EMOTIONAL INTELLIGENCE, MOTIVATION, AND RETENTION AMONG

UNDERGRADUATE STUDENTS ATTENDING ASSOCIATE-DEGREE NURSING

PROGRAMS IN ILLINOIS

by

Patricia L. Pence

A Dissertation Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Education in Educational Leadership

UNIVERSITY OF PHOENIX

March 2010

EMOTIONAL INTELLIGENCE, MOTIVATION, AND RETENTION AMONG
UNDERGRADUATE STUDENTS ATTENDING ASSOCIATE-DEGREE NURSING
PROGRAMS IN ILLINOIS

by

Patricia L. Pence

March 2010

Approved:

Gwenn Grondal, Ph.D., Mentor

Ruth Rucker, Ed.D., Committee Member

Debra Maddox, Ed.D., Ed.S., Committee Member

Accepted and Signed: _____   3/30/2010
                      Gwenn Grondal   Date

Accepted and Signed: _____   3/30/2010
                      Ruth Rucker   Date

Accepted and Signed: _____   3/30/2010
                      Debra Maddox   Date

_____   4/11/2010
Jeremy Moreland, Ph.D.   Date
Dean, School of Advanced Studies
University of Phoenix

ABSTRACT

The purpose of the quantitative, descriptive non-experimental study was to determine what the relationship is between emotional intelligence (EI), motivation, demographic variables, and nursing student retention. The research also tested the Nursing Undergraduate Retention and Success (NURS) model by examining demographic variables and academic motivation of nursing students. The Motivated Strategies for Learning Questionnaire (MSLQ) and the Assessing Emotions Scale (AES) garnered data from 390 first-year undergraduate students attending nine associate degree-nursing (ADN) schools in Illinois. Regression analysis suggested statistically significant differences in the mean scores for the test anxiety and control of learning beliefs MSLQ subscales with retention at the end of the first nursing course. Differences in the mean scores for the extrinsic motivation, task value, time and study, and effort regulation MSLQ subscales were statistically significant at the end of the first semester. Hierarchal logistic regression analysis indicated age was a predictor of retention at the end of the first nursing course. Race/ethnic background and the ADN School were predictors of retention at the end of the first semester. Mean scores on the AES and MSLQ were not predictive with retention. Recommendations for leaders in nursing education propose further inquiry before incorporating EI in admission and retention policies.

DEDICATION

I dedicate my dissertation to my husband, Bryan Pence, for believing in me from the moment I expressed my aspiration of achieving a doctorate in education. Your wonderful patience, encouragement, and support sustained my persistence throughout the doctoral journey. Without your dedicated support and love, I would not have been able to achieve my lifelong dream. To my children, David, and Kristen, daughter-in-law, Sally, and future son-in-law, Mike, thank you for your ongoing support and understanding even after the times when I reassured you I was "almost done." To my mother, Marilyn, and late father, William, thank you for the guidance and example, you set throughout my life "to always do your best" and for your prayers offered during the most difficult times.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to my mentor, Dr. Gwenn Grondal, for her scholarly expertise, positive encouragement, and continued support while guiding me through the revisions for the proposal submission and the completion of the study. I would like to acknowledge my committee members, Dr. Debra Maddox and Dr. Ruth Rucker, for their enduring support and encouragement in helping me to succeed in my project. My gratitude is extended to Dr. Ethel Kloos for her expert feedback, guidance, and assistance in the proposal submission and regression analysis.

I would like to acknowledge other individuals instrumental in my doctoral journey. I am extremely grateful to the administrators, nurse educators, and nursing students of the ADN schools for their valuable time, support, and participation, which made the research study possible. To my academic advisor, Nancy Lathrop, I thank you for your understanding and encouragement to help me remain steadfast in pursuing my goal. To Julie Hogue, my colleague, thank you for being understanding of my needs and flexible in our teaching schedule so I could focus on my dissertation at times when I needed it most. I would like to express a special thank you to Dr. Marianne Jeffreys for offering her expert insight and suggestions on surveying nursing students.

Lastly, I thank God for giving me the strength and graces needed to persevere through the most difficult times. There were many days I prayed for the wisdom, understanding, and knowledge needed to persist and complete the project. To all those individuals who were instrumental in assisting me to achieve my lifelong dream I am eternally grateful.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

A critical nursing shortage of registered nurses (RNs) exists across the United States (U. S.) (Donelan, Buerhaus, DesRoches, Dittus, & Dutwin, 2008). The critical nursing shortage is presently the longest lasting shortage of RNs in half a century (Buerhaus, Donelan, Ulrich, DesRoches, & Dittus, 2007; Buerhaus, Donelan, Ulrich, Norman, & Dittus, 2005). Because of the critical demand for RNs, nursing administrators in healthcare and educational institutions, leaders in government and private agencies, and healthcare consumers have stated nursing student retention is a concern requisite of national attention (Jeffreys, 2004; Rudel, 2006; Stickney, 2008).

Retention is a priority goal of nurse educators (Jeffreys, 2007a). Nursing students encounter challenges early in the nursing program, which may influence the decision to persist, fail, drop out, or withdraw from the nursing program (Newton, Smith, Moore, & Magnan, 2007). Emotional intelligence (EI) and motivation may be important skill-sets for nurse educators to include in nursing school curricula to enable more nursing students to overcome challenges and become fully trained RN graduates (Gooch, 2006; Stuttard, 2007). The phenomenon of an increase in the supply of fully trained RN graduates may allow healthcare administrators the ability to address the critical need for more RNs.

Chapter 1 contains an overview of a quantitative, descriptive non-experimental study to determine what the relationship is between EI, motivation, demographic variables, and nursing student retention. Chapter 1 includes a synopsis of the research method, design, and theoretical framework regarding the variables EI, motivation, and retention. Chapter 1 delineates the significance of the research endeavor to nursing education and healthcare leaders.

Background of the Problem

Glazer and Alexandre (2008) asserted the depth and magnitude of the current nursing shortage must be realized by Americans as a "public health emergency with implications for all Americans" (para 6). The current and projected nursing shortage presents a serious threat to patient access for quality health care (Auerbach, Buerhaus, & Staiger, 2007). Because of the rising national nursing shortage and the associated threat to quality health care, nursing leaders in education "cannot afford to lose capable students striving" to become RNs (McGregor, 2007, p. 509). Attrition of nursing students is a national problem recognized by leaders in nursing education as a problem associated with the critical nursing shortage (Christmas & Hart, 2007; Newton, Smith, Moore, & Magnan, 2007). In the context of the critical nursing shortage, RNs, healthcare employers, and nursing graduates perceive nurse educators are not adequately preparing students for the realities of contemporary nursing practice (Cadman & Brewer, 2001; Freshwater & Stickley, 2004).

Nurse educators may adequately prepare nursing students for the cognitive and technical aspects of a future nursing role, but may overlook the emotional facet of contemporary nursing practice (Bellack, 1999; Rochester, Kilstoff, & Scott, 2005). Nursing administrators expect RNs to demonstrate noncognitive characteristics to practice effectively as staff nurses and leaders (Gunther, Evans, Mefford, & Coe, 2007; Kooker, Shoultz, & Codier, 2007; Morrison, 2005). Nurse educators, who augment nursing curricula with EI and motivation training, might facilitate the ability of nursing students to motivate oneself to succeed to complete the program and support nursing student retention (Huynh, Alderson, & Thompson, 2008; Montes-Berges & Augusto,

2007). Without the inclusion of EI (Baggett & Baggett, 2005) and motivation in nursing curricula, nursing students may be unprepared emotionally and less motivated to succeed to meet the requirements of a demanding and rigorous nursing curriculum (Taylor, 2005).

Hunt (2006) surmised, EI skills are "central to all aspects of the role of the professional nurse" (p. 253). The nature of contemporary nursing practice and education encompasses emotions (Hunter & Smith, 2007). Contemporary nursing practice is becoming a more intense and demanding profession (Charney & Schirmer, 2007). Nurses reported a stressful, emotionally exhausting (American Association of Colleges of Nursing [AACN], 2007) work environment leading to burnout, disability, stress (Charney & Schirmer), and high absenteeism (Shirey, 2006).

The emotional state of patients is often intensified during an illness (Dienno, 2006). Patients perceived RNs, who made an emotional connection during nurse/patient encounters, as providing the best patient care (Gray, 2009; Kerfoot, 2008) and increasing patient satisfaction with nursing care rendered (Clark, Leddy, Drain, & Kaldenberg, 2007). Nursing students and graduates who have knowledge of EI might understand and interact with patients on a more sophisticated level (Anbu, 2008), improve the perception of patients regarding a quality healthcare experience (Price, 2008; Romanelli, Cain, & Smith, 2006), and assist patients to achieve desirable outcomes (Reeves, 2005).

Hunt (2006) asserted, "Advancing emotional competence is an essential aspect of all clinical teaching and learning" (p. 255). Baughan and Smith (2009) posited, "There is an emotional aspect to our learning" (p. 103). Nursing students may not possess the emotional competence to understand the emotional demands associated with nursing education (Hanna et al., 2005). Nurse educators might advance emotional competencies

and the understanding of the emotional demands of nursing education by guiding and training students to identify, understand, and manage emotions (Gooch, 2006; Mann & Cowburn, 2005), such as requiring students to reflect on the clinical experiences and interactions with patients (Horton-Deutsch & Sherwood, 2008; Smith, Farmer, Walls, & Gilligan, 2008).

Decision-making of individuals is a process guided by emotions (Bar-On, Maree, & Elias, 2007). Nursing students who possess EI and motivation might use these skills in the decision-making to persist in enrollment to complete the nursing program (Jenkins, 2006; VanNoord, 2007). Emotionally intelligent students become self-motivated and self-directed learners (Brearley, 2006) who are able to "assess their individual strengths and minimize potential weaknesses" (Grace, 2004, p. 6). The current research study included two research instruments to investigate what the relationship is between EI, motivation, demographic variables, and nursing student retention. Regression analysis served as a statistical method to analyze the possible relationship between the variables.

Statement of the Problem

Projections for the demand for RNs in the U.S. will be an additional 340,000 RNs by 2020 and 500,000 RNs by 2025 (Auerbach et al., 2007; Buerhaus, Staiger, & Auerbach, 2009; Roman, 2008). Nursing schools are not graduating a sufficient number of RNs needed to meet the demand for additional RNs stated by members of local, state, and national governing and accrediting bodies, and community agencies (Buerhaus, Donelan, Ulrich, Norman, & Dittus, 2006; Norman, Buerhaus, Donelan, McCloskey, & Dittus, 2005; Papes & Lopez, 2007). Leaders in nursing education will need to ensure 90% more nursing students graduate than what leaders are currently graduating (Health

Resources and Services Administration [HRSA], 2004; Manthey, 2008; Murray, Merriman, & Adamson, 2008).

Students accepted into nursing programs are likely to experience increased challenges adjusting to a rigorous nursing curriculum, which may influence the decision to persist, fail, drop out, or withdraw from the nursing program (Alden, 2008; Bowden, 2008). In the U.S., 20% of nursing students decide to drop out of nursing programs (Illinois Coalition for Nursing Resources [ICNR], n. d.; Kaufman, 2008; National League for Nursing [NLN], 2008). The national drop out percentage of nursing students is considered problematic, high attrition (Gilchrist & Rector, 2007; Hanna et al., 2005) and a significant issue associated with the critical nursing shortage (Jeffreys, 2007b). As a result, nurse educators must increase the likelihood of retention for each nursing student who takes one of the limited positions in a nursing program (Gilmore, 2008; Jenkins, 2006; Porter, 2008). A quantitative, descriptive non-experimental research study was an appropriate method to examine the possible relationship between EI, motivation, demographic variables, and nursing student retention.

Purpose of the Study

The purpose of the quantitative, descriptive non-experimental study was to determine what the relationship is between EI, motivation, demographic variables, and nursing student retention. The research also tested the Nursing Undergraduate Retention and Success (NURS) model by examining demographic variables and academic motivation of nursing students (Jeffreys, 2004). EI and motivation were primary predictor variables and the demographic variables were included in the analysis as secondary predictor variables. EI and motivation scores and demographic variables were analyzed

with enrollment status at the end of the first nursing course and at the end of the first semester. The specific population targeted for study was undergraduate nursing students attending associate-degree nursing (ADN) programs in the Midwestern state of Illinois.

Significance of the Study

Despite the rising critical nursing shortage, all societies worldwide rely on the work of RNs to provide the majority of healthcare services (Salvage, 2006; Tourangeau et al., 2007). Leaders in the International Council of Nurses (ICN) referred to the critical nursing shortage as a global nursing crisis occurring in approximately 57 countries (Manchester, 2007; Oncology Nursing Society [ONS], 2007). Leaders of nursing schools worldwide produce an insufficient number of RN graduates to meet public healthcare demands (Canadian Nurses Association [CNA], 2007; Fradd, 2006). Healthcare leaders worldwide expect the shortage of RNs to worsen despite the efforts of college and university leaders to increase enrollment levels of nursing students (Cutliffe & Yarbrough, 2007). Improving nursing student retention is a persistent and complex issue associated with the global nursing shortage (McLaughlin, Moutray, & Muldoon, 2008).

Historically, leaders in nursing education based decisions on nursing student retention on research examining traditional predictors of academic success, or cognitive measures of intelligence, such as student grade point average (GPA) (Reeves, 2005). Non-cognitive factors, such as EI and motivation, might also be considered by leaders in nursing education to determine which qualified students should be accepted into the nursing program and to design remediation and retention strategies to support academic persistence (Wilson & Carryer, 2008). The inclusion of noncognitive factors in nursing training may produce adequately prepared RNs to supply the nursing workforce and

thereby help alleviate the critical nursing shortage.

Nature of the Study

The research study necessitated a quantitative research method and a descriptive non-experimental research design to realize the goal of determining what the relationship is between EI, motivation, demographic variables, and nursing student retention. A qualitative approach would require an emergent and interpretive research method (Burns & Grove, 2005) to view human behavior through a "wide- and deep-angle lens" by examining behavior in a natural setting (Johnson & Christensen, 2008, p. 36). Qualitative researchers examine problems when the variables are unknown and intend to thoroughly describe and explain a central phenomenon (Polit & Beck, 2008). The qualitative method would offer the opportunity to describe the life experiences of participants by collecting non-numerical data using interviews, historical methods, case studies, or ethnography (Burns & Grove, 2005). The qualitative method will not be a practical method for the current research study because the purpose of the study was to determine the possible relationship between predictor variables with an outcome variable.

In contrast, quantitative researchers view human behavior through a "narrow-angle lens" by focusing on one or two factors in a study (Johnson & Christensen, 2008, p. 35). Quantitative researchers employ a structured method to measure research variables, time data collection, select the setting, and provide information given to the participants (Polit & Beck, 2008). The quantitative approach offers researchers numerical data to identify a relationship among variables (Burns & Grove, 2005). A quantitative approach was appropriate to achieve the goal for the current research study because the quantitative method enabled testing of hypotheses regarding the strength of the relationship between

the variables with empirical data. Data obtained in completed self-report instruments, the Assessing Emotions Scale (AES) (Schutte et al., 1998) and the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia, & McKeachie, 1991), demographic data, and the enrollment status of the participants provided numerical data.

In experimental research designs, researchers intervene by manipulating independent variables and randomly assigning participants to experimental or control groups (Polit & Beck, 2008). The experimental research design was not appropriate for the current research study because the research did not manipulate the predictor variables and the sample was not randomly selected (Johnson & Christensen, 2008). The non-experimental research design accomplished the goal of the current research study, which examined the selected educational variables without interventions.

The descriptive non-experimental research design was practical for the current research study because the intent of the research was to describe the possible relationship between EI, motivation, demographic variables, and nursing student retention (Johnson & Christensen, 2008). The descriptive design allowed the opportunity to test hypotheses generated from the review of literature and describe the relationship between the predictor variables with the outcome variable, without implying a cause-and-effect relationship (Johnson & Christensen, 2008; Macnee & McCabe, 2008). Observing a relationship between the variables would not provide sufficient evidence to conclude the relationships are causal (Johnson & Christensen, 2008).

The logistic regression statistical method analyzed the possible relationship between the predictor variables and the outcome variable. Logistic regression analysis is appropriate when the outcome variable is categorical, such as nursing students who

persist and nursing students who fail, drop out, or withdraw (Polit & Beck, 2008). The logistic regression analysis analyzed the probability of the dichotomous outcome measure, nursing student retention (Munro, 2005).

A limitation of the descriptive non-experimental research design was the degree of control over the predictor variables, EI, and motivation. The established criteria to invite nursing students to participate in the study and the use of reliable, valid instruments to collect data increased control in the current research study (Macnee & McCabe, 2008). The current research study included inviting a purposive sample of nursing students attending ADN programs in Illinois to participate. Two reliable and valid measurements (Pintrich et al., 1991; Schutte et al., 1998) documented in educational research were administered to exert control over the quality of measuring the predictor variables.

Research Questions

The research questions for the current research study focused on the issues associated with nursing student retention and the rising national nursing shortage. The ongoing problem of improving retention and decreasing attrition of nursing students lies in identifying other potential factors influencing the decision by students to persist, fail, drop out, or withdraw from the nursing program (Stickney, 2008). Based on the review of the literature, the primary predictor variables, EI and motivation, may influence the outcome variable, nursing student retention (Moore, 2007; Smith et al., 2008; VanNoord, 2007). The secondary predictor variables (age, gender, racial/ethnic background, ADN School, and the readmission status of the student) may also influence retention (Hopkins, 2008; Jeffreys, 2004; Sutherland, Hamilton, & Goodman, 2007; Wong, Seago, Keane, & Grumbach, 2008). Because nursing students may underestimate the rigorous demands of

the nursing program, nursing leaders might monitor retention early in the nursing program, such as during the first nursing course and first semester (Higgins, 2005; Hopkins, 2008; Jeffreys, 2007b; Wells, 2007).

The following primary research question and subquestions guided the analysis of the current research study:

What is the relationship between EI, motivation, and retention among undergraduate students attending ADN programs in Illinois?

1. What is the relationship between EI, motivation, and retention among undergraduate students attending ADN programs in Illinois at the end of the first nursing course?

2. What is the relationship between EI, motivation, and retention among undergraduate students attending ADN programs in Illinois at the end of the first semester?

3. What is the relationship between the secondary predictor variables (age, gender, racial/ethnic background, ADN School, and readmission status) and retention among undergraduate students attending ADN programs in Illinois at the end of the first nursing course?

4. What is the relationship between the secondary predictor variables (age, gender, racial/ethnic background, ADN School, and readmission status) and retention among undergraduate students attending ADN programs in Illinois at the end of the first semester?

Hypotheses

The current research study examined the following hypotheses to assess the potential relationship of EI, motivation, demographic variables, and retention among first-year undergraduate students attending ADN schools. Logistic regression analysis was used to analyze the quantitative data obtained from the two surveys and demographic sheet. A global test was performed to assess the strength of the predictive relationship between the variables. The secondary predictor variables gender, race/ethnicity, ADN Schools, and readmission status served as categorical variables. The secondary predictor variable age served as a quantitative variable (Johnson & Christensen, 2008).

Ho: All regression coefficients are zero.

H$_a$: At least one regression coefficient is not zero.

H1o: All primary predictor variable regression coefficients are zero.

H1$_a$: At least one primary predictor variable regression coefficient is not zero.

H2o: All secondary predictor variable regression coefficients are zero.

H2$_a$: At least one secondary predictor variable regression coefficient is not zero.

The rationale for the selected hypotheses originated from the literature delineating the predictor variables as factors possibly influencing nursing student retention. Previous research noted the secondary predictor variables, age, gender, racial/ethnic background, ADN School, and readmission status to either increase or decrease nursing student retention (Jeffreys, 2004, 2007a, 2007b). The primary predictor variables, EI and motivation, were suggested by several authors and researchers as influencing the ability of nursing students to persist in a rigorous nursing program and in the future role as a nurse graduate (Cadman & Brewer, 2001; Gardner, 2006; Taylor, 2005; Wilson &

Carryer, 2008). Consequently, nursing students may be unprepared to meet the demands of the nursing curriculum and the nursing profession (Freshwater, 2004). Empirical research examining the predictor variables may add to the body of knowledge on nursing student retention.

<div align="center">Theoretical Framework</div>

Jeffreys (2004) contended, "The most persistent trend in student persistence research is that student attrition persists" (p. 4). Jeffreys (2004) asserted, "Nurse educators are in a strategic position to make a difference by facilitating the process of systemic decision-making and enhancing opportunities for retention and success" (p. 2). The following theories related to EI, motivation, and nursing student retention supported the possible relationship between the variables.

Emotional Intelligence

Theorists of psychology originated the concept of EI during the latter part of the 20th century (Salovey, Brackett, & Mayer, 2007). During the 1980s, psychologists began to examine the interaction of emotions and thoughts (Salovey et al., 2007). Gardner (1983) broadened the concept of intelligence by introducing the assumption intelligence encompassed intrapersonal and interpersonal intelligences. Gardner attempted to guide educators to "appreciate students with diverse learning styles and potentials" (Salovey et al., 2007, p. i).

