this study explored the relationships between emotional intelligence, hardiness, and perceived job stress among nursing professionals.

Organization of the Study

The purpose of Chapter One is to introduce the problem, the problem background, and to provide an overview of the study. The literature review in Chapter Two provides a historical overview of the concepts of emotional intelligence, stress theories, hardiness, and related constructs, understanding of nursing roles and their work environment, and the conceptual integration of the aforementioned constructs.

The research design, procedures, instruments, and data analysis sections are presented in Chapter Three. Chapter Four provides the results of the study including a detailed statistical analysis of the demographic data and the survey findings. Chapter Five presents the summary, conclusions, and recommendations of the present work.

CHAPTER TWO: REVIEW OF THE LITERATURE

Introduction

The present review of the literature will be organized under four main headings – Emotional Intelligence, nurses and their work environment, stress theories and related concepts, and the conceptual integration of these components. The first section will present the evolution of the current concept of emotional intelligence. The second section will include the definition of nursing, nursing roles and scopes of practice, and job strains and stressors within the current work environment. The third section will include a brief overview of the stress theories and related concepts such as burnout, coping and hardiness. The last section will explore the applicability of the concept of emotional intelligence, the nurses' roles, and the nurses' ability to cope with stress. In addition, the implications of studying emotional intelligence at the individual and organizational levels will be outlined discussed.

Emotional Intelligence

The Anatomy of Emotion

Theory has it that the brain consists of four functional areas. The left cerebral area processes symbolic information and experiences logically, such as language and arithmetic. It helps an individual to recognize technical and mathematical details, look for facts, and seek to solve concrete and immediate problems. The right cerebral area

helps individuals process visuo-spatial arrangements, interpret pictures and other images, synthesize pieces of the puzzle to the whole, rely on intuition, and seek to solve abstract future-oriented problems. The limbic left enables an individual to respond favorably to rules and authority figures, be concerned with what we should do as opposed to what we want to do, use conservative and administrative guidelines, and function in a controlling, planning, and organizing mode. Lastly, the limbic right allows individuals to understand the meaning of interpersonal relationships, accept and understand emotions, appreciate the meaning of music, and assign meaning to spiritual beliefs (Venerable, 1988; Shobris, 1996).

Joseph LeDoux, a neuroscientist, introduced the role of the amygdala as the center for human emotion. A human being has a pair of amygdala (from the Greek word "almond"), almond-shaped clusters of interconnected structures located above the brainstem, near the bottom of the limbic ring. Memories and various responses are stored in the amygdala. Often in an "emergency situation" the amygdala can intercept a stimulus, causes the individual to act upon it, even before the left and right sides of the brain or the cortical centers are ready with an interpretation. This phenomenon explains why at times one may respond more emotionally and perhaps less rationally to our world around us (LeDoux, 1986).

In addition to the anatomical and physiological understanding of the brain, researchers also recognized the three influential parts of the mind that makes up our personality: cognition (or thought), affect (including emotion), and motivation (Mayer, 1995). The cognitive sphere includes reasoning, judgment, memory, and abstract thoughts. The affective sphere includes the emotions, moods, evaluations, and other

feeling states, including fatigue or energy. The word "emotion" is from the Latin word "motere" or "to move" and the prefix "e" to connote "move away." Emotions are impulses to act. Motivation is the third sphere of the personality; which includes biological urges or learned goal-seeking behavior. Clearly, emotion is one of the influential parts of one's personality (Mayer, 1995; Mayer & Salovey, 1997; Goleman, 1995).

Historical Development

Some might say that "intelligence" is a person's all-around effectiveness in activities primarily directed by thought. Intelligence is defined as an active transformational process in which sensory data are synthesized into simpler representations that improve one's effectiveness and adaptability (Shobris, 1996). It is typically thought of as a characterization of how well the cognitive spheres operate. Cognitive intelligence is a collection of mental abilities, including the ability to remember a visual configuration, comprehend words, produce words and express them verbally, reason inductively and deductively, associate, recall and operate arithmetical equations, perceive stimuli with speed, perceive spatial orientations and visualize patterns (Hughes, Ginnett, & Curphy, 1996, pp.143-148). This definition suggests that intelligence is an unseen quality, it is not as easily measured as a person's height or weight, and can only be inferred by observing behavior. Furthermore, because a human is a complex being, intelligence does not affect behavior equally and consistently across all situations. It is thought that the environment in which one lives significantly impacts one's intelligence due to the culture, nutrition, learning opportunities and the experiences

that are available. Although there is a hereditary component, intelligence is thought to be modified through education and experience (Neisser, Boodoo, Bouchard, Boykin, Brody, Ceci, Halpern, Loehlin, Perloff, Sternberg, & Urbina, 1996).

Popular usage of the word "intelligence" normally refers only to cognitive intelligence. One method of measuring one's level of cognitive intelligence is the administration of intelligence tests, which gained popularity after World War I. The test score is called an Intelligence Quotient or IQ. For example, Wechsler's and the Standford-Binet's tests are the most commonly used in the educational system (Hughes, et al, 1996). Psychologists have been debating about the validity of intelligence tests for some time due to the complexity of the concept and the myriad of variables that may affect test scores (Cronbach, 1984; Shobris, 1996). IQ tests have also been used in human resource areas, particularly in the screening process for management positions. Although different studies seem to yield somewhat different findings, cognitive ability has been generally deemed an acceptable and valid predictor of success on a number of jobs, particularly those that require analytical and critical thinking skills (Goleman, 1995; Hughes, et al, 1996; Neisser, et al, 1996).

Social Intelligence

Social intelligence is perhaps one of the precursors to the whole idea of emotional intelligence. Ruisel (1992) cited Wedeck's definition of social intelligence as the ability to accurately assess feelings, moods, and the motivations of others. He also cited the early writings of Thorndike, who introduced the concept of social intelligence in Harper's Magazine in 1920's. Thorndike and Stein (1937) described intelligence as consisting of

three parts. Abstract intelligence being the ability to understand and manage ideas and abstractions. Mechanical intelligence is the ability to understand and manage concrete objects of the physical environment. Social intelligence is the ability to understand others and to act wisely in managing others. The authors contended, however, that social intelligence was difficult to measure because it consists of several different abilities, habits, or attitudes. One can also hypothesize that its expression is dependent somewhat on the situation the individual is involved in. Social talents are primarily interpersonal or refer to social interaction and relationship. A person with aptitude for social talents has the ability to understand other people and is able to lead and guide others toward mutually satisfying outcomes. Social talent consists of two dimensions: social perception (or the ability to understand the emotions and motives of others and the meaning of others' actions) and social knowledge (knowledge of etiquette and formal rules of social behavior).

In the 1940s through the 1960s little was written about social intelligence and its measurement. Taylor (1990) cited Chapin, who developed the idea that social insights, triggered by cues, permit people to change appropriately from one environmental context to another. Other researchers had begun to examine related constructs such as empathy, sensitivity, insight, perception, and interpersonal judgment. Many of these researchers begun to realize that in addition to cognitive intelligence, there are multiple abilities that are separate but correlated (Ruisel, 1982; Taylor, 1990).

Multiple Intelligence

In *Frames of Mind,* Howard Gardner (1983) introduced the theory of multiple intelligences. He proposed that there are at least seven competencies or intelligences that are crucial for life success: linguistic (verbal) and logical (mathematical), spatial capacity, bodily kinesthethic, musical, interpersonal and intrapersonal. He contended that traditional measurement of cognitive intelligence represents only linguistic, mathematical, and some spatial capacity.

Linguistic intelligence is the capacity to use words effectively orally or in writing, the ability to manipulate the syntax, phonology, semantic, and pragmatic aspects of language. Logical or mathematical intelligence is the capacity to use numbers and to reason effectively. A person with high logical intelligence is sensitive to logical patterns, relationships, propositions (or cause - effect), categorization, inference, generalization, calculation and hypothesis testing. Spatial intelligence is thought to be the ability to perceive the visual-spatial world accurately and to be able to perform transformations based upon those perceptions. A person with spatial intelligence tends to have sensitivity to color, line, shape, form, space, and relationships that exist between these elements. Bodily-kinesthetic intelligence is the capacity to use one's whole body to express ideas and feelings and to sense one's world. This intelligence includes physical skills involving coordination, balance, dexterity, strength, flexibility, and speed as well as fine motor abilities such as tactile capacity. Musical intelligence is the capacity to perceive, discriminate, and express musical forms. This intelligence includes sensitivity to the rhythm, pitch, melody, and timbre of a musical instrument.

Gardner represents social intelligence as the inter-personal and intra-personal intelligences. Inter-personal intelligence is the ability to perceive and distinguish the moods, intentions, motivations, and feelings of other people. Intra-personal intelligence is self-knowledge and the ability to act adaptively on the basis of that knowledge. This intelligence includes having an accurate picture of one's own strength and limitations, inner moods, intentions, motivations, temperaments, desires, and the capacity for self-discipline, self-understanding, and self-esteem (Gardner, 1983; Gardner, 1993).

The educational system seems to acknowledge the importance of addressing multiple intelligences in the classroom. Armstrong (1994) recommends that teachers integrate the various intelligences in the curriculum and learning experiences. As part of this approach it is thought that the sooner children are taught appropriate responses to the world around them, including emotional responses, the sooner these responses can become part of their repertoire. Some schools even actually teach the emotional component of intelligence as a separate topic as a school-wide effort, not just directed toward students who have emotional problems. Some of the topics used to teach this emotional component include self-control, negotiation skills, dealing with disappointments, goal setting, and motivation. Rather insightfully, others have suggested that in addition to the more traditional components of intelligence, students, parents, teachers and leaders must also improve their emotional intelligence (Goleman, 1996; Salovey & Slyuter, 1997; Cherniss, 1998;).

Although there may be a relationship, emotional intelligence is distinctly different than cognitive intelligence (Goleman, 1995; Mayer & Salovey, 1997). In a recent study, Tapia (1998) examined the relationship between emotional intelligence as measured by

scores on the Emotional Intelligence Inventory (EQI) and cognitive intelligence as measured by the scores on the Otis-Lennon School Ability Test (OLSAT), Preliminary Scholastic Assessment Test, Grade Point Average. The researcher concluded that there is a lack of relationship between emotional intelligence and general (cognitive) intelligence as indicated by the non-significant correlation between the OLSAT scores and EQI scores. There was neither a relationship between the construct of emotional intelligence and general intelligence nor emotional intelligence and academic achievement. Thus, the author concluded congruency with the theory of emotional intelligence.

Another multiple conception of intelligence is Sternberg's (1985) Triarchic Theory, which includes three fundamental aspects of intelligence: analytical, creative, and practical. He suggests that there should be a balance between the analytical, creative, and practical aspects of intelligence. He points out that various intelligence tests are currently available to measure analytical intelligence; however, most tests do not measure practical intelligence. Sternberg also asserts that one important form of practical intelligence is tacit knowledge. Tacit knowledge, or common sense, is the knowledge to act to achieve certain goals. This knowledge is thought to be acquired without direct help from others. Several tests have been developed to measure what is thought to be tacit knowledge or common sense. These tests (i.e., Managerial Street Smarts Test) are commonly used in business management and leadership development programs (Sternberg, Wagner, Williams, & Horvath, 1995; Hughes, et al, 1996). This is yet one more domain of the supposed multiple nature of intelligence.

Emotional Intelligence

Emotional intelligence, a separate construct, originated as a result of further refinement of social intelligence (Mayer & Salovey, 1997). Emotional intelligence is one's ability to relate to people and understand their emotions. Although some management scholars view emotion as something irrational that needs to be regulated and controlled, there has been a resurgence of interest in exploring the role of emotions in human resource management, organizational development, and human activities in general (Goleman, 1995; Cooper & Sawaf, 1997; Mayer & Salovey, 1997).

The concept of emotional intelligence is relatively new. Salovey and Mayer (1990) coined the term and developed the theory of "emotional intelligence." The first empirical study of emotional intelligence examined people's ability to identify emotions in faces, abstract designs, and colors stimuli. These researchers found that there is a distinct ability to recognize emotional content from various stimuli (Mayer, DiPaolo, & Salovey, 1990). Initially, they defined emotional intelligence as the "ability to monitor one's own and others' emotions, to discriminate among them, and to use the information to guide one's thinking and actions" (Salovey & Mayer, 1990). Since then, a variety of skills have been examined as well as "management" skills related to emotional intelligence (Mayer & Salovey, 1995). The definition of emotional intelligence has been further refined as a series of abilities or skills:

> "... the ability to perceive accurately, appraise, and express emotion;
> the ability to access and/or generate feelings when they facilitate thought;
> the ability to understand emotion and emotional knowledge; and
> the ability to reflectively regulate emotions in ways that promote emotional and intellectual growth"(Salovey & Slyuter, 1997, p. 10).

Mayer and Salovey's model consists of four hierarchical components: (a) perception, appraisal, and expression of emotion; (b) emotional support for thinking; (c) understanding and applying emotional knowledge, and (d) reflective regulation of emotions to promote emotional and intellectual growth. The lowest branch, perception, appraisal, and expression of emotion, concerns the individual's ability to identify accurately one's own emotion, others' emotions, and the ability to express emotions. The next branch, emotional support for thinking, describes emotional events that contribute to one's thoughts. This ability also helps individuals to consider multiple perspectives and change one's moods. The next branch up, understanding and analyzing emotions and employing emotional knowledge, concerns the ability to distinguish between emotions, interpret the meanings of emotions, understand complex feelings, and understand transitions of emotions. The last branch, reflective regulation of emotions to promote emotional and intellectual growth, refers to the ability to stay open to feelings (positive or negative), reflectively engage or detach from an emotion, and to manage emotions in oneself and others (Salovey & Slyuter, 1997).

While some view emotions and intelligence as adversaries, Mayer and Salovey view emotions as contributing to thought rather than disorganizing it. Emotional intelligence is indeed correlated with cognitive intelligence; however, the correlation is not particularly strong, which suggests that the two are not measuring the same thing. Emotional intelligence seems to be taking its place as a standard form of intelligence. There is a growing focus on emotional intelligence as a separate model (Mayer & Salovey, 1993).

Mayer and Salovey (1993) believe that there are three different styles regarding how people deal with their emotions. First is the "self- aware" group. These people have a great understanding of their emotions, know their boundaries, have a positive outlook on life, and if they are in a "bad mood," they are able to overcome their moodiness. The second group is composed of people who are engulfed and often feel swamped by their emotions. They feel overwhelmed, too helpless to escape them, and have no control over their emotional life. The last group consists of people who are accepting of their moods. Some "accepting" people are usually in a good mood and have little motivation to change. These people are susceptible to bad moods, but accept them with a laissez-faire attitude, and do nothing to change them (Mayer & Salovey, 1993).

Daniel Goleman (1995) popularized the concept of emotional intelligence in his book, *Emotional Intelligence.* Experiencing emotions is associated with a state of consciousness encompassed by the arousal of feelings. A feeling is the subjective reaction, pleasant or unpleasant, that one may experience in a given situation. Goleman discusses the notion of emotional intelligence as a type of intelligence that can be learned regardless of age and increases as one matures. Therefore, the sooner a child is taught how to handle his or her emotional responses, the sooner these responses can be a part of the child's repertoire, and hopefully become a part of the child's personality (Goleman, 1995; O'Neil 1996).

Goleman (1995) proposes that there are two components of Emotional Intelligence: personal competence and social competence. Personal competence consists of self-awareness, self-regulation, and motivation. Social competence consists of empathy and social skills. Self-awareness involves the ability to recognize and

understand one's own moods, emotions, and drives as well as their effect on others. A person who has emotional awareness realizes the link between what one feels and what one thinks, does and says. Some of the characteristics of self-awareness include self-confidence, realistic self-assessment, and often a self-deprecating sense of humor. Goleman (1995) conducted studies on leaders and found that there are some consistent competencies that differentiate superior leaders from the average or below average leaders. Effective leaders demonstrate self-awareness and have self-confidence. They have the ability to assess their own strengths and limitations. According to Goleman (1995) self-awareness is perhaps the most important emotional competency. A deficit in self-awareness can be debilitating both to one's personal relationship and one's career.

The second distinguishing competency is self-regulation or self-mastery. This is the ability to modulate or control emotions (self-control); to remain calm in the midst of turmoil and to stay focused on the tasks at hand. Instead of avoiding disagreements, a person with self-regulation tends to value differing views. Self-regulation is the ability to control or redirect disruptive impulses and moods. Adaptability is the flexibility to handle change and being comfortable with ambiguity. Other related qualities to self-regulation are trustworthiness, integrity, conscientiousness and taking responsibility for one's own actions (Goleman, 1995).

One who has a high degree of self-regulation tends to be comfortable with and open to novel ideas, approaches, and new information. Individuals with emotional intelligence tend to be optimists and display personal happiness even in the midst of change or trouble. Happiness is not something that happens. It is a condition that must be prepared for, culturated, and defended privately by each person. People who learn to

control inner experience will be able to determine the quality of their lives, which is the closest to happiness (Czikszentmihalyi, 1990; Goleman, 1995).

Motivation, is the third component of personal competence, involves passion, commitment, optimism, enthusiasm, and confidence and often times zeal to work for reasons that go beyond money or status and to pursue goals with energy and persistence (Goleman, 1995). Motivated individuals, as leaders, have strong drive to achieve and are constantly optimistic, even during times of failure. Unmotivated individuals, on the other hand, tend to be pessimistic and attribute failure to some characteristics that cannot be changed; therefore tend to give up earlier. Optimists attribute failure to some external factor that can be changed and persist when they encounter an obstacle. Another hallmark of this component is the ability to delay gratification in order to achieve a goal. People with high emotional intelligence tend to have the stamina and endurance to stay the course and not to give in to the temptation to take the easiest way out.

The fourth and fifth emotional competencies have more to do with understanding and developing others or social competencies. Empathy is the ability to understand the emotional makeup of other people. Because of this understanding, empathetic people tend to treat others according to their emotional needs. These individuals, as leaders are experts in building and retaining talent, are sensitive to cultural diversities, appreciate multiple perspectives, and avoid unproductive conflicts. Social skill, or interpersonal skill, involves proficiency in managing relationships and building networks. These people are skilled at finding common ground and building rapport. Other characteristics of socially skilled leaders include effectiveness in leading change, persuading others, and building and leading teams (Goleman, 1995; Salopek, 1998).