By 1990, Salovey and Mayer introduced the first empirical study concerning EI and proposed the potential interaction between emotions and cognition (Salovey et al., 2007). Salovey and Mayer formally defined the term EI as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this

information to guide one's thinking and actions" (Salovey et al., 2007, p. i). Goleman and Bar-On further broadened the definition of EI to encompass a set of personality attributes, including achievement motivation (Salovey et al., 2007).

During the 1990s, several researchers designed reliable and valid measurements of EI (Bar-On, 2007; Goleman, 2006a; Mayer, Salovey, & Caruso, 2004; Schutte et al., 1998). Between 1998 and 2008, researchers examined EI among adult students (Esmond-Kiger, Tucker, & Yost, 2006; Holt, 2007; Jaegar & Eagan, 2007; Potter, 2005; Sparkman, 2008; Walker, 2006) and healthcare workers (Humphreys, Brunsen, & Davis, 2005; Rochester et al., 2005). During the last six years, augmenting nursing curriculum so nursing students receive training early in the nursing program on EI skills was proposed (Hunt, 2006; Jenkins, 2006; Shanta, 2007). Grace (2004) posited, "Incorporating emotional intelligence early in the nursing program could provide students with the necessary tools not only to assess themselves, but others" (p. 105).

Researchers worldwide are currently attracted to the concept of EI. Research efforts to study EI are scarce and still at the developmental stage (Akerjordet & Severinsson, 2007). Bar-On et al. (2007) stressed the measurement of EI "is still in its infancy, and many questions remain unanswered since the recent re-emergence of this construct in the 1990s" (p. 259). Akerjordet and Severinsson (2007) asserted EI is "an important topic of relevance to nursing from both an empirical and a theoretical perspective" (p. 1406). Akerjordet and Severinsson urged researchers to further evaluate EI so the knowledge gained might expand on the understanding and development of EI.

Motivation

Traditional theorists of motivation separated cognitive factors and motivation by

focusing on achievement (Linnenbrink & Pintrich, 2002). Since 1980, contemporary theorists of motivation examined the link between cognition and motivation and provided a unique explanation of the role of social cognitive factors and student behavior in educational institutions (Seifert, 2004). The social cognitive theorists viewed motivation as a "dynamic, multifaceted phenomenon" in which students might be motivated in multiple ways (Linnenbrink & Pintrich, 2002, p. 313).

According to Schunk, Pintrich, and Meece (2008), motivation is an essential quality, which permeates student learning. Schunk et al. (2008) described theories of student motivation prominent in the field of educational research, which included (a) self-efficacy theory, (b) achievement goal theory, (c) self-worth theory, and (d) attribution theory. Motivation theorists described an underlying theme of the influence of emotions on motivation, unifying the theories to provide a coherent view of student motivation (Seifert, 2004). According to motivation theorists, emotions and beliefs are central elements resulting in patterns of student behavior or motivations (Schunk et al., 2008). Pintrich and colleagues later expanded the view of student motivation to be a complex, multidimensional construct interacting "in dynamic ways with cognitive constructs such as background knowledge and metacognition" (Sinatra, 2005, p. 109).

During the period 2004 to 2008, motivation among college and university students was a topic of exploration by researchers worldwide (Bishop, 2008; Braten & Olaussen, 2007; Carroll & Garavalia, 2004; Dahl, Bals, & Turi, 2005; Geisler, 2007; Hand, 2006; Hastings, West, & Hong, 2005; Kaisershot, 2006; Klomegah, 2007; Lewis, 2006; Moore, 2007; Quible, 2006; Wu, 2006). Mullen (2007) recently examined motivation among two groups of undergraduate students in an accelerated Bachelor of

Science in Nursing (BSN) program. McLaughlin et al. (2008) focused on assessing motivation among university nursing students in Ireland. Gardner (2006) explored motivation and persistence among ADN students. Because few researchers examined motivation among ADN students, further research was warranted to assess the possible relationship between motivation and persistence among ADN students (Rudel, 2006).

Nursing Student Retention

During the period 1960 to 1990, most retention theorists attempted to explain student departure through psychological models emphasizing student abilities and dispositions (Tinto, 1993). Other retention theorists emphasized the influence of social, economic, and organizational forces on the behavior of students (Tinto, 1993). The classic model of student departure developed by Tinto provided the conceptual background for a current model of nursing student retention proposed by Shelton (2003). Earlier research of Bean and Metzner provided the theoretical framework for a model of undergraduate nursing student retention developed by Jeffreys (2004). Despite the efforts of retention theorists to explain student departure, most conceptual models of student retention and departure have been not been thoroughly effective in explaining why students decide to persist or drop out (Tinto, 1993).

Emotional Intelligence, Motivation, and Retention

Researchers have not previously linked the variables EI, motivation, and nursing student retention which pointed to the need for the current research study. The current research was unique because the information gained through the research endeavor might add insight into the possible relationship between EI, motivation, and retention in ADN programs. Leaders and educators, who remain concerned about attrition and retention of

nursing students, might use the resulting information to support nursing student retention

and gain an increased sensitivity and understanding of the unique needs of nursing

students (Mann & Cowburn, 2005; Montes-Berges & Augusto, 2007).

<div align="center">Definition of Terms</div>

Attrition in the current research study referred to nursing students dropping out of

the nursing program, either voluntarily or involuntarily (Alden, 2008; Jeffreys, 2004),

prior to the end of the first nursing course or the first semester. Attrition was expressed as

a percentage of nursing students in a given cohort who did not progress from one point in

the program to the next without interruption (Yoho, 2006). Drop out referred to nursing

students who maintained enrollment in a credit nursing course after the census date but

failed to complete the first nursing course or complete the end of the first semester (Liu,

Gomez, Khan, & Yen, 2007). Withdrawal referred to nursing students who officially

withdrew from a nursing course for personal and/or academic reasons before the end of

the first nursing course or the first semester (Jeffreys, 2004). *Returning student* or

readmission status referred to a nursing student who has reentered the nursing program to

repeat the nursing course (Jeffreys, 2004).

EI referred to the ability of a nursing student to recognize the meanings of

personal emotions, in relationships, and to reason and problem-solve based on the

emotions (Goleman, 2006a). EI abilities include "being able to motivate oneself and

persist in the face of frustrations" (Goleman, 2006a, p. 34). The AES developed by

Schutte et al. (1998) was used as a measure of EI in the current research study. The AES

is based on the 1990 model of EI by Mayer and Salovey proposing EI consists of

appraisal of emotion in self and others, expression of emotion, regulation of emotion in

self and others, and utilization of emotion in problem solving (Schutte, Malouff, & Bhullar, 2009).

Motivation was defined as a process whereby a nursing student instigates and sustains "goal-directed activity" (Schunk et al., 2008, p. 4). The MSLQ developed by Pintrich et al. (1991) was used as a measure of student academic motivation in the current research study.

Retention referred to continuous enrollment of nursing students in the program (Alden, 2008) during the first nursing course and the first semester. Course retention referred to the continuous enrollment of a nursing student in a nursing course (Jeffreys, 2004) without failure, drop out, or withdrawal. Continuous program retention was the continuous enrollment of a student "in a nursing program (part- or full-time) by taking the required courses sequentially" (Jeffreys, 2004, p. 7) during the first semester.

Persistence reflected a nursing student who "successfully transitions through higher education to degree completion" (Blecher, 2006, p. 470). A persisting nursing student is currently enrolled in one nursing course from the ADN program for the academic term (Starck, Love, & McPherson, 2008). Course persistence is the completion of the nursing course in which the nursing student is currently enrolled (Speights, 2008). Persistence is often considered an indicator of academic motivation (Schunk et al., 2008).

<div align="center">Assumptions</div>

Quantitative researchers assume cognition and behavior are predictable and explainable (Johnson & Christensen, 2008). In quantitative studies, researchers assume all events, such as nursing student retention, will relate to one or more variables (Johnson & Christensen, 2008). The variables investigated in the current research study were

expressed from the healthcare (Stichler, 2006a, 2006b, 2007) and education environment (Bearley, 2006; Freshwater & Stickley, 2004) as potential factors related to nursing student retention.

The first underlying assumption in the current research study concerned the relevance of EI as a central, measurable, and researchable construct. EI is a measurable construct gaining interest in the field of education, health care, and leadership (Baughan & Smith, 2009; Goleman, 2006a). EI was an appropriate construct to investigate in the current research study.

The second assumption related to academic motivation as a pertinent construct to explore in the current research study. In the business and healthcare sector, employers view the ability to self-motivate and motivate others as a desirable quality of leaders and followers (Brearley, 2006; Goleman, 2006a, 2006b). In nursing education, a major factor perceived by nursing graduates as influencing attrition was academic motivation (Higgins, 2005). Nurse educators might be equipped to intervene by gaining knowledge of those students who possess decreased motivation levels (Rosenberg, Perraud, & Willis, 2007; Trice & Foster, 2008). Motivation was a germane construct appropriate to explore in the current research study.

The third assumption concerned whether nursing student retention exists as a prevalent concern among leaders in other nursing programs in the U. S. and in other countries worldwide. Leaders in nursing programs in the U. S. (Hopkins, 2008) and in other countries (Baernholdt & Lang, 2007; Buchan, 2006) expressed the critical need to improve nursing student retention. Nursing student retention was an important issue worth investigating in the current research study.

The fourth assumption was the purposive sample of nursing students would be representative of the population. Randomly selected samples are almost always more representative than non-randomly selected samples (Johnson & Christensen, 2008). Representative offers the ability to make conclusions from the sample to the population as a whole (Creswell, 2008), such as concluding the findings from the current research study would apply to all nursing students attending ADN programs in Illinois. Researchers use, a nonprobability sample, such as a purposive sample (Burns & Grove, 2005), to select participants with the desired characteristics and to describe the characteristics of a small group of participants in a study (Polit & Beck, 2008). An assumption was the characteristics of the sample in the current research study were representative of the population of ADN students in Illinois.

The fifth assumption involved the research participants. The intent of the current research study was to examine what the relationship is between EI, motivation, and nursing student retention. To examine the possible relationship between the variables, the assumption was participants would have the ability to understand the intent of the research, comprehend the concepts of EI and motivation, follow the instructions for completing the quantitative instruments, and respond honestly and sincerely when recording the responses.

<center>Scope</center>

The current research study was bound by the identified variables, EI, motivation, demographic variables, and nursing student retention. The participants were undergraduate nursing students enrolled in a first-year nursing course in the fall semester of 2009. The participants were undergraduate nursing students attending ADN programs

in Illinois. The reason for selecting ADN programs, as opposed to other types of nursing programs, stemmed from data indicating the majority (63%) of all nursing students in the U.S. graduate from ADN programs (Buerhaus et al., 2009; National Council of State Boards of Nursing [NCSBN], 2008).

Limitations

Limitations may restrict the credibility and generalizability of research findings (Burns & Grove, 2005). The use of self-report data obtained in the two instruments limited the strength of the design by relying on the perception and understanding of the participants (Macnee & McCabe, 2008). Using self-report measures depended on the perceived understanding of emotions (Goldenberg, Matheson, & Mantler, 2006) and the motivation of the participants. If the understanding of the participants is inaccurate, self-report measures will provide information concerning only the self-perception of the participants rather than the actual level of EI (Goldenberg et al., 2006) or motivation.

The potential lack of honesty of participant responses in the measurement instruments limits the research. A limitation of using self-report instruments is the participants might intentionally misrepresent responses for EI and motivation and indicate a socially desirable response (Polit & Beck, 2008). Participants may "fake good" on self-report scales and thereby negate the usefulness of self-report instruments (Bar-On et al., 2007, p. 261). To put the participants at ease and increase the likelihood of honest responses, nursing faculty were asked to leave the room during data collection (Creswell, 2008). The researcher was present throughout the data collection to administer and collect the research forms, respond to questions or concerns of the participants, and clarify any possible misunderstandings (Creswell, 2008).

The methods used during data collection may present a limitation for a study if the research study does not include standard procedures (Creswell, 2008). In the current research study, the researcher conducted data collection at each participating nursing school to increase control over the data collection procedure. The current research study included an invitation for nursing students attending a first nursing course during the fall semester to participate. A letter of invitation read to the nursing students described the nature and purpose of the study. Nursing students choosing to participate in the study received a packet containing a copy of the invitation letter, consent form, demographic sheet, and two instruments.

The current research study was limited to a purposive sample of first-year undergraduate nursing students available who volunteered to participate from ADN programs in Illinois. Bias may occur in nonrandom, purposive samples because the sample characteristics may be systemically different from the population (Johnson & Christensen, 2008). The current research study may not be generalized to other populations of nursing students, such as students attending diploma and BSN programs, because the characteristics of the settings and students may be different from the population studied (Johnson & Christensen, 2008). Thus, conducting the single research study may not achieve the ability to generalize findings to nursing students in all levels of nursing education and in all geographic regions in the U. S. (Johnson & Christensen, 2008).

The possible small sample size is a limiting factor in the research study. Smaller samples may produce less accurate estimates than larger samples (Polit & Beck, 2008). A possible small sample may risk gathering data not supporting the hypotheses (Polit &

Beck, 2008). Research using questionnaires often require larger samples (Burns & Grove, 2005). Researchers who select larger samples reduce the potential error of the samples being different from the general population under study (Creswell, 2005).

Delimitations

According to Leedy and Ormond (2005), one reason researchers use delimitations is to rule out all irrelevancies to the research problem. Surveying nursing students attending ADN programs in the Midwestern state of Illinois confined the current research study. Excluded from the study population were nursing students who were pregnant, under the age of 18, who attended diploma and BSN programs, and nursing students outside the geographic area of interest. The demographic characteristics of religious affiliation and financial status were not pertinent to the current research study. The current research study focused on the variables, EI, motivation, demographic characteristics, and retention of ADN students who were in a first-year nursing course.

The conceptual framework selected to guide the current research study focused on current theories relevant to student retention and departure (Tinto, 1993), nursing student retention (Jeffreys, 2004; Shelton, 2003), EI (Bar-On et al., 2007; Goleman, 2006a; Salovey et al., 2007), and academic motivation (Pintrich et al., 1991; Schunk et al., 2008). The literature describing the theories was perceived as most associated with the achieving the goal of the current research study. The current research excluded additional related past and current theories from the conceptual framework.

The two self-report instruments constrained how the participants responded to the items. The AES and MSLQ required students to respond to items using a Likert-type scale and indicate closed-ended responses. For the AES, the participants were required to

rate the self-perceptions of EI on a five-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*) (Goldenberg et al., 2006). For the MSLQ, the participants rated all responses on a seven point scale from 1 (*not at all true of me*) to 7 (*very true of me*) (Pintrich et al., 1991). The nature of the closed-ended responses in the scales may restrict the participants from indicating perceptions of EI and motivation skills in entirety.

Validity of the current research study was limited to the reliability of the instruments used (Macnee & McCabe, 2008). The MSLQ instrument has adequate confirmed reliability (Mullen, 2007; Reed, 2007). The AES is an extremely reliable and empirically evaluated tool (Brackett & Mayer, 2007; Tett, Fox, & Wang, 2005). Both instruments were rated as solid, reliable, and valid tools.

<div align="center">Summary</div>

As Roman (2008) stated, "Nursing is the future of human health and nurses will be called on more than ever to meet the public health challenges of this century" (p. 40). According to a position statement written by the NLN, nursing leaders in education will have a significant role to "prepare individuals to meet the health care needs of the public" (Anonymous, 2005, p. 195). In the context of the rising current and projected nursing shortage, nursing administrators and educators face the challenge of increasing the number of RN graduates to replenish the additional demand for RNs (Colalillo, 2007; Hopkins, 2008). EI and motivation are two skill-sets proposed in the literature as essential to the success of individuals in leadership, employment, and academics (Goleman, 2006a, 2006b). EI and motivation skill-sets might be important variables related to the academic success and retention of nursing students (Montes-Berges & Augusto, 2007).

Hunt (2006) proposed EI as essential to learning. Emotionally intelligent students learn to manage personal emotions, learn to control impulses, and learn to balance emotions (Pascarelli & Terenzini, 2005). Schunk et al. (2008) asserted motivation is an essential quality for student learning. The purpose of the current research study was to determine what the relationship is between EI, motivation, demographic variables, and retention among undergraduate nursing students attending ADN programs in Illinois. Logistic regression analyzed the possible relationship between the variables.

Prior research investigated the constructs of EI and motivation. The possible relationship between EI, motivation, and nursing student retention were not examined. The purpose of chapter 2 is to establish a context for the current research. Chapter 2 will provide an in-depth review into the past and current literature applicable to the current research. A review of the historical development on the primary predictor variables, EI, motivation, and retention will be provided. The supporting literature for using the five secondary predictor variables in the analysis is discussed.

CHAPTER 2: REVIEW OF THE LITERATURE

Healthcare administrators call upon leaders in nursing education across the nation to increase the number of graduates required to fill RN vacancies during an escalating critical nursing shortage (Stickney, 2008). Leaders in nursing education in the U.S. are concerned with improving the retention of qualified nursing students accepted into a nursing program (AACN, 2005). A solution to the retention problem proposed by researchers is the inclusion of emotional intelligence (EI) and motivation in nursing curricula as non-academic factors which might influence decisions made by nursing students to persist in a nursing course and complete the degree program (Codier, 2006; Shanta, 2007; VanNoord, 2007).

Chapter 1 contains an overview for the quantitative descriptive non-experimental research. The purpose of the current research was to determine what the relationship is between EI, motivation, demographic variables, and retention among nursing students attending ADN programs in Illinois. The population consisted of nursing students enrolled in a first-year nursing course during the fall semester in an ADN program.

In Chapter 2 a background into the past and current literature related to the study topics is provided. An analysis of topics in the literature related to the nursing shortage, retention issues in community colleges, the predictors of academic success and failure of nursing students, the barriers to success perceived by nursing students, and retention issues is discussed. The historical development on the primary predictor variables, EI and motivation, the outcome variable, nursing student retention, and the literature related to leadership, EI, and motivation is reviewed. The literature supporting the inclusion of the five secondary predictor demographic variables in the analysis is explained.

Documentation

Theoretical and empirical sources, journals, dissertations, and books were found in the literature. Information retrieval systems (e.g., ProQuest Dissertations and Theses, ProQuest, EBSCOhost, Gale PowerSearch, ScienceDirect) and professional organization websites were used in the search. EI of adult learners in higher education was examined (Bergman, 2006; Bradshaw, 2008; Holt, 2007; Potter, 2005; Sparkman, 2008; Walker, 2006). The influence of EI on education among nursing students enrolled in universities (Grace, 2004; Jenkins, 2006; Shanta, 2007) was investigated. A lack of available research existed regarding the influence of EI on persistence among students enrolled in ADN programs.

In a number of studies researchers examined the motivation of adult learners in higher education (Braten & Olaussen, 2007; Dahl et al., 2005; Gardner, 2006; Geisler, 2007; Hastings et al., 2005; Kaisershot, 2006; Lewis, 2006; Nakajima, 2008; Quible, 2006; Wu, 2006), practical nursing students (VanNoord, 2007), and graduate nursing students (Hand, 2006). An online search using the key terms EI, motivation, and retention failed to result in scholarly journal articles or dissertations. In most studies researchers examined EI and motivation separately in adult learners enrolled in various programs in higher education (Bergman, 2006; Dahl et al., 2005; Grace, 2004; Hand, 2006; Hastings et al., 2005; Holt, 2007; Jenkins, 2006; Quible, 2006; Shanta, 2007; VanNoord, 2007; Wu, 2006). In two studies, Bissessar (2008) and Bishop (2008) examined EI, motivation, and leadership. The possible relationship of EI, motivation, and retention among ADN students was not studied in previous research.

The Critical Nursing Shortage

The critical nursing shortage maintains the attention of leaders in contemporary healthcare organizations and nursing schools in the U.S. (Buerhaus, Donelan, Ulrich, Norman, Williams, et al., 2005). One strategy proposed by healthcare leaders to address the nursing shortage is to improve nursing student retention (Stickney, 2008). Consequently, leaders in ADN programs, who are concerned with addressing the nursing shortage, stated retention of students accepted into nursing programs is a high priority (Hopkins, 2008). The inclusion of EI and motivation in nursing curricula might assist leaders to support student retention and reduce attrition (Codier, 2006; Morrison, 2005; VanNoord, 2007). Factors delineated in the research related to the insufficient production of nursing graduates needed to meet healthcare demands and the nursing shortage were (a) fundamental changes in national population dynamics, (b) patterns occurring in the national nursing shortage, (c) the role of ADN programs in the nursing shortage, and (d) the influence of the nursing faculty shortage on the demand for RNs.

Fundamental Changes in National Population Dynamics

Fundamental changes in national population dynamics (Board of Nurse Examiners for the State of Texas [BNEST], 2006) were influential issues in the current nursing shortage. The American Hospital Association (AHA) (2007) workforce commission reported the nursing shortage reflects changes in population demographics leading to increasing numbers of an aging cohort of adults within the U. S. population. By 2010, more than 20% of the U. S. population will be 65 years or older, with the individuals over 85 years constituting the fastest growing age group (BNEST, 2006). The AHA (2007) stated in the report, *When I'm 64: How Boomers will change health care*,

older adults represent the beginning of a sustained trend toward a demand for more complex health care. The increase in number of aging adults together with the lack of parallel growth of graduate RNs led to the nursing shortage (Macy & Terry, 2008).

The escalating demand for complex health care caused by the aging adult population magnified the current nursing shortage (Cutliffe & Yarbrough, 2007; Donley, 2005). Because of increased life expectancy among aging adults, RNs must be equipped to care for patients with chronic and acute health conditions (BNEST, 2006). Nursing graduates must be motivated and emotionally prepared to manage care for older adult patients presenting with chronic and acute health conditions in a complex healthcare environment (Manchester, 2007). Nurse educators must adequately prepare nursing graduates academically, professionally, and emotionally to meet escalating healthcare demands (Baughan & Smith, 2009; Moss, 2005).

Patterns Occurring in the National Nursing Shortage

The critical nursing shortage in the U.S., which originated in 1998, is likely to persist through 2025 (Buerhaus, Donelan, Ulrich, & Norman, et al., 2007; Fulcher, 2007). Buerhaus (AACN, 2007) concluded no empirical evidence exists to indicate the current nursing shortage has ceased. Members of the Agency for Healthcare Research and Quality (AHRQ) speculated "the number of nurses is expected to grow by only 6 percent by 2020, while the demand for nursing care is expected to grow by 40 percent" (Stanton & Rutherford, 2004, p. 1). The demand for RNs in the U. S. continues to increase at a rate exceeding the supply of RNs (Ramsburg, 2007).

Researchers projected a vacancy of 20% RN positions by 2015 and 29% by 2020 (Ramsburg, 2007). Hospital administrators in the U.S. reported an average vacancy rate

of 13% RN positions (Stanton & Rutherford, 2004). Buerhaus explained vacancy rates of

nine percent usually indicate a nursing shortage (Saver, 2006). The vacancy rates of RN

positions represent a significant nursing shortage. Three topics included in the discussion

of the critical nursing shortage were (a) an aging nursing workforce, (b) geographic

differences in the nursing shortage, and (c) perceptions of nurses and nursing students

regarding the nursing shortage.

Aging Nursing Workforce. A rise in the number of aging RNs is a perpetuating

factor in the critical nursing shortage (Letvak & Buck, 2008). In 2000, the average age of

a RN was 45.2 years (NCSBN, 2008). The number of older RNs rose due to an increasing

number of RNs among the "Baby Boomer" generation (AHA, 2007). As a result, over

450, 000 RNs will begin retirement during the next decade (Roman, 2008). The resulting

number of older RNs entering retirement will exceed the number of graduate RNs

(HRSA, 2004) and critically affect the current and future supply of RNs (Norman,

Donelan, et al., 2005).

Geographic Differences in the Nursing Shortage. Researchers projected the

critical nursing shortage to be most severe in the West, Southwest, and Northeast and less

severe in the Midwest and Southeast regions of the U. S. (Macy & Terry, 2008). In the

Midwest, members of the Metropolitan Chicago Healthcare Council (MCHC) (2005)

stressed the critical nursing shortage will affect the availability of quality health care

provided by RNs in the Chicago area and the state of Illinois. The MCHC reported in,

Caring for the future: A plan for meeting metropolitan Chicago's growing health care

workforce needs, the Chicago area experienced a shortage of 2,500 RNs. By 2020,

members of the MCHC predicted the critical nursing shortage will reach 21, 000 RNs in

Illinois, with about two-thirds of the RN vacancy experienced in the Chicago area (MCHC, 2005).

In Illinois, nurse educators will need to train an additional 2,000 RN students each year to meet the expected rise in healthcare demands (MCHC, 2005). By 2010, the number of RN graduates in Illinois will need to increase from 4,000 to 6,000 annually to meet rising healthcare demands (MCHC, 2005). Nursing administrators must invest between $40 million to $50 million to prepare new faculty and support education programs to train the additional nurses (MCHC, 2005).

Perceptions of Nurses and Nursing Students Regarding the Nursing Shortage. RNs and nursing students perceived the critical nursing shortage as generating detrimental effects on the quality of patient care (Buerhaus, Donelan, Ulrich, Norman, Williams, & Dittus, 2005; Laschinger & Leiter, 2006). RNs and nursing students reported delays in patient care, a higher number of patient complaints, and emotional exhaustion and stress resulting from the critical nursing shortage (Buerhaus, Donelan, Norman, & Dittus, 2005; Buerhaus, Donelan, Ulrich, DesRoches, et al., 2007; Buerhaus, Donelan, Ulrich, & Norman, et al., 2007). Of the RNs surveyed in 2006, 93% perceived the national supply of RNs to be less than the demand for RNs (Buerhaus, Donelan, Ulrich, DesRoches, et al., 2007). The critical shortage of RNs negatively affects access to health care and threatens patient safety (Kane, Shamliyan, Mueller, Duval, & Wilt, 2007).

Retention Issues in Community Colleges

Community colleges, the largest sector of higher education institutions in the U.S., comprise 1,195 regionally accredited institutions and enroll almost half of the total number of undergraduate students (American Association of Community Colleges

[AACC], 2008; Bailey, 2005; National Center for Education Statistics [NCES], 2008).

Historically, administrators in community colleges have voiced considerable concern

regarding high attrition rates of college students (Gilmore, 2008; Rudel, 2006). The topic

of college student retention has been a salient area of inquiry among educational

researchers for over three decades (Welsh, Petrosko, & Taylor, 2007). According to the

Community College Survey of Student Engagement (CCSSE) 2006 executive summary,

community colleges often serve students who have the fewest options and the greatest

challenges (n. d.). Two main issues discussed in the literature regarding retention

included the effect of retention on college success and performance and the timing of

dropout.

Effect of Retention on College Success and Performance

During an era of increased accountability, limited resources, and raised public

expectations, federal and state policy makers remain attentive to retention rates of college

students (Fike & Fike, 2008; Zeidenberg, 2008). State funding, grants, and budgets

influencing resources available to community colleges, may be dependent on retention

statistics (Alden, 2008). Retention statistics may influence the reputation of community

colleges perceived by members in the community and the perception of the public about

the effectiveness of education rendered (Hagedorn, 2005; Sparkman, 2008). Students

who drop out of college do not meet personal educational and training needs (Spellman,

2007) or the expectations of college administrators (Hermanowicz, 2007). The number of

dropouts is important to leaders in nursing education and health care because community

colleges serve as a major site for preparing students for nursing careers (Perin, 2006).

Timing of Dropout

The first year of college is a critical time for at-risk students (American College Testing [ACT], 2007; Jacobson, 2005). The highest level of dropout occurs during the first year of college (Veenstra, 2009). First-year retention rates for community college students are 50% to 64% (McLaughlin, 2008) and four-year institutions are 72% (Anonymous, 2006). Half of the students who enroll in community colleges fail to earn a degree or certificate, or progress to a four-year institution, and about 20% complete less than 10 credit hours (Bailey, 2005). The retention statistics are of significance to administrators who consider the personal loss to students who do not attain educational goals, the economic loss to the institutions, and the potential loss of a positive reputation of the institution perceived by members of the local community (Veenstra, 2009).

Retention of students remains a concern of community college leaders (Hermanowicz, 2007). Nursing leaders in community colleges encounter the challenge of providing higher numbers of qualified nursing graduates (Miedema, 2008). Because of the growing awareness by leaders to promote student retention and success, "many community colleges are seeing the need for a comprehensive evaluation of their retention and student success initiatives" (McClenney & Waiwaiole, 2005, p. 36). McClenney and Waiwaiole (2005) contended, "Improving retention rates is a collective responsibility: everyone-faculty, staff, and administrators, along with the students themselves- must work together to promote student success" (p. 40).

The Role of ADN Programs

During the last 50 years, the number of ADN programs grew from seven pilot schools to 909 programs (Anonymous, 2006). ADN programs comprise 59% of all

nursing programs (Kaufman, 2008; NLN, 2008). Of the total number of students who graduate from nursing programs, two-thirds of the graduates are from ADN and diploma programs, while one-third graduate from BSN programs (HRSA, 2004). The majority of nursing graduates receive basic training through ADN programs (Donley, 2005; NCSBN, 2008). ADN programs will become more important in addressing the critical nursing shortage because of the shorter time needed for nursing students to complete RN degrees when compared to BSN programs (Hopkins, 2008).

Nursing Faculty Shortage

The critical nursing shortage limited the number of nursing faculty available to teach nursing students (Allan & Aldebron, 2008; Kowalski, Dalley, & Weigand, 2006; Murray et al., 2008). A shortage of master's and doctoral prepared nurses qualified to teach students in nursing programs exists nationwide (Larson, 2006; Tanner, 2005). Socioeconomic data indicate the shortage of nursing faculty will persist and worsen during the next 20 years (Jones, Caton, DeWitt, Stubbs, & Conner, 2007).

The nursing faculty shortage directly limits the capacity for enrolling students in nursing schools (Walrath & Belcher, 2006). An insufficient number of RN graduates may enter the nursing workforce to replenish the shortage of nursing faculty and RNs (Livsey, Campbell, & Green, 2007). According to Higgins (2005), "Because of the faculty shortage, students, who each take one of the limited student positions, must succeed, or the nursing shortage is further compromised" (p. 542). As a result, the RN and faculty shortage are directly related issues (Allen, 2008; Yoho, Timpanaro, & Fowler, 2006) presenting an urgent concern for leaders in health care and education (Roman, 2008).

The Rejection of Qualified Applicants

Members of local, state, and national agencies challenge leaders in schools of nursing to accept all qualified applicants into the professional program (ICNR, n.d.). Despite the call for acceptance of all qualified applicants, the number of qualified applicants who apply to nursing programs annually exceeds what nursing administrators can accommodate (Allan & Aldebron, 2008). During 2004, nursing administrators in education, rejected 43.7% of all applications submitted by qualified applicants or more than 147,000 qualified applicants (Dienno, 2006; Larson, 2006). Of the applications received in 2005 in ADN programs, nursing administrators turned away 32.7% of all applications submitted or 88,000 qualified applicants (NLN, 2008). The AACN (2006, 2007) predicted the alarming number of nursing students turned away from nursing programs to continue through the year 2020.

Predictors of Academic Success in Nursing Programs

For several decades, nursing researchers examined predictors of student success and the likelihood students would remain enrolled in the nursing program (Campbell & Dickson, 1996; Gilmore, 2008). The next sections delineate predictors of academic success in nursing programs examined in previous studies. The sections include (a) germinal studies, (b) selective admission criteria, and (c) prerequisite coursework.

Germinal Studies. Researchers who conducted studies prior to 1965 concluded the best predictor of academic success was high school grades (Campbell & Dickson, 1996). Between 1965 and 1975, researchers determined the best predictors of academic success were student theory grades, GPA, and scores on NLN Achievement tests (Campbell & Dickson, 1996). In an early study by Madsen (1986), the majority of nursing students

who withdrew from a nursing program reported personal problems, such as emotional concerns, as a significant focus of the decision to withdraw. Madsen suggested the potential for investigating the influence of emotions in nursing student retention. Predictors of success explored by researchers in recent studies included admission GPA, standardized exam scores, last science coursework grades, skills in communication, comprehension, math, reading, study and test-taking skills, profile characteristics, and the ability to manage anxiety (Gilmore, 2008; Higgins, 2005; Horton, 2006; Jeffreys, 2007b).

Selective Admission and Recruitment Criteria. Because more applicants than positions are available, nursing administrators use admission criteria to determine the most qualified students for acceptance into the nursing program and the applicants who are more likely to succeed in the nursing program (Gilmore, 2008; Newton, Smith, & Moore, 2007; Porter, 2008). Nursing administrators use the most efficient and cost-effective admissions selection process (Bellack, 2005; Hayes, 2007). The admission process involves a rapid review, ranking, and selection based on established criteria determined by the administrators (Bellack, 2005; Hayes, 2007).

Traditionally, admission criteria used by nursing administrators in education to select qualified applicants included cognitive factors based on academic achievement of students. Cognitive factors included GPA, the American College Test (ACT) scores, the Scholastic Aptitude Test (SAT) scores, prerequisite coursework, prenursing science course grades, and standardized nursing assessments (Gilmore, 2008; Horton, 2006; Miedema, 2008; Newton, Smith, & Moore, 2007; Shirrell, 2008; Uyehara, Magnussen, Itano, & Zhang, 2007). Despite the reliance on cognitive factors, attrition remains a concern for nursing administrators (Rosenberg et al., 2007). Nursing administrators who

relied on cognitive factors have been unable to predict attrition related to personal and nonacademic factors (Trice & Foster, 2008).

Nursing leaders introduced the idea of assessing noncognitive factors of applicants through structured interviews during an admission and recruitment process (Rosenberg et al., 2007; Trice & Foster, 2008). Structured interviews conducted by the leaders identified applicants who had an understanding of the commitment and life changes necessary for success in the rigorous nursing training (Rosenberg et al., 2007). Applicants discussed personal characteristics, such as interpersonal skills and motivation to succeed (Rosenberg et al., 2007; Trice & Foster, 2008). Positive outcomes noted from assessing personal characteristics of applicants included reducing reasons for attrition to cognitive factors and identifying applicants less prepared to succeed in nursing training (Rosenberg et al., 2007; Trice & Foster, 2008). Newton, Smith, and Moore (2007) suggested admitting an underprepared applicant does not benefit the applicant emotionally or financially.

Barriers to Success Perceived by Nursing Students

Higginson (2006) asserted the "process of 'becoming' a nurse is complex" (p. 46). Nursing is an emotionally challenging and stressful profession in which "emotions and social skills play a large role in the success or failure of a healthcare career" (Cram, 2007, Norms in the Healthcare Profession, para 1; Letvak & Buck, 2008). Researchers have attempted to understand the experiences of nursing students learning in a complex nursing environment (Amaro, Abriam-Yago, & Yoder, 2006). Barriers to success perceived by nursing students included the rigorous nursing training and emotionally challenging work (Buerhaus, Donelan, Norman, & Dittus, 2005).

Rigorous Nursing Training. Students beginning the initial course of the nursing program must adapt to a rigorous nursing curriculum (Jeffreys, 2004). Nurse educators teach students to perform complex clinical procedures, which require accuracy, a high degree of standards to measure performance, and an ongoing evaluation (Alden, 2008; Rees, 2006). Nursing students must adjust to application and analysis level questions and math calculations requiring a higher level of critical thinking than knowledge and comprehension level questions included in pre-nursing course tests (Rees, 2006). Because of the rigorous demands of the nursing curriculum, students often experience increased anxiety and stress leading to an early departure from the nursing program (Higginson, 2006; Reeves, 2005). Undergraduate ADN students may experience stress due to the time constraints of completing a two-year program (Jeffreys, 2007a).

Emotions Experienced by Nursing Students. Taylor (2005) and Hanna et al. (2005) posited nursing students might decide to leave the program because of being unprepared emotionally for the demands of nursing training. Nursing students perceived a high degree of stress in clinical settings and a fear of failure during the process of becoming a nursing student (McGregor, 2007). Nurse educators who develop EI skills of nursing students might assist nursing students to manage personal emotions, stress levels, and cope with the demands of the curriculum (Montes-Berges & Augusto, 2007).

In the United Kingdom (UK), Higginson (2006) explored the fears and worries of first-year pre-registration nursing students. Nursing students reported worries about dealing with death, potential dangers from contact with bodily fluids, completing clinical procedures, passing examinations, and finances (Higginson, 2006). While the results of the study by Higginson might reflect factors relevant to the culture and social

environment specific to the sample, the results may be unique to nursing students in other settings.

Issues with Retention in Nursing Education

Historically, attrition and retention of nursing students in nursing programs has concerned leaders in nursing education and institutions of higher education (Colalillo, 2007; Rees, 2006). The topic of student attrition and retention in nursing education has captured the interest of nursing researchers for over 55 years (Campbell & Dickson, 1996). Promoting persistence and retention among nursing students is a complex phenomenon (Colalillo, 2007) generating a renewed critical focus for contemporary nurse educators, administrators (Wells, 2007), and researchers.

Many qualified nursing students accepted into the nursing program drop out or withdraw and do not graduate (McLaughlin, 2008). Because many qualified nursing students wait to receive acceptance into nursing programs, the students who drop out or withdraw from the nursing program waste a valuable position in the professional program (ICNR, n.d.; Rees, 2006). Of the nursing students who choose to drop out or withdraw, the timing of attrition and attrition rates are important issues included in the research.

Timing of Attrition. The most likely time for nursing students to exit the nursing program is during the first semester (Jeffreys, 2007b; Rees, 2006; Wells, 2007) as compared to the first year for college students (Jacobson, 2005). Hopkins (2008) and Higgins (2005) suggested nursing administrators might monitor attrition rates during the first nursing course. The first six weeks of the nursing program is the most crucial time when nursing students decide to persist or drop out (Colalillo, 2007; Jeffreys, 2004).

During the first six weeks, nursing students must transition from prenursing courses and adapt to the course load and clinical expectations of nursing courses (Jenkins, 2006).

Attrition Rates. Attrition rates among nursing students vary across the U.S. The national average first-year attrition rate among ADN students is 20%, as compared with 13% among BSN students, and 25% among diploma students (Buerhaus et al., 2009; Kaufman, 2008; NLN, 2008). Attrition rates among nursing students reported by researchers were 27% and 44.6% in Texas (Yoho, 2006; Yoho, Young, Adamson, & Britt, 2007), 17% and 49% in California (Miller, 2006; Seago & Spetz, 2005), and 20% in Hawaii (Uyehara et al., 2007). Only 43% of nursing students attending 15 ADN programs in Texas graduated on schedule (Starck et al., 2008). The attrition rates suggest other factors might assist nursing leaders to the early identification of at-risk students.

Importance of Retention

The critical nursing shortage underscores the primary importance of retaining qualified students (McGregor, 2007). Uyehara et al. (2007) asserted, "Every nursing student should be viewed as a potential registered professional nurse and a much-needed asset for the nursing profession" (p. 37). Higgins (2005) posited, "Student success requires viewing each student in totality, as a unique and complex being with individual needs, and intervening strategically throughout the academic continuum" (p. 547).

Designing innovative methods to retain nursing students is an ongoing process (Jenkins, 2006) which continues to challenge nursing leaders in the 21st century. Jeffreys (2004) posited nurse educators "are in a key position to influence retention positively" (p. 4). Measuring the motivation and EI skills of students early in the rigorous and

demanding nursing program might assist leaders in nursing education to improve

retention and reduce attrition rates (Hunt, 2006; VanNoord, 2007).

<div align="center">Theoretical Background on Retention</div>

Theorists who developed germinal theories of student departure during the 1960s

and 1970s posited psychological and environmental factors influenced decisions made by

students to remain or withdraw from college (Tinto, 1993). Most early explanations of

student departure by theorists focused on psychological models of student persistence

(Tinto, 1993, 2007). Psychological theorists proposed retention and departure were

dependent on the actions and abilities of students or willingness of students to complete

academic tasks successfully (Tinto, 1997). Student departure reflected a weakness in the

student and a failure to meet the demands of college (Tinto, 1997). Psychological theories

implied sole responsibility for student failure and departure depended on the student, but

overlooked the role the institution and faculty played in the process (Tinto, 1997).

Other theorists focused on environmental, societal, economic, and organizational

forces affecting student departure. Environmental theorists suggested broader social,

economic, and organizational forces influenced decisions by students to depart (Tinto,

1997). Societal theorists stressed the role of social attributes of students, institutions, and

society in student departure (Tinto, 1997). Economic theorists posited finances are the

main reason for persistence or departure (Tinto, 1993). Organizational theorists explained

the role of the institutions in retention and departure, but focused on organizational

planners and researchers rather than individuals (Tinto, 1993).

While retention theorists provided insight into student retention and departure in

higher education, the explanations are limited in why some students persist and others do

not (Tinto, 1997). Retention theorists provided a partial view of student departure (Tinto, 1997). All decisions made by students to leave college were assumed to occur under the same sources (Tinto, 1993). Students often base the decision to leave college on a variety of factors or reasons (Hermanowicz, 2007; Tinto, 1993).

Retention theories applicable to the research study might determine which at-risk students may benefit from interventions to be successful (Stickney, 2008). Several models attempting to explain student attrition and retention in higher education included in the literature were (a) a longitudinal model of student departure by Tinto (1993), (b) the Shelton model of student retention (2003), and (c) the model of nursing undergraduate retention and success by Jeffreys (2004). The conceptual models of the theorists broadly explain the phenomena and assumptions and reflect the philosophical views of each theorist (Burns & Grove, 2005).

Longitudinal Model of Student Departure

During the 1970s and 1980s, Tinto viewed voluntary student departure through a comprehensive and longitudinal lens (Miller, 2006; Tinto, 1993). The theory of student departure by Tinto became the most widely cited theory explaining departure (DeWitz, Woolsey, & Walsh, 2009; Guiffrida, 2006). Tinto proposed numerous variables, including personal characteristics of students, influenced the commitment of students to persist (Burley, Butner, Causey-Bush, & Bush V, 2007). The academic success of students was dependent upon congruence between the students and the institution (Starck et al., 2008). Students who experienced a positive encounter in the institution were more likely to persist (Pascarella & Terenzini, 2005).