Goleman (1998a) contends that although intellectual intelligence and technical skills are important, effective leaders tend to have a high level of emotional intelligence. He identifies specific three leadership competence categories: technical skills (e.g., accounting and business planning), cognitive abilities (e.g., analytical reasoning); and competencies demonstrating emotional intelligence (e.g., ability to work with others, effectiveness in leading change). In a study to identify the characteristics of outstanding leaders, Goleman (1995) found that intellect and cognitive skills are the drivers of outstanding performance. However, when he analyzed the ratio of technical skills, IQ (Intelligence Quotient), and emotional intelligence as ingredients of excellent performance, emotional intelligence proved to be twice as important as the other components. In fact, IQ accounted for 20 percent of the factors that determine success in life. The other eighty percent are considered to be soft skills, or emotional intelligence, ones that distinguish effective leaders from others. In addition to the factors that distinguish outstanding leaders, other studies have confirmed that emotional intelligence can be linked to strong general performance (Goleman, 1995; Goleman, 1998a & 1998b).

Cooper (1997), on the other hand, defines emotional intelligence as the ability to sense and effectively apply the power and acumen of emotions as a source of human energy, information, trust, creativity, and influence. Cooper's studies of hundreds of managers, conducted in cooperation with Q-Metrics, Inc., showed that people with high emotional intelligence (Emotional Quotient or EQ) experience more career success, have better interpersonal relationships, lead better, and enjoy better health than those with lower scores. Cooper proposed a somewhat different emotional intelligence model consisting of four cornerstones: emotional literacy, emotional fitness, emotional depth,

and emotional alchemy or charisma. He also includes emotional honesty in his model, which is remaining truthful to oneself and respecting the wisdom of both one's heart and head.

The first corner stone, emotional literacy, is seen as a keen awareness of the importance and wisdom of feelings. Emotional honesty, emotional energy, emotional feedback, and practical intuition contribute to emotional literacy. Emotional honesty, as was mentioned, is the ability to be honest with one's own feelings. Second, emotional fitness, with trust as the basis, includes authenticity, resilience, renewal, and constructive discontent. Cooper (1997) even quotes Deming, "Trust is mandatory for optimization of any system. Without trust, there can be no cooperation between people, teams, departments, divisions." A lack of trust makes one spend a lot of time and effort protecting, inspecting, doubting, checking, and weighing instead of doing work that is creative, collaborative, and value-added.

The third cornerstone of Cooper's model, emotional depth, refers to perceiving, learning, relating, creating, prioritizing, and acting in ways that take into account emotional influences rather than relying solely on command and control, logic, intellect or technical analysis. According to this theory, peoples' history, experiences and emotions, are stored in their minds. Emotions then, are the currents of energy that arise from these experiences. They activate values and shape perceptions and behaviors; these in turn influence others.

The last cornerstone, emotional alchemy, is the blending of forces that enable individuals to discover creative opportunities and transform lesser ideas into greater ones. Leaders with this strength continually question assumptions, tend not to behave in fixed

ways, and refuse to remain status quo. The Zeigarnik Effect, coined 30 years ago, refers to the opposite of this premise that the moment one reaches closure on a project or issue, creativity shuts down (Cooper, 1997).

Similarly, Elder (1997) defines emotional intelligence as a measure of the extent to which a person successfully (or unsuccessfully) applies sound judgment and reasoning in the process of determining an emotional response to various situations. Elder believes that the human mind is comprised of thoughts, feelings, and desires; and that emotion is the part of the mind that guides how one thinks and how one interprets a situation. However, Elder also beliefs that "thinking" is the more important than feelings or desires in determining one's emotions. Therefore, Elder proposes that critical thinking provides the crucial link between intelligence and emotions in the emotionally intelligent person.

Building on Salovey and Mayer's and Goleman's works, Simmons and Simmons (1997) discuss measurement of emotional intelligence. Unfortunately, the measurement system they propose is no more than an open-ended self-evaluation. These authors equate and use the term of emotional intelligence and "character" interchangeably. They define emotional intelligence as the emotional needs, drives, and true values of a person; that guide all behaviors. Based on their twenty-six years of research, Simmons and Simmons identify thirteen areas of emotional intelligence. These areas are emotional energy, emotional stress, optimism, self-esteem, commitment to work, attention to detail, desire to change, courage, self-direction, assertiveness, tolerance, consideration for others, and sociability.

Kelly and Moon (1998) also are of the opinion that emotional and social intelligence will ultimately be the core requirements for success in many occupations (for

example psychotherapy, social work, teaching, creative writing, and organizational leadership). They also believe that there may be a link between innate ability and mature expression of talent in work and in life. Like other writers in this area, they also believe that there are additional skills necessary for people to succeed in life beyond the traditional academic knowledge. Kelly and Moon emphasize the importance of personal and social talents and their roles in academic, career, and personal success.

Personal talent or emotion is defined as interpersonal aptitudes that enable one to take constructive action with respect both to people and tasks. Personal talents include both affective processes and aptitudes and connative processes and aptitudes, such as volition and self-regulation. These aptitudes, according to Kelly and Moon, help an individual to develop self-awareness, capitalize on personal strengths, minimize personal weaknesses, set and achieve life goals. The connative aptitudes are inherent drives that help individuals set and achieve goals, accomplish tasks, and persist in the face of obstacles. Deficiency in personal talents is often manifested as failure to realize potential, lack of self-control, and failure to sustain work efforts.

Similar to Thorndike's (1920) definition, Kelly and Moon define social talent or social intelligence as an aptitude for interpersonal relationships and social interaction. The authors identify two dimensions of social intelligence: cognitive skill in drawing accurate conclusions from social interactions and the effectiveness of social behavior based on those observations. Although somewhat different, they believe that personal talent or emotion is closely related to social talent. Similar to Goleman's model, Kelly and Moon describe emotional or personal and social intelligences as separate entities but

with considerable overlap between the two. Therefore, one who has social talent, most likely also has personal talent and vice versa (Kelly & Moon, 1998).

In summary, although there are some semantic differences between Mayer and Salovey's, Goleman's, Kelly and Moon's, and Cooper's models, there are also many similarities. All of these authors seem to agree on the importance of emotion in guiding our action and performance. Both intellect and emotions work together to guide us in making everyday decisions and affect our performance. In addition, they also seems to agree that emotional intelligence can be learned at any age. They also recognize the importance of self-awareness of one's own emotions and understanding others' emotions. They also agree emotional intelligence is very important for leaders and particular occupations, especially in today's environment where change is constant.

Nurses and Their Work Environment

Health Care Environment

In the past two decades the health care industry has gained national attention. Health care organizations (i.e., hospitals) have been undergoing many changes in order to meet the guidelines of external regulatory agencies, third party payers' demands and customers' expectations. Changes in health care coverage and hospital reimbursement require hospitals to re-design the way they provide services. Health care managers have to be competent in balancing operational expenses in order to remain competitive and to maintain financial viability, while at the same time continuously improving the quality of patient care (Lamm, 1996). Patients who come to hospitals are sicker than they used to be and require higher intensities of care. In order to contain costs and increase profit

margins, the third party payers (e.g., Medicare, managed care companies, commercial insurance companies) impose a limit on the number of days and the amount of medical coverage they provide. As a result, patients are discharged earlier or are treated more often as outpatients (Brown, 1998; Porter-O'Grady, 1998). The turbulent environment in the health care industry simultaneously creates both stress and opportunity for personal growth, especially for nurses (Tillman, Salyer, Corley, & Mark, 1997). The following section is dedicated to exploring the nursing role and their work environment.

The Nurses' Roles and Scope of Practice

Nursing is both an art and a science. Virginia Henderson's (1966) definition of nursing describes the nurse-patient relationship, ranging from a very dependent one to an interdependent relationship. In times of grave illness the nurse function as a caregiver, during times of convalescence the nurse helps the patient regain his/her independence, and as partners, the nurse and the patient together formulate the plan of care. The nursing practice focuses on restoring, supporting, and promoting health or facilitating a peaceful death. The focus of nursing is on the total patient and his/her family or significant others within the context of his/her environment. To perform these functions, the nurse must be able to assess not only the patient's physical needs and pathological states, but also be able to assess the patient's psychological, emotional, social, and spiritual needs (Henderson, 1966).

Nurses provide care on an intimate basis to people in the midst of health, sickness, pain, fear, deformity, death, grieving, challenge, birth, aging, and many other life transitions. In these contexts, nurses have a different perspective of stress and coping in

their jobs, one that is not purely physiological, but also psychological, emotional, and spiritual. Indeed, nurses are confronted daily with life-threatening situations and complicated treatment regimens that allow little margin of error, ones that require much awareness and flexibility in their reactions (Benner, 1984).

In the past, nurses often only focused their efforts on clinical care. Today, nurses, managers and staff alike, have to think consciously about ways to improve effectiveness while reducing the cost of care. New concepts have entered the nurses' vocabulary, such as labor expense, supply cost, revenues, reimbursement, productivity, and contribution margin (Benner & Wrubel, 1989; Lamm, 1996, Johnston, 1998). In addition, the complex work environment has also added to the list of work related stressors for nurses, such as the task of delegating to less experienced nurses or caregivers. Sometimes, the nurse may not have any choice as to whom he or she can delegate tasks, but ultimately the nurse is accountable for patient care and its outcomes (Parson, 1998).

Interestingly, in the midst of constant change some nurses have found new opportunities to develop themselves into scholars and leaders in the clinical arena. Expert nurses have become very proficient in caring for patients with complex medical problems. Others have also become proficient in business management and have risen to the occasion of representing the nursing profession in the business side of the enterprise. Some have left the clinical environment altogether and have found opportunities in managed care companies, businesses, education, and other health related industries (Folcarelli, Crawford, Duprat & Clifford, 1997; Porter-O'Grady, 1998; Brown, 1998).

As was mentioned, nurses play an important role in the delivery of patient care as they make up one of the largest group of health professionals (Lamm, 1996). As the core

component of the health care system, the nurses' ability to manage the workload and stress is often manifested in the nurses' job satisfaction (Parson, 1998; Tonges, Rothstein, & Carter, 1998). Certainly, nurses' job satisfaction is also linked to clinical outcomes and quality of care (Leveck, 1996; Stamps & Piedmonte, 1997), and ultimately to patient satisfaction (Kangas, Kee, McKee-Waddle, 1999).

Job Strains and Stressors of Nursing

A recent survey of registered nurses reveals that 70 percent of nurses report inadequate staffing, too many patients, and too much stress. More than half of the nurses reported that lack of administrative and technical support resulted in having to spend two hours or more on each shift performing non-nursing duties (Nation's Health, 1993). Related to this point, Karasek (1979) reported that job strain, a combination of low decision latitude and heavy job demands, is associated with stress and job dissatisfaction. Karasek defined job strain as constant exposure to high job demands (e.g., working faster and harder) and low decision latitude (little decision making authority). Similarly, a lack of a clear understanding of the organization's goals also results in lack of commitment to stay in nursing, particularly in times of frequent changes (Karasek, 1979). Clearly, nurses face some of these conflicting demands. Price and Mueller (1981) also implicate stress as a contributing factor for nurses' turnover. In addition, these authors found that opportunities for professional growth and general training or orientation as being major determinants for nursing turnover.

Johnston identifies several factors that contribute to the nurses' work related stress, e.g., dealing with frequent changes, increased work load, shortage of nursing staff,

possible loss of employment, caring for patients with complex medical problems, and conflicts with physicians. Advances in medicine require nurses to learn continuously about new treatment modalities, and new drugs, in addition to gaining technical skills to perform new hi-tech procedures. Fear of failure to learn these new skills often discourages many nurses to work in clinical settings (Johnston, 1998). Nursing has been found to be a high-stress profession (Marshall, 1980; Benner & Wrubel, 1989; Vicenzi, White, and Begun, 1997; Seago & Faucett, 1997).

Another important issue that has compounded the job strain that nurses are feeling is the difficulty in finding qualified and experienced nurses. Enrollments in schools of nursing have been decreasing in the past three years. With the U.S. population growing at about one percent per year, the overall demand for health care will continue to increase. However, with the decreasing birth rate, coupled with the increasing aging population, with their associated chronic illnesses, poses a serious problem for the health care system (Buerhaus, 1999).

In order to counter these problems, McCoy (1999) writes about recruitment and retention strategies for nurses that many hospitals have implemented, such as salary increases, self-scheduling, and shared governance. However, these approaches often do not address the two most common reasons why nurses tend to leave hospitals - stress and burnout. The majority of the victims of stress and burnout are typically new nurses. Due to their lack of experience and a lack of confidence, they often feel less in control of their practice. (Price & Mueller, 1981; Nation's Health, 1993; Decker, 1997). In order to better understand these pressures, stress and its related concepts should be defined.

Stress Theories and Related Concepts

Stress and Burnout

One of the popular definitions of "stress" as a noun referring to physical, mental, or emotional tension or strain (Webster's, 1990). Selye (1974) defines stress as a non-specific response to any demand, whether pleasant or unpleasant. An unpleasant or harmful stress is called distress, while a pleasant stress is called eustress. Stress may be initiated by emotional responses, triggering the nervous system to initiate the discharge of several hormones. Therefore, the focus is often on people's responses to events. The event or stimulus is the stressor. Although everyone has stress, the same stress that makes one person ill can be an invigorating experience for another (Selye, 1974, 1978).

Another phenomenon related to stress is "burnout." Selye (1974) uses an overdrawn bank account as a metaphor for burnout. Selye also found that the prevalence of burnout is quite high particularly in the helping professions, such as nursing. Maslach (1982) defines burnout as a syndrome of physical and emotional exhaustion. Burnout is a psychological condition brought about by unrelieved work stress that results in negative attitudes toward work, life and other people, poor professional self-concepts, helplessness, hopelessness, depersonalization, a loss of empathic concern for patients, and feelings of decreased accomplishment and effectiveness. Often, the person also experiences physical symptoms such as chronic fatigue, headache, and other stress-related illnesses (Maslach, 1982; Matteson & Ivancevich, 1989). Maslach and Jackson (1984) also list some of the personality traits of burnout-prone individuals. They are often unassertive, fearful of involvement, have an external locus of control, a lack of self-confidence, they are easily angered and frustrated, reserved, and have no clear goal.

Decker (1997) reported on the eight predictors of psychological distress in nurses. These predictors include personal disposition (anxiety trait), unit tenure (length of service in a department), social integration, professional experience, relations with the manager, conflict, position level, and relations with physicians. The most important predictor was personal disposition (anxiety trait), which they describe as a non-occupational factor.

Leveck and Jones (1996) also examined the relationship between management style and job stress as predictors of quality of care. In departments where nurses perceived a participative management style, there were lower levels of job stress. Decreased job stress was also found to increase the quality of nursing care and job satisfaction (Schwab, 1996; Song, Daly, Rudy, & Douglas, 1997; Taunton & Boyle, 1997).

Stress Management

Stress management has been one of the most popular topics for writers, educators, and management development programs. Stress management courses teach individuals how to solve problems rationally and to reduce the number or intensity of stressors, how to improve management styles, increase participation, and improve self-image, relaxation techniques, and how to cope with their personality types (Appelbaum, 1981; Cooper, 1998).

Other stress management approaches deal with altering emotional states by dampening, controlling, or distracting one's emotion. Ashforth (1995) discussed how organizations typically handle work related stress and its resulting emotions in the work place. He believes that organizational cultures provide beliefs about emotional states, a

vocabulary for discussing them, and a set of socially acceptable behaviors for responding to emotional events in the workplace. For example, neutralizing is used to prevent the emergence of socially unacceptable emotions. Buffering is used to encapsulate and segregate potentially disruptive emotions from ongoing activities. Prescribing is used to specify socially acceptable means of experiencing and expressing emotions. Normalizing is used to diffuse or reframe unacceptable emotions in order to preserve the status quo. These types of stress management, or rather emotion control programs, teach people to detach from their emotions so that they can focus on problems rationally.

Relationships Between Stress, Emotions, and Coping Ability

Not all stressors however, are simple events that can be solved using a problem solving approach or by detaching emotions from the stressors. These approaches are useful if the source of stress is a particular problem such as limited resources or limited time. But when the stressor is some type of compounded predicament, dilemma, or tragedy, a problem solving approach alone may only address a single issue temporarily. Benner and Wrubel (1989) point out that coping with such stressors is much more complex, because the feelings or emotions tied to the constellation of events, often have complex meanings (good and/or bad).

Emotions give individuals signals and directions that something important is at stake (Goleman, 1995). Emotions allow one to be engaged or involved in the situation. When one separates emotions from the event, one oftentimes ignores the guidance and directions that emotions provide. Stress is often not an illness that can be cured, or a problem that can be solved simply. Another way of coping includes seeking out

information to gain a better understanding of the situation in order to try to change the way one thinks about the situation. Unfortunately, there is no solution however. Therefore, endurance and acceptance is also an approach for coping with stressors (Lazarus & Folkman, 1984).

Lazarus (1981) also defines stress as the disruption of meanings, understanding, and smooth functioning in a normal situation where the individual perceives or experiences harm, loss, sorrow, and/or challenges or has to acquire new skill. Thus, Lazarus's definition of stress and coping involves both the person and the situation. Lazarus calls this relationship between the stress and the person's appraisal of the situation the "transaction."

Similar to this idea, Matteson and Ivancevich (1989) define stress as an adaptive response to a stressor, moderated by individual differences. A stressor can be an object, action, situation, or event that places special demands upon a person. The demand then, according to these researchers, is "special" or unusual or out of the ordinary. However, since each individual views each situation differently, each person also responds differently. There seems to be three factors that affect one's perception of a situation: the importance, uncertainty, and duration of the situation (Matteson and Ivancevich,1989). Importance refers to how significant the event is to the individual. The more significant the event is to the person, the greater the stress potential. Uncertainty relates to a lack of clarity about what will happen. Fear of the unknown can clearly be more stressful for some people. Lastly, duration is important since the longer the demands are placed on the individual, the more stressful the situation.

Individual differences are often described as the moderators that help some people respond to a stressor positively, while others respond negatively. It is generally thought that there are four cognitive/affective or personality characteristics that may explain individual differences in coping with stress: tolerance for ambiguity, locus of control, self-esteem, and hardiness (Matteson & Ivancevich, 1989). Tolerance for ambiguity is the degree with which one tolerates the unknown. Persons with low tolerance for ambiguity prefer to have a stable environment. Individuals with low tolerance for ambiguity tend to perceive any change or uncertainty as more upsetting, anxiety producing, and stressful than those with higher tolerance for ambiguity.

The locus of control of an individual determines the degree to which one believes that each individual is responsible for one's own action. Individuals with internal locus of control perceive themselves to be in control of the events that shape their lives. On the contrary, individuals with external locus of control perceive that events happen beyond their control. Studies seem to suggest that psychological distress is related to individual characteristics such as locus of control and tendency toward anxiety (Naditch, Gargan, & Mitchel, 1975; Parkes, 1991; Agho, 1993).

Similarly, at least in some cases, self-esteem has been found to be significantly related to stress. People with a high level of self-esteem are confident in their abilities and feel less threatened by uncertainty and stressful situation (Matteson and Ivancevich, 1989; Gibson, Ivancevich, and Donnelly, 1997). On the other hand, Moore, Kuhrik, Kuhrik, and Katz (1996) found that there was no correlation between self-esteem and the ability to cope with stress. Instead, they found that social intimacy and support helps nurses cope with stress.

Hardiness

Hardiness represents a constellation of many attributes that includes attitudes, beliefs, and behavioral tendencies that consist of three components: commitment, control, and challenge (Kobasa, 1979). Commitment is the tendency to involve oneself in the experience, rather than running away from the problem. Kobasa, Maddi and Kahn reported that "hardy" managers exhibited a sense of commitment to various aspects of their lives, they had a sense of purpose and were actively involved in life. Control, on the other hand, is the ability to feel and act as if one is influential rather than helpless. These authors believe that hardy individuals are in control of their lives (internal locus of control). Hardy individuals, then, believe in their ability to respond to and transform potentially negative situations. Change, for these people, is perceived as a challenge and provides incentive for growth rather than a threat to security. Hardy individuals seek out novelty and challenge as opposed to familiarity and security. They have a high tolerance for ambiguity and approach change with anticipation (Kobasa, Maddi & Kahn, 1982).

McCranie, Lambert, and Lambert (1987) also describe hardiness as a personality characteristic that neutralizes the effects of stressful events. Schwab (1996) takes the term further and notes that hardiness is the positive growth process that occurs during change. Other research findings specifically seem to support the relationship between hardiness and the issues of stress, burnout, and job satisfaction in nursing. For instance, nurses who are characterized as "hardy" experienced lower levels of burnout than those who are "less hardy" (Keane, Ducette, & Adler, 1985; Rich & Rich, 1987).

There have been many studies conducted to measure nurses' satisfaction in relations to the leadership and management styles. They found that nurses' satisfaction

with their work, their ability to manage work stress, and their satisfaction with their work environment are positively related to the leadership and management styles (Morrison, Jones, & Fuller, 1997; Moss & Rowles, 1997; Kangas, Kee, & McKee-Waddle, 1999). Parasuraman & Hansen (1987) also confirm work overload, resource inadequacy, and frequent changes in assignments as work related stressors in nursing. These researchers identified two major types of coping behaviors employed by nurses in managing stressful situations at work. More nurses use the problem solving approach (or adaptive strategies) to cope with stress rather than the emotion-focused coping (maladaptive strategies).

Similarly, Van Servellen and Topf (1994) discuss the results of a study on the relationships between hardiness, work related stress, and health in 237 hospital nurses. They found that hardiness has an inverse relationship with work-related stress and emotional exhaustion. Similarly, hardiness had an inverse relationship with the incidence of stress-related illnesses (i.e., heart disease, depression, ulcer, somatic disorders, etc.). Sortet (1996) also conducted a similar study and found that there is an inverse relationship between hardiness and burnout among nurses, as well as job burnout having a significant relationship in predicting health outcomes in nurses. Interestingly, there is no relationship between hardiness and the nurses' health.

Along the same line, Collins (1996) examined the relationship between work stress, hardiness, and burnout among nurses. Using the Personal Views Survey, Nursing Stress Scale, and Tedium Burnout Scale, Collins found that nurses who possessed higher levels of hardiness were more likely to have less work stress and less burnout. Rowe (1998) also reported (in a study of various health care providers – including nurses) that

stress and anxiety were significantly correlated with burnout, particularly for individuals with a low level of hardiness. However, the correlation was not significant for individuals with high levels of hardiness.

Tierney and Lavelle (1997) examined in an experimental study whether hardiness can be taught. Sixty-two nurses who were employed less than three years participated in the study and were randomly assigned into three groups. The first group received a one-day (six hour) class concerning hardiness. The second group received a one-day (six-hour) class about time management. The third group received no intervention. The participants completed the Personal Views Survey before the intervention, immediately after the intervention, and six months after the intervention. An analysis of variance was performed to determine whether there was a significant difference among the groups at the different time periods. These researchers found there was no significant difference among the three groups at the baseline. Although, hardiness scores increased immediately after the intervention for the first group (the hardiness trained group), the scores returned to baseline six months later. The second group's scores actually decreased immediately after the intervention and the decrease was sustained after six months. The third group showed no changes in hardiness at any time. Based on these finding, the researchers concluded that although intuitively a hardiness course may seem beneficial, their study did not totally support this hypothesis.

One might conclude that hardiness training might call for multiple interventions. One has to wonder, however, whether personality traits, such as hardiness, can be taught or expanded upon – something that may be useful for nurses. Again, nursing leaders may intuitively use elements of hardiness (commitment, control, and challenge) in coaching

and mentoring nurses to solve problems and to help nurses face work related stressors, the evidence is still inconclusive as to whether training programs can create lasting changes. In spite of this fact, organization leaders have begun to realize the importance of the possibility of improving one's ability to cope with stressors. The Hardiness Institute's (1999) mission, for one, is to help people cope with disruptive changes and conflicts in ways that help them improve performance, stamina, and health. It offers management and organizational development programs all around the world in order to bring about beneficial changes for individual workers.

Conceptual Integration

To be a nurse one needs to have the cognitive intelligence to understand the disease process and its management, as well as the competence to operate technologically advanced medical equipment (i.e., defibrillators, respirators, cardiac monitors, etc.). A nurse has to also assess symptoms and respond appropriately to manage the patient problem or to report the assessment findings to physicians. Nurses carry out physicians' orders, but for the most part, they often practice quite independently and intuitively to solve clinical problems (Benner, 1984).

In addition to the clinical and technical competencies, nurses also must have excellent skills in communication, problem solving and critical thinking. Elder (1997) emphasizes the role of critical thinking in emotional intelligence. This author discusses how thinking ultimately determines the quality of one's emotions; and how critical thinking provides a crucial link between intelligence and emotions in the emotionally intelligent person. Although traditionally, critical thinking has been a part of the cognitive

domain, one would have to intuitively believe that it is related to emotional intelligence. Critical thinking is a part of emotional intelligence as defined by some of the authors reviewed (Elder, 1997; Cooper & Sawaf, 1997). To be able to assess a situation critically, one needs to be a systems expert who is aware of the interrelated systems and their implications – all a part of the critical thinking required of nurses (Campbell, 1998).

Nurses must also be able to assess the patients' psychosocial and emotional needs and have empathy in dealing with the patient and family members. Although these non-cognitive competencies, such as communication, negotiation skills, interpersonal skills, conflict resolution, and stress management skills are parts of the nursing education curriculum, these seem to be skills that are continually called upon in nursing practice.

Intuitively, based on the outlined roles that nurses play, one would guess that the components of emotional intelligence should clearly be a part of each nurses' repertoire. Goleman's emotional intelligence framework fits well, then, with the attributes nurses need in their work. Self-awareness is very important in caring and making critical clinical decisions. Self-awareness is the ability to assess one's own strengths and limitations. It involves knowing when to consult other health care professionals, knowing when to ask for help, and knowing when to share and deal with work related stressors when needed.

Self-regulation (Goleman, 1995) is equally important, as the nurse renders care to patients and supports family members. The nurse has to remain calm in the midst of turmoil and stay focused in delivering complex clinical care. In addition, regardless of the nurse's position within the organization, he or she is often faced with ethical dilemmas and incongruencies between various stakeholders. These issues can become

especially prevalent in turbulent times where change is constant, under these conditions, the nurse has to be flexible, adaptable, and open to new ideas.

Similarly, it takes motivation, commitment, optimism, confidence, courage and passion to come to work knowing that the same situations await day after day. By and large, nurses demonstrate this other component of Goleman's model. Research suggests that they still gain great satisfaction from seeing patients recuperating, helping family members cope, teaching a patient to walk, or providing comfort to dying patients (Huston, 1990). These acts take passion and clear commitment.

Empathy, another of Goleman's (1995) concepts, is probably the most basic construct of caring in nursing. Nurses help patients and family members deal with the stress caused by illness or major changes in their lives (Benner, 1989). Finally, nurses also have to be socially savvy and sensitive to cultural diversity. As our population becomes more diverse, so do the health care customers and providers. The ability to appreciate multiple perspectives, build rapport, provide empathy, and work as a team are paramount in a multidisciplinary health care environment. Clearly, nursing is one profession that requires both cognitive and emotional intelligence, whether the nurse is in a managerial or leadership position or whether they are clinicians at the bedside (Campbell, 1998).

In relation to these ideas, Semmer and Zapf (1996) describe the concept of shared job strain, which is job strain that different workers holding the same job have in common. Although the purpose of their study was to examine the validity of work stress measurements, they found data supporting the relationship between work stressors and shared job strain. In health care organizations, such as hospitals, nurses are often faced

with the same issues regardless of their positions, departments, specialties, or shifts of work. Nursing is probably, then, a profession where shared job strain exists and where high-stress is ever present (Semmer & Zapf, 1996).

Recognizing the impact of occupational stress on health, productivity, and various human resource management problems, Speilberger developed the Job Stress Survey to measure sources of work-related stress encountered by employees in a diverse work settings. Assessing the perceived level of stress based on the severity and frequency of each work-related stressors is important in the assessment of emotions and personality (Speilberger & Reheiser, 1994; Spielberger & Vagg, 1999).

Huy (1999) even went so far as to develop a multilevel model of the impact of emotion on organizational change, which incorporated emotional intelligence at the individual level and at the organizational level. At the individual level, emotional intelligence is the ability to monitor one's own feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions. At the organization level, emotional intelligence refers to an organization's ability to acknowledge, recognize, monitor, discriminate, and attend to its members' emotions. Huy believes that adaptation is enhanced with emotional intelligence at the individual level, and that radical change is possible by a high level of emotional capability at the organizational level. It is important, Huy believes, that all members of the organization, managers and/or staff, improve their emotional intelligence. A person, then, who is unaware of his or her blind spots or how he or she impacts others is a walking disaster. The impact is even more critical when the person holds an important leadership position.

Similarly, Abraham (1999) reported the findings of a study examining the impact of emotional intelligence in the work place. This researcher found that emotional intelligence has a positive effect on the organizational outcomes of work group cohesion, congruence between self and supervisory appraisals of performance, employee performance, organizational commitment, and organizational citizenship. However, the author also points out the possible negative impact of emotional intelligence. For example, one may experience emotional conflict between trying to remain honest with oneself and having to support the organizational objectives. There may even be a question as to whether the emotionally intelligent employee displays acceptable behaviors as part of being a good organizational citizen or from a genuine desire to support and promote organizational goals.

In healthcare environments, nurses also often feel the tension between the desire to do everything possible for the sake of the good of the patients and the financial reality that the service may not be reimbursed or paid. In addition, nurses in management positions constantly struggle between needing the staff nurses to work additional shifts and encouraging the nurses to lead a balanced life outside of work. In such cases, the nurse manager must be able to accurately perceive one's own emotions, understand the meanings associated with these emotions, and manage his or her emotions.

Unfortunately, however, most health care organizations lack a vocabulary and a culture to discuss and address emotions (Huy, 1999). Nurses, have been educated to empathize with patients and family members, but also to control their emotions, especially in front of patients. Expressions of negative emotion, such as fear, anxiety, and anger, are unacceptable. Furthermore, expressions of intense emotion, whether

negative or positive, are socially unacceptable when they are perceived to disrupt routine task performance. Celebrations of success, even, tend to take place outside the formal work setting. These controlled expressions of emotions make dealing with stress in the health care environment difficult.

At the organizational level, it is crucial that nurses in management or leadership positions promote the improvement of the organization's emotional intelligence capability (Ettore, 1997; Harrison, 1997). In other business communities, the concept of building organizational emotional intelligence has gained popularity with the promise of improving effectiveness and productivity (Goleman, 1998b; Cooper, 1997). In a time when massive changes are occurring in the health care field, and nearly all organizations, it is appropriate to examine the relationships between emotional intelligence, hardiness, and work related stress in order to help at the individual and organizational level.

Understanding emotions, whether at individual or organizational levels, has great implications for health care leaders, especially today. At the individual nurse level, understanding emotional intelligence and the desire to improve one's level of emotional intelligence, could help the individual to manage one's job related stressors. Just as emotional intelligence is thought to be learnable, so it is thought that hardiness might be learned (Hardiness, 1999; Koonce, 1996).

The question worth exploring here is whether nurses who have higher levels of emotional intelligence possess the acumen to cope with work related stressors (hardiness). Individuals with high levels of emotional intelligence are thought to be able to control and regulate their emotions; therefore, have the ability to effectively manage their stressors as well as the flexibility and resilience to bounce back from life adversities.

Ultimately, another important question is whether nurses who have higher levels of emotional intelligence also experience lower work related stress.

In summary, nurses must have the cognitive intelligence or intellectual capabilities to perform the clinical and technical skills (Campbell, 1998). However, cognitive intelligence is only a small part of what makes nurses function as caring professionals. It is every health care leader's dream to work with a group of nurses who are proficient in rendering physical, psychological and emotional care to their patients; but also satisfied with their roles, able to manage change, continuously learn, and successfully manage their work-related and personal stressors. In other words, nurses must also possess emotional intelligence. In a high-stress occupation, hardiness may be a personal asset in managing job stress. In fact, some studies have shown that hardy nurses tend to experience lower job stress (Collins, 1996; Sortet, 1996; Van Servellen & Topf, 1994). Health care leaders need to explore whether there is any relationship between the nurses' emotional intelligence and their ability to cope with stress (hardiness) as well as whether they actually experience lower job stress as a result of these coping skills.

The concept of emotional intelligence is a promising one for study as relates to nursing. According to Goleman (1995), emotions give individuals signals and directions that something important is at stake and allow one to be engaged or be separated from the event. One of the stress management approaches deal with altering emotional states by dampening, controlling, or distracting one's emotion. While another way of coping includes seeking out information to gain better understanding of the situation in order to try to change the way one thinks about and gain control of the situation. This knowledge has the potential to help nurses manage their stress by gaining a deeper understanding of

how work-related stressors impact one's emotions and vice versa. Hopefully, the information provided from these affective measures (emotional intelligence, hardiness and stress) can provide needed insights into the nature of the people working in this most important profession.

CHAPTER THREE: METHODOLOGY

The purpose of this study was to gain an understanding of the levels of emotional intelligence among registered nurses, the levels of hardiness in the nursing population, and to explore the relationship between these factors and the stress levels among this occupational group. In addition, various demographic factors (area of clinical practice, educational background, and number of years of experience) were examined as they relate to emotional intelligence and levels of stress.

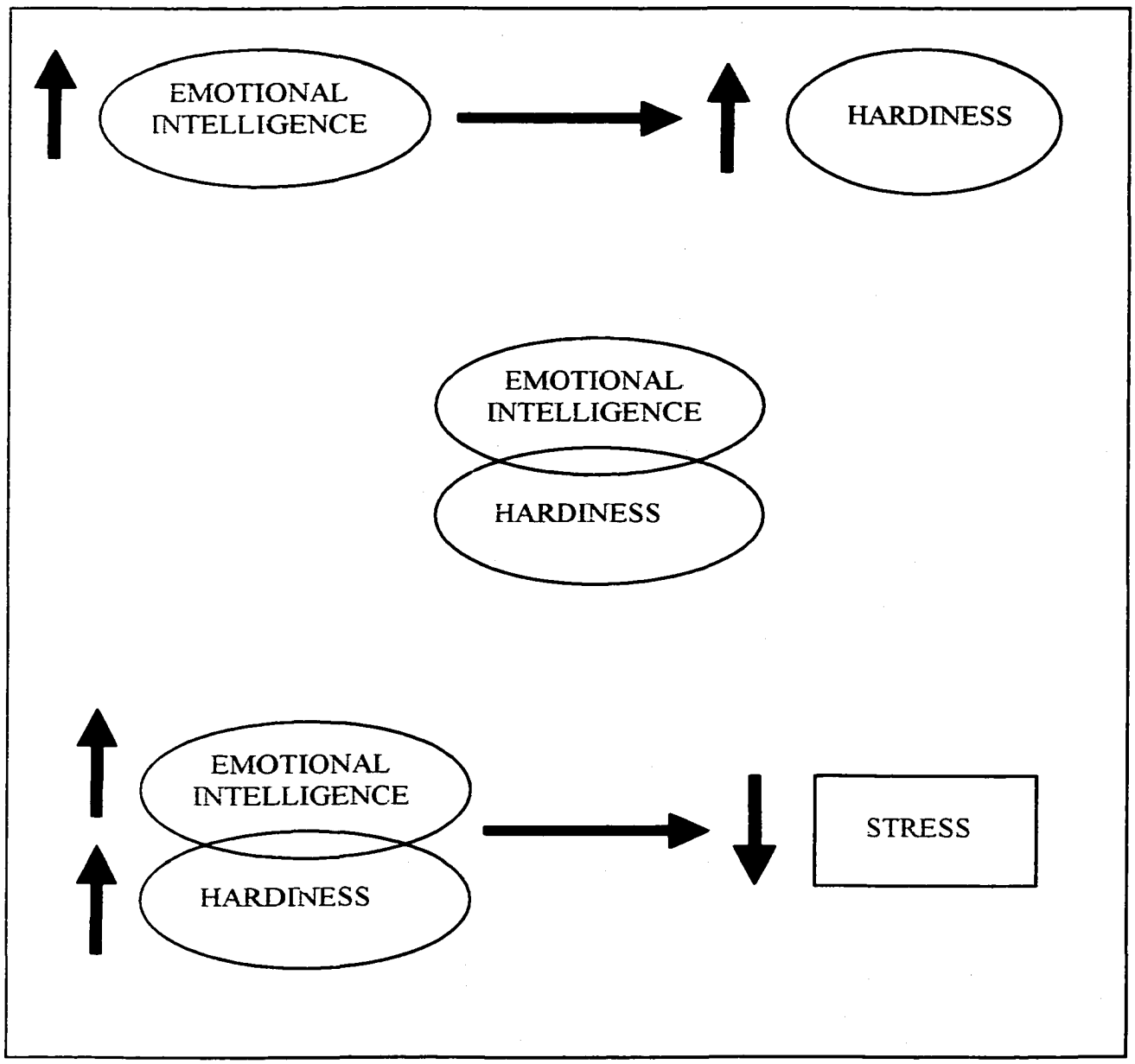
The Model

It was thought that the construct of emotional intelligence would, inherently, be a part of the nursing profession. In addition to the medical, clinical, and technical competencies nurses must also be proficient in rendering psychological and emotional care to their patients. In order to provide support to others, nurses need to first understand their own emotions (self-awareness) in facing challenging health problems, life and death situations, as well as financial and ethical health care issues. The nurses' ability to regulate their own emotions (self-control) becomes paramount in order to address the patients' and family members' psycho-emotional needs. Empathy is more than the ability to show sympathy, but it is the ability to feel and experience what others are experiencing.