Earlier research by Tinto proposed social integration of students into college life

was a central element to student departure (Liu et al., 2007; Porter, 2008). The primarily

sociological model attempted to explain how the interactions between the students,

faculty, and staff in the academic and social systems, or communities in the college,

affected decisions by students to withdraw voluntarily (Rudel, 2006; Tinto, 1993). Tinto

posited faculty support is an integral factor leading to student success and retention

(Ramsburg, 2007). Tinto focused the sociological model on (a) faculty support, (b)

overlapping community systems, and (c) transitions in the first year of college.

Faculty support. In comparison to earlier models, Tinto emphasized the

importance of how interactions, actions, and collaborative efforts between various

individuals in the college shaped learning and persistence. Tinto (1993) asserted, "If

student involvement is to occur, it must begin from the very first encounter students have

with the academic life of the institution" (p. 134). Because nursing students enrolled in

community colleges often commute and have other obligations outside of college, the

classroom and clinical site are perhaps the most important community system affecting

retention (McLaughlin, 2008). Nurse educators who motivate students to learn and assist

students to make an emotional connection to learning in the classroom and clinical site

may facilitate persistence and commitment to reach academic goals (Grace, 2004).

Community systems. Tinto viewed the college environment consisting of multiple

overlapping systems existing within the institution (Burley et al., 2007). Persistence

depended on the involvement of students and a transition into the college system and

each subsystem. The systems may emotionally bind the student to the college and

promote persistence (Tinto, 1993). For example, nursing schools may be composed of

several subsystems, such as the (a) community within the college, (b) community within

the nursing program, (c) ethnic communities in diverse nursing student populations, (d) nursing student organizations, and (e) community within the classroom and clinical site.

Transitions. Many students are unable to cope with stress during the transition into college life and may choose to withdraw during the first year of college (Tinto, 1993). In the book, *Leaving college: Rethinking the causes and cures of student attrition*, Tinto explained a student passes through the stages of (a) separation, (b) transition into college life, and (c) the inclusion into college society to be successful. As students progress through each stage, students encounter adjustment or difficulties affecting the decision to persist or drop out (Fike & Fike, 2008; Tinto, 1993).

Critics of the student departure theory argued Tinto failed to acknowledge culture and motivational orientation of students might influence departure (Guiffrida, 2006). Guiffrida proposed an adaptation of the model by Tinto to include cultural variables and motivational orientation as factors influencing retention and departure. Guiffrida recommended further research to test the assertions.

The longitudinal model of student departure by Tinto is a classic model of student retention valuable to the research study because the theory provides a foundation to understand nursing student retention (Rudel, 2006; Stickney, 2008). The assertion by Tinto student departure occurs during the first year of college may apply to the experiences of nursing students during the first semester in a nursing program (Stickney, 2008). Nursing students may experience a period of adjustment during the transition from general college expectations and standards required in prerequisite courses to the rigorous nursing program (Alden, 2008; Colalillo, 2007). The more nursing students perceive positive interactions from nurse educators and feel emotionally connected as members of

the multiple social and academic communities in nursing programs, the more likely learning will take place, and nursing students will persist (Grace, 2004; McLaughlin, 2008). Nurse educators can improve student retention by establishing personal relationships with students to facilitate psychological support (Longwell-Grice & Longwell-Grice, 2008; McLaughlin, 2008).

Shelton Model of Student Retention

Shelton (2003) recently developed a conceptual model of student retention based on earlier theories by Bandura and Tinto. Shelton (2003) incorporated "elements of internal psychological processes with external environmental supports to predict academic performance and persistence" (p. 70). At-risk students may still succeed if students achieve a satisfactory GPA, have internal resources, and use external supports (Shelton, 2003). Shelton focused a conceptual model on student variables and faculty support.

Student variables. Shelton (2003) believed student variables influenced academic performance. Student background variables included gender, past coursework, past GPA, preadmission test scores, financial resources, family educational level, family responsibilities, marital status, and employment status (Shelton, 2003). Internal variables of the student included academic and career goals, goal commitment, academic self-efficacy, and ability (Shelton, 2003). External support variables of the student involved psychological support and functional support (Shelton, 2003).

Faculty support. Shelton explored the influence between perceived faculty support and student retention in ADN students (Starck et al., 2008). Students who persisted reported higher psychological support as compared to students who had

withdrawn from the nursing program (Shelton, 2003; Uyehara et al., 2007). Professional development programs may assist faculty to understand the role in providing psychological and functional support for nursing students (McLaughlin, 2008).

Model of Nursing Undergraduate Retention and Success

Nurse educators are in a key position to make a difference in decisions to improve nursing student success and retention (Jeffreys, 2004). Jeffreys posited, "Nursing student persistence, retention, and success will be even more complex in the future" (p. 166). Jeffreys adapted previous perspectives of retention theorists to explain the retention of nursing students. The discussion regarding the model by Jeffreys included the (a) origin of the model, (b) social and professional integration factors, and (c) self-efficacy.

Origin of the model. Jeffreys (1993) reported non-traditional ADN students attending a first-semester nursing course identified family, friends, and faculty as major influential factors in retention decisions of students. The original model by Jeffreys focused on retention and success in non-traditional nursing students (Jeffreys, 2004). The conceptual model was later adapted to include traditional university undergraduate nursing students (Jeffreys, 2004).

Jeffreys included variables proposed by Bean and Metzner in the NURS model. Background and defining variables, academic variables, and environmental variables of students influenced persistence (Jeffreys, 1998). Jeffreys proposed students enter the nursing program with existing characteristics, such as age, ethnicity, race, and gender (Jeffreys, 2004). Similar to the beliefs of Tinto and Shelton, Jeffreys viewed knowledge of the personal characteristics of students may help educators to identify at-risk nursing students and possibly influence decisions made by students to persist or drop out.

Social and professional integration factors. Jeffreys (2004) presented the Nursing Undergraduate Retention and Success (NURS) model in the book, *Nursing student retention: Understanding the process and making a difference*. Figure 1 provides a graphical depiction of the model. Jeffreys identified the importance of interaction within the nursing profession and social integration in the college environment (Jeffreys, 2004). Jeffreys asserted positive psychological outcomes and professional integration of students would lead to academic success, whereas poor psychological outcomes and poor professional integration of students would lead to attrition (Colalillo, 2007).
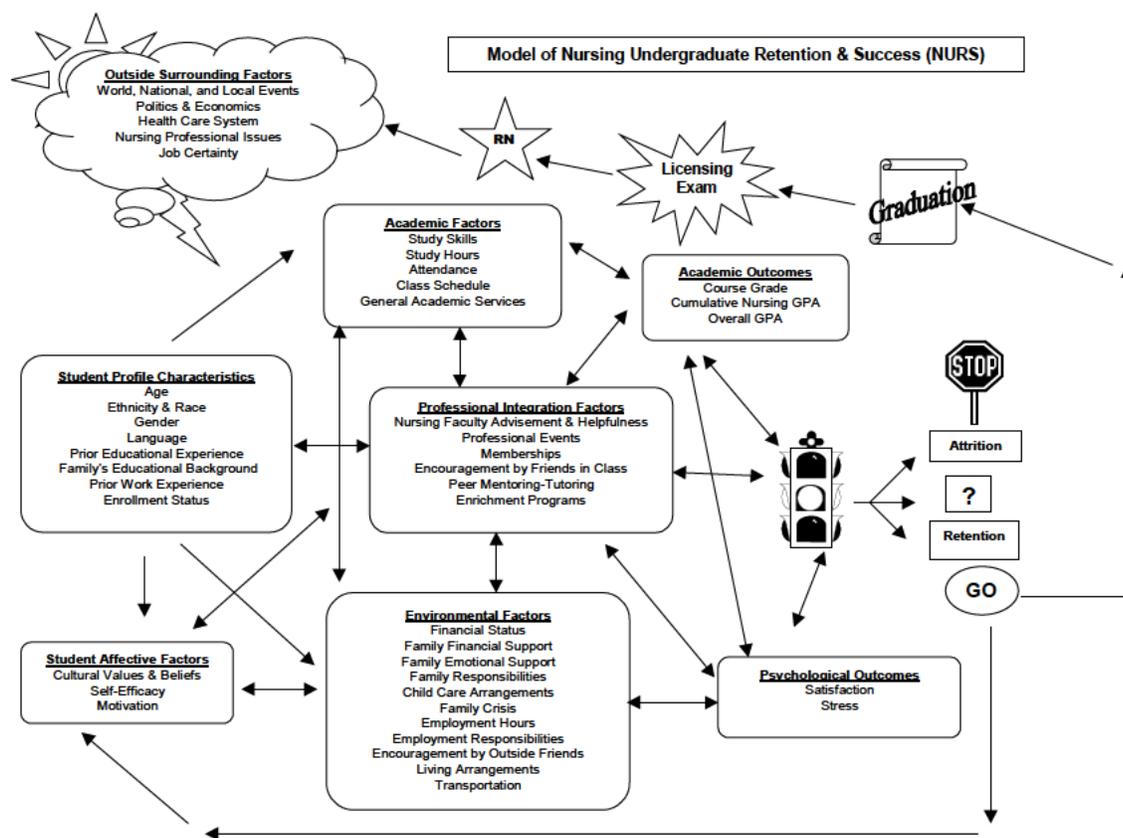
Figure 1. Model of Nursing Undergraduate Retention and Success (NURS). From *Nursing student retention: Understanding the process and making a difference* (p. 6), by M. R. Jeffreys, 2004, New York: Springer Publishing Company. Copyright 2004 by Springer Publishing Company. Reprinted with permission of the author and Springer Publishing Company.

A central tenet of the model by Jeffreys is the professional integration of nursing students into the college and nursing program to promote persistence and retention (Jeffreys, 2004). Professional integration of students may positively or negatively influence student retention, such as faculty advisement and helpfulness (Jeffreys, 2004). The interaction of faculty members committed to the students and students committed to the nursing program are key elements creating a "critical turning point" in a decision to persist or drop out (Jeffreys, 2004, p. 158). Whether the interaction positively or negatively motivates the nursing student greatly influences the decision to persist (Jeffreys, 2004).

Academic outcomes of students interact with psychological outcomes to positively or negatively influence retention decisions (Jeffreys, 2004). Psychological outcomes of students in nursing education are either stress or satisfaction with the nursing education experience (Watson et al., 2009). Jeffreys (2004) claimed, "All nursing students will experience some degree of stress" (p. 136). Jeffreys (2004) asserted nursing students are especially at risk for stress because "the educational process of nursing students is unique and different from other types of educational experiences" (p. 136).

Nursing curriculum designed by nurse educators commonly include theoretical courses, skills laboratory experiences, and lengthy, physically, emotionally draining clinical components, and higher academic credits per course (Jeffreys, 2004). Nurse educators place greater emphasis on test scores than educators in other disciplines (Jeffreys, 2004). The higher emphasis by nurse educators on test scores and competent performance of skills often leads to students experiencing test anxiety, stress, and fear of failure (Jeffreys, 2004). The stress levels experienced by nursing students potentially

interferes with academic achievement and retention (Jeffreys, 2004; Watson et al., 2009).

Self-efficacy. A germinal conceptual model of non-traditional undergraduate persistence by Bean and Metzner provided the framework for Jeffreys to support self-efficacy as a factor influencing whether students persist (Jeffreys, 1998). Jeffreys (1998) asserted educators who have an understanding of the perceptions of nursing students may assist students to succeed. Students who possess a high level of self-efficacy may demonstrate a strong goal commitment, motivation, and an ability to concentrate on a specific task, and persist as compared with students with a low level of self-efficacy who are less motivated to overcome failures, hardships, setbacks, and stressors (Jeffreys, 1998). Students with low levels of self-efficacy are more likely to become discouraged when facing a difficult task and may give up and withdraw from college (Jeffreys, 2004). In comparison, the overly confident or self-efficacious student is more likely to overestimate academic abilities, be unaware of weaknesses, and not be academically prepared, or seek assistance from faculty (Jeffreys, 2004).

Jeffreys (1998) asserted nursing students may not accurately perceive the level of academic skills required for nursing training. Nursing students overestimated academic support and underestimated the need for academic preparation (Jeffreys, 1998). Nursing students perceived environmental variables influenced academic achievement and retention more than academic variables (Jeffreys, 1998; 2007a). Social integration variables, such as emotional support from family and friends, positively influenced persistence and retention (Jeffreys, 2007a).

Alden (2008) applied the NURS model in a study to determine early predictors of academic success among BSN students. Science GPA, reading comprehension, and math

skills were predictive for early academic success of the BSN students (Alden, 2008).

Reading comprehension, math skill, and previous degree were reported as predictive for

the BSN students completing the program (Alden, 2008).

Jeffreys (2004, 2007a) provided a holistic multidimensional and dynamic

approach for nurse educators to identify at-risk students, develop retention strategies,

guide teaching and research, and evaluate the effectiveness of retention interventions.

Jeffreys (2004) indicated the NURS model "is tentative and will require modifications

when new data become available" (p. 9). Jeffreys (2004) welcomed "new insights,

creative ideas, innovative strategies, empirical designs, and theoretical inquiries" to

augment the present model (p. viii).

The current research investigated two affective constructs, EI and motivation. The

results of the current research study might provide further understanding of nursing

student retention to complement the NURS model. The current research tested the NURS

model through the use of a motivation questionnaire which included a subscale assessing

student perceptions of self-efficacy for learning. The current research study may also add

to the previous base of knowledge by collecting empirical data on selected background

variables comprising the NURS model.

The three researchers provided a conceptual framework to understand student

persistence and departure. The phenomenon of student retention is not fully understood

(Tinto, 1993, 2007). One conceptual framework may not explain the "entire phenomenon

of student retention" and departure from college (Nakajima, 2008, p. 26).

Emotional Intelligence

For over a century, psychologists searched for additional predictors of human

performance (Bar-On et al., 2007). An emerging concept in the field of research in higher education postulated to be a separate form of intelligence was EI (Bar-On et al., 2007). Literature related to EI included the origin of EI, empirical research on EI, and alternative viewpoints of EI.

Origins of Emotional Intelligence

During the 1980s, the views of Gardner on the concept of intrapersonal and interpersonal intelligence served as the foundation for the development of EI (Schutte et al., 1998). Germinal research by Gardner challenged traditional views of intelligence and proposed a new, detailed model of multiple intelligences (Seal, Boyatzis, & Bailey, 2006). Gardner suggested intelligence included intrapersonal and interpersonal intelligences (1983). Gardner (1983) defined intrapersonal intelligence as:

> *Access to one's own feeling life*- one's own range of affects or emotions: the capacity instantly to effect discriminations among these feelings and, eventually, to label them, to enmesh them in symbolic codes, to draw upon them as a means of understanding and guiding one's behavior (p. 239)

According to Gardner (1983), interpersonal intelligence is the "ability to notice and make distinctions among other individuals and, in particular, among their moods, temperaments, motivations, and intentions" (p. 239). Gardner asserted the framework of multiple intelligences applied to any educational situation. Gardner (1983) stressed the need to research multiple intelligences in the statement, "The capacity to know oneself and to know others is as inalienable a part of human condition as is the capacity to know objects or sounds, and it deserves to be investigated…" (p. 243).

Prior to research by Gardner, psychologists theorized EI as comprised of the

broader construct of social intelligence. In 1872, Darwin published the first known research on emotional and social intelligence (Bar-On et al., 2007). The concept of EI also emanated from germinal research conducted by Thorndike in 1920 who defined social intelligence as the "ability to understand and manage men and women" (Goleman, 2006b, p. 11; Thorndike, 1920, p. 228), to perceive one's own internal states, motives, behaviors, and to act optimally based on the information (Salovey & Mayer, 2007). From 1920 to 1937, few researchers conducted studies investigating the construct of social intelligence (Landy, 2005). After the 1930s, social intelligence proved to be a difficult construct for researchers to measure and therefore led to a decreased interest until the recent emergence of EI (Roberts, Zeidner, & Matthews, 2001).

By 1986, Payne first applied the term EI in an unpublished dissertation (Ashkanasy & Daus, 2005). Later in 1990, Salovey and Mayer first coined the term EI and provided the initial definition to suggest a form of intelligence involving an ability of individuals to process emotional information and deal with personal emotions and the emotions of others (Seal et al., 2006). Mayer and Salovey, Goleman, and Bar-On proposed the three most popular conceptual models of EI (Bar-On et al., 2007).

Goleman (2006a) popularized EI as a form of intelligence in the international best-selling books, *Emotional Intelligence* and *Working with Emotional Intelligence*. Goleman (2006a) wrote the advantages to possessing EI "can be as powerful, and at times more powerful, than IQ" (p. 34). Goleman expanded the definition of EI to include motivation, non-ability dispositions, traits, global personal and social functioning, persistence, and optimism. Goleman described EI as a mix of acquired skills which include an awareness of emotions and the ability "to motivate oneself and persist in the

face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope" (Brown & Moshavi, 2005; Goleman, 2006a, p.34).

Mayer and Salovey (Schutte et al., 1998) revised the model of EI to give more emphasis on the cognitive components of EI and postulated the potential for intellectual and emotional growth. Five main domains comprise the model:

1. Knowing one's emotions or self-awareness is the keystone of emotional intelligence.

2. Managing emotions or the ability to soothe oneself, to relieve anxiety, gloom, or irritability.

3. Motivating oneself or "marshaling emotions in the service of a goal is essential for paying attention, for self-motivation and mastery, and for creativity."

4. Recognizing emotions in others or empathy is the "fundamental people skill" that is essential in caring professions, teaching, and management.

5. Handling relationships is a social competence and the ability to manage emotions in others. These abilities strengthen leadership and interpersonal effectiveness (Goleman, 2006a, p. 43).

Mayer and Salovey proposed a four-branch model of EI claiming EI is a combination of four separate emotional reasoning abilities occurring in hierarchal levels (Mayer et al., 2004). The EI abilities of an individual fall on a continuum between lower level skills for the capacity to perceive emotions to higher-level skills for the capacity to manage emotions properly (Mayer, Salovey, & Caruso, 2008). The main components of

EI proposed by Mayer and Salovey are the capacity to perceive emotions, assimilate emotion-related feelings, understand information in emotions, and manage emotions (Mayer et al., 2004). The management and regulation of emotions, the highest level of EI skills, occurs when "emotions are managed in the context of the individual's goals, self-knowledge, and social awareness" (Mayer et al., 2004, p. 199).

Mayer et al. further explained EI is an intellectual capability of individuals to use emotional information to guide thinking and actions (Brown & Moshavi, 2005; Mayer et al., 2004). EI abilities of individuals assist in critical thinking (Chabeli, 2006) and in the "decision making to make optimal choices in life" (Caruso & Salovey, 2004, p. 26). According to Caruso and Salovey (2004), decisions made by individuals "must incorporate emotion to be effective" (p. 9). Decision-making, such as the decision by a nursing student to persist in a nursing program, is a process guided by emotions (Bar-On et al., 2007).

Bar-On later viewed EI as traits where individuals who possess EI abilities are able meet the demands of daily life (Bar-On et al., 2007; Brown & Moshavi, 2005). Emotionally intelligent individuals are able to understand and express themselves and understand and relate well with others (Bar-On et al., 2007). According to Bar-On et al. (2007), emotionally intelligent individuals must be able to manage emotions effectively and "be sufficiently optimistic, positive, and self-motivated" (p. 2). The motivational component of EI encourages emotionally intelligent behavior and performance of an individual and the productivity of employees (Bar-On et al., 2007).

Empirical Research on Emotional Intelligence

Noncognitive ability of students, such as EI, may be related to academic success, task performance, and occupational performance (Bar-On et al., 2007; Goleman, 2006a; Mayer et al., 2004). According to Goleman (2006a), "Our schools and our culture fixate on academic abilities, ignoring emotional intelligence… that also matters immensely for our personal destiny" (p. 36). Caruso and Salovey (2004) asserted "the key idea behind emotional intelligence is that our emotions, in effect, make us smarter" (p. 25).

For students to be successful in school and in a future occupation students must develop personal EI skills, such as through educational programs and coaching (Abraham, 2006; Bergman, 2006; Chia, 2005; Codier, 2006; Dhiman, 2008; Justice & Espinoza, 2007; Potter, 2005; Van Rooy, Alonso, & Viswesvaran, 2005). For example, university students who completed an emotion-management program reported slightly increased EI scores and persisted from the spring to autumn semester when compared to students who did not complete the program (Lankisch, 2007). Students who wrote about emotional experiences improved the understanding of EI (Wing, Schutte, & Bryne, 2006). EI skills of students improved after educators incorporated EI into a pharmacy communications course (Lust & Moore, 2006). Nursing students who completed service learning experiences reported improved EI competence (Hunt, 2006).

Bay and McKeage (2006) and Esmond-Kiger et al. (2006) recently surveyed accounting and business undergraduate students to determine EI competencies and prior exposure to the construct. Esmond-Kiger et al. discussed EI in various courses attended by business students. Accounting students reported significantly lower EI skills compared to business students who had exposure to EI in courses. Similar to findings by Lankisch

(2007) and Schutte and Malouff (2002), educators who include discussions on EI in courses, might improve the EI skills of students (Bay & McKeage, 2006; Esmond-Kiger et al., 2006). Schutte and Malouff found first-year retention rates were significantly higher for the students who had completed a transition course incorporating EI skills.