Passion of caring for others and the desire to find better ways to help the sick is often the motivation for nurses to grow as professionals and to remain within their profession. Social skills or interpersonal skills are important in a multidisciplinary practice environment where nurses have to rely on other health care professionals (i.e., physicians, pharmacists, medical technologists, etc.) to provide holistic care and to achieve the desired clinical outcomes.

In addition, nurses need to be hardy (demonstrate commitment, control, and challenge) toward their work. It was thought here, then, that those nurses scoring high on Emotional Intelligence, would also score high on the Hardiness measure and that they would ultimately demonstrate less job related stress (See Table 1).

Table 1: The Model Tested Among Nurses



Research Design

A cross-section design was used to examine the relationships between these variables. The study was conducted using self-report questionnaires to assess emotional intelligence, hardiness, and job-related stress. The Emotional Intelligence Scale developed by Schutte et al (1998) was used to measure emotional intelligence. The Personal View Scale developed by the Hardiness Institute (1999) was used to measure hardiness. The Job Stress Survey (Spielberger & Vagg, 1999) was used to measure job stress levels. Correlations between emotional intelligence, hardiness, and job-related stress were examined.

In addition, a general questionnaire was used to obtain information on the participant's age, educational background, years of experience in nursing, and area of clinical practice. Analysis of variance technique was employed to examine the demographic information as relates to the other factors measured.

Selection of the Subjects

All information was collected from Registered Nurses who are currently practicing in various nursing roles. To ensure an adequate sample size, data was collected from four sources: Registered Nurses who work in two hospitals, Registered Nurses who are enrolled in a Baccalaureate or Master's degree program, and a random sample of Registered Nurses from a mailing list obtained from the State Department of Health, Board of Nursing were utilized in the sample. Although the sample sources were from different locations and organizations, the data was combined and analyzed as an aggregate. Complete anonymity of the participants and the organizations was

maintained. Each Registered Nurse had to be employed or practicing as a nurse to participate in the study. The total expected sample was one hundred nurses. The sampling strategy can be described as convenient except the random sample from the mailing list.

The first sample set consisted of a cross-section of registered nurses of various ages, educational background, years of experience, and who practice nursing in two hospital settings. The two hospitals consented to data collection by allowing the researcher to distribute the survey among their nursing staff. They came from diverse work backgrounds and roles. The participants included clinical staff nurses who render care at the bedside, team leaders or charge nurses, shift supervisors, department or clinical managers, educators, etc. The clinical practice areas included the following, medical- surgical, critical care, emergency/trauma, maternal-child health, mental health, outpatient services, etc. The expected sample size from the two hospitals was thought to be fifty.

The second sample set was solicited from Registered Nurses who were enrolled either in a Bachelor's degree completion program or in the Master's degree program at a state university in central Florida. These nurses had at least one year of nursing experience as Registered Nurses. They worked in various health care organizations and capacities.

Consistent with the State Board of Nursing requirement for licensure, the above referred nurses had graduated from an associate degree nursing program from a community college, a diploma program from a hospital sponsored nursing school, or a bachelor's degree in nursing program from a college or university (State of Florida,

Department of Health, http://www.leg.state.fl.us/citizen/documents/statutes/1997/ ch0464). The bachelor's degree completion program allows a registered nurse with an associate degree or diploma to pursue a bachelor's degree. Nurses who continue their education to pursue a bachelor's or a master's degree are usually employed and practice nursing as well. The expected sample size here was twenty five. The data were collected from one university in central Florida and was solicited through personal visits to two classrooms; a Bachelor's Degree completion nursing class and a graduate nursing class.

The last sample set was solicited through a mail survey to a random group of Registered Nurses who reside in a certain city limit in central Florida. The mailing list was purchased from the State of Florida, Department of Health. The agency gave the researcher permission to utilize the mailing list for solicitation of research participants. It was also assumed that the majority of these nurses work in a hospital setting. One hundred names were randomly drawn using a table of random numbers and mailed the surveys. The total expected sample size from this source was twenty five.

Instrumentation

Three self-report instruments were used in the present study to measure emotional intelligence, hardiness, and job stress. Selection of the most appropriate instruments was based on a review of the literature and a review of the instruments in these areas.

Emotional Intelligence Scale

Although the construct of emotional intelligence is relatively new, there are several instruments available commercially. The one that was selected for the present

study was a 33-item self-report measure Emotional Intelligence Scale developed by Schutte et al (1998) to measure the ability to adaptively recognize emotion, express emotion, regulate emotion, and harness emotions. The authors used the model and definition of emotional intelligence developed by Salovey and Mayer (1990) which was "the ability to monitor one's own and other's emotions, to discriminate among them, and to use the information to guide one's thinking and actions." The instrument originally consisted of a pool of 62 items, which represented the different dimensions of the model. A factor analysis from a pilot study of 346 participants resulted in the development of the 33-item scale. The Emotional Intelligence Scale represents 3 different categories: 13 items related to the appraisal and expression of emotion, 10 items related to the regulation of emotion, and 10 items related to the utilization of emotion (See Appendix C, Survey Part I).

In 1998, Schutte et al conducted a study involving a community sample and a sample of college students. In the community sample (which consisted of 328 men and women psychotherapists, female prisoners, and substance abuse clients), it was found that the internal consistency of the scale, as measured by Cronbach's alpha was 0.90 and for a sample of college students the internal consistency was 0.87. An analysis of the readability of the instrument showed that the scale requires a reading level typical of fifth graders, the Flesch-Kincaid reading scale = grade level 5.68 (Schutte & Malouff, in print).

On the Emotional Intelligence Scale, the respondents were asked to indicate their level of agreement with each statement using a 5-point scale on which a "1" represents "strongly disagree" and a "5" represents "strongly agree." Item 5, 28, and 33 are reverse

scored. The sum of all items comprises the total score, which can range from 33 to 165, with higher scale scores indicating greater emotional intelligence.

The Emotional Intelligence Scale correlated with theoretically related constructs, which address the validity issues. The scale was associated with less alexithymia (emotional dullness or lack of ability to understand and express feelings) as measured by the Toronto Alexithymia Scale [$r(24) = -0.65$, $p<0.0001$], greater attention to feelings as measured by the Attention subscale of the Trait Meta Mood Scale [$r(48) = 0.63$, $p<0.0001$], greater clarity of feeling as measured by the Clarity subscale of the Trait Meta Mood Scale [$r(47) = 0.52$, $p<0.0001$], more mood repair as measured by the Mood Repair subscale of the Trait Meta mood Scale [$r(47) = 0.68$, $p<0.0001$], greater optimism as measured by the optimism scale of the Life Orientation Test [$r(26)=0.52$, $p<0.006$], less pessimism as measured by the pessimism scale of the Life Orientation Test [$r(26)=-0.43$, $p<0.025$], less depression as measured by the Zung Depression Scale [$r(37)=-0.37$, $p<0.021$], and less impulsivity as measured by the Barratt Impulsiveness Scale [$r(55) = -0.39$, $p<0.003$]. Nonverbal expressiveness of emotion, however, as assessed by the Affective Communication Test, was not significantly related to scores on the emotional intelligence scale, $r(34) = 0.17$ (Schutte, Malouff, Hall, Haggerty, Cooper, Golden, Dornheim, 1998).

Schutte, et al (1998) demonstrated that the scale has good internal consistency and test-retest reliability. The cross-check of internal consistency showed a Cronbach's alpha of 0.87 for the 32 college students. Two-week test-retest reliability was 0.78 (Schutte et al, 1998). Studies also indicated that higher scores on the measure predicted higher first year college grades (Schutte et al, 1998). Finally, as predicted, scores were higher for

females than males, higher for counselors than prisoners or clients in a substance abuse treatment program (Schutte et al, 1998).

Based on the review of the currently available instruments, the 33-item Emotional Intelligence Scale (Schutte et al, 1998) seemed to be the most appropriate for use in the present study. The instrument is relatively easy to administer, does not take a lot of time, and has good to adequate reliability and validity. Permission was obtained from the author to utilize the Emotional Intelligence Scale (See Appendix J).

Personal View Survey III (Hardiness)

Hardiness was measured using the third edition Personal Views Survey (PVS III) developed by Salvatore Maddi, PhD and distributed by the Hardiness Institute, Inc (See Appendix D, Survey Part II). The participants were asked to circle the number that best described their current life situation on a 30-item scale questionnaire. The questionnaire refers to beliefs about oneself or the world concerning the sense of commitment, control, or challenge. The instrument's validity was measured by an alpha coefficient of 0.92. A reliability study, using the test and retest approach with more than 400 subjects showed an item to item correlation of 0.934 for the individual items and an inter-item correlation of 0.96. The reported internal consistency estimates yielded alpha coefficients of commitment of 0.917; control of 0.902; and challenge of 0.924 (Tierney & Lavelle, 1997).

The researcher arranged a formal agreement with the Hardiness Institute to utilize the PVS III for this study (See Appendix K). A web-based account was established for scoring purposes. The researcher entered the participants' responses into the database

and the score for each participant was calculated. An average was used to enter for missing data for those who failed to respond to no more than one question. Thirteen respondents had one missing item. Each participant had an overall hardiness attitude score, as well as the three subscale scores for commitment, control, and challenge. Percentile scores were assigned according to the table provided in the manual.

Job Stress Survey

Spielberger (1991) originally developed the Job Stress Survey (JSS) to identify major sources of stress in the workplace for individual employees or groups of employees and to make comparisons of stress levels among employees. The survey is presently published and marketed by Psychological Assessment Resources, Inc. The JSS consists of three scales based on all 30 items and six subscales. The Job Stress Severity (JSS) scale measures the respondent's average rating of perceived severity of the 30 JSS stressor events (e.g., assignment of unfamiliar duties, dealing with crisis situations). These scores are based on a comparison of each of the 30 severity items (number 2A to 30A) with the standard stressor (item 1A), which is assigned as a constant mid-scale value of 5 (See Appendix E, Survey Part III A). The Job Stress Frequency (JSF) scale represents the average frequency of occurrence of the 30 JSS stressor events during the past six months (See Appendix E, Survey Part III B). The Job Stress Index (JSX) scale provides an estimate of the overall level of occupational stress experienced by a respondent based on the combined severity and frequency ratings of all 30 stressor events (Spielberger & Vagg, 1999).

The JSS also consists of six subscales: (1) job pressure index, (2) job pressure severity, (3) job pressure frequency, (4) lack of organizational support index, (5) lack of organizational support severity, and (6) lack of organizational support frequency. The three Job Pressure (JP) subscales are based on responses to the questions number 4, 7, 9, 11, 16, 23, 24, 25, 26, and 27. The three Lack of Organizational Support (LS) subscales are based on responses to the questions number 3, 5, 6, 8, 10, 13, 14, 18, 21, and 29. Item Index scores are computed for each of the 30 JSS stressors events, including the ten items that are not utilized in scoring the JP and LS subscales.

The Job Pressure Index (JPX) subscale assesses the occupational stress (combined severity and frequency) experienced by a respondent that can be attributed most directly to the pressures of his/her work, such as working overtime, meeting deadlines, and completing excessive paper work. These stressors reflect stressful aspects of the job's structure, design, or duties. The Job Pressure Severity (JPS) subscale assesses the average level perceived severity of the 10 JSS stressor events most directly related to the pressure of a job. The Job Pressure Frequency (JPF) subscale assesses the average frequency of occurrence of the 10 JSS stressor events most directly related to the pressures of a job.

Similarly, the Lack of Organizational Support Index (LSX) subscale assesses the amount of occupational stress that can be attributed to a lack of organizational support. The Lack of Organizational Support Severity (LSS) subscale assesses the average level of perceived severity of the 10 JSS stressor events most directly related to lack of organizational support. The Lack of Organizational Support Frequency (LSF) subscale

assesses the average frequency of occurrence for the 10 JSS stressor events that most directly relate to a lack of organizational support (Spielberger & Vagg, 1999).

The normative data for the JSS was obtained by administering the instrument to a heterogeneous sample of 2,173 adults who were employed in business and industry, university, and military settings (Spielberger & Vagg, 1999). The alpha coefficients for the Job Stress Index, Job Stress Severity, and Job Stress Frequency showed an acceptable level of internal consistency for all groups (median alpha = 0.88). The test-retest stability coefficients for the JSS scales and subscales are substantially lower than the measures of internal consistency, ranging from .48 to .75 over various time intervals. However, the authors contend that the stability coefficients may not be appropriate for time-sensitive measures that can be influenced by changes in the workplace during successive 6-month periods. Alpha coefficients for the three Job Pressure measures were 0.80 or higher (median alpha = 0.83) for managerial/professional and clerical/skilled maintenance groups and 0.75 or higher for senior military personnel. The alpha coefficients for the Lack of Organizational Support were all 0.80 or higher (median alpha -= .83). Again, the alpha coefficients show strong evidence for the internal consistency of the JSS scales and subscales for heterogeneous samples.

In examining the validity of the JSS, Turnage and Spielberger (1991) administered the JSS and Rotter's (1996) Locus of Control (LOC) scale to 322 managerial, professional/engineers, and clerical employees. Small but significant ($p < .01$) positive correlations of the LOC scale were found with three of the five JSS scales (Job Stress Index .18, Job Pressure Severity .18, and Lack of Organizational Support Frequency .16). These findings seemed to support previous research results. Employees

who indicated that they had less control over their work environment reported more occupational stress (Karasek, 1979).

Formal agreement with the Psychological Assessment Resources, Inc. was obtained to reproduce and utilize the JSS instrument for the present study (See Appendix L). The participants' scores were calculated utilizing a Microsoft Excel spreadsheet that was developed according to the Job Stress Survey Professional Manual instructions (Spielberger & Vagg, 1999).

Assumptions/Limitations

Due to the fact that the study involved subjective perceptions and self-evaluations using self-report questionnaires, certain assumptions and limitations were noted. It was assumed that permission to collect data would be granted from the hospitals, colleges and universities and that each source would allow an adequate number of registered nurses to participate in the study. It was also assumed that the participants would answer the items honestly without pressure or fear of repercussions. Some assumptions also were made that their responses reflected their actual behaviors on the job (e.g., do they indeed behave accordingly in their actual daily activities).

Since the study sample consisted primarily of a voluntary convenient non-random sample, there was a risk of systematic error due to sample bias. Difficulty in obtaining permission from hospitals and universities to recruit participants also yielded a smaller sample than preferred. Since the sample consisted of volunteers, their responses may, or may not, represent the rest of the nursing population. There may also be a threat to

statistical validity due to the combination of a small sample and the exclusion of potential data from those choosing not to participate.

The study sample was also limited to one group of practicing Registered Nurses who attended classes at a university as part of the bachelor's in nursing degree program and the master's degree program. However, the study participants also had to be licensed and actively practicing as Registered Nurses. Therefore, nurses who do not practice in nursing were excluded. Due to the selectivity of this sample, it may be difficult to make inferences to nurses in general beyond the study findings.

Procedures

Institutional permissions to collect data were secured from the hospitals used as sites. The same permissions were obtained from one university that offered a bachelor's or masters' degree programs in nursing. A letter, along with the description of the study and copies of the instruments and a letter of informed consent were sent to the Chief Nursing Executives or Directors of Nursing of the hospitals. Letter of permissions were received from the hospitals (see Appendix G and H). Follow-up meetings were conducted to clarify issues and to discuss the methods of data collection. Similarly, a letter was sent to the Dean or Director of the School of Nursing, followed by discussion and clarification of the data collection processes. A letter of permission was received from the program coordinator representing the university (See Appendix I).

The researcher prepared the survey packets which included the Letter of Informed Consent (Appendix A), a General Information demographic form (Appendix B), the survey/questionnaire Part I (Emotional Intelligence Scale, Appendix C), Survey Part II

(Personal View Survey, Appendix D), and Survey Parts III A and B (Job Stress Survey or JSS, Appendix E). Stamped and self-addressed envelopes were also prepared for the mailed-out surveys.

To ensure confidentiality, no participants were asked to indicate their identity anywhere on the materials. The general information form, as well as the survey questionnaires that were used in this study required no names, addresses, RN license numbers, etc. Since there was essentially no risk involved in participating in this study, the participants were not asked to sign the Letter of Informed Consent form. Consent to participate in the study was assumed when the participants returned the completed questionnaire.

The first sample set was obtained from a group of nurses from a small community hospital. The Chief Nursing Executive gave written permission to collect data and provided mailing labels for the nursing staff. Survey packets were mailed (a total of 108) to the nurses along with stamped self-addressed envelope. Twenty-five surveys were returned, but two were disqualified due to incomplete information and one individual was currently on leave-of-absence.

Another group of nurses was also surveyed from a medium sized general hospital. Following an expedited approval from the hospital's Institutional Review Board, the researcher presented the study to the nursing management team for informational purposes. Survey packets were distributed to the nurse managers who distributed them to the nursing staff (a total of 140) with the instruction to return the completed surveys in a sealed envelope to the hospital contact person. Forty-four surveys were returned from the second hospital. Three were excluded due to incomplete information.

Similarly, the researcher contacted the liaisons from the Colleges of Nursing to schedule the dates for data collection in two different classes. On the agreed upon date and time, the researcher made a brief presentation at the end of the class period to the students to discuss the purpose of the study, data collection questionnaires, and how the nurses could participate in the study. The survey packets were distributed to the students. Those who chose to participate (a total of thirty six out of forty three students) completed the questionnaire and returned them to the researcher. It took less than 30 minutes to complete the questionnaires. Sixteen nurses who were in the bachelor's degree completion program completed the surveys; and twenty graduate students who were in the master's program completed the survey. Therefore, a total of thirty-six nurses participated from the university. Two were excluded due to incomplete responses and one was not employed as a nurse.

The last set of nurses was obtained from the random list of addresses within a certain set of postal zip codes, which included addresses within a city with one hospital. The mailing list was purchased from the State of Florida, Department of Health. Fifty nurses were selected using a table of random numbers. Those who chose to participate completed the questionnaires and mailed them back to the researcher in a self-addressed stamped envelope. Thirty-two surveys were returned, twenty-seven were completed. Therefore, the total sample set was 126.

Data Processing and Analysis

Descriptive statistical analyses were completed to classify, summarize, and describe the sample in terms of gender, age, educational background, years of experience

in nursing practice, area of nursing practice, and position within the organization. Each instrument was scored according to the scoring guidelines provided by the test authors. Frequency distributions, measures of central tendencies, and measures of variability were also calculated for the sample.

Statistical analyses were completed to examine the following null hypotheses (at the .05 level of significance).

$H_o 1$: There is no significant relationship between the nurses' levels of emotional intelligence and hardiness.

$H_o 2$: There is no statistically significant relationship between the nurses' levels of emotional intelligence and their perception of work-related stress.

$H_o 3$: There is no statistically significant relationship between the nurses' levels of hardiness and their perception of work-related stress.