Higher EI scores of undergraduate students were associated with higher college grades and were predictive of academic performance during the first year of college (Holt, 2007; Jaeger & Eagan, 2007). Undergraduate students with higher EI scores performed better on cognitive tasks, dealt with the frustration and helplessness occurring with very difficult tasks, and persisted at the task (Schutte et al., 1998). EI scores of undergraduate students were positively correlated with college GPA (Holt, 2007; Jaeger & Eagan, 2007). Bradshaw (2008) and Grace (2004) did not find EI scores of students to be related to student GPA.

EI subscales were predictive of academic success of traditional university students (Sparkman, 2008; Walker, 2006). The EQ-i was administered in a summer orientation program prior to students beginning the first university course. The social responsibility subscale was the strongest predictor of graduation as measured by enrollment status recorded five years later (Sparkman, 2008). The interpersonal, intrapersonal, adaptability, stress, and mood subscales and total EQ-i score were predictive of students completing four semesters (Walker, 2006).

Grace (2004) examined the influence of EI on satisfaction among 195 undergraduate students enrolled in four different BSN programs. Higher EI scores of students were associated with higher satisfaction scores of students (Grace, 2004). Grace

(2004) concluded, "When students' expectations and outcomes meet or exceed their anticipated outcomes, a positive increase results in the use of emotions" (p. 104).

Nurse educators who possess EI skills motivate students and serve as role models (Piper, 2005; Young-Ritchie, Laschinger, & Wong, 2007). Jenkins (2006) investigated the influence of EI skills of nurse educators on the learning environment of BSN students. Jenkins found the EI skills of nurse educators influenced the perceptions of students regarding the classroom environment, the competence level of students, and the meaningfulness and value of the educational experience perceived by students. Nursing administrators might consider offering professional development to improve EI skills so nurse educators may better serve as role models for nursing students (Jenkins, 2006).

Shanta (2007) conducted a quasi-experimental study of the effect of nursing education on the development of EI among undergraduate nursing students. Nurse educators were not providing training on EI in the nursing curricula (Shanta, 2007). Freshwater (2004) and Rochester et al. (2005) concurred nurse educators have not provided sufficient opportunities for nursing students to develop EI skills. RN graduates as well perceived EI was not adequately addressed within nursing curricula (Rochester et al., 2005). New nursing graduates may arrive at healthcare institutions without requisite EI skills for successful clinical nursing practice (Freshwater, 2004; Rochester et al., 2005; Shanta, 2007).

Nursing students may be unprepared emotionally to meet the demands of the nursing curriculum (Freshwater, 2004) and less motivated to persist (Taylor, 2005). An underlying reason nursing students may be unprepared emotionally is nurse educators may assume nursing students are responsible alone for developing the ability to manage

emotions and the emotional responses to others (Cadman & Brewer, 2001; Wilson & Carryer, 2008). Nurse educators reported the assumption "that if you are a nurse you are emotionally competent" during interviews conducted by Wilson and Carryer (2008, p. 43). Wilson and Carryer argued nurse educators should not have an unreasonable expectation for nursing students to self-manage learning and the development of EI skills.

EI skills of students are associated with dynamic and transformational leadership (Gunther et al., 2007; Jennings, Scalzi, Rodgers, & Keane, 2007). Chia (2005) asserted, educators "should be producing graduates with the right mix of soft-skill competencies and knowledge needed to perform well in the changing economy" (p. 87). To respond to the need for well-prepared graduates, educators in accounting, business, and BSN programs developed leadership modules to supplement curriculum which included motivation and EI (Dhiman, 2008; Gunter et al., 2007; Jennings et al., 2007). Educators have a prime responsibility to provide a strong foundation in EI and motivation skills in curriculum so students will become dynamic and transformational leaders (Bay & McKeage, 2006).

Higher levels of EI skills in university students were associated with improved coping ability, lower anxiety, and the ability to control emotions (Bastian, Burns, & Nettlebeck, 2005; Brown & Schutte, 2006; Saklofske, Austin, Galloway, & Davidson, 2007). Kingston (2008) concluded "a student's emotional competence is likely to play a key role in the decision to drop-out from a university" (p. 137). Nurse educators who increase the emotional competence of students might help students cope with stress associated with rigorous academic and non-academic demands of nursing training and thereby enhance the academic performance of students (Romanelli et al., 2006). EI skills

will also be important skill-sets to help RN graduates transition into nursing and cope with the pressures of the nursing profession (Gooch, 2006).

Members from the international media, researchers, and leaders acknowledged the concept of EI. Nurse educators have failed to recognize the need to train and develop the EI skills of nursing students (Cadman & Brewer, 2001; Jenkins, 2006; Wilson & Carryer, 2008). Despite the call from healthcare administrators for nursing graduates to possess EI skills, nurse educators are not adequately preparing nursing graduates to meet the emotional needs of patients (Bellack et al., 2001). Freshwater and Stickley (2004) claimed nurse educators are producing "unbalanced practitioners" (p. 93). Freshwater and Stickley (2004) surmised, "An education that ignores the value and development of the emotions is one that denies the very heart of the art of nursing practice" (p. 93).

Alternative Viewpoints of Emotional Intelligence

In light of the international attention attributed to EI, skeptics raised alternative views arguing EI is not a separate construct from general intelligence (Van Rooy, Viswesvaran, & Pluta, 2005). Opponents argued the measurement of EI is grounded in unstable, psychometrically flawed instruments which have not demonstrated appropriate validity to sustain the use of the instruments (Daus & Ashkanasy, 2005). Opponents asserted the mixed model is too broad in scope, the self-report and ability-based tests are not acceptable methods for measuring EI (Van Rooy, Viswesvaran, et al., 2005), and the assertions made by EI proponents are unsupported by empirical research (Semadar, Robins, & Ferris, 2006).

In contrast, proponents of EI claimed the construct based on ability and mixed models is unique (Van Rooy, Viswesvaran, et al., 2005). Because the construct EI is still

in the infancy stage, further development and refinement of the construct and EI measures may address the alternative viewpoints (Bar-On et al., 2007; Semadar et al., 2006). Ashkanasy and Daus (2005) cautioned researchers to fully understand the construct and to "show appropriate levels of circumspection in their research endeavors" (p. 442).

Reeves (2005) speculated healthcare leaders may have placed "little emphasis on emotional intelligence in health care" because nursing leaders may believe RNs already possess strong EI skills (p. 174). Smith et al. (2008) suggested healthcare leaders and educators may use the terms "professionalism" or "professional behaviors" synonymously with EI skills (p. 298). Nurse leaders, who conduct clinical evaluations of RNs, may not specify EI in clinical evaluations and use the terms "professionalism" or "professional behaviors" to evaluate EI skills (Smith et al., 2008, p. 298). Evaluating EI skills of RNs may be more difficult than evaluating traditional nursing skills and the ability of RNs to apply nursing knowledge to nursing practice (Smith et al., 2008).

Birks and Watt (2007) cautioned "if we are to determine whether there is a role for EI in health care, it must be rigorously evaluated where its value is hypothesized" (p. 370). Birks and Watt (2007) argued widespread adoption of EI by leaders should not occur until researchers provide "empirical evidence to support the idea that many health care outcomes can be improved by increasing EI in health care professionals" (p. 373). Birks and Watt (2007) concluded "we have only recently begun to explore the possibility that EI may be of benefit to either the professional or the patient" (p. 373).

In the face of the ongoing debate regarding the utility of EI, proponents of EI argued EI is not a fad, but a distinct, multidimensional construct (Ashkanasy & Daus,

2005; Daus & Ashkanasy, 2005; Tett et al., 2005). Support for leaders to use EI as a useful approach to improve personal and organizational development was documented in the literature (Ashkanasy & Daus, 2005). EI scales were used to identify at-risk students who might benefit from additional guidance, training, or support to improve EI skills (Bar-On et al., 2007). Goleman (2006a) postulated, "Lapses in emotional skills can be remedied: to a great extent each of these domains represents a body of habit and responses that, with the right effort, can be improved on" (p. 44).

Motivation

McCollum and Kajs (2007) posited "motivation is the key element for academic and professional success because without it little learning or performance takes place" (p. 45). Students who are motivated achieve educational goals with energy and persistence and become lifelong learners (Hastings et al., 2005). Motivated students possess underlying emotional tendencies which guide achievement of academic goals (Bellack et al., 2001). The literature related to (a) the historical background on academic motivation, (b) examples of contemporary theories related to academic motivation, and (c) recent empirical research related to student motivation is described.

Historical Background on Academic Motivation

Theories on academic motivation emanated from the perspectives of psychologists and philosophers (Schunk et al., 2008). Early theorists on motivation built on the views of philosophers Plato and Aristotle (Schunk et al., 2008). Since the beginning of the 20th century, theorists began to view motivation under the purview of psychology, rather than as a separate construct (Schunk et al., 2008). Theorists conceived the mind as comprised of cognition, emotion, and motivation (Schunk et al., 2008).

Earlier researchers generated conceptions of motivation to explain the dynamics of academic motivation. For example, the behavioral theorists, such as Thorndike (1920), emphasized the association of stimuli with responses (Schunk et al., 2008). The drive theorists perceived motivation as resulting from internal forces to maintain homeostasis, while other theorists asserted a link between motivation and emotions, where emotions are a consequence of behavior requiring the perception of a response to a situation (Schunk et al., 2008). Psychological and humanistic theorists stressed motivation involved innate differences resulting from experience and development (Schunk et al., 2008).

Contemporary theorists agreed motivation involved cognition and stressed learners cognitively direct achievement-related behavior (Schunk et al., 2008). Contemporary theorists assumed motivation is not synonymous with other related outcomes, such as learning, performance, or self-regulation, but viewed motivation as influencing learning outcomes (Schunk et al., 2008). As an example, contemporary theorists would assume nursing students who have higher academic motivation would "learn more, achieve at higher levels, show greater interest in learning, display better self-regulatory efforts directed toward learning…" (Schunk et al., 2008, p. 40).

Mayer and Geher (1996) hypothesized the concept of motivational intelligence. Motivational intelligence is defined as "understanding motivations such as the need for achievement, affiliation, or power, as well as understanding tacit knowledge related to those motivations and goal-setting related to them" (Mayer & Geher, 1996, p. 90). Mayer and Salovey further elaborated on the importance of individuals to understand personal

motivations, stating "People who have this skill tend to be more highly productive and effective in whatever they undertake" (Goleman, 2006a, p. 43).

Pintrich (2002), a well-known motivational scholar, recently compared the motivational orientation and learning strategies of college students. Students develop learning strategies, realize personal weaknesses and strengths, and become more knowledgeable of and responsible for cognition and thinking (Pintrich, 2002). Students assess personal motivation for completing tasks and the ability to transfer learning to new situations or settings (Pintrich, 2002). Pintrich (2002) contended, "Students who know about the different kinds of strategies for learning, thinking, and problem solving will be more likely to use them" (p. 222).

Current motivational researchers are examining the potential role of interpersonal relationships, motivation, and academic achievement of college students (Anderman & Kaplan, 2008; Freeman, Anderman, & Jensen, 2007). A contemporary interest of researchers is the suggestion of "social motivation" or the idea social processes influence academic motivation (Anderman & Kaplan, 2008, p. 116). Tinto (1993) similarly highlighted the importance of social integration of students into the college environment.

Contemporary Theories Related to Academic Motivation

Self-efficacy Theory. The self-efficacy theory postulated by Bandura may explain how a sense of personal abilities and knowledge of the capacity to deal with tasks may influence performance, motivation, and perceptions (McLaughlin et al., 2008; Schunk et al., 2008). Self-efficacy of students affects the choice of activities, effort, and persistence (DeWitz et al., 2009). For example, the self-efficacy of nursing students may affect how motivated students are in the attempt to complete a difficult task and how long the

students persist when faced with difficulty, such as whether to complete a nursing course (Jeffreys, 2004; McLaughlin et al., 2008).

Thus, students with higher self-efficacy and motivation will more likely overcome challenging tasks and persist as difficulties arise (DeWitz et al., 2009; McLaughlin et al., 2008). Students who have higher self-efficacy will more likely choose to take difficult courses (Linnenbrink & Pintrich, 2002). In contrast, students with lower self-efficacy and motivation may likely avoid a task, experience anxiety, and self-doubt, and procrastinate "until the last moment, by which time it is almost impossible to produce work of high quality" (Archer, Cantwell, & Bourke, 1999, p. 32). Educators might encourage perseverance for students with lower self-efficacy (Archer et al., 1999).

Achievement Goal Theory. Developmental, motivational, and educational psychologists postulated goal orientations or the reasons why a student approaches and engages in a task explained learning and academic performance of students (DeWitz et al., 2009; Schunk et al., 2008). For example, a nursing student who prefers mastery goal orientation focuses on learning and developing new skills, improving or developing competence in a skill, or mastering a task in terms of standards established by the student (Dekker & Fischer, 2008; Gardner, 2006; Nilsson & Stomberg, 2008). In comparison, a nursing student who prefers performance goal orientation focuses on demonstrating competence in a skill against a set of standards or in comparison to performance by others, to receive a reward or praise (Dekker & Fischer, 2008; Gardner, 2006; Nilsson & Stomberg, 2008).

Self-worth Theory. The self-worth theorists explained attempts by students to maintain or enhance self-worth or self-esteem (Schunk et al., 2008; Seifert, 2004).

According to self-worth theorists, students who perceive an ability to complete a task may have higher self-worth, while students who perceive an inability to complete a task may have lower self-worth (Seifert, 2004). Students strive to avoid the implication of failure or a sense of inability (Seifert, 2004).

Self-worth theorists viewed the emotional response perceived by students as the key element to understanding student motivation (Schunk et al., 2008; Seifert, 2004). Student success achieved from a high ability level or low effort of the student results in feelings of pride and self-esteem (Seifert, 2004). Student failure resulting from low effort may lead to guilt (Seifert, 2004). A low ability level or high efforts of students resulting in failure may lead to feelings of shame and humiliation (Seifert, 2004).

According to self-worth theory, students demonstrate defense mechanisms to protect self-worth (Seifert, 2004). Defense mechanisms or "failure avoiding" strategies used by students include not trying, procrastinating, being disorganized, setting excessively high or low goals, cheating, or requesting assistance (Seifert, 2004, p. 141). Defense mechanisms employed by students are an attempt to excuse or explain poor performance (Seifert, 2004).

Attribution Theory. Attribution theorists assumed students attempt to understand the environment and the cause of why a behavior happens (Schunk et al., 2008). An attribution of a student is the perceived cause of an outcome (Schunk et al., 2008; Seifert, 2004), such as the cause of passing or failing a nursing test. Attributions perceived by students include personal characteristics, such as effort, skills, knowledge, strategies, ability, or luck (Seifert, 2004). Personal characteristics of the student, circumstances, or a comparison to others, influence the formation of attributions (Seifert, 2004).

Attributions of students are either positive or negative emotions leading to consequences for motivation (Schunk et al., 2008). Students "are more likely to feel pride, satisfaction, confidence, and have a higher sense of self-esteem" if students perceive the causes of success or failure as controllable (Seifert, 2004, p. 140). Students will persist longer when faced with failure or a difficult task (Seifert, 2004). Students who perceive failure as uncontrollable are less likely to persist and more likely to feel shame and humiliation (Seifert, 2004).

Contemporary theorists concluded many questions remain unanswered about student motivation (Schunk et al., 2008). Contemporary theorists recognized what motivates students in one setting may not motivate students in another setting (Schunk et al., 2008). Student "motivation is a complex phenomenon that depends on a host of personal, social, and contextual variables" (Schunk et al., 2008, p. 40).

Empirical Research on Motivation

Student motivation remains a critical variable in educational research warranting further investigation (Schunk et al., 2008). Academic motivation of undergraduate students was explored in a number of qualitative and quantitative studies in mathematics, nursing, psychology and pharmacy education programs. The empirical research on motivation includes the subsections (a) goal orientation and locus of control, (b) self-efficacy and goal orientation, (c) learning strategies, and (d) studies using the MSLQ instrument. The MSLQ administered in the current research study assessed student motivation and learning strategies based on the achievement goal orientation theory, expectancy-value theory, and self-efficacy theory (Duncan & McKeachie, 2005).

Goal orientation and locus of control. Archer (1994) developed a goal orientation instrument to measure motivation among university students. Archer posited students preferred the goal orientations of (a) mastery orientation or a desire to develop competence/increase understanding and learning, (b) performance orientation or a desire to demonstrate competence/ability, or (c) academic alienation defined as no desire to develop or demonstrate competence/achievement (Hastings et al., 2005). Students who perceived educators encourage mastery orientation enhanced the understanding and willingness of students to persist at difficult tasks (Archer, 1994; Gardner, 2006).

Archer (1994) asserted, "Goals are a useful way of conceptualizing the motivation of university students" (p. 442). Students who expressed the goal of being motivated to complete an education reported using coping abilities to persist (Kaisershot, 2006). Persisting students were more likely to express personal and career goals, such as the goal of finishing college, as an important factor to continue in school as compared with students who chose not to persist (Geisler, 2007; Kaisershot, 2006).

Students have either an internal or an external locus of control reflecting the perception of what controls behavior (Archer, 1994; Nilsson & Stomberg, 2008). Students with an internal locus of control perceive control over individual behavior and rewards (Archer, 1994). Students with an external locus of control do not perceive individual behavior to matter and view rewards as dependent upon external circumstances (Archer, 1994). Students are either motivated to master the material, just demonstrate knowledge of the material or pass the test, or are not motivated to learn the material (Archer, 1994; Hastings et al., 2005).

Nilsson and Stomberg (2008) examined the potential link between motivation and completion of nursing education. Swedish nursing students graded academic motivation positively throughout the six-semester program (Nilsson & Stomberg, 2008). Contrasting research by Braten and Olaussen (2007) noted a decline in motivation perceived by nursing students during the first year of a nursing program. Nursing students reported the main motivating factor to persist was the extrinsic goal of becoming a nurse (Nilsson & Stomberg, 2008).

Nurse educators might intervene to maintain the motivation of students to persist particularly during the first year of nursing training (Braten & Olaussen, 2007; Gardner, 2006). Nurse educators who foster a learning environment emphasizing mastery goal orientation might encourage students to persist to complete a difficult task and persist when there is a threat of failure (Gardner, 2006). Students not receiving encouragement to achieve mastery goal orientation are less likely to persist when faced with a difficult task (Gardner, 2006).

Self-efficacy. Self-efficacy and goal orientation might influence student persistence and academic success in undergraduate students. Students who reported higher levels of self-efficacy and who established goals in life were more likely to persist and achieve higher course grades (DeWitz et al., 2009; Lewis, 2006). Higher academic motivation scores of undergraduate students increased the likelihood of a higher GPA (Lavender, 2005). McLaughlin et al. (2008) similarly found higher self-efficacy beliefs in Irish university nursing students were more likely successful. Contrasting results by Nakajima (2008) did not find student goals and self-efficacy to influence persistence of college students in one community college.

Learning strategies. Perrot, Deloney, Hastings, Savell, and Savidge (2001) modified an original instrument developed by Archer and measured motivation levels in first-year medical, pharmacy, and nursing students. Nursing students were least likely to report an internal locus of control and more likely to report the use of metacognitive learning strategies (Perrot et al., 2001). The majority of students reported mastery orientation and an internal locus of control (Perrot et al., 2001). The concept of goal orientation and the usefulness of the modified Archer instrument were supported in the study (Perrot et al., 2001).

Hastings et al. (2005) conducted a longitudinal study to determine whether a change in motivation in pharmacy students occurred during the curriculum. Hastings et al. administered the Modified Archer's Health Professions Motivation Survey (MAHPMS) instrument by Perrot et al. (2001) to measure goal orientation in 66 students who completed the survey upon entry into the program and at the end of each spring semester. Students reported a goal orientation toward academic alienation and a preference for easier tasks during the first year. During the remainder of the program, students reported a preference for mastery goal orientation and an internal locus of control.

The potential link between persistence and motivation was investigated by French, Immekus, and Oakes (2005). Academic motivation among two cohorts of engineering students, who completed the Academic Intrinsic Motivation Scale, indicated increased levels of academic motivation were significantly related to persistence. French et al. recommended assessing motivation at critical times in the education of students.

Hand (2006) recently conducted a phenomenological study to determine factors critical to the success of 14 nursing students who attended a Master of Science in nursing program. The nursing students believed an intrinsic desire and motivation were important to academic success (Hand, 2006). Amaro et al. (2006) similarly reported nursing students perceived motivation as a factor influencing academic success.

Reed (2007) later examined the level of influence between motivation and academic outcomes in medical and physician assistant students by administering the MAHPMS. Approximately three fourths of the students reported a preference for mastery learning and an internal locus of control. The external locus of student control scores predicted high-risk academic performance for the total group.

The potential link between EI and motivation was tested by Christie, Jordan, Troth, and Lawrence (2007). Christie et al. noted EI and motivation to be separate factors as previously conceptualized by Mayer and Salovey. In contrast, Goleman asserted the motivation of individuals forms a subset of EI (Christie et al., 2007). Christie et al. cautioned the findings are not conclusive and recommended further research using other self-report or ability measures of both constructs.

Studies using the MSLQ. The MSLQ instrument was used to explore whether self-efficacy of students might influence the motivation of students to succeed in higher education. Higher achieving pharmacy students appeared to report greater self-efficacy as indicated by an expected course grade (Carroll & Garavalia, 2004). Higher self-efficacy was significantly related to the motivational orientation and learning strategies in a sample of business students (Quible, 2006) and students in an English course (Wu, 2006).

Early monitoring of student self-efficacy and learning strategies may predict student success after admission into a program (Carroll & Garavalia, 2004).

Klomegah (2007) administered the MSLQ to university students to determine predictors of academic performance. Student high school GPA and self-efficacy strongly correlated to academic performance (Klomegah, 2007). According to Klomegah (2007), beliefs students have about themselves are "key factors in determining what they can accomplish irrespective of their abilities" (Discussion and Conclusion, para 3).

Moore (2007) explored if the MSLQ could be used to predict and promote the academic success of students. High-performing students had significantly higher scores on the MSLQ than lower-performing students (Moore, 2007). Moore recommended using results of the MSLQ to develop a learning profile of students and identify at-risk students. Mullen (2007) concurred the MSLQ might be used as an assessment and evaluation tool in nursing students. The nursing students who were more experienced in an accelerated BSN program scored higher in the use of self-regulated learning strategies (Mullen, 2007).

Most of the researchers enlisted participants enrolled in pharmacy, business, and English education programs in universities. Only one study investigated motivation among nursing students (Mullen, 2007). Faculty support and interaction from nurse educators might motivate nursing students to learn and persist in college (Jeffreys, 2004; Shelton, 2003). Nurse educators who assess the motivation of students early in the nursing program might ensure students receive the support and assistance necessary to succeed (Jeffreys, 2004).

Leadership, Emotional Intelligence, and Motivation

Effective leaders and team members possess motivation and EI skills (Goleman, 2006a). Goleman claimed nearly 90% of the difference between star performers and average leaders was due to EI skills. Effective leaders and teams are motivated by a drive to achieve beyond personal expectations and the expectations of others (Goleman, 2006a). Leaders and teams who have high motivation remain optimistic and overcome frustration and depression after a setback or failure (Goleman, 2006a).

The connection between EI, motivation, and transformational leadership style was noted by Bishop (2008) and Bissessar (2008). Bissessar found the use of EI and motivation skills by college students was predictive of transformational leadership style. Bishop similarly found motivation and the leadership component of EI scores of university students to be statistically related. Educators might include EI and motivation into curriculum so students may become self-actualized leaders (Bishop, 2008; Bissessar, 2008).

High-performing teams report higher levels of EI skills. The effectiveness of team members in health care and positive patient care outcomes increase when team members possess higher levels of EI skills (McCallin & Bamford, 2007; Quoidbach & Hansenne, 2009). Team members who possess EI skills work effectively with colleagues, patients, and families (McCallin & Bamford, 2007). McCallin and Bamford asserted the EI skills of team members is the heart of effective teamwork.

The EI skills of employees positively influence organizational outcomes. In one study, structured interviews were used to screen for EI skills in prospective nursing employees (Carson, Carson, Fontenot, & Burdin, 2005). Humphreys et al. (2005)

reported EI skills of healthcare employees, including nurses, correlated with coping ability and organizational commitment. EI might be used as a predictive tool to determine the success of workers in healthcare organizations.

EI and motivation are requisite skills healthcare employees and leaders must possess and demonstrate in a complex contemporary nursing environment (Baggett & Baggett, 2005; Davis, 2005; Palethorpe, 2006). Emotionally intelligent healthcare leaders develop employees as effective leaders who foster healthy work relationships and a rewarding workplace environment to achieve organizational success (Kerfoot, 2006; Scott, 2005). Healthcare leaders who possess high levels of EI skills are needed to inspire and lead nursing staff, teach future nurses, and work effectively with other stakeholders in health care and nursing education (Bellack et al., 2001; Kerfoot, 2006). Educators who measure the EI and motivation of students early in nursing education (Bellack et al., 2001) might provide insightful information to improve student success, retention, and persistence (Lankisch, 2007; Lavender, 2005). Freshwater and Stickley (2004) contended, "An education that ignores the value and development of the emotions is one that denies the very heart of the art of nursing practice" (p. 93).

<center>Secondary Predictor Variables</center>

The likelihood of students persisting is a direct function of pre-college characteristics (Astin & Oseguera, 2005). Previous pre-college characteristics of students documented in the literature (Astin & Oseguera, 2005) may interact to hinder or facilitate nursing student attrition (Jeffreys, 2004; Shelton, 2003). Based on the literature review, age, gender, racial/ethnic background, ADN School, and readmission status were considered as the most important nonacademic demographic variables (Hopkins, 2008;

Stickney, 2008; Sutherland et al., 2007; Wong et al., 2008) worth investigating as secondary predictor variables in the current research study. The secondary predictor variables were analyzed as part of the logistic regression analysis to provide descriptive information and a further explanation of the sample population concerning other potentially extenuating factors influencing the relationship with retention.

Age

Inconsistent findings regarding age as a predictor of retention exists (Jeffreys, 2004). Some studies find older students persist longer than younger students do, while other studies do not (Jeffreys, 2004). Several researchers noted older nursing students were more likely to be successful than younger students (Hopkins, 2008; McCarey, Barr, & Rattray, 2007; Salamonson & Andrew, 2006). Attrition was higher among older nursing students in another study (Jeffreys, 2007b). Older students may have additional role responsibilities placing older students at risk for attrition (Jeffreys, 2007b).

Gender

Men may face unique gender-based barriers during an undergraduate educational experience, which decrease the likelihood of persistence (Jeffreys, 2004; Keogh & O'Lynn, 2007). Male nursing students may perceive different treatment from nurse educators than female nursing students (Bell-Scriber, 2008; Jeffreys, 2004). Male nursing students have reported feelings of loneliness, self-doubt, and social isolation (Jeffreys, 2004; Sherrod, Sherrod, & Rasch, 2005; Stott, 2007). In comparison, Hopkins (2008) reported female nursing students were more likely to be successful than male nursing students. Jeffreys (2007b) noted female nursing students had higher rates of stopping out of a nursing program than male nursing students did.

Racial/ethnic Background

Minority-nursing students perceive many barriers preventing completion of a rigorous nursing program (Amaro et al., 2006; Bond, Gray, Baxley, Cason, & Denke, 2008; Evans, 2007; Valencia-Go, 2005). Minority-nursing students may experience poorer academic performance and higher attrition rates (Gardner, 2005a, 2005b; Salamonson & Andrew, 2006; Stickney, 2008). Nursing students who are White are more likely to be successful in nursing training as compared with minority-nursing students (Hopkins, 2008; Jeffreys, 2007b). Nursing administrators have been less successful in retaining racial and ethnic minority-nursing students than non-minority nursing students (Wilson, Andrews, & Leners, 2006). In an effort to increase the retention of minority-nursing students, nursing leaders designed retention programs sensitive to the needs of culturally diverse nursing students (DeLapp, Hautman, & Anderson, 2008; Evans, 2007).

ADN Nursing School

The environment or climate of each participating institution may differ and influence perceptions of the nursing students (Bell-Scriber, 2008; Jeffreys, 2007a). Wong et al. (2008) suggested, "Some of the variation in student perceptions can be explained by the specific institutional environments presented by each individual school variable" (p. 193). Perceived psychological and functional support provided by nurse educators in the institutional environment may influence nursing student retention within a nursing school (Bell-Scriber, 2008; Shelton, 2003).

Readmission Status

Nursing students who fail, drop out, or withdraw from a nursing course are at risk for attrition (Jeffreys, 2004). Progression policies implemented by nursing administrators

may influence the decision of nursing students to return to the nursing program (Jeffreys, 2004). As an example, nursing administrators may require nursing students who fail, drop out, or withdraw to reapply or submit a written appeal for consideration to repeat a course and continue in the nursing program (Jeffreys, 2004).

Conclusions

The process of becoming a nurse is complex (Higginson, 2006) and multidimensional (Jeffreys, 2004). The understanding, awareness, and management of emotions of nursing students in self and others, and an awareness of his or her own motivational levels are essential skills for effective patient care and collaborative team relationships in the healthcare setting (Moss, 2005). EI and motivation are essential skill-sets in demand for success in academics, employment and leadership (Goleman, 2006a).

Traditional cognitive variables influencing retention and persistence of students have been investigated (Yoho, 2006). EI (Jaegar & Eagan, 2007) and motivation of adult students in higher education (Klomegah, 2007) were investigated by researchers. Limited research was noted regarding the influence of EI and motivation on retention in ADN programs. Because of the limited research available further exploration into other samples which include nursing students may provide information in how EI and motivation influences the decisions of students to persist in nursing programs.

Empirical research into the influence of EI (Grace, 2004) and motivation (VanNoord, 2007) of nursing students may provide information into retention issues. The research study might provide guidance for nursing leaders to assess nursing curriculum for inclusion of the variables so nursing leaders may improve supportive services for at-risk students (Grace, 2004; VanNoord, 2007). Nursing leaders might conduct motivation

and EI assessments of nursing students early in the nursing program (Lankisch, 2007; Lavender, 2005) to identify at-risk students.

Summary

In the context of the critical nursing shortage, nursing leaders are faced with the challenge to retain qualified nursing students who are accepted into the nursing program (Gilmore, 2008; Jones et al., 2007). Nursing students accepted into nursing programs perceived barriers hindering the ability to persist to complete the demanding and rigorous nursing program (Rees, 2006). Researchers have been unable to fully explain the obstacles experienced by students and the phenomena of student retention and departure through conceptual frameworks (Jeffreys, 2004; Tinto, 1993).

A lack of empirical research linking EI, motivation, and retention of nursing students in ADN programs was noted in the literature. EI may play a key role in determining the success of nursing students in training (Goleman, 2006a). Examining EI in relation to academic success of ADN students may provide nursing leaders information to add to a conceptual model of undergraduate nursing student retention (Jeffreys, 2004).

The research methodology used to examine the possible relationship between EI, motivation, demographic variables, and retention among ADN students will be presented in Chapter 3. The rationale for the quantitative, descriptive non-experimental research design and the appropriateness and rationale for the research instruments selected will be discussed in Chapter 3. An explanation of the data collection process, analysis of data, and statistical methods chosen will be included.

CHAPTER 3: METHOD

The purpose of the quantitative, descriptive non-experimental study was to determine what the relationship is between emotional intelligence (EI), motivation, demographic variables, and nursing student retention. The research also tested the NURS model by examining demographic variables and the academic motivation of nursing students (Jeffreys, 2004). EI and motivation were primary predictor variables and the demographic variables were included in the analysis as secondary predictor variables. EI and motivation scores and demographic variables were analyzed with enrollment status at the end of the first nursing course and at the end of the first term. The specific population targeted for current research study was first-year undergraduate nursing students attending ADN programs in the Midwestern state of Illinois.

Included in Chapter 3 is an expanded discussion of the specific research design and research method selected. The appropriateness of the methodology to the study, the research instruments used to measure the variables, the data collection process, and data analysis will be discussed. The selection of participants, the informed consent of the participants, and how confidentiality was maintained throughout the current research study is described.

Research Method and Design Appropriateness

Based on the review of literature in Chapter 2, the variables EI, motivation, and nursing student retention, were cogent issues for examination in the quantitative, descriptive non-experimental research. The appropriateness of the quantitative method and descriptive non-experimental research design were compared with the practicality of using the qualitative method and several other research designs. Using a quantitative

research method was an appropriate approach to provide nursing leaders with a better understanding of non-cognitive factors influencing nursing student retention.

Quantitative Method

The quantitative research method was the most suitable approach for the research study because the research endeavor may answer questions about a possible relationship among the measured variables, EI, motivation, and nursing student retention. Quantitative researchers employ controls to identify and limit a research problem and attempt to limit the effects of extraneous variables (Burns & Grove, 2005). Quantitative researchers collect numerical data and yield statistical data by measuring variables through instruments (Burns & Grove, 2005; Creswell, 2008). A quantitative approach might offer empirical information to contribute to the body of knowledge on nursing student retention by an examination of research questions, measurement of specific variables, and testing of hypotheses.

The quantitative research approach is appropriate when information is already known about the variables (Macnee & McCabe, 2008). The variables EI, motivation, and retention have been studied as separate constructs by researchers. The quantitative approach offered the ability to further test EI and motivation, with demographic variables known to relate to nursing student retention. A quantitative method achieved the purpose of the current research study to test retention theories.

Qualitative Method

The qualitative research method is suitable for research on topics which are holistic and emergent (Polit & Beck, 2008) and which seek to understand one phenomenon (Creswell, 2008). The qualitative research method would offer the

opportunity to enter the natural setting of the participants to collect data and make an interpretation of the data or conclusions about the meaning of the data (Leedy & Ormrod, 2005; Polit & Beck, 2008). A type of qualitative approach, phenomenology, would offer an opportunity to study the experiences of students who are retained and those who fail, drop out, or withdraw from a nursing program by using interviews. Case studies, ethnography, or a grounded theory approach might require observations of student behavior in the natural setting of the classroom or clinical setting. Textual data collected by conducting narratives, phenomenologies, ethonographies, grounded theory studies (Larossa, 2005), or case studies (Moore, Yin, Weaver, Lydell, & Logan, 2007), and simultaneous analysis of the data (Robertson & Merriam, 2005) would not be a feasible and practical method to collect data to examine the possible relationship among predictor and outcome variables.

If little was known about the predictor variables, a qualitative study of the lived experiences of nursing students would offer the opportunity to observe the behavior and interactions of nursing students. The qualitative approach would offer the ability to seek insights into the nursing students experiencing the phenomenon of attrition and retention in a nursing program. A qualitative research method would not be suitable for the current research study because the qualitative methodology seeks to develop a pattern of understanding when the variables are unknown, rather than determine a possible relationship between known variables and analyze data with statistical procedures (Creswell, 2008).

Descriptive Non-experimental Design

The experimental research design answers research questions about the effects of manipulation of variables, while the descriptive non-experimental research design functions "to describe or identify inter-relationships among factors of interest" without manipulation (Macnee & McCabe, 2008, p. 214). The descriptive non-experimental research design used in the current research study systematically investigated the possible relationship between EI, motivation, and nursing student retention. The numerical data collected reflected specific measurements of the predictor variables studied without manipulation (Leedy & Ormrod, 2005).

A statistical analysis of the data organized the data and determined a possible relationship between the variables (Creswell, 2008). In the quantitative, descriptive non-experimental study, descriptive and logistic regression statistical techniques analyzed data collected on EI, motivation, demographics, and retention of students attending ADN nursing programs. Binary logistic regression analysis was appropriate to analyze data when the outcome variable, nursing student retention, is binary or dichotomous, and scores on the outcome variable are statistically independent of each other (Warner, 2008).

The outcome variable, nursing student retention, categorized students into two groups, nursing students who were retained and nursing students who failed, dropped out, or withdrew. The two categories are "assumed to be exhaustive and mutually exclusive" (Warner, 2008, p.932) in which each participant will be in either category. Based on the national attrition rate of 20%, logistic regression analysis would be appropriate when the two groups are substantially unequal, such as in 80% retained and 20% fail, drop out, or withdraw (Warner, 2008).

The logistic regression analysis was considered a descriptive research design rather than a causal design. Evidence of a relationship between the variables in the results of the current research study would not provide sufficient evidence of causation (Johnson & Christensen, 2008). Even though a relationship might exist between the variables, the cause of relationship might be a confounding extraneous variable, such as teaching practices of nurse educators influencing retention. The current research is descriptive because the direction of causality among the variables might be difficult to determine. For example, a possible alternative direction of causality would be nursing student retention may precede EI and motivation.

The logistic regression analysis analyzed the chance of EI and motivation increasing the probability of nursing students completing the first nursing course and first semester. The information gained through the current research endeavor may have potential value to leaders who are responsible for admitting students, designing retention interventions, and developing remediation programs for at-risk students (Astin & Oseguera, 2005). The descriptive non-experimental research design was the optimal research design to accomplish the goal of explaining the nature of the possible relationship between EI, motivation, demographic variables, and retention.

Research Questions

The research questions for the current research study focused on the issues associated with nursing student retention and the rising national nursing shortage. The ongoing problem of improving retention and decreasing attrition of nursing students lies in identifying other potential factors influencing the decision by students to persist, drop out, or withdraw from the nursing program (Stickney, 2008). Based on the review of the

literature, the primary predictor variables, EI and motivation, may influence the outcome variable, nursing student retention (Moore, 2007; Smith et al., 2008; VanNoord, 2007). The secondary predictor variables (age, gender, racial/ethnic background, ADN School, and readmission status) may influence retention (Hopkins, 2008; Stickney, 2008; Sutherland et al., 2007; Wong et al., 2008). Because nursing students may underestimate the rigorous demands of the nursing program, nursing leaders might monitor retention and attrition early in the nursing program, such as during the first nursing course and first semester (Higgins, 2005; Hopkins, 2008; Jeffreys, 2007b; Wells, 2007).

The following primary research question and subquestions guided the analysis of the current research study:

What is the relationship between EI, motivation, and retention among undergraduate students attending ADN programs in Illinois?

1. What is the relationship between EI, motivation, and retention among undergraduate students attending ADN programs in Illinois at the end of the first nursing course?

2. What is the relationship between EI, motivation, and retention among undergraduate students attending ADN programs in Illinois at the end of the first semester?

3. What is the relationship between the secondary predictor variables (age, gender, racial/ethnic background, ADN School, and readmission status) and retention among undergraduate students attending ADN programs in Illinois at the end of the first nursing course?

4. What is the relationship between the secondary predictor variables (age, gender, racial/ethnic background, ADN School, and readmission status) and retention among undergraduate students attending ADN programs in Illinois at the end of the first semester?

Hypotheses

The current research study examined the following hypotheses to assess the potential relationship of EI, motivation, demographic variables, and retention among first-year undergraduate students attending ADN schools. Logistic regression analysis was used to analyze the quantitative data obtained from the two surveys and demographic sheet. A global test was performed to assess the strength of the predictive relationship between the variables. The secondary predictor variables gender, race/ethnicity, ADN Schools, and readmission status served as categorical variables. The secondary predictor variable age served as a quantitative variable (Johnson & Christensen, 2008).

Ho: All regression coefficients are zero.

H$_a$: At least one regression coefficient is not zero.

H1o: All primary predictor variable regression coefficients are zero.

H1$_a$: At least one primary predictor variable regression coefficient is not zero.

H2o: All secondary predictor variable regression coefficients are zero.

H2$_a$: At least one secondary predictor variable regression coefficient is not zero.

The rationale for the selected hypotheses originated from the literature delineating the predictor variables as factors possibly influencing nursing student retention. Previous research noted the secondary predictor variables, age, gender, racial/ethnic background, ADN School, and readmission status to either increase or decrease nursing student

retention (Jeffreys, 2004, 2007a, 2007b). The primary predictor variables, EI and motivation, were suggested by several authors and researchers as influencing the ability of nursing students to persist in a rigorous nursing program and in the future role as a nurse graduate (Cadman & Brewer, 2001; Gardner, 2006; Taylor, 2005; Wilson & Carryer, 2008). Consequently, nursing students may be unprepared to meet the demands of the nursing curriculum and nursing profession (Freshwater, 2004). Empirical research examining predictor variables may add to the body of knowledge on nursing student retention.

Population

The population represented all undergraduate nursing students age 18 and older who attended ADN programs in the Midwestern state of Illinois. Nursing administrators from all 48 ADN programs in Illinois listed in the NCSBN website (NCSBN, 2009) were contacted to enlist support to allow learners to participate in the current research study. The population consisted of all undergraduate nursing students in attendance in ADN programs in Illinois, regardless of race, ethnicity, or gender. The current research study accessed the population of undergraduate nursing students during the fall semester of 2009.

Sampling Frame

The population for the current research study consisted of all nursing students aged 18 and older who attended an ADN program in the Midwestern state of Illinois. Because the majority (63%) of all nursing students in the U.S. graduate from ADN programs (Buerhaus et al., 2009; NCSBN, 2008), examining retention among ADN students in the current research study may have a larger impact. Undergraduate nursing

students who attended diploma and BSN programs and second-year students were excluded from the study. To avoid the extra precautions required for research including pregnant women, nursing students who were pregnant were excluded from the current study. For the quantitative, descriptive non-experimental study, a purposive sample of nursing students aged 18 and older who attended the first nursing course in an ADN program in the fall semester of 2009 were invited to participate.

The topic of nursing student retention is a specific topic of interest among nursing and healthcare leaders in Illinois (MCHC, 2005). In the current research study, the specific area of geographic location was all ADN programs in the Midwestern state of Illinois. According the NCSBN website (2009), administrators from 48 schools of nursing in Illinois offer students an ADN program of study.

A list of all ADN programs in Illinois is available from the NCSBN website (NCSBN, 2009). The schools of nursing graduate 16 to 140 students per program. According to Michelle Bromberg, coordinator of the Illinois Department of Financial and Professional Regulation (IDFPR), 3,745 qualified students were accepted into ADN programs in Illinois in 2008 (personal communication, April 27, 2009). For the purpose of the current research study, all ADN administrators in Illinois were contacted to request support of participation of the first-year nursing students in the study.