$H_o 4$: There is no statistically significant difference in the level of emotional intelligence based on the nurses' area of clinical practice.

$H_o 5$: There is no statistically significant difference in the level of emotional intelligence in nurses based on their educational background.

$H_o 6$: There is no statistically significant difference in the level of emotional intelligence in nurses based on their number of years of experience.

$H_o 7$: There is no statistically significant difference in the level of work-related stress in nurses based on their area of clinical practice.

The first, second, and third null hypotheses explored the relationships between one's emotional intelligence, hardiness and stress levels. To examine $H_o 1$, $H_o 2$, and $H_o 3$,

Pearson Correlation coefficients were computed to examine the relationships between the nurses' levels of emotional intelligence, hardiness and job stress levels.

Based on the literature, it was thought that nurses should have relatively high levels of emotional intelligence and hardiness. The components of emotional intelligence are the ability to understand one's and other's emotions, the ability to regulate one's own feelings, and ability to use one's emotions in making decision and managing life (Salovey and Mayer, 1990). It is also thought that hardy individuals tend to have an internal locus of control and the ability to manage life problems (Kobasa, Maddi, & Kahn, 1982; Collins, 1996). Therefore, intuitively, it was thought that an individual with a high level emotional intelligence should also have a high level of hardiness. Similarly, emotionally intelligent and hardy individuals should also experience lower job related stress. This effect was examined using hardiness as a moderator variable.

The fourth, fifth, and sixth hypotheses explored whether there are differences between the nurses' area of clinical practice, educational background, and years of experience in nursing practice and their level of emotional intelligence. A one-way analysis of variance was used to examine the differences in the independent variables (area of clinical practice, educational background, number of years of experience) and the effects on the dependent variable (level of emotional intelligence).

Previous researchers agree that emotional intelligence can be learned and that it can increase as the person matures (Salovey and Mayer, 1990; Goleman, 1995; and Cooper, 1997). The present study, then, examined whether the nurses' educational background contributes to levels of emotional intelligence. Would the nurses with the

higher level of education have a corresponding emotional intelligence? Similarly, would years of experience in the profession increase the level of emotional intelligence?

Since nurses who practice in various clinical areas serve patients and families with different emotional needs, it is suggested that nurses tend to match their own emotional make up with the particular type of work that they do. For example, in the Emergency Department, nurses must be completely focused on administering life-saving measures. Personal emotion becomes secondary here, as nurses fight to keep the critically ill patient alive. On the other hand, in the Oncology unit, where nurses provide emotional and physical support to the dying patient, it is thought that emotional expression is a primary component of nursing care in this clinical area. These examples suggest that nurses might need different levels of emotional intelligence to understand others' emotions, to empathize, and to provide support in the different areas of clinical practice.

The seventh hypothesis was tested using a one-way analysis of variance to examine whether there was a significant difference in the level of work stress experienced by nurses who work in different clinical practice areas. The type of job stress in various clinical areas was thought to be quite different as well. In the Emergency setting, time is the most important factor in making a difference in whether the patient will survive a life-threatening event. On the other hand, workload or patient care assignment may often be the major cause of stress in a general medical unit.

Lastly, a multiple regression analysis was computed to determine whether emotional intelligence or hardiness was the most predictive of levels of stress. There was no evident as in the present review to suggest which is the stronger component, however,

the literature does suggest that emotional intelligence and hardiness are both related to levels of stress.

CHAPTER FOUR: FINDINGS

Introduction

Chapter Four presents the results of the statistical tests and analyses outlined in Chapter Three. Chapter Four provides the restatement of the purpose, demographical data, research questions and hypotheses, and a summary of all findings.

Restatement of the Purpose

The purpose of this study was to examine the relationship between emotional intelligence, hardiness and the nurses' perceptions of their work-related stress levels. Intuitively, one would think that emotionally intelligent nurses should be hardy individuals who therefore should perceive lower levels of job related stress. The study was conducted based on the original ideas of Mayer and Salovey's and Goleman's ideas of Emotional Intelligence; Kobasa, Maddi, & Kahn's theory on Hardiness; and Spielberger & Vagg's ideas on Job Stress. Three instruments were utilized: the Emotional Intelligence Scale, the Personal Views Survey III, and the Job Stress Survey.

Correlations between emotional intelligence, hardiness, and job related stress levels were examined, along with an examination of whether there are differences in emotional intelligence based on education, years of experience, and area of clinical practice. Lastly, the study examined whether there is a significant difference in the job stress levels experienced by nurses who work in different clinical areas.

Demographic Data

The demographic information gathered included eight areas: (1) age, (2) gender, (3) race, (4) type of organization where the nurses work, (5) position within the organization, (6) educational background, (7) number of years of experience, and (8) area of clinical practice. A total of 341 nurses were surveyed and a total of 137 were returned. Eleven respondents who did not meet the criteria to participate were excluded from the study (i.e., were not employed or practiced as nurses, did not fill out the questionnaire completely). The demographic data was collected on 126 practicing Registered Nurses utilizing the General Information Questionnaire (See Appendix B). The following are the results of the general information survey.

Gender

The sample was comprised of 9 (or 7.3 percent) male and 114 (or 92.7 percent) female nurses (See Table 2). National data typically shows that 94 percent of all nurses are female, while 6 percent are male (Florida Hospital Association, 1998). Therefore, the sample is similar to the national data in terms of gender distribution.

Table 2: Gender

Gender	Value	Frequency	Percent	Cum Percent
Male	1	9	7.3	7.3
Female	2	114	92.7	100.0

Age

The age of the nurses in the present study represented a normal distribution with 8 (or 6.5 percent) between 20-24 years of age, 11 (or 8.9 percent) between 25 to 29 years of age, 10 (or 8.1 percent) between 30 to 34 years of age, 21 (or 17.1 percent) between 35 to 39 years of age, 27 (or 22.0 percent) between 40 to 44 years of age, 20 (or 16.3 percent) between 45 to 49 years of age, 14 (or 11.4 percent) between 50 to 54 years of age, 9 (or 7.3 percent) between 55 to 59 years of age, and 3 (or 2.4 percent) age 60 and over (See Table 3). In 1998, the national average age of nurses was reported to be 44 years (Florida Hospital Association, 1998). Although it was impossible to determine the average age of the nurses in the sample, it seemed that over half (55.4%) of the nurses were between the ages of 35 and 49 years old.

Table 3: Age of the Participants

Age	Value	Frequency	Percent	Cum Percent
20-24 years	1	8	6.5	6.5
25-29 years	2	11	8.9	15.4
30-34 years	3	10	8.1	23.6
35-39 years	4	21	17.1	40.7
40-44 years	5	27	22.0	62.6
45-49 years	6	20	16.3	78.9
50-54 years	7	14	11.4	90.2
55-59 years	8	9	7.3	97.6
60 years and over	9	3	2.4	100.0

Race

One hundred and ten or 89 percent of the participants were Caucasian, and 4 (or 3.3 percent) were African American, 4 (or 3.3 percent) were Hispanic, and 4 (or 3.3 percent) were Asian American. One respondent (1 percent) did not indicate a race. There were no Native-American participants (See Table 4). Unfortunately, there was a poor representation of the racio-ethnic minorities.

Table 4: Race

Race	Value	Frequency	Percent	Cum Percent
Caucasian	1	110	89.4	89.4
African-American	2	4	3.3	92.7
Hispanic	3	4	3.3	96.0
Asian	5	4	3.3	99.3
Other	6	1	0.8	100.0

Organization.

Majority (99 or 80.5 percent) of the participants worked in hospitals, 2 (or 1.6 percent) worked at public health departments, 3 (or 2.4 percent) at colleges of nursing, 2 (or 1.6 percent) worked in insurance companies, 1 (or 0.8 percent) worked in a public school system, and 16 (or 13 percent) worked in organizations such as sameday (outpatient) centers, physician offices, primary clinics, home health, and/or nursing homes (See Table 5).

The Florida Hospital Association (1998) reports that where nurses work has changed in recent years. The proportion of nurses who work in the hospital setting has been decreasing in the last few years. They report that only 55 percent of the RN workforce is employed in hospital settings, down from 67% in 1994, 64% in 1992, and 68% in 1991. The second largest employer of Registered Nurses was nursing home. The report shows that 9.5 percent of nurses work in nursing homes, 7.1 percent in physician offices, and 5.3 percent in community home health. Other employers include outpatient centers, College of Nursing, schools, insurance companies and other industries (Florida Hospital Association, 1998).

The proportion of nurses who worked in this study sample clearly exceeded the national data. The large percentage (80.5%) of the nurses in this study sample worked in hospital settings was due to the sampling method. Volunteers were obtained from two hospitals and many of the Registered Nurse students also worked in hospital settings. In addition, the sample obtained from a registry list was from a city with only one hospital , which was also one of the largest employers in the city.

Table 5: Organization

	Value	Frequency	Percent	Cum Percent
Hospital	1	99	80.5	80.5
Health Department	2	2	1.6	82.1
College of Nursing	3	3	2.4	84.6
Insurance Company	4	2	1.6	86.2
Pubic School	5	1	0.8	87.0
Other	6	16	13.0	100.0

Position

The participants held various positions including staff or clinical nurse (54 or 43.9 percent), charge nurse or team leader (23 or 18.7 percent), department manager (10 or 8.1 percent), educator (14 or 11.4 percent), administrator (2 or 1.6 percent), and Nurse Practitioner or Advance Practice Specialist (12 or 9.8 percent). The rest held various other roles (8 or 6.5 percent) including case manager, risk manager, and quality improvement coordinator. Administrators were combined with "other" due to the small number in the statistical analysis (See Table 6).

The national data showed greater proportion (63%) of the nurses work as staff or clinical nurses (Florida Hospital Association, 1998). Therefore, the sample represented a smaller proportion (43.9%) of nurses who worked as staff or clinical nurses. However, the national data does not differentiate between staff and/or clinical nurses from charge nurse and/or team leader, in which case the sample, with a total percentage between staff/clinical nurses and charge nurse/team leader was 62.7%, which closely resembled the national data.

Table 6: Position

	Value	Frequency	Percent	Cum Percent
Staff/Clinical	1	54	43.9	43.9
Charge Nurse/ Team Leader	2	23	18.7	62.6
Manager	3	10	8.1	70.7
Educator	4	14	11.4	82.1
Administration	5	2	1.6	83.7
Nurse Practitioner/APS	6	12	9.8	93.5
Other	7	8	6.5	100.0

Education

Forty six (or 37.4 percent) of the nurses had Associate degrees, 10 (or 8.1 percent) graduated from a Diploma program, 45 (or 36.6 percent) had Bachelors degrees, 20 (or 16.3 percent) had Masters degrees, and 2 (or 1.6 percent) had doctoral degrees (See Table 7).

Table 7: Educational background of the participants

Degree	Value	Frequency	Percent	Cum Percent
Associate	1	46	37.4	37.4
Diploma	2	10	8.1	45.5
Bachelors	3	45	36.6	82.1
Masters	4	20	16.3	98.4
Doctoral	5	2	1.6	100.0

Area of clinical practice

The participants worked in various clinical practice areas including 35 (or 28.5 percent) in medical/surgical units, 29 (or 23.6 percent) in critical care units, 15 (or 12.2 percent) in maternal-child health units (including obstetric, pediatric, or neonatal intensive care units), 10 (or 8.1 percent) in emergency departments, 20 (or 16.3 percent) in outpatient services (including diagnostic, same-day centers, primary care clinics, or doctors' offices), and 14 (or 11.3 percent) worked in other areas including mental health, home health, operating rooms, case management, risk management, and quality improvement. The three participants from the clinical area "mental health" were combined in the "other" category in the statistical analysis (See Table 8).

Table 8: Area of Clinical Practice

Area of Practice	Value	Frequency	Percent	Cum Percent
Medical/Surgical	1	35	28.5	28.5
Critical Care	2	29	23.6	52.1
Maternal-Child Health	3	15	12.2	64.3
Emergency	5	10	8.1	72.4
Outpatient/Primary Clinic	6	20	16.3	88.7
Other	7	14	11.3	100.0

Number of years of experience

The sample represents a diverse group of nurses with respect to years of experience: 30 (or 24.4 percent) had 1 to 5 years of experience, 16 (or13 percent) had 6 to 10 years of experience, 14 (or 11.4 percent) had 11 to 15 years of experience, 21 (or 17.1 percent) had 16 to 20 years of experience, 11 (or 8.9 percent) had 21 to 25 years of experience, 19 (or 15.4 percent) had 26 to 30 years of experience, and 12 (or 9.8 percent) with over 30 years of experience (See Table 9).

Table 9: Number of Years of Experience

	Value	Frequency	Percent	Cum Percent
1-5	1	30	24.4	24.4
6-10	2	16	13.0	37.4
11-15	3	14	11.4	48.8
16-20	4	21	17.1	65.9
21-25	5	11	8.9	74.8
26-30	6	19	15.4	90.2
Over 30	7	12	9.8	100.0

Findings

Emotional Intelligence Scale

Emotional Intelligence (EI) scores were calculated by adding up the participant's responses over the 5-point scale from Strongly Disagree (1) to Strongly Agree (5) for all items. The responses to questions 5, 28, and 33 were coded in reverse. Three participants (ID # 8, 107, and 137) were excluded from the analysis for being extreme outliers (falling outside $\pm$ 2 standard deviations). Therefore the total sample of n = 123 was used in all statistical analyses. The range of the EI scores was 102.00 (minimum) to 158.00 (maximum). The mean for the present sample was 131.88, with a standard deviation of 11.89. The skewness was $-.136$ and there was a kurtosis of $-.366$, which indicates a relatively normal distribution (Isaac & Michael, 1997; SPSS, 1998). Cronbach's Alpha was .85 (See Table 10).

The normative data collected from a community sample of 328 men and women on the EI showed a mean score of 130.94 (with a standard deviations of 15.09). In addition, means were obtained from a small group of psychotherapists (mean = 134.92, SD=20.25), female prisoners (mean = 120.08, SD = 17.71), and substance abuse clients (mean = 122.23, SD = 14.08) (Schutte & Mallouf, in print). In general, the lower the EI score, the less emotionally intelligent the person is supposed to be. According to Schutte, the nurses' mean score of 131.88 with a standard deviation of 11.89 falls on the high end of the scale Therefore, it seems that nurses as a group have a higher mean score of emotional intelligence compared to the general population, particularly since the sample is a homogenous group (Personal telephone conversation with Nicola Schutte, PhD, March 6, 2000).

Table 10: Emotional Intelligence Scale

Emotional Intelligence Scale		
Sample size (n)	123	
Range	56.00	
Minimum	102.00	
Maximum	158.00	
Mean	131.88	
Standard Deviation	11.89	
Variance	141.35	
Skewness	- .136	Standard Error .218
Kurtosis	- .366	Standard Error .433
Cronbach's Alpha	. 85	

Personal View Survey III (Hardiness Attitude)

Hardiness Attitude scores were obtained by entering the participants' responses on the hard copies of the Personal View Survey III (PVS III) onto an online survey on the Hardiness Institute's website. The scores were calculated automatically and recorded onto a spreadsheet. Four scores were generated which represent the composite score of the Hardiness Attitude and the three subscales Commitment, Control, and Challenge.

The range of the Hardiness Attitude scores, as collected here, was between 47.00 to 82.00, with a mean of 63.20 and a standard deviation of 6.74. The skewness was -.006 and the kurtosis was -.094, which suggests a relatively normal distribution (Isaac & Michael, 1997; SPSS, 1998). The range of the subscale Commitment was between 13.0 and 27.00, with a mean of 21.99 and a standard deviation of 2.75. The range for the subscale Control was between 14.00 and 29.00, with a mean of 22.67 and a standard deviation of 2.88. The range for the subscale Challenge was between 10.00 and 27.00, with a mean of 18.52 and a standard deviation of 3.17 (See Table 11). The normative data was collected from a sample of more than 3,000 adolescents and adults, ranging in age from 15 to 74. The occupations represented by 73% of the original sample who worked, included utilities, insurance, health care, legal, military, high tech, sales, and teaching professions. Hardiness scores between 63 to 66 are considered average in the courage to cope effectively with change and stressful times (The Hardiness Institute, 1999). In comparing the nurses mean Hardiness Attitude score to the normative data, therefore, the nurses level of hardiness seemed to be in the low end of the "hardy" range.

The Cronbach's Alpha score obtained here, of .58, suggests some psychometric limitations with the measure, for the present sample. Examination of the questionnaire

that was utilized revealed a slight difference with the questions posted on the web for scoring purposes. The original set of questions (PVS III), obtained from The Hardiness Institute in October 1999, was utilized in data collection. There were two items (items number 23 and 24) that were different from the items posted on the web for scoring purposes. D. Koshaba (2000) from the Hardiness institute explained that the instrument was recently updated and the two questions were changed (Personal telephone conversation with Debra Koshaba, PhD, The Hardiness Institute, March 6, 2000). Therefore, the actual score that was input into the web-based scoring system may not match with the questions posted on the web. This may explain the low Cronbach's Alpha score for this sample.

Table 11: Personal View Survey III (Hardiness Attitude)

	Hardiness Attitude	Commitment	Control	Challenge
Sample size (n)	123	123	123	123
Minimum	47.00	13.00	14.00	10.00
Maximum	82.00	27.00	29.00	27.00
Mean	63.20	21.99	22.67	18.52
Standard Deviation	6.74	2.76	2.88	3.17
Variance	45.48	7.60	8.31	10.02
Skewness	- .006	- .631	.014	- .095
Standard Error	.218	.218	.218	.218
Kurtosis	- .094	.484	.183	- .007
Standard Error	.433	.433	.433	.433
Cronbach's Alpha	.58			

Job Stress Survey

The Job Stress Survey scores were obtained by calculating the participants' responses according to Spielberger and Vagg's (1999) The Job Stress Survey Professional Manual. Each participant had a set of nine scores: Job Stress Index (JSX), Job Stress Severity (JSS), Job Stress Frequency (JSF), Job Pressure Index (JPX), Job Pressure Severity (JPS), Job Pressure Frequency (JPF), Lack of Organizational Support Index (LSX), Lack of Organizational Support Severity (LSS), and Lack of Organizational Support Frequency (LSF). For the present analysis, the Job Stress Index scale was the primary focus. However, Table 12 shows the complete data for all subscales.

The Job Stress Index's skewness of .546 and kurtosis of .208 suggests a relatively normal distribution. The sample had a minimum score of 4.23 and a maximum score of 60.53, with a mean of 24.34 and a standard deviation of 12.01. The reliability was calculated for both parts of the Jobs Stress Survey (Severity and Frequency). The first part, the Severity subscale, consisted of thirty severity items, with a Cronbach's Alpha of .90. The second part of the survey, the Frequency subscale, also consisted of thirty items, with a Cronbach's Alpha of .89 (Isaac & Michael, 1997; SPSS, 1998).