Sample size is driven by the ability to generalize findings (Macnee & McCabe, 2008). Smaller samples may produce less accurate estimates than larger samples and risk gathering data not supporting the hypotheses (Polit & Beck, 2008). Research using survey questionnaires often requires larger samples (Burns & Grove, 2005). Researchers who select larger samples increase power (Wilson VanVoorhis & Morgan, 2007) and

reduce the potential error the samples will be different from the general population under study (Creswell, 2005).

To increase the ability to generalize findings from the current research study, a purposive sample was selected from multiple ADN schools in Illinois (Polit & Beck, 2008). Purposive samples "are likely to include many unique characteristics that limit the ability to generalize" findings (Macnee & McCabe, 2008). Despite the possibility of unique characteristics among the participants, a purposive sample offered the advantage of focusing the current research on a rich source of information, ADN students, who will comprise the majority of nursing students and graduate RNs.

Proper sample selection improves the probability of detecting a difference between the variables (Wilson VanVoorhis & Morgan, 2007). The Power Analysis and Sample Size Software (PASS) (2008) program was used to calculate the sample size of ADN student participants needed for the current research study at 216. The calculation for sample size was based on an odds ratio for a medium effect size (1.8), a baseline probability of .20 (20% of nursing students fail, drop out, or withdraw), and R-squared of covariate with other covariates (.25) (PASS, 2008).

Administrators from nine ADN schools agreed to participate in the current research study. At least 30 participants from each ADN school were needed to measure group differences among the ADN schools. According to Cohen (1988), 30 participants in each group are needed for 80% power, or the minimum suggested power for a study. Cohen wrote an effect size of .20 is small, .50 is medium, and .80 is large. An effect size of 80% would mean the planned sample size would be adequate and have at least an 80% chance of judging the effect to be statistically significant (Warner, 2008).

When using survey questionnaire instruments, researchers aim for a high response rate from participants to have confidence in generalizing the results to the population under study (Creswell, 2005). Johnson and Christensen (2008) wrote response rates of 70% and higher of participants are considered acceptable. To encourage a higher response rate, all nursing administrators pre-notified nursing students in advance of the purpose of the study and the date and time of data collection (Creswell, 2008).

Offering incentives might make participation in the current research study more attractive (Polit & Beck, 2008) and may increase the response rate of students. Monetary incentives have been noted to increase participation in studies (Polit & Beck, 2008). As an incentive to encourage a high response rate from participants (Creswell, 2008), information was provided in the invitation letter regarding a drawing for two gift cards from all participants who completed the surveys. A snack and a nursing pen were also offered to participants during data collection as an immediate incentive.

Informed Consent

The participants were provided a letter of invitation and an informed consent form as referenced in Appendixes A and B. The current research study included a letter to invite students from the potential nursing student population to participate in the study. An explanation in the letter of invitation to the nursing students included the importance of participation, the value of responses to the surveys, the purpose of the study, and an assurance of confidentiality (Johnson & Christensen, 2008). The letter of invitation included a statement there will be no known risks to the participants during the study (Burns & Grove, 2005).

The letter of invitation stated participation in the current research study was voluntary and no one was obligated to participate (Leedy & Ormrod, 2005). The participants who agree to participate in the study were informed of the right to withdraw from the study at any time (Macnee & McCabe, 2008). The letter of invitation included information on how the participants may contact the researcher and dissertation advisor if the participants have any questions regarding the current research study.

An informed consent form included an acknowledgement of the autonomy of the participants (Johnson & Christensen, 2008). The informed consent form provided to the participants relevant information regarding the procedures for the study and a description of the nature of the current research study (Burns & Grove, 2005; Leedy & Ormrod, 2005). The letter of invitation included a statement of the need for the participants to sign the informed consent form prior to completing both measurement instruments and the demographic sheet.

Confidentiality

The confidentiality of participants was ensured by not revealing the identities of the participants during the current research study (Johnson & Christensen, 2008). There was no attempt to relate the answers to the participants with the exception of signing the consent form and the data analysis (Macnee & McCabe, 2008). An identification number and a code for each instrument administered were used to protect the anonymity of the participants (Creswell, 2008).

The records of the participants were viewed as confidential. Participants were assured no other individual, including the administrators of the nursing schools, would have access to the records (Creswell, 2008). To ensure honesty in the responses of the

participants, the current research study guaranteed the responses of participants would be kept confidential in reporting the results of the study (Black, 2008).

A master list of the names and code numbers of the participants were kept in a locked cabinet separate from the data collected to protect the anonymity of the participants (Burns & Grove, 2005). The data collected were entered into the computer statistical program with the use of code numbers for identification (Burns & Grove, 2005). The original data collection forms will be kept in a secured locked file cabinet for three years (Burns & Grove, 2005). The records will be destroyed after three years by shredding the records.

Data Collection

The data collection process began with the letter of invitation to participate in the study read to the nursing students. Nursing students who were under 18 or pregnant were asked not to participate in the research study. Nursing students had to self-identify and voluntarily choose to withdraw from the research study. Anyone not wishing to participate was free to leave the classroom.

Data collection occurred in a classroom setting during the first nursing course of the fall semester of 2009. Data collection occurred at the end of a class period of the nursing course and did not interfere with regular class time. A copy of the letter of invitation, the consent form, the two survey questionnaire instruments, and the demographic sheet were included in the research packets given to the participants. The participants were not asked to indicate any information on the instruments associating the participants with the answers. The participants were assured no anticipated risks were associated with participation in the current research study.

After data collection, the instruments and demographic sheet were coded by the researcher. A master list of names of the participants was matched to codes on the instruments and demographic sheet. The consent forms were kept separate from the instruments and demographic sheet.

Electronic administration of the surveys to the students was considered for the current research study. Higher response rates (Al-Omiri, 2007) and a greater access to a larger number of participants is experienced by using electronic surveys (Johnson & Christensen, 2008). With electronic administration of surveys, participants must have access to the required technology and feel comfortable with using the technology (Leedy & Ormrod, 2005; Polit & Beck, 2008). Electronic surveys present issues and concerns for researchers about maintaining the confidentiality and privacy of the participants (Johnson & Christensen, 2008). The electronic survey method was not chosen for administering the instruments in the current research study.

Quantitative researchers use instruments to examine a specific variable (Burns & Grove, 2005) with the purpose of yielding evidence to evaluate the research outcomes (Macnee & McCabe, 2008). Any change in the measurement instrument would potentially lead to different results (Macnee & McCabe, 2008) and threaten the internal validity of a study (Johnson & Christensen, 2008). The AES and MSLQ were used in the current research study without any changes made to the instruments.

At the conclusion of the first nursing course and first semester, the administrators of the schools of nursing were contacted for information regarding the enrollment status of the participants. The administrators provided information on whether the participants failed, dropped out, withdrew, or passed the first nursing course and first semester. A

statement was included in the consent form to indicate by signing the consent form, the

participants agreed to authorize the nursing department to release information about

whether the participants continued, failed, dropped out, or withdrew from the nursing

program at the end of the first nursing course and first semester. The administrators did

not have access to any information linking the participants to the responses on the

instruments and the demographic sheet.

<div align="center">Research Instruments</div>

The literature discussed in Chapter 2 outlined several established instruments to

consider for the current research study. Based on the background knowledge of EI

measures, three well-known instruments considered for the research study were (a) the

Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), (b) the Bar-On

Emotional Quotient Inventory (EQ-i), and (c) the AES. The background knowledge of

two main motivation instruments considered included (a) the MSLQ and (b) the

MAHPMS. Because of alternative viewpoints expressed by researchers regarding the

types of EI measurements, the following section contains the feasibility of using ability-

based instruments versus self-report instruments.

Ability-based versus Self-Report Emotional Intelligence Measures

During the 1990s, researchers recognized the need to empirically identify EI as a

separate intelligence. Substantial debate among researchers evolved regarding the most

appropriate approach to measure EI (Goldenberg et al., 2006). Critics argued self-report

tests, such as the EQ-i and the AES, did not accurately assess the EI of individuals

separately from other constructs (Roberts et al., 2001). Mayer and colleagues argued the

EI skills of an individual should not be measured with self-report instruments (Bar-On et

al., 2007). Self-report measures represented a mixed model of EI because self-report measures assessed other constructs (Mayer et al., 2008). Critics argued self-report tests appeared to measure personality traits rather than the EI ability of an individual (MacCann, Matthews, Zeidner, & Roberts, 2003).

Researchers who use self-report measures depend on the perceived understanding of participants regarding personal emotions (Goldenberg et al., 2006). If the understanding of a participant is inaccurate, self-report measures provide researchers information concerning only the self-perception of the person rather than the actual level of EI (Goldenberg et al., 2006). Critics raised concerns participants may "fake good" on self-report scales and thereby negate the usefulness of the scales (Bar-On et al., 2007, p. 261). Proponents of self-report measures claimed self-report measures captured the "rich idiosyncratic emotions experienced by the test-taker- emotions that may be accessible only to that person" (Bar-On et al., 2007, p. 261).

Proponents of EI research claimed the ability or performance-based tests appear to be more promising than trait or self-report questionnaires. Performance-based tests appear to directly assess the performance level of an individual on a task (Goldenberg et al., 2006). Performance-based tests present several disadvantages (Conte, 2005; McEnrue & Groves, 2006), such as the amount of time for researchers to administer the tests, participants to complete the tests, and the cost to purchase the tests (Goldenberg et al., 2006). Critics expressed concerns about the accuracy for researchers to determine consensus and expert scores (Conte, 2005), the difficulty justifying correct answers, and the potential cultural biases inherent in the scoring methods (Chapman & Hayslip, 2005).

Emotional Intelligence Instruments

Despite the opposing perspectives among researchers, the mixed and ability models of EI remain popular. Mayer and Salovey designed an ability-based model measurement tool, the MSCEIT (MacCann et al., 2003). The EQ-i and the AES are two self-report mixed model measurement tools (MacCann et al., 2003).

Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). The MSCEIT by Mayer and Salovey is a 141-item performance test measuring the perceptions of emotions, emotional facilitation of thought, understanding of emotions, and regulation of emotions of individuals (Goldenberg et al., 2006). The rating of the expression by the individual of an emotion as seen in a picture of a face, design, or landscape measures the perception of emotions by the individual. The ability of the individual to integrate emotion to facilitate thought is measured by having the individual describe emotional sensations and assimilate predetermined moods into thought processes concerning a fictional character (Brackett & Mayer, 2007). Regulation of the emotions by the individual is measured by the individual choosing ways to manage self emotions and the emotions of others in hypothetical situations (Brackett & Mayer, 2007). An online and a paper version of the test are available and responses are sent to the publisher for a fee (MacCann et al., 2003).

Emotional Quotient Inventory (EQ-i). The EQ-i is a 133-item self-report measure of EI consisting of 5 composite factors and 15 subscales developed by Bar-On (2007). The EQ-I is based on broader definitions of EI (Schutte et al., 2009). The EQ-i, the first commercially available and mass-marketed measure of EI, is accessible to researchers through the publisher for a fee (Bar-On, 2007). The test takes 30 minutes for participants

to complete (Conte, 2005). The EI of an individual is composed of five composite scales, beginning with an intrapersonal factor, or the ability to understand emotions and express our feelings (Bar-On, 2007).

The Assessing Emotions Scale (AES). The AES developed by Schutte et al. (1998), is a no-cost self-report scale originally consisting of a pool of 62 items based on the ability model of EI proposed by Salovey and Mayer. The short and easy-to-administer measure of EI is extremely reliable with internal consistency estimates above .90 (Bar-On et al., 2007). Schutte et al. (2009) wrote, the AES is an appropriate test "for research purposes and to assist individuals who are motivated to self-reflect on aspects of their emotional functioning in the context of issues such as career goals or experience of problems that may be related to emotional functioning" (p.129).

Researchers refer to the AES as the Schutte Self Report Emotional Intelligence Test (SREIT), the Emotional Intelligence Scale, or the Schutte Emotional Intelligence Scale (Schutte et al., 2009). The scale assesses multiple aspects of trait EI (Goldenberg et al., 2006) including the perception, understanding, and management of emotion in self and others (Wing et al., 2006). Schutte et al. (2009) wrote, the AES "attempts to assess characteristic, or trait, emotional intelligence" (p.119). Schutte et al. asserted examining EI through a trait approach compliments the ability-based approach.

Schutte et al. (2009) later revised the AES to a 33-item questionnaire. The revised AES is comprised of four subscales which include (a) perception of emotions, (b) managing emotions in the self, (c) social skills or managing emotions of others, and (d) utilizing emotions (Schutte et al., 2009). Good internal consistency and test-retest reliability was demonstrated for the AES (Brackett & Mayer, 2007; Goldenberg et al.,

2006; Schutte et al., 2009). Researchers determined the AES predictive validity for first-year college grades (Goldenberg et al., 2006). Critics of the AES asserted the scale is "extremely unbalanced" because the scale is composed of 30 positively keyed items and only three negatively keyed items (Gignac, Palmer, Manocha, & Stough, 2005, p. 1032).

To complete the AES, the participants rate self-perceptions of EI on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*) (Goldenberg et al., 2006). Participants require an average of five minutes to complete the scale (Schutte et al., 2009). A sample item included in the scale is "I can tell how other people are feeling by listening to the tone of their voice" (Schutte et al., 2009, p. 121). The total scores of participants on the AES scales range from 33 to 165 (Schutte et al., 2009). Schutte et al. (1998) recommended using total scores of the participants on the AES rather than using subscales.

After a comparison of the mixed and ability models, the current research study measured EI using the AES. Bar-On et al. (2007) concluded, "regardless of what type of measure is used, the total overlap with personality and cognitive ability is quite similar" (p. 269). Of the existing measures of EI, the AES is the leading brief EI scale receiving the most published empirical attention by researchers and is the only public-domain measure available (Bar-On et al., 2007; Chapman & Hayslip, 2005). Permission to use the AES in the current research study was also received from the author. Appendix D contains a copy of the AES.

Motivation Instruments

Two self-report survey tools used to examine motivation to learn in university and college students were considered for the current research study. Both tools share

similarities and differences in the approach used to investigate motivation in higher education. The motivation surveys discussed are the MSLQ and the MAHPMS.

Modified Archer's Health Professions Motivation Survey. The MAHPMS is a 68-item modified version of the original survey instrument developed by Archer (1994). Responses are scored on a five-point Likert-type scale, where one represents the least favorable response and five represents the most favorable response. The modified version by Perrot et al. (2001) asks students to think about the academic year rather than one course. Sample questions listed by Perrot et al. in the revised instrument include "When did you feel most successful?" and "When did you feel greatly satisfied or positive about yourself?" (Perrot et al., 2001, p. 199).

The Motivated Strategies for Learning Questionnaire. Pintrich et al. (1991), a team of researchers at the University of Michigan, developed the 81-item MSLQ in 1986 based on a cognitive view of motivation and learning strategies. The current 1991 version of the MSLQ followed earlier self-report instruments originating in a 1982 "Learning to Learn" class developed by the researchers (Pintrich et al., 1991, p. 3). The researchers administered the instrument to approximately 2000 university students and later revised the instrument to the present 81-item, Likert-type questionnaire (Pintrich et al., 1991). Permission to use the questionnaire and the Manual for use of the MSLQ was received from the University of Michigan for a fee.

The MSLQ is used by researchers to assess motivational orientations of students and the use of different learning strategies by students in a course (Pintrich et al., 1991). The MSLQ contains two major sections, the 31-item motivation section, and the 31-item learning strategies section, which includes 19 items on student management of resources

(Pintrich et al., 1991). Pintrich et al. included 15 subscales in the MSLQ (Muis, Winne, & Jamieson-Noel, 2007).

Pintrich and colleagues (1991) designed the paper-and-pencil instrument to be administered to students during a class over approximately 20 to 30 minutes. Students rate self-perceptions of motivation on a seven-point Likert scale from 1 (*not at all true of me*) to 7 (*very true of me*). Questions for the MSLQ are listed in Appendix E.

Total score and subscale scores of the students may be used in an analysis and related to other variables (Schunk, 2005). Researchers compute MSLQ subscale scores of the students by taking the mean of the items making up a scale (Pintrich et al., 1991). Reversed items of the MSLQ are reverse coded (Pintrich et al., 1991). Pintrich et al. reported the Cronbach's alpha ranged from .52 to .93.

The MSLQ provides information about student motivation and general capabilities for self-regulation for learning among students (Pintrich, 2004). Researchers using the self-report measure may not capture the actual events, continuous process of self-regulation, or the attempts by students to monitor, control, or regulate motivation or affect (Pintrich, 2004). Despite the disadvantages of self-report measures, Pintrich (2004) asserted, "Questionnaires still have a role to play in research on self-regulated learning" (p. 401).

The quantitative, descriptive non-experimental research study included two established self-report instruments, the AES developed by Schutte et al. (1998) and the MSLQ developed by Pintrich et al. (1991) for the data collection process. The self-report questionnaires offered the possibility of anonymity and testing a larger, more

geographically diverse sample (Polit & Beck, 2008). The self-report questionnaires were less expensive to administer than conducting interviews (Polit & Beck, 2008).

Reliability of Instruments

EI Measure. The AES was appropriate for the current research study because the AES is an extremely reliable and empirically evaluated tool (Bar-On et al., 2007; Brackett & Mayer, 2007; Tett et al., 2005). Schutte et al. (1998) reported an internal consistency of .87 to .90 and a two-week test-retest reliability of $r = .78$ for the AES. Wing et al. (2006) reported an internal consistency of .88 at pre-test, .88 at post-test, and .89 at follow-up for the AES. The internal consistency of the AES for diverse samples of students with a mean Cronbach's alpha has been reported as .87 (Schutte et al., 2009).

Matthews, Zeidner, and Roberts (2004) stressed confirming the validity of ability and self-report EI instruments remains inconclusive. Content validity is most satisfied by the MSCEIT and AES (Matthews et al., 2004). Matthews et al. concluded self-report measures, such as the AES, reached better predictive validity when compared with the ability-based measure MSCEIT. Brackett & Mayer (2007) noted scores on the AES were correlated with scores on the EQ-i and the MSCEIT. For the current research study, the AES was an appropriate reliable tool to use to measure the EI skills of nursing students.

Motivation Measure. Researchers worldwide used statistical analysis to confirm the reliability and validity of the MSLQ and translated the instrument for use in multiple languages (Birenbaum & Rosenau, 2006; Dahl et al., 2005; Duncan & McKeachie, 2005; Mullen, 2007; Schunk, 2005; Yumusak, Sungur, & Cakiroglu, 2007). Mullen reported the reliability for the learning strategies subscales of the MSLQ established in the study with Cronbach alpha coefficients ranging from 0.64 to 0.84. Initial subscale factorial validity

of the MSLQ was established by exploratory factor analysis by Mullen with correlations to factors ranging from 0.44 to 0.89. Schunk (2005) asserted the MSLQ is a valid, reliable, and easy to administer measure of self-regulated learning. Moderate correlations of the MSLQ survey with academic performance of students were reported by a number of researchers (Schunk, 2005).

The MSLQ instrument has adequate confirmed reliability (Archer, 1994; Perrot et al., 2001; Pintrich et al., 1991; Reed, 2007). Since the development of the MSLQ by Pintrich et al., researchers provided evidence to support the internal consistency, predictive validity, and construct validity of the MSLQ (Mullen, 2007). Researchers established the use of the MSLQ in educational research by measuring student motivation in college and university settings (Birenbaum & Rosenau, 2006; Carroll & Garavalia, 2004; Dahl et al., 2005; Klomegah, 2007; Moore, 2007; Quible, 2006). The MSLQ is one of the most popular, widely used self-report measures of college student academic motivation and self-regulated learning (Muis et al., 2007; Schunk, 2005). For the current research study, the MSLQ was an appropriate reliable tool to measure the academic motivation of nursing students.

Validity

EI and motivation are abstract constructs which might be difficult for researchers to define precisely. Johnson and Christensen (2008) contended, "Seldom, if ever, does a given operationalization completely represent the construct being investigated" (p. 273). EI and motivation are constructs in which not all the components might be captured by administering self-report instruments to participants.

Construct Validity

Using only one method of measurement for the constructs, EI and motivation, potentially presents a threat to construct validity (Burns & Grove, 2005). Using the same method of paper-and-pencil recording the responses creates a threat to construct validity (Burns & Grove, 2005). Measuring the constructs using several instruments and using different methods would enhance construct validity (Burns & Grove, 2005). To achieve the goal of the current research study, two valid and reliable paper-and-pencil instruments were used to measure EI and motivation.

Internal Validity

The internal validity of a study is the extent to which the findings of the study are accurate and correct for the participants included in the study (Macnee & McCabe, 2008). History potentially threatens the internal validity of the current research study if an outside factor unknown to the researcher influences the dependent variable, nursing student retention (Macnee & McCabe, 2008). To lessen the threat of history, the research study included selected demographic variables as secondary predictor variables in the analysis because these variables were known to influence nursing student retention (Hopkins, 2008; Stickney, 2008). The history of participants who are retained may be different from the participants who failed, dropped out, or withdrew (Burns & Grove, 2005). The analysis of results for the current research study included statistical techniques to determine differences among the participants who were retained and the participants who were not retained.