The normative data was obtained from 983 people in a managerial/ professional group, with a mean of 20.19 with a standard deviation of 10.06 for the Job Stress Index (Speilberger & Vagg, 1999). The average overall score (Job Stress Index or JSX) from the nursing sample was 24.34 with a standard deviation of 12.01. This result supports earlier studies that conclude nursing as a high-stress profession (Marshall, 1980; Benner &Wrubel, 1989; Vicenzi, White, and Begun, 1997; Seago & Faucett, 1997).

Table 12: Job Stress Survey

	JSX	JSS	JSF	JPX	JPS	JPF	LSX	LSS	LSF
Sample(n)	123	123	123	123	123	123	123	123	123
Minimum	4.23	1.63	.67	1.00	1.20	.20	.00	1.80	.00
Maximum	60.53	7.93	8.20	59.70	8.60	9.00	67.50	9.00	7.80
Mean	24.34	5.56	4.20	29.07	5.28	5.46	21.46	6.07	3.20
Std. Dev.	12.01	1.14	1.76	13.93	1.43	2.22	13.96	1.37	1.84
Variance	144.31	1.30	3.08	194.08	2.04	4.95	194.98	1.89	3.40
Skewness	.546	- .731	-.002	.098	-.135	-.425	1.035	- .800	.474
S.E	.218	.218	.218	.218	.218	.218	.218	.218	.218
Kurtosis	.208	1.476	-.758	-.649	.154	-.716	1.336	.920	-.301
S.E	.433	.433	.433	.433	.433	.433	.433	.433	.433
Cronbach's Alpha: Severity				.90					
Cronbach's Alpha: Frequency				.89					

Hypotheses

The statistical analyses were completed in order to test the following null hypotheses (at the .05 level of significance).

Null Hypothesis One

$H_o 1$: There is no significant relationship between the nurses' levels of emotional intelligence and hardiness as measured using a correlation analysis of the Emotional Intelligence scores and the Hardiness Attitude scores. The Pearson Correlation coefficient yielded an r of .460 ($p = .000$). Consequently, the null hypothesis was rejected. A moderate positive and significant relationship was found between emotional intelligence and hardiness. Further examination of the PVS III subscales showed small to moderate but significant relationships between emotional intelligence and commitment ($r = .413$, $p = .000$), control ($r = .329$, $p = .000$), and challenge ($r = .271$, $p = .002$) subscales (See Table 13).

This finding supported the prediction that emotionally intelligent individuals tend to be involved in situations and able to control their reactions to the events effectively (Goleman, 1995). These characteristics overlap with the characteristics of hardy individuals (Kobasa, 1979) who tend to involve themselves in the experience, even stressful ones, rather than running away from the problem.

Table 13: Correlations between Emotional Intelligence and Hardiness and its subscales

		EI	Hardiness	Commitment	Control	Challenge
EI	r	--	.460**	.413**	.329**	.271**
	Sig		.000	.000	.000	.000
Hardiness	r		--	.821**	.691**	.753**
	Sig			.000	.000	.000
Commitment	r			--	.433**	.437**
	Sig				.000	.000
Control	r				--	.264**
	Sig					.003
Challenge	r					--
	Sig					

** Correlation is significant at the 0.01 level.

Null Hypothesis Two

H_o2: There is no statistically significant relationship between the nurses' levels of emotional intelligence and their perception of work-related stress as measured using a correlation analysis of the Emotional Intelligence (EI) scores and the Jobs Stress Index (JSX) scores. The Pearson Correlation coefficient yielded an r of -.095 ($p = .296$). Consequently the null hypothesis of no difference was accepted. No significant relationship was noted between the nurses' levels of emotional intelligence and their perception of work-related stress.

Although, the correlation coefficient between emotional intelligence and the overall perceptions of job related stress was in the expected direction, individuals with higher emotional intelligence tended to perceive lower job stress, the relationship was not significant. Additional examination of the other sub scales showed similar (in general negative and not significant) correlations between EI and Job Stress subscales, except for the Lack of Organizational Support Severity (LSS) subscale which showed a weak, positive relationship (See Table 14).

This finding did not support the notion that emotionally intelligent individuals have the ability to regulate one's emotions and to overcome their negative emotions and moodiness (Mayer & Salovey, 1993). Perhaps, Benner and Wrubel (1989) were more accurate in pointing out the complexity of coping with stress, due to the emotions that are tied to the events resulting in positive and/or negative feelings. One's experience of job stress may have nothing to do with one's emotional intelligence. The job stress still exists regardless of one's awareness and ability to regulate one's emotions.

Table 14: Correlations between Emotional Intelligence and Job Stress subscales

	EI	JSX	JSS	JSF	JPX	JPS	JPF	LSX	LSS	LSF
EI	--	-.095	-.006	-.081	-.053	-.063	-.050	-.059	.033	-.078
Sig		.296	.951	.376	.558	.486	.582	.514	.713	.389
JSX		--	.515**	.909**	.437**	.385**	.746**	.904**	.471**	.865**
Sig			.000	.000	.000	.000	.000	.000	.000	.000
JSS			--	.211*	.305**	.867**	.141	.412**	.871**	.263**
Sig				.019	.001	.000	.119	.000	.000	.003
JSF				--	.359**	.063	.887**	.830**	.264**	.875**
Sig					.000	.492	.000	.000	.003	.000
JPX					--	.338**	.388**	.299**	.195**	.265**
Sig						.000	.000	.001	.031	.003
JPS						--	-.022	.239**	.539**	.145
Sig							.806	.008	.000	.109
JPF							--	.573**	.227*	.611**
Sig								.000	.012	.000
LSX								--	.463**	.956**
Sig									.000	.000
LSS									--	.289**
Sig										.001
LSF										--
Sig										

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Null Hypothesis Three

H_o3: There is no statistically significant relationship between the nurses' levels of hardiness and their perception of work-related stress using a correlational analysis between the Personal View Survey (Hardiness Attitude) score and the Job Stress Index. The Pearson Correlation coefficient yielded an r of -.158 (p = .082). Consequently the null hypothesis of no difference was accepted. Further examination, however, revealed a significant negative relationship between Hardiness Attitude and Job Pressure Index (r of -.195, p = .030). Similarly, there was a significant negative relationship between Hardiness Attitude and Job Pressure Severity (r of -277, p = .002).

In addition, all the Hardiness subscales (Commitment, Control, and Challenge) were found to have small negative, but significant, relationships with many of the Job Stress subscales. Commitment was negatively correlated to Job Stress Index or JSX (r of -.246, p = .006), Job Stress Severity or JSS (r of -.181, p = .045), Job Pressure Index or JPX (r of -.230, p = .011), Job Pressure Severity or JPS (r of -.242, p = .007), Lack of Organizational Support Index or LSX (r of -.236, p = .008), and Lack of Organizational Support Frequency or LSF (r of -.219, p = .015). Control was negatively correlated to Job Stress Index or JSX (r of -.201, p = .026) and Job Pressure Index or JPX (r of -.219, p = .015). Similarly, Challenge was positively correlated to Job Stress Frequency or JSF (r of .208, p .021), and Job Pressure Frequency or JPF (r = .260, p = .004), but negatively correlated to Job Pressure Severity or JPS (r = -.208, p = .021). Of the Job Stress subscales, Job Pressure Severity and Job Pressure Index had the most significant negative relationships with the overall Hardiness measure (See Table 15).

Table 15: Correlations between Hardiness and Job Stress and Job Stress subscales

	HA	COM	CON	CHA	JSX	JSS	JSF
Hardiness	--	.821**	.691**	.753**	-.158	-.162	-.045
Sig		.000	.000	.000	.082	.073	.622
Commitment		--	.433**	.437**	-.246**	-.181*	-.145
Sig			.000	.000	.006	.045	.110
Control			--	.264**	-.201*	-.114	-.175
Sig				.003	.026	.209	.053
Challenge				--	.080	-.071	.208*
Sig					.380	.433	.021
JSX					--	.515*	.909**
Sig						.000	.000
JSS						--	.211*
Sig							.019
JSF							--
Sig							
JPX							
Sig							
JPS							
Sig							
JPF							
Sig							
LSX							
Sig							
LSS							
Sig							
LSF							
Sig							

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table 15 (continued)

	JPX	JPS	JPF	LSX	LSS	LSF
Hardiness	-.195*	-.277**	.055	-.106	-.002	-.093
Sig	.030	.002	.543	.245	.981	.308
Commitment	-.230*	-.242**	.004	-.236**	-.057	-.219*
Sig	.011	.007	.969	.008	.534	.015
Control	-.219*	-.150	-.143	-.106	-.031	-.119
Sig	.015	.098	.114	.242	.734	.192
Challenge	.001	-.208*	.260**	.089	.064	.129
Sig	.991	.021	.004	.330	.482	.155
JSX	.437**	.385**	.746**	.904**	.471**	.865**
Sig	.000	.000	.000	.000	.000	.000
JSS	.305**	.857**	.141	.412**	.871**	.263**
Sig	.000	.000	.119	.000	.000	.003
JSF	.359**	.063	.887**	.830**	.264**	.875**
Sig	.000	.492	.000	.000	.003	.000
JPX	--	.338**	.388**	.299**	.195**	.265**
Sig		.000	.000	.001	.031	.003
JPS		--	-.022	.239**	.539**	.145
Sig			.806	.008	.000	.109
JPF			--	.573**	.227*	.611**
Sig				.000	.012	.000
LSX				--	.463**	.956*
Sig					.000	.000
LSS					--	.289**
Sig						.001
LSF						--
Sig						

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Null Hypothesis Four

H_o4: There is no statistically significant difference in the level of emotional intelligence based on the nurses' area of clinical practice. The results of the Analysis of Variance between Emotional Intelligence scores as the dependent variable and areas of clinical practice as the independent variable showed no significant differences ($F = 1.624$, $p = .159$) (See Table 16). Therefore, the null hypothesis was not rejected.

Table 16: ANOVA: Emotional Intelligence (DV) and Area of Clinical Practice (IV)

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	1119.422	5	223.884	1.624	.159
Within Groups	16125.749				
Total	17245.171				

Null Hypotheses Five

H_o5: There is no statistically significant difference in the level of emotional intelligence in nurses based on their educational background. The results of the Analysis of Variance between Emotional Intelligence scores as the dependent variable and the nurses' educational background as the independent variable revealed an F value of .439 ($p = .780$). Therefore null hypotheses five was not rejected (See Table 17).

There has been no study in the past that examined the nurses' emotional intelligence based on their educational background. However, the prediction was made based on the notion that further education may improve the nurses' level of emotional intelligence. Nurses who continued their education were motivated by their desire to learn and fulfill their desire for personal achievement. This finding did not support the prediction. Therefore perhaps emotional intelligence is more a function of one's personal characteristics rather than their academic achievement.

Table 17: ANOVA: Emotional Intelligence (DV) and Education (IV)

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	252.692	4	63.173	.439	.780
Within Groups	16992.479	118	144.004		
Total	17245.171	122			

Null Hypothesis Six

H_o 6: There is no statistically significant difference in the level of emotional intelligence in nurses based on their number of years of experience. The results of the Analysis of Variance between Emotional Intelligence scores as the dependent variable and the number of years of experience as an independent variable revealed an F value of 1.419 ($p = .213$) failed to reject the null hypothesis. Therefore, there was no statistically significant difference in the levels of emotional intelligence between nurses who had various years of experience (See Table 18). This finding did not support the assumption that experience and longevity as practicing nurses helps nurses to develop their emotional intelligence.

Table 18: ANOVA: Emotional Intelligence (DV) and Years of Experience (IV)

	Sum of Squares	Df	Mean Square	F	Sig
Between Groups	1179.096	6	196.516	1.419	.213
Within Groups	16066.074	116	138.501		
Total	17245.171	122			

Null Hypothesis Seven

H_o 7: There is no statistically significant difference in the level of work-related stress in nurses based on their area of clinical practice. The results of the Analysis of Variance between Job Stress Index as a dependent variable and the area of clinical practice as an independent variable showed an F value of 1.297 ($p = .270$). Therefore, there was no statistically significant difference in levels of job stress as relates to areas of clinical practice (See Table 19).

There has never been a formal study to compare the levels of work related stress in nurses who work in different clinical practice areas. Therefore, based on this study findings, it seemed that nurses who worked in different clinical practice area experience about the same levels of job stress.

Table 19: ANOVA: Job Stress Index (DV) and Area of Clinical Practice (IV)

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	924.860	5	184.972	1.297	.270
Within Groups	16680.582	117	142.569		
Total	17605.442	122			

Other Findings

Moreover, an exploratory Analysis of Variance was computed to determine whether there were any differences in Hardiness Attitude scores based on the nurses' area of clinical practice. The results of the Analysis of Variance ($F = .837$, $p = .526$) suggested that there were no differences in Hardiness Attitudes based on the nurses' area of clinical practice (See Table 20).

Table 20: ANOVA: Hardiness Attitude (DV) and Area of Clinical Practice (IV)

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	191.641	5	38.328	.837	.526
Within Groups	5356.277	117	45.780		
Total	5647.919	122			

In addition to the hypotheses testing, a hierarchical multiple regression was performed to determine whether emotional intelligence or hardiness was a better predictor of how one perceives work related stress. A multiple regression was computed using Emotional Intelligence (Independent Variable 1) and Hardiness (Independent Variable 2) on the Job Stress Index (Dependent Variable). It was found that Hardiness Attitude had a greater standardized beta coefficient (Beta = - .144, p = .157) compared to the Emotional Intelligence standardized beta coefficient (Beta = .028, p = .780). Therefore, hardiness seems to be a better predictor of job stress, although not significantly so (See Table 21).

Table 21: Multiple Regression of Emotional Intelligence (IV-1) and Hardiness (IV-2) on Job Stress Index (DV)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	44.401	13.132		3.381	.001
EI	-.02876	.103	-.028	-.280	.780
Hardiness	-.257	.181	-.144	-1.424	.157

Predictors (Constant), Hardiness, EI
Dependent Variable: JSX

Summary

This chapter presented the results of the statistical analyses proposed in Chapter Three. Also included were detailed demographical and background data. All statistical analyses were performed using Microsoft Excel and SPSS 8.0.

The demographic information gathered included eight areas: gender, age, race, organization, position, education, area of clinical practice, and number of years of experience. The sample seems to be similar to the general nursing population in terms of gender and age. Pearson Correlation Coefficients were calculated to test the significance of correlation for the first, second, and third hypotheses. A significant positive relationship ($r=.46$) between Emotional Intelligence and Hardiness was noted. However, the analyses showed no statistically significant relationship between the nurses' emotional intelligence and job stress; nor was there any relationship between hardiness and job stress.

Analyses of variance were calculated to determine the differences for the fourth, fifth, sixth, and seventh hypotheses. No significant differences were noted in the levels of emotional intelligence based on the nurses' area of clinical practice, emotional intelligence and educational background, or emotional intelligence and the number of years of experience. Similarly, no significant differences were noted in the level of stress perceived by the nurses who practiced in different clinical areas. Lastly, based on a multiple regression analysis, it was found that hardiness is a better predictor of stress than emotional intelligence, although these results were not significant.

Chapter Five will present a summary of the entire study, implications, and recommendations of the study.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

Chapter Five presents the summary of the study, the conclusions of the study based on the analyses of data presented in Chapter Four, the limitations of the study, the implications for practice and the recommendations for future research.

Summary

The purpose of this study was to examine the relationship between emotional intelligence, hardiness and the nurses' perceptions of their work-related stress levels. The study was conducted based on Salovey and Mayer's (1990) and Goleman's (1995) theory of Emotional Intelligence; Kobasa, Maddi, & Kahn's (1982) theory on Hardiness; and Spielberger & Reheiser's (1994) theory on Job Stress. Three instruments were utilized: the Emotional Intelligence Scale (Schutte, 1998), Personal Views Survey III (The Hardiness Institute, 1999), and Job Stress Survey (Spielberger & Vagg, 1999).

Although there have been several studies conducted to examine hardiness and stress among nurses, there has never been a study on emotional intelligence among registered nurses. Intuitively, it is thought that emotionally intelligent nurses should be hardy individuals who therefore should perceive lower levels of job related stress.

There were several questions to be answered by this study. Are nurses who are emotionally intelligent more hardy? Do nurses who are emotionally intelligent perceive lower job-related stress? Do hardy nurses perceive lower job-related stress? What is the relationship between emotional intelligence and stress on the job for nurses, while examining hardiness levels? Are there differences in the nurses' levels of emotional intelligence based on their clinical practice or specialty areas? Are there differences in the nurses' levels of emotional intelligence and their educational background? Are there differences in the nurses' levels of emotional intelligence and how long they have practiced as nurses? Finally, do nurses who work in different clinical specialty areas experience different levels of work-related stress?

The Problem

Although many studies have explored job related stress and the nurses' ability to manage stress, managing and leading nurses during turbulent times is a significant challenge for health care managers. In the health care industry, nurses are among the most valuable resources in delivering health care services, particularly for their cognitive intelligence or intellectual capabilities to perform the clinical and technical skills. However, cognitive intelligence is only a small part of what makes nurses function as caring health care professionals. In addition to the clinical and technical competencies, nurses must also be proficient in rendering psychological and emotional care to their patients.

Nurses also need to understand their own emotions in facing life and death situations, have empathy for their patients and families, and be able to regulate their

emotions. In an environment of constant change and high stress, it is just as important for the nurses to manage their work-related and personal stressors. Thus, in addition to cognitive intelligence, nurses must also possess and demonstrate emotional intelligence. By discounting the importance of emotional intelligence, and focusing only on clinical knowledge and technical skills, health care leaders could very well miss a great opportunity to gain positive outcomes from nursing, particularly since the constructs of emotional intelligence are seen as inherently part of the nursing profession.

Therefore, there is a need to gain more understanding regarding the constructs of emotional intelligence in terms of human resource management. Since the competencies of emotional intelligence can be learned (Cooper & Sawaf, 1997; Goleman, 1998a), then potentially it can also be included as part of nursing continuing education and professional development. There is also a need to expand the empirical research base addressing emotional intelligence, hardiness and their relationships with the nurses' ability to manage job related stress.

Hypotheses

Null Hypothesis One

There was a moderate positive and significant relationship between the nurses' levels of emotional intelligence and hardiness as measured by a Pearson Correlation analysis of Emotional Intelligence (EI) scores and Hardiness Attitude (HA) scores. Further examination of the PVS III subscales also showed a small to moderate positive, but significant, relationships between emotional intelligence and the commitment, control, and challenge subscales.

Table 22: **Relationships between Emotional Intelligence, Hardiness and its subscales.**

			Correlations
↑Emotional Intelligence	→	↑Hardiness Attitude	r .460
			Sig .000
↑ Emotional Intelligence	→	↑Commitment	r .413
			Sig. .000
↑ Emotional Intelligence	→	↑Control	r .329
			Sig. .000
↑ Emotional Intelligence	→	↑Challenge	r .271
			Sig. .000

Null Hypothesis Two

There was no statistically significant relationship between the nurses' levels of emotional intelligence and their perception of work-related stress as measured by correlation analysis of the Emotional Intelligence scores and the Jobs Stress Index scores. Although the correlation coefficient was in the predicted direction, individuals with higher levels of emotional intelligence tended to perceive lower job stress, the relationship was not significant.

Null Hypothesis Three

There was no statistically significant relationship between the nurses' levels of hardiness and their perception of work-related stress as measured by the correlation coefficient between Personal View Survey (Hardiness Attitude) scores and Job Stress Index scores. However, further examination of Hardiness Attitude scores and Job Pressure Severity scores, showed a negative and significant relationship. In addition, all the hardiness subscales, commitment, control, and challenge, were found to have small negative but significant relationships with many of the job stress subscales (See Table 23).

Table 23: Relationships between Hardiness and Job Stress

			Correlations
↑ Hardiness	→	↓ Job Pressure Index	r -.195
			Sig .030
↑ Hardiness	→	↓ Job Pressure Severity	r -.277
			Sig .002
↑ Commitment	→	↓ Job Stress Index	r -.246
			Sig .006
↑ Commitment	→	↓ Job Stress Severity	r -.181
			Sig .045
↑ Commitment	→	↓ Job Pressure Index	r -.230
			Sig .011
↑ Commitment	→	↓ Job Pressure Severity	r -.242
			Sig .007
↑ Commitment	→	↓ Lack of Organizational Support Index	r -.236
			Sig .008
↑ Commitment	→	↓ Lack of Organizational Support Frequency	r -.219
			Sig .015
↑ Control	→	↓ Job Stress Index	r -.201
			Sig .026
↑ Control	→	↓ Job Pressure Index	r -.219
			Sig .015
↑ Challenge	→	↓ Job Stress Frequency	r -.208
			Sig .021
↑ Challenge	→	↓ Job Pressure Severity	r -.208
			Sig .021
↑ Challenge	→	↓ Job Pressure Frequency	r -.260
			Sig .004

Null Hypothesis Four

No statistically significant differences were noted in the level of emotional intelligence for nurses, based on their area of clinical practice as evidence. The Analysis of Variance test between Emotional Intelligence scores, as the dependent variable, and area of clinical practice as the independent variable showed no differences.

Null Hypotheses Five

No statistically significant differences were noted in the emotional intelligence levels of nurses, based on their educational backgrounds. The Analysis of Variance test between Emotional Intelligence scores, as the dependent variable, and the nurses' educational background, as the independent variable, showed no significant differences.

Null Hypothesis Six

No statistically significant differences were noted in the level of emotional intelligence for nurses, based on their number of years of experience. The Analysis of Variance test between Emotional Intelligence scores, as the dependent variable, and the number of years of experience, as the independent variable, showed no significant differences.

Null Hypothesis Seven

There was no statistically significant difference in the level of work-related stress in nurses and their area of clinical practice, based on the results of the Analysis of Variance between the Job Stress Index and the area of clinical practice.

In addition to the hypotheses testing, a multiple regression was performed to determine whether emotional intelligence or hardiness was a better predictor of how one perceives work related stress. It was found that Hardiness Attitude had a greater beta coefficient compared to Emotional Intelligence, although the values were not statistically significant.

Summary of the Results

The demographic data showed a representation of nurses from various age, educational backgrounds, clinical practice areas, and years of experience. The small representation of male nurses in the sample prohibited an analysis for gender differences. In comparison to the national data, the sample's gender and age distributions showed similar patterns. There was a disproportionate number of females, as compared to males. The largest group of them was between 40 and 44 years, and the overwhelming majority was Caucasian.

The sample also included a higher percentage of nurses with master's degrees than the general nursing population. One possible reason for this was perhaps due to the fact that nurses with higher level of education tended to be more interested and were more willing to participate in such research studies – although this was not known for sure and perhaps was due to the sampling method utilized. Most of the population also worked as staff or clinical nurses. The years of experience were also almost equally distributed across the different categories (suggesting a more balanced workforce than expected), most worked in the medical surgical and critical care areas. Furthermore, a greater proportion of the sample group worked in hospital settings, which is somewhat

inconsistent with the national data (Florida Hospital Association, 1998). One of the obvious reasons was due to the sampling method. Volunteers were obtained from two hospitals and many of the Registered Nurse students also worked in hospital settings. Furthermore, the random sample obtained from a registry list was from a city with only one hospital, which happened to be one of the largest health care organizations in the city.

The nurses' mean score for Emotional Intelligence was slightly higher with smaller variability than Schutte's (1998) normative sample. The Emotional Intelligence scores obtained here, for nurses, was closer to the clinical psychologists, but higher than the general population results.

The nurses' PVSIII (Hardiness attitude) mean score fell in the fiftieth percentile. Hardiness scores in the 40 to 60 percentile range are considered as average in the Hardiness attitude which is defined as the flexibility and courage to cope effectively with changing and stressful times (The Hardiness Institute, 1999). Scores above or below this range, respectively, indicate higher or lower hardiness. Therefore, the nurses demonstrated an average level of hardiness.

Similarly, as was mentioned in the findings section, the nurses' perceptions of job stress were somewhat high, as compared to the normative data for this instrument – but not significantly so. Although, compared with other population groups it seems that the nurses' score was slightly higher than other group norms. For example, the clerical/skilled maintenance workers group had a mean of 19.65, a standard deviation 12.4, and Cronbach's alpha .91. The senior military group had a mean 20.81, a standard deviation of 8.00, Cronbach's alpha .84 (Spielberger & Vagg, 1999). Nevertheless, this

finding was somewhat inconsistent with the earlier studies that conclude that nursing is a high-stress profession (Marshall, 1980; Benner & Wrubel, 1989; Vicenzi, White, and Begun, 1997; Seago & Faucett, 1997). Perhaps the difference in the degree of stress was due the fact that these researchers utilized different job stress assessment measures.

The correlation between emotional intelligence and hardiness in the present study was an interesting one. This result tended to support Goleman's (1995) assertion that individuals with a higher level of emotional intelligence tend to have the commitment and motivation to stick with a situation at hands. The ability to regulate one's own emotions and delay gratification also helps the individual to not only complete the task, but also to see change as a new challenge and opportunity. Regardless of the situation, then, the individual feels in control. Goleman's Emotional Intelligence ideas might overlap, or at least the numbers tracked together here, with some of the Hardiness components - a sense of personal commitment, having a sense of control, and perceiving change as a challenge.

The scatter plots showed an inverse relationship between the nurses' scores of Emotional Intelligence and the Job Stress Index scales, although the relationship was not statistically significant. Based on the results here, if one has a higher level of emotional intelligence, it does not necessarily means that the person feels less stressed. The Job Stress Index scale provides an estimate of the overall level of occupational stress experienced by a respondent in her/his work setting (Spielberger & Vagg, 1999). It may be then, that the stressors and the frequency of their occurrences exist regardless of one's emotional intelligence or cognitive intelligence for that matter.

The results also showed that there was no statistically significant difference in the nurses' level of emotional intelligence and their areas of clinical practice. It is interesting to note however, that nurses who worked in the outpatient setting had the highest mean emotional intelligence scores (mean = 135.4) although not significantly so. This suggests that further examination might explore the differences in practice, management style, as well as individual personality as relates to emotional intelligence.

Most of the nurses in the present study worked in hospital settings and tended to practice in the medical/surgical areas. Typically, new nurses are assigned to these areas due to the higher vacancies in these departments. In the inpatient areas such as medical/surgical or critical care areas, patients usually have higher acuity (they are sicker), stay for several days, have complex medical problems, and require more clinical care as well as emotional support. The nurses practice solely based on physician driven protocols or orders. The present study showed the mean for this group on stress to be higher than those who worked in the outpatient area, although not significantly so. This findings needs to be investigated further as typically new and less experienced nurses are often reported to be the victims of stress and burnout due to their lack of experience, lack of confidence (Price & Mueller, 1981; Decker, 1997), heavy workload, low decision latitude, and feelings of less control of their practice (Karasek, 1979; Gibson, Ivancevich, and Donnelly, 1997).

Lastly, the data analysis showed that hardiness may be a better predictor of job stress than emotional intelligence – although the results were not significant here. Hardiness is supposedly a personality characteristic that neutralizes the effects of stressful events (McCranie, Lambert, & Lambert, 1987). There does seem to be support

from earlier studies that hardier nurses experienced lower levels of burnout than those who are "less hardy" (Keane, Ducette, & Adler, 1985; Rich & Rich, 1987). On the other hand, emotional intelligence is supposed to be a set of personal and social competencies that help in understanding and managing one's own and other's emotions. Although many authors suggest that emotional intelligence may help individuals cope with stress and life's adversities, there has not been a great deal of empirical support for this conclusion.

In summary, those nurses who tend to be hardy, also tend to be emotionally intelligent – although this result should be interpreted with some caution due to the limited sample size in the present study. Clearly, the present study supports the idea that it is difficult to measure personality characteristics. Some other limitations of the study seems to be in order.

Limitations

In addition to the potential reliability problems with the Hardiness measure, the present study was limited to nurses in the central Florida area, based on a voluntary convenient and random samples. It was thought that the sample was descriptive of nurses in general (due to sampling from multiple sources – hospitals, educational settings, and a registry list and the fact that the age and gender demographics matched national trends). The race and the types of organizations worked for did not match other population data (Florida Hospital Association, 1998). Although the sample size was considered sufficient here, the generalizability of the findings to the nursing population in general may be

somewhat limited due to a relatively small sample size (approximately 40% of the 341 requested responses were obtained).

The timing and the method of data collection may have affected the results as well. Unfortunately, the winter months are the worst time in terms of workload and stress that nurses experience. Typically, this is a seasonal peak period in census and workloads in hospitals due to the influx of northern visitors in central Florida. In addition, there is also a concurrent problem with temporary increases in the number of sick employees with the flu, creating in addition, a staffing crisis in the midst of a heavier workload. Therefore, in addition to the normal stressors, the winter months tend to intensify the level of stress that nurses experience. Assessing the nurses' hardiness and stress levels during periods of higher stress may have yielded artificially lower Hardiness Attitude scores and higher Job Stress Index scores.

Ideally, the data should be collected in a controlled environment where all potential participants have the same experiences, work in the same organizations, and where they complete the survey at the same time. Although the data collection, here, occurred within the same relative time frame, clearly not all organizations experience the same kind of stressors at the same time. Again, assessing the nurses' hardiness and stress levels during periods of higher stress, as was true here, may have yielded artificially lower Hardiness Attitude scores and higher Job Stress Index scores.

Another limitation here was the self-reporting nature of the questionnaire. The results certainly depended on how the respondent felt or thought about things at the time they completed the surveys. For example, although one question may have asked about the frequency of occurrence of certain events within the last six months, the respondent

may have recalled the intensity of the stressor within the recent past. Clearly these perceptual differences may explain the results obtained here.

The present results also validate the difficulty in measuring constructs such as social skills, personality characteristics, or emotional intelligence – especially if using self-report measures. Due to the anonymous nature of the study, there was no way to behaviorally validate the obtained responses.

Implications for Practice

There are two important implications for practice related to the results of the present study. First, for the staff or clinical nurses, there is a definite need for clinical nurses to learn about emotional intelligence and hardiness. Although both emotional intelligence and hardiness are personality characteristics, authors on the subjects propose that these traits can be learned (Mayer & Salovey, 1997; Goleman, 1995; Cooper & Sawaf, 1997; Kobasa, Maddi, & Kahn, 1982).

According to Gardner, human beings are endowed with multiple intelligences, including interpersonal and intrapersonal intelligences. These interpersonal and intrapersonal competencies are also part of the emotional intelligence repertoire. Based on this notion, every person should have a varying degree of many intelligences – an effort should be made, then, to increase the levels of emotional intelligence for nurses. Undoubtedly, nurses must have the cognitive intelligence to attain the necessary clinical and technical competencies. However, caring for other human beings in one of the most stressful periods of their lives, requires exceptional interpersonal and intrapersonal intelligences. In addition to understanding and being able to manage one's own

emotions, the nurse must also be able to recognize and act appropriately in managing other's emotions.

Like most professions, nurses typically do not receive formal instructions regarding how to enhance one's personal and social competencies or hardiness. However, learning and understanding these concepts may heighten one's awareness and understanding of one's self. Similarly, understanding stress and its effects on one's behavior, and outlook of life, will hopefully help one to decide how to handle or cope with stressors. In the final analysis, it is up to the individual how he/she manages or copes with change and challenges that come along. By and large, however, individuals make decisions based on past experiences and emotions that are attached to similar experiences. Therefore, the ability to understand and regulate one's emotions, and to do that consistently, will certainly help in the decision making process.

The second implication is related to the management of human resources for the health care leaders. In service oriented health care environments, it is crucial to manage and lead those who provide the health care service wisely. Managerial competency in financial management is important, but managing human resources is also critical to the organization's success. Particularly in times of nursing shortages, nursing retention and turnover have a direct impact on finance, productivity, employee satisfaction, patient (customer) satisfaction, as well as clinical outcomes. Organizational development efforts must include management training to help in understanding the underlying subjective organization "emotions" beyond the objective data. Managing human emotions maybe far more difficult than managing dollars. Failure to recognize and address organization "emotions" may lead to negative outcomes such as apathy, dissatisfaction, passive

aggressiveness, covert behavior, unionization, etc. Attending to issues, such as emotional intelligence, individual hardiness levels, and stress levels, may make for a better or stronger organization.

Recommendations

Clearly, since this is the first study on emotional intelligence among nurses, that the author knows of, perhaps this is a beginning. The Emotional Intelligence scale might be used as a self-assessment tool to help staff nurses, particularly those in high stress clinical areas, to identify areas where they may want to improve their emotional intelligence attributes. Although no statistically significant findings were noted between emotional intelligence and job stress, the results were in the predicted directions. Therefore, a replication of the present study is recommended to examine – compare and contrast - the results for other nursing groups.

In addition, health care managers may want to use the Hardiness and Job Stress Survey tools as assessment tools, and as adjuncts, to lead discussions relating to stress management, as well as for self and professional development. Addressing the nurses' stressors and helping nurses overcome stress reactions should be a key to successful nursing management. Similarly, future studies should examine the reliability of the hardiness measure and the relationship of various parts of the Job Stress Survey to various parts of the Hardiness measure (as several of these relationships were significant). The relationship between Hardiness and Emotional Intelligence was also significant. The various subscales of the Hardiness measure should also be examined further – as the relationships between the specific parts of hardiness and emotional

intelligence were significant - perhaps these two constructs may have even been measuring similar concepts (commitment, control and/or challenge).

Nursing administrators should also address the various demographic trends from this data: the lack of males and minorities/protected members among this professional group, the fact that most of the nurses here were middle-aged (and what affect this will have on the applicant pool in the future), the fact that most worked in the clinical areas (i.e., medical/surgical and critical care types), the fact that there are increasing number of better educated (Bachelors and Master's prepared) nurses, the fact that there seemed to be a good balance of nurses with years of experience among the sampled group, and the fact that most seemed to be working in hospitals. All of these findings suggest some important information for recruiters and administrators.

Replication of the present study should also include data collection during times outside seasonal peak periods – perhaps even longitudinally. Data collection from the staff of only one organization may also help the management team to assess the effectiveness of various intervention strategies as relate to stress levels, hardiness, and the development of emotional intelligence.

Lastly, emotional intelligence, hardiness and stress management should be included in the basic, as well as the continuing nursing education curriculum. Affective education components to help with the hardiness, the emotional intelligence, and management of stress levels of nurses should, at least, be considered along with the cognitive and technical skills of this important profession. Clearly, further research should more closely examine the relationships among these three affective variables for nurses.

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APPENDICES

Appendix A

LETTER OF INFORMED CONSENT

Dear Registered Nurse:

I am a graduate student from the University of Sarasota, College of Business Administration. I am requesting that you participate in a study investigating the relationships between emotional intelligence, hardiness, and job stress in Registered Nurses.

As a participant in this research, you will be asked to complete a short general information questionnaire, as well as the questionnaires. Your participation will take approximately 30 minutes. Participation in this research is strictly voluntary. You may refuse to participate, or choose to stop your participation at any point in the research, without penalty or negative consequences of any kind. There are no known risks involved by participating in this study; it involves simply completing the surveys.

The information you provide for this research will be treated confidentially, and all raw data will be kept in a secured file by the researcher. The questionnaire packages will be coded for the purpose of statistical analysis only. Results of the research will be reported as aggregate summary data. Your individual scores will not be available to you or anyone else; however, if you would like the general results of the study, please contact the researcher and a summary of the findings will be mailed to you upon the completion of the research project.

Return of the completed questionnaires will be considered your consent to participate in this study. Except for the satisfaction of participating in this study, there will be no direct or immediate personal benefits from your participation in this research. However, the results of the research may facilitate our understanding of the nursing profession and the characteristics of the people who provide nursing services.

Thank you very much for your assistance and contribution to the profession. I sincerely hope you will participate in the study. If, at any time you have any questions, need further information, or want a copy of the summary of the study, please contact

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Appendix B

GENERAL INFORMATION

Gender:

____ Male
____ Female

Education:

____ Associate degree
____ Diploma
____ Bachelor's degree
____ Other: _____

Age:

____ 20-24
____ 25-29
____ 30-34
____ 35-39
____ 40-44
____ 45-49
____ 50-54
____ 55-59
____ > 60

Years in nursing practice:

____ 1- 5
____ 6-10
____ 11-15
____ 16-20
____ 21-25
____ 26-30
____ > 30

Race:

____ Caucasian
____ Afro-American
____ Hispanic
____ Native American
____ Asian
____ Other: _____

Current position:

____ Staff nurse
____ Charge nurse/Team leader
____ Manager
____ Instructor/Educator
____ Administrator
____ Other: _____

Area of nursing practice/specialty:

____ Medical/Surgical
____ Critical Care/Cardiovascular
____ Maternal Child health
____ Mental Health
____ Emergency
____ Outpatient/Clinic
____ Other: _____

Current employment:

____ Hospital
____ Public health department
____ School/College of nursing
____ Insurance company
____ Public school
____ Other: _____

Appendix C

PART I

Directions:

Each of the following items asks you about your emotions or reactions associated with emotions. After deciding whether a statement is generally true for you, use the 5-point scale to respond to the statement. Please circle:

"1" if you strongly disagree (SD) that this is like you,
"2" if you somewhat disagree that this is like you,
"3" if you neither agree nor disagree that this is like you,
"4" if you somewhat agree that this is like you, and
"5" if you strongly agree (SA) that this is like you.

There are no right or wrong answers.

		SD				SA
1	I know when to speak about my personal problems to others.	1	2	3	4	5
2	When I am faced with obstacles, I remember times I faced similar obstacles and overcame them.	1	2	3	4	5
3	I expect that I will do well on most things I try.	1	2	3	4	5
4	Other people find it easy to confide in me.	1	2	3	4	5
5	I find it hard to understand the non-verbal messages of other people	1	2	3	4	5
6	Some of the major events of my life have led me to re-evaluate what is important and not important.	1	2	3	4	5
7	When my mood changes, I see new possibilities.	1	2	3	4	5
8	Emotions are one of the things that make my life worth living.	1	2	3	4	5
9	I am aware of my emotions as I experience them.	1	2	3	4	5
10	I expect good things to happen.	1	2	3	4	5
11	I like to share my emotions with others.	1	2	3	4	5
12	When I experience a positive emotion, I know how to make it last.	1	2	3	4	5
13	I arrange events others enjoy.	1	2	3	4	5

		SD				SA
14	I seek out activities that make me happy.	1	2	3	4	5
15	I am aware of the non-verbal messages I send to others.	1	2	3	4	5
16	I present myself in a way that makes a good impression on others.	1	2	3	4	5
17	When I am in a positive mood, solving problems is easy for me.	1	2	3	4	5
18	By looking at their facial expressions, I recognize the emotions people are experiencing.	1	2	3	4	5
19	I know why my emotions change.	1	2	3	4	5
20	When I am in a positive mood, I am able to come up with new ideas.	1	2	3	4	5
21	I have control over my emotions.	1	2	3	4	5
22	I easily recognize my emotions as I experience them.	1	2	3	4	5
23	I motivate myself by imagining a good outcome to task I take on.	1	2	3	4	5
24	I compliment others when they have done something well.	1	2	3	4	5
25	I am aware of the non-verbal messages other people send.	1	2	3	4	5
26	When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself.	1	2	3	4	5
27	When I feel a change in emotions, I tend to come up with new ideas.	1	2	3	4	5
28	When I am faced with a challenge, I give up because I believe I will fail.	1	2	3	4	5
29	I know what other people are feeling just by looking at them.	1	2	3	4	5
30	I help other people feel better when they are down.	1	2	3	4	5
31	I use good moods to help myself keep trying in the face of obstacles.	1	2	3	4	5
32	I can tell how people are feeling by listening to the tone of their voice.	1	2	3	4	5
33	It is difficult for me to understand why people feel the way they do.	1	2	3	4	5

Appendix D

PART II

Please answer each question in the way that best describes your current life situation. For each question, circle the number that describes you now.

	In general...	Not at all true	A little true	Mostly true	Completely true
1	Most of my time gets spent doing things that are worthwhile.	0	1	2	3
2	Planning ahead can help avoid most future problems.	0	1	2	3
3	No matter how hard I try, my efforts usually accomplish nothing.	0	1	2	3
4	I don't like to make changes in my everyday schedule.	0	1	2	3
5	I am not equipped to handle the "curve balls" that life sends my way.	0	1	2	3
6	Working hard doesn't matter, since only the bosses profit by it.	0	1	2	3
7	By working hard, you can always achieve your goals.	0	1	2	3
8	Most of what happens in life is just meant to be.	0	1	2	3
9	When I make plans, I am certain I can make them work.	0	1	2	3
10	It's exciting to learn something about myself.	0	1	2	3
11	I really look forward to my work.	0	1	2	3
12	If I'm working on a difficult task, I know when to seek help.	0	1	2	3
13	I won't answer a question until I'm really sure I understand it.	0	1	2	3
14	I like a lot of variety in my work.	0	1	2	3

		Not at all true	A little true	Mostly true	Completely true
15	Most of the time, people listen carefully to what I have to say.	0	1	2	3
16	Thinking of your self as a free person just leads to frustration.	0	1	2	3
17	Trying your best at work usually pays off in the end.	0	1	2	3
18	My mistakes are usually very difficult to correct.	0	1	2	3
19	It bothers me when my daily routine gets interrupted.	0	1	2	3
20	Most good athletes and leaders are born, not made.	0	1	2	3
21	I often wake up eager to take on life wherever it left off.	0	1	2	3
22	Lots of time, I really don't know my own mind.	0	1	2	3
23	I respect rules because they guide me.	0	1	2	3
24	I like it when things are uncertain or unpredictable.	0	1	2	3
25	I can't do much to prevent it if someone wants to harm me.	0	1	2	3
26	Changes in routine are interesting to me.	0	1	2	3
27	Most days, life is really interesting and exciting for me.	0	1	2	3
28	It's hard to imagine anyone getting excited about working.	0	1	2	3
29	What happens to me tomorrow depends on what I do today.	0	1	2	3
30	I try to learn something new through reading or some formal instructions.	0	1	2	3

Appendix E

PART III A & B

Job stress can have serious effects on the lives of employees and their families. The impact of stressful job events is influenced by both the amount of stress associated with a particular event and the frequency of its occurrence. The survey lists 30 job-related events that many employees find stressful. First rate the amount of stress associated with each event. Then, indicate the number of times within the last 6 months that you have experienced each event.

In marking your ratings of the amount of stress for each stressor event, use all of your knowledge and experience. Consider the amount of time and energy that you would need to cope with or adjust to the event. Base your ratings on your personal experience as well as what you have seen to be the case for others. Rate the average amount of stress that you feel is associated with each event, rather than the extreme.

The first event, ASSIGNMENT OF DISAGREEABLE DUTIES, was rated by persons in a variety of occupations as producing an average amount of stress. This event has been given a rating of "5" and will be used as the standard for evaluating the other events. Compare each event with this standard. Then assign a number from "1" to "9" to indicate whether you judge the event to be less or more stressful than being assigned disagreeable duties.

Part III-A, Instructions: For job-related events judged to produce approximately the same amount of stress as the ASSIGNMENT OF DISAGREEABLE DUTIES, circle the "5." For those events that you feel are more stressful than the standard, circle a number proportionately larger than "5." If you feel an event is less stressful than the standard, circle a number proportionately lower than "5."

		Amount of Stress								
		Low				Moderate				High
1A	ASSIGNMENT OF DISAGREEABLE DUTIES	1	2	3	4	(5)	6	7	8	9
2A	Working overtime	1	2	3	4	5	6	7	8	9
3A	Lack of opportunity for advancement	1	2	3	4	5	6	7	8	9
4A	Assignment of new unfamiliar duties	1	2	3	4	5	6	7	8	9
5A	Fellow workers not doing their job	1	2	3	4	5	6	7	8	9
6A	Inadequate support by supervisor	1	2	3	4	5	6	7	8	9
7A	Dealing with crisis situations	1	2	3	4	5	6	7	8	9
8A	Lack of recognition for good work	1	2	3	4	5	6	7	8	9
9A	Performing tasks not in job description	1	2	3	4	5	6	7	8	9
10A	Inadequate or poor quality equipment	1	2	3	4	5	6	7	8	9
11A	Assignment of increased responsibility	1	2	3	4	5	6	7	8	9
12A	Periods of inactivity	1	2	3	4	5	6	7	8	9
13A	Difficulty getting along with supervisor	1	2	3	4	5	6	7	8	9
14A	Experiencing negative attitudes toward the organization	1	2	3	4	5	6	7	8	9
15A	Insufficient personnel to handle an assignment	1	2	3	4	5	6	7	8	9
16A	Making critical on-the-spot decisions	1	2	3	4	5	6	7	8	9

17A	Personal insult from customer/consumer/colleague	1	2	3	4	5	6	7	8	9
18A	Lack of participation in policy-making decisions	1	2	3	4	5	6	7	8	9
19A	Inadequate salary	1	2	3	4	5	6	7	8	9
20A	Competition for advancement	1	2	3	4	5	6	7	8	9
21A	Poor or inadequate supervision	1	2	3	4	5	6	7	8	9
22A	Noisy work area	1	2	3	4	5	6	7	8	9
23A	Frequent interruptions	1	2	3	4	5	6	7	8	9
24A	Frequent changes from boring to demanding activities	1	2	3	4	5	6	7	8	9
25A	Excessive paperwork	1	2	3	4	5	6	7	8	9
26A	Meeting deadlines	1	2	3	4	5	6	7	8	9
27A	Insufficient personal time (e.g., coffee breaks, lunch)	1	2	3	4	5	6	7	8	9
28A	Covering work for another employee	1	2	3	4	5	6	7	8	9
29A	Poorly motivated coworkers	1	2	3	4	5	6	7	8	9
30A	Conflicts with other departments	1	2	3	4	5	6	7	8	9

Part III-B, Instructions: For each of the job-related events listed, please indicate the approximate number of days during the past 6 months on which you have personally experienced this event. Circle the number 0 if the event did not occur; circle the number 9+ for each event that you experienced personally on 9 or more days during the past 6 months.

		Number of days on which the event occurred during the past 6 months									
1B	Assignment of disagreeable duties	0	1	2	3	4	5	6	7	8	9+
2B	Working overtime	0	1	2	3	4	5	6	7	8	9+
3B	Lack of opportunity for advancement	0	1	2	3	4	5	6	7	8	9+
4B	Assignment of new unfamiliar duties	0	1	2	3	4	5	6	7	8	9+
5B	Fellow workers not doing their job	0	1	2	3	4	5	6	7	8	9+
6B	Inadequate support by supervisor	0	1	2	3	4	5	6	7	8	9+
7B	Dealing with crisis situations	0	1	2	3	4	5	6	7	8	9+
8B	Lack of recognition for good work	0	1	2	3	4	5	6	7	8	9+
9B	Performing tasks not in job description	0	1	2	3	4	5	6	7	8	9+
10B	Inadequate or poor quality equipment	0	1	2	3	4	5	6	7	8	9+
11B	Assignment of increased responsibility	0	1	2	3	4	5	6	7	8	9+
12B	Periods of inactivity	0	1	2	3	4	5	6	7	8	9+
13B	Difficulty getting along with supervisor	0	1	2	3	4	5	6	7	8	9+
14B	Experiencing negative attitudes toward the organization	0	1	2	3	4	5	6	7	8	9+
15B	Insufficient personnel to handle an assignment	0	1	2	3	4	5	6	7	8	9+
16B	Making critical on-the-spot decisions	0	1	2	3	4	5	6	7	8	9+
17B	Personal insult from customer/consumer/colleague	0	1	2	3	4	5	6	7	8	9+
18B	Lack of participation in policy-making decisions	0	1	2	3	4	5	6	7	8	9+
19B	Inadequate salary	0	1	2	3	4	5	6	7	8	9+
20B	Competition for advancement	0	1	2	3	4	5	6	7	8	9+
21B	Poor or inadequate supervision	0	1	2	3	4	5	6	7	8	9+
22B	Noisy work area	0	1	2	3	4	5	6	7	8	9+
23B	Frequent interruptions	0	1	2	3	4	5	6	7	8	9+

24B	Frequent changes from boring to demanding activities	0	1	2	3	4	5	6	7	8	9+
25B	Excessive paperwork	0	1	2	3	4	5	6	7	8	9+
26B	Meeting deadlines	0	1	2	3	4	5	6	7	8	9+
27B	Insufficient personal time (e.g., coffee breaks, lunch)	0	1	2	3	4	5	6	7	8	9+
28B	Covering work for another employee	0	1	2	3	4	5	6	7	8	9+
29B	Poorly motivated coworkers	0	1	2	3	4	5	6	7	8	9+
30B	Conflicts with other departments	0	1	2	3	4	5	6	7	8	9+

Appendix F: University of Sarasota IRB Approval

University of Sarasota **IRB#** _____ **Date Received** _____

Human Subjects Review – Institutional Review Board

Application for IRB Review of Research Involving the Use of Human Subjects

* Application Status			
	Exempt	__X__	(Minimal Risk – HSRC Chair)
	Expedited	_____	(Moderate Risk – 1 HSRC Member)
	Regular	_____	(High Risk – Full HSRC Member Review)

Investigator's Name: Linda Tjiong

Social Security Number: _____

Address: _____

Title of Research Project: The Relationship Between Emotional Intelligence, Hardiness, and Job Stress in Registered Nurses.

Name of chair/Co-Chair: Pete Simmons, PhD.

College and Department: BUS __X__ COBS _____
EDUC _____ OTHER _____

Program and Degree of Study: Doctor in Business Administration (Management)

Project Proposed Start Date: 2/22/2000 Project Proposed Completion Date: 3/17/2000

Approval Signatures:

Dissertation Committee Chair/Co-Chair/Date: 2-16-00

Principal Investigator/Date: 2-10-12000

DO NOT PROCEED TO COLLECT DATA PRIOR TO RECEIVING IRB APPROVAL

Important Notice:

- Please complete this form in detail, acquire signatures of the Principal Investigator and the Dissertation Chair, then submit the form to the HSRC Chairperson with attachments relevant to this project (letter of informed consent, questionnaires, test protocol, interview questions, observational charts, institutional permission from site where research is to be conducted, parental permission if subject is under 18, completed HSRC form, designated IRB category).
- Do not proceed with any research work with subjects until IRB approval is obtained.
- If any changes occurs in the procedure, sample size, research subject, or other element of the project impacts subjects, the HSRC must be notified in writing with the appropriate form (see ancillary forms).
- Please allow 30 days for processing Exempt and Expedited Forms, and 60 days processing for Regular.

2/21/2000

Date Approved: _____ Date Expires: 3/2/0001

*Category of research must be checked by principal investigator

Section A, Exempt Status: Read and complete the following: If you answer yes to any of the following, your research does **NOT** qualify for exempt status and must be checked either Expedited or Regular based on risk/benefit ratio to subjects (If your project does **NOT** qualify for exempt status, **proceed to Section B for Expedited or Regular Status)**

a. Any research with minor or students, exempt where it only involves the observation of public behavior when investigator(s) do(es) not participate in the activities being observed. Y (N)

b. Research involving prisoners, fetuses, pregnant women, in vitro fertilization, or any protected groups. Y (N)

c. Research involving intellectually, mentally, or physically challenged members of protected groups. Y (N)

d. Research involving subject deception of any kind. Y (N)

Note: Exempt status must be approved by HSRC and does NOT mean exempt form use of informed consent.

Please complete Section A below:

1. Study Site and Participants:

   - Nurses who are licensed in Florida as Registered Nurses who live in Lakeland area (based on a mailing list obtained from the State of Florida Board of Nursing), including addresses with 33801-33815 and 33849 postal zip-codes.
   - Registered Nurses who are employed at Winter Haven Hospital.
   - Registered Nurses who are employed at Heart of Florida Hospital.
   - Registered Nurses who are enrolled in either a Baccalaureate degree completion program (BSN) or Masters in Nursing program (MSN) at University of Central Florida, Orlando

2. Brief but detailed summary of the Project (Attached extra page if needed).

Mailing list is purchased from the State of Florida Department of Medical Quality Assurance (Board of Nursing). The participants are selected using a table of random number from a list of Registered Nurses with postal zip codes between 33801-3815 and 33849. Survey packets (including the Letter of Informed Consent and all survey questionnaire) will be mailed to this group along with a stamped self-addressed envelope.

Permissions from the potential hospital study sites were obtained according to the institution guidelines. The study involves the solicitation of a convenient sample made up of volunteers of Registered Nurses who are employed at the hospitals. The researcher will make a brief presentation to the management staff. Survey packets will be made available for distribution to the staff. Those who choose to participate will complete the questionnaire and placed it in a sealed envelope provided. The site coordinator will collect the surveys. At the agreed upon time, the researcher will pick up the surveys.

Permission from the University of Central Florida is obtained from the Dean or Director of the Nursing Department. The study involves the solicitation of a convenient sample made up of volunteer Registered Nurses who are currently enrolled in sin the Bachelors in Nursing degree completion program or in the Masters in Nursing program. The researcher will make a brief presentation to the class on the agreed upon date and time. Survey packets will be distributed to the nurses along with an addressed envelope. The researcher will collect the completed surveys outside the classroom.

The utilization of these various study sites the researcher expects to obtain a sample that is diverse in age, gender, number of years of experience in nursing practice, educational background, and practice areas. The expected sample size is 100.

Statistical analyses will be performed to test the hypotheses. The study involves the testing of seven null hypotheses:

H_o1: There is no significant relationship between the nurses' levels of emotional intelligence and hardiness.

H_o2: There is no statistically significant relationship between the nurses' levels of emotional intelligence and their perception of work-related stress.

H_o3: There is no statistically significant relationship between the nurses' levels of hardiness and their perception of work-related stress.

H_o4: There is no statistically significant difference in the level of emotional intelligence based on the nurses' area of clinical practice.

H_o5: There is no statistically significant difference in the level of emotional intelligence in nurses based on their educational background.

H_o6: There is no statistically significant difference in the level of emotional intelligence in nurses based on the number of years of experience.

H_o7: There is no statistically significant difference in the level of work-related stress in nurses based on their area of clinical practice.

3. Describe the nature of the involvement of human subjects in the project (personal interview, mailed questionnaire, observation, etc. (Attach copy of any instrument, chart, or questionnaire that will be used with subjects).

The survey packets will either be mailed (using randomly selected mailing list) or distributed as agreed by the organizations. The survey packet will consist of a Letter of Informed Consent describing the nature of the study, a general information form, and the survey questionnaires. The survey questionnaire will consist of three different instruments: the Emotional Intelligence Scale, Personal View Scale III, and Job Stress Survey. The entire process will take approximately 30 minutes to complete.

4. Attach a copy of the letter of informed consent.

See attached the Letter of Informed Consent

5. Describe how confidentiality will be maintained: **Be Specific, if using secondary documents,** audio/video tapes, etc.

The participants will not be asked to indicate their identity. The general information form as well as the survey questionnaire that will be used in this study will require no name, address, RN license number, etc. Since there is essentially no risk involved in participating in this study, the participants will not be asked to sign the Letter of Informed Consent form. Therefore, the confidentiality will be maintained.

6. Describes the exempt category(s) of the project.

The study involves the use of a self-report (2a) diagnostic or aptitude (2b) survey or questionnaire procedure.

7. Signatures and date of review:

Principal Investigator / Date__ 12-10-2000

Dissertation Committee Chair/Co-Chair / Date ____ /____

Attach any other forms, tests, institutional permission slips, etc. relative to this study. Failure to do so will result in delayed processing of the approval form.

Revision 5/31/1999

Appendix G: Letter of consent to collect data from a hospital

Appendix H: Letter of consent to collect data from a hospital

Appendix I: Letter of consent to collect data from a university

Appendix J: Consent to use the Emotional Intelligence Scale

Appendix K: Consent to use the PVSIII

Appendix L: Agreement to use the Job Stress Survey