Maturation may be a threat to the internal validity of the current research study if time affects the results related to the outcome variable, retention. The results of the

current research study might occur simply as a result of participants gaining experiences or training (Burns & Grove, 2005) throughout the nursing program which might improve the motivation, EI skills, or the decision to persist. Although research designs which include a control group reduce the threat of maturation (Macnee & McCabe, 2008), the use of a control group was not feasible for the current research study.

Quantitative researchers use instruments to examine a specific variable (Burns & Grove, 2005) with the purpose of yielding evidence to evaluate the research outcomes (Macnee & McCabe, 2008). Any change in the measurement instrument would potentially lead to different results (Macnee & McCabe, 2008) and threaten the internal validity of a study (Johnson & Christensen, 2008). The adherence to the measurement process and manner of data collection might reduce the testing and instrumentation threat to internal validity (Burns & Grove, 2005; Macnee & McCabe, 2008).

In the threat to internal validity, mortality, the loss of participants threatens the sampling process (Macnee & McCabe, 2008). The loss of participants might occur because of the decision of participants to withdraw from the study (Macnee & McCabe, 2008). The current research included data collected on the number of participants who decided to withdraw from the study.

In the selection threat to internal validity, participants may have unique characteristics relating to the outcome variable, nursing student retention (Macnee & McCabe, 2008). Selecting nursing students who have other characteristics or experiences, which might influence retention, may inadvertently introduce selection threat into the research study. A selection threat would result because the other characteristics would

confound any differences, which might occur because of the selected predictor variables, EI, motivation, and demographic variables.

External Validity

External validity refers to problems with the environment or research process which "make the results of the study less valid and accurate for other samples or settings" (Macnee & McCabe, 2008, p. 203). The extent to which the results of the study are accurate and can be generalized to other nursing students who are similar to those in the study or to similar ADN programs potentially influence the findings of the current research study (Creswell, 2008; Warner, 2008). Bias among the administrators of the ADN programs may present a potential for interaction of setting threat to external validity (Burns & Grove, 2005). Some ADN school administrators may welcome research studies and others may not. The current research study examined if there were differences in the results among the ADN schools participating in the study.

The reactivity effects potentially threaten the external validity of the current research if the participants think about how answers would be perceived and alter the responses (Macnee & McCabe, 2008). Experimental effects might occur if characteristics of the researcher influence the results of the study (Macnee & McCabe, 2008). Similar to reactivity effects, in experimental effects the participants may answer the questions in a manner participants believe the researcher would want the questions answered (Macnee & McCabe, 2008). To increase external validity, the letter of invitation was read to inform the participants all responses will be kept confidential, cumulative results of the current research study would be published, and the names of the participants would not be used to identify the responses of the participants.

The threat to external validity, measurement effects, occurs when changes in the results of a study occur due to using various data collection procedures (Macnee & McCabe, 2008). To increase control, the study was introduced to the nursing students at the ADN schools consistently in the same manner. The same instructions for completing the instruments were given to all participants to enhance external validity (Burns & Grove, 2005) and to lessen the threat of measurement effects (Macnee & McCabe, 2008).

The interaction of selection and treatment threat to external validity might occur if a large number of nursing students declined to participate (Burns & Grove, 2005). The actual sample selected would then limit the ability to generalize the findings. As the number of nursing students who decline participation increases, the external validity decreases (Burns & Grove, 2005). The current research study limited the demands placed on the nursing students to increase participation. The letter of invitation included a statement informing the participants of the time demands to complete the instruments to lessen the threat to external validity (Burns & Grove, 2005). Data was collected on the number of nursing students who declined to participate from each ADN school.

According to Macnee and McCabe (2008), "novelty effects occur when the knowledge that what is being done is new and under study somehow affects the outcome, either favorably or unfavourably" (p. 203). The novelty of the current research study might influence the results of nursing student retention and introduce a threat to external validity. For example, the nursing students who participated might view the novelty of participating in the study and knowledge of EI and motivation as potential factors influencing retention, in the decision to persist in the nursing program.

Data Analysis

Data was coded to ensure privacy of the participants during the data analysis. Data was analyzed using the Statistical Package for the Social Sciences (SPSS) Student Version 15.0. Descriptive statistics were calculated on all the variables from the demographic questionnaires to indicate the overall trends or tendencies in the data (Creswell, 2005; Macnee & McCabe, 2008).

Logistic regression analysis was conducted to explain the values of the outcome variable based on the values of the predictive variables (Johnson & Christensen, 2008; Leedy & Ormrod, 2005; Macnee & McCabe, 2008). Logistic regression analysis was the required method of analysis to achieve the goal of the current research study. Simple or bivariate regression analysis was not appropriate because the predictions in simple regression analysis are made in studies examining one predictor and one outcome variable (Burns & Grove, 2005; Munro, 2005). Multiple regression analysis is an extension of simple regression in which a group of predictor variables and one outcome variable is included in the analysis (Burns & Grove, 2005; Munro, 2005). Multiple regression analysis was not appropriate for the current research study because the variables are treated as interval-level measures and the outcome variable scores are from a normal distribution (Burns & Grove, 2005).

A binary logistic regression was conducted to investigate the main research question for the current research study because the outcome variable, retention, is nominal scaled or categorical (Munro, 2005) and the outcome scores do not assume a normal distribution. Logistic regression statistics measured the direction and size of the effect of each predictor variable on the outcome variable (Burns & Grove, 2005). When

the outcome measure is categorical, such as *retained* (pass) or *not retained* (fail, dropout, withdraw) in a nursing program, a logistic regression statistical method is appropriate (Munro, 2005). As part of the analysis procedure, an examination of correlations among the predictor variables was conducted to identify multicollinearity prior to conducting the regression analysis (Burns & Grove, 2005). Independent samples *t* tests identified which predictor variables had significant differences between the *retained* participants and the *not retained* participants.

Summary

The purpose of the quantitative, descriptive non-experimental research study was to determine what the relationship is between EI, motivation, and retention. The current research study targeted nursing students enrolled in a first-year nursing course in an ADN program in Illinois. An informed consent letter was provided to assure the participants the answers to the survey tools would be coded and stored to protect the confidentiality of the responses obtained from the participants (Creswell, 2008).

A review of research regarding the AES (Schutte et al., 1998) and the MSLQ (Pintrich et al., 1991) indicated the selected instruments were appropriate to determine what the possible relationship is between the predictor variables, EI, motivation, demographic characteristics, and the outcome variable, retention. A research packet containing the letter of invitation, an informed consent agreement to participate in the research study, the two survey questionnaire instruments, and the demographic sheet were administered to the participants. In the current research study an analysis of the data included descriptive statistics and binary logistic regression analysis (Creswell, 2005; Johnson & Christensen, 2008) using SPSS Student Version 15.0.

In Chapter 4 a report of the data analysis of the quantitative, descriptive non-experimental study will be discussed. A statistical analysis of the collected data, the statistics used in analyzing the data, and the findings based on the data will be described. Chapter 4 will conclude with a summary of the findings and an introduction to Chapter 5.

CHAPTER 4: RESULTS

The purpose of the quantitative, descriptive non-experimental study was to determine what the relationship is between emotional intelligence (EI), motivation, demographic variables, and nursing student retention. The research also tested the NURS model by examining demographic variables and academic motivation of nursing students (Jeffreys, 2004). Three hundred ninety participants met the criteria of being 18 and older, not pregnant, and a first-year student attending an ADN program in Illinois. The participants indicated responses on two validated and reliable instruments, the AES (Schutte et al., 1998) and the MSLQ (Pintrich et al., 1991), to collect quantitative data on the primary predictor variables.

The study enlisted the participation of undergraduate nursing students attending a first-year nursing course in nine ADN schools of nursing to capture self-reported EI and academic motivation. The nursing students expressed self-perceptions regarding EI skills in responses to 33 items associated with measuring EI. The nursing students indicated self-perceptions of academic motivation in responses to 81 items associated with measuring academic motivation. The administrators of the ADN schools provided information on the retention status of the participants at the end of the first nursing course and first semester.

The results section of Chapter 4 presents the findings of the descriptive and quantitative statistical analysis conducted on the predictor variables, EI, motivation, and demographic characteristics, and the outcome variable, nursing student retention. Regression statistical techniques analyzed the possible relationship among the variables.

Age, gender, race/ethnic background, ADN School, and readmission status were included in the quantitative analysis as secondary predictor variables.

<div align="center">Study Process</div>

The data collection included a research packet containing a copy of the letter of invitation, the consent form, the two survey instruments, and the demographic sheet. The original survey instruments retained the reliability and validity as discussed in Chapter 3. Copies of the permission forms to use the instruments are located in Appendixes F and G. The nursing administrators and members of the IRB from each community college participating in the current research study received a copy of the consent form, letter of invitation, survey instruments, and demographic sheet to peruse prior to data collection. Feedback from the community college IRB members and nursing administrators contributed to modifications in the demographic sheet, consent form, and letter of invitation.

The researcher solicited participants for the current research study during on-campus visits at nine ADN schools of nursing in Illinois. A nurse educator from each ADN school of nursing introduced the researcher at the end of a class session of the first nursing course. All nursing courses were fundamentals nursing courses providing an introduction of basic nursing concepts and skills. A standardized letter of invitation was read to the nursing students. The directions for completing the survey instruments were included in the initial section of the printed surveys.

Prior to the on-campus visits to the ADN schools, the nursing administrators received a brief announcement letter by e-mail. A copy of the announcement letter is contained in Appendix J. The announcement letter included information about the

purpose of the study, the date and time for data collection, and the incentives for participation. Either the nursing administrator or a nurse educator read the announcement letter to the students during the week prior to data collection to allow the nursing students an opportunity to plan to stay after class to complete the instruments and demographic sheet.

Soliciting the participation of nursing students who could not stay after the nursing class resulted in several nursing students approaching the researcher prior to the nursing class to request to participate in the research study. In several ADN schools, the first nursing course contained several sections of the course scheduled at different times throughout the day. To increase the opportunity for participation, a classroom, or laboratory room was reserved to allow the data collection to occur before or after the nursing course, without interrupting class time.

Data Collection Process

The data collected in the current research study resulted from voluntary participation of first-year undergraduate nursing students attending an ADN program representing the overall population of first-year undergraduate nursing students in the state of Illinois. The participants received the research packets either before or at the end of a class session of the first nursing course, without interrupting class time. The average time for participants to complete the instruments and demographic sheet was approximately 10 to 15 minutes.

Approximately 577 first-year undergraduate nursing students were attending the nine ADN schools of nursing during the fall semester of 2009. Six students were noted as absent during the on-campus visits for data collection yielding a sample population of

571 available students for the current research study. The on-campus visits initiated after the beginning of the first nursing course occurred over a period of five and a half weeks, beginning on August 21, 2009 and concluding on September 30, 2009. Three hundred ninety-seven first-year ADN students responded by returning the research packets during data collection. No participants in the current research study contacted the researcher after the data collection period to withdraw from the study.

Of the 397 returned research packets, seven were not included in the data analysis. Six students who completed the surveys did not sign the consent form. The data analysis excluded one participant due to enrollment in a practical nursing program, rather than a RN program, as confirmed by a nursing administrator from the ADN School of nursing. After a review of the returned research packets, useable data obtained from 390 participants were included in the statistical analysis for the secondary predictor variables with retention. The data analysis conducted on EI and motivation with retention excluded two participants due to missing responses on the AES and MSLQ survey.

The data collection process yielded an acceptable 70 % overall response rate for returned research packets. The current research achieved a 68 % response rate for all completed research packets. Response rates of 70% and higher of participants are considered acceptable (Johnson & Christensen, 2008). Personally administering the surveys to participants might have improved the response rate (Polit & Beck, 2008). Personally meeting the nursing students offered the opportunity to invite a large number and geographically diverse group of first-year ADN students to participate in the study and allowed the opportunity to clarify any questions (Polit & Beck, 2008).

The most problematic aspect of soliciting participation was coordinating on-

campus visits with the fundamentals nursing course schedules and the personal commitments of the nursing students attending the nine ADN schools. The nursing administrators and nurse educators indicated the first week of the fundamentals nursing course and class sessions in which tests were scheduled were less favorable times to solicit participation. For example, during one on-campus visit few nursing students chose to participate after completing the first nursing test. Other reasons for refusal to participate expressed by students were a conflict of the on-campus visits with other classes, the timing of data collection after class interfering with the lunch break of students, and other commitments after class. Information regarding the students who did not participate who may have persisted, failed, withdrawn, or dropped out during the first nursing course or first semester is unknown.

Thirty-nine nursing administrators of ADN schools of nursing in Illinois did not participate in the current research study. Comments made by nursing administrators choosing not to participate included not wanting to place an additional time demand on the nursing students when the administrators were already requiring nursing students to complete other assessments. The administrators did not want to overwhelm recently appointed nursing administrators or nurse educators with additional time demands to participate in the current research study. The nine nursing administrators from the ADN schools of nursing who participated in the current research study expressed enthusiasm regarding the potential relationship of the predictor variables with nursing student retention.

Research Questions

The following primary research question and subquestions guided the analysis of the current research study:

What is the relationship between EI, motivation, and retention among undergraduate students attending ADN programs in Illinois?

1. What is the relationship between EI, motivation, and retention among undergraduate students attending ADN programs in Illinois at the end of the first nursing course?

2. What is the relationship between EI, motivation, and retention among undergraduate students attending ADN programs in Illinois at the end of the first semester?

3. What is the relationship between the secondary predictor variables (age, gender, racial/ethnic background, ADN School, and readmission status) and retention among undergraduate students attending ADN programs in Illinois at the end of the first nursing course?

4. What is the relationship between the secondary predictor variables (age, gender, racial/ethnic background, ADN School, and readmission status) and retention among undergraduate students attending ADN programs in Illinois at the end of the first semester?

Hypotheses

The current research study examined the following hypotheses to assess the potential relationship of EI, motivation, demographic variables, and retention among first-year undergraduate students attending ADN schools. Logistic regression analysis

was used to analyze the quantitative data obtained from the two surveys and demographic sheet. A global test was performed to assess the strength of the predictive relationship between the variables. The secondary predictor variables gender, race/ethnicity, ADN Schools, and readmission status served as categorical variables. The secondary predictor variable age served as a quantitative variable (Johnson & Christensen, 2008).

Ho: All regression coefficients are zero.

H$_a$: At least one regression coefficient is not zero.

H1o: All primary predictor variable regression coefficients are zero.

H1$_a$: At least one primary predictor variable regression coefficient is not zero.

H2o: All secondary predictor variable regression coefficients are zero.

H2$_a$: At least one secondary predictor variable regression coefficient is not zero.

Data Analyses

Based on calculations discussed previously in Chapter 3, a minimum of 216 first-year undergraduate nursing students attending ADN schools of nursing would be necessary for the quantitative data analysis to produce statistically significant results (PASS, 2008). The data collection process exceeded the minimum goal of 216 first-year ADN students with 390 participants who generated usable data. The data garnered from the 390 participants satisfied the sample size requirements based on an odds ratio for a medium effect size (1.8), a baseline probability of .20 (20% of nursing students fail, drop out, or withdraw), and R-squared of covariate with other covariates (.25) (PASS, 2008).

A minimum of 30 participants from each ADN school of nursing were needed to measure group differences among the nine ADN schools (Cohen, 1988). Based on calculations discussed in Chapter 3, 30 participants in each group would be needed for

80% power, or the minimum suggested power for a study. A large effect size of 80% would mean the planned sample size would be adequate and have at least an 80% chance of judging the effect to be statistically significant (Cohen, 1998; Warner, 2008). The realized sample size of first-year undergraduate nursing students obtained during the data collection period concluding on September 30, 2009 exceeded the minimum of 30 participants from each ADN school.

There were 571 first-year undergraduate nursing students available to solicit for participation in the current research study during the on-campus visits at the ADN schools of nursing. To preserve confidentiality, letters were used to identity the participating ADN schools. To maintain confidentiality in reporting aggregate responses of the participants, the names of the ADN schools will not be identified. Each ADN school will be identified with a corresponding letter of the alphabet in the data analysis and the discussion of results.

Table 1 summarizes the number of nursing students available on the date of on-campus visits and the number of participants who generated usable data from each ADN school of nursing. The minimum number of students responding in an ADN school was 31 and maximum was 63. Table 1 illustrates the percentage of nursing students responding from all ADN schools. The minimum percentage of participation in the total sample was 7.9 and maximum 16.2. As illustrated in Table 1 a fairly even distribution of nursing students participated among the nine ADN schools in Illinois.

Table 1

Summary of available students and participants per ADN School

ADN School	Available Students	Participants	Percentage
A	36	36	9.2
B	80	38	9.7
C	37	37	9.5
D	90	59	15.1
E	60	31	7.9
F	88	50	12.8
G	60	40	10.3
H	73	63	16.2
I	47	36	9.2
Total	571	390	100

The data analysis continued by entering the completed survey responses into a Microsoft Excel spreadsheet. SPSS data analysis software was used to perform a descriptive analysis and provide regression statistics. Regression analysis allowed the opportunity to determine what the potential relationship is between the predictor variables and the outcome variable.

Summary of Descriptive Analysis

The data collection process included collecting information from participants on five demographic variables: age, gender, race/ethnic background, ADN School, and readmission status. There were initially six categories for race/ethnic background. See Appendix C for selected categories included in the demographic sheet for race/ethnic background during the data collection process. A category of "Two or more" added to the demographic data in the Microsoft Excel spreadsheet categorized participants who indicated more than one response for race/ethnic background. Because of low numbers in several categories, the data analysis included five categories for race/ethnic background.

The demographic characteristic of *returning student* or *readmission status* may have been confusing for some nursing students. For example, a discrepancy was noted when one nursing administrator confirmed only two participating students were actually *returning* students as compared with 13 students from the school who indicated a *returning* status on the demographic sheets. Consequently, the nursing administrators from each ADN school of nursing confirmed the *returning* status of all participants from each ADN school of nursing before coding the *returning* status into the Microsoft Excel spreadsheet.

The descriptive statistics for the variable age included data received from 388 participants. Two students did not indicate an age on the demographic sheet. The remaining data obtained from the two students were included in the subsequent statistical analysis. The minimum age of participants was 18 and maximum age of participants was 56, with a mean age of 29.6. Table 2 summarizes the frequencies and percentages on the

demographic data for gender, the five compressed categories for race/ethnic background, and the readmission status of participants from the ADN schools.

Table 2

Frequencies and percentages of demographic characteristics

Demographic Category	Demographic Component	Frequencies	Percentages
Gender	Male	44	11.3
	Female	346	88.7
Race/ethnic			
	Hispanic/Latino	29	7.4
	Asian	39	10.0
	Black/African American	18	4.6
	White	296	75.9
	Two or more	8	2.1
Returning	Yes	11	2.8
	No	379	97.2

Table 2 illustrated the demographic characteristics of the first-year undergraduate nursing students attending ADN programs in the state of Illinois. As summarized in Table

2, the majority of participants were female, White, and *nonreturning* students. The

following section summarizes the descriptive analysis for the *retained* and *not retained*

participants at the end of the first nursing course and the first semester. Table K1 presents

the frequencies for the outcome variable, *retention*, by the first nursing course and first

semester listed by gender, race/ethnic background, ADN School, and returning status.

Data for the original six categories of race/ethnic background are included in Table K1

located in Appendix K.

<p align="center">Inferential Analysis</p>

Inferential statistics allowed the opportunity to test the accuracy of the hypotheses

predicting the relationship of EI, motivation, secondary predictor variables, and nursing

student retention (Macnee & McCabe, 2008). Regression analysis offered the ability to

measure how much the primary and secondary predictor variables explained the variation

in the outcome variable, nursing student retention (Macnee & McCabe, 2008). The

following sections display the inferential analysis of the hypotheses for the current

research study.

Analysis of Research Questions

A regression analysis provided the results related to the hypotheses. Included in

the subsequent sections is a summary of the statistical results to express the relationships

of the primary and secondary predictor variables and the outcome variable, nursing

student retention. Regression analysis results with a p value less than or equal to .05

would provide sufficient evidence to reject the null hypotheses and tentatively support the

alternative hypotheses (Johnson & Christensen, 2008; Macnee & McCabe, 2008).

Emotional Intelligence, Motivation, and Retention at End of First Nursing Course

The data analysis for the hypotheses associated with the research subquestion 1 tested the potential relationship of the primary predictor variables, EI and motivation, and the outcome variable, nursing student retention, at the end of the first nursing course. The MSLQ captured participant responses on 15 subscales on motivation, learning strategies, and student management of resources (Pintrich et al., 1991). The participants rated responses to the 81 items on the MSLQ by circling 1 (*not at all true of me*) to 7 (*very true of me*). The 33-item AES, the EI component of the survey, contained the following four subscales of (a) perception of emotions, (b) managing emotions in the self, (c) social skills or managing emotions of others, and (d) utilizing emotions (Schutte et al., 2009). To complete the AES, the participants rated responses for self-perceptions of EI on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*) (Goldenberg et al., 2006).

Mean responses were analyzed for 26 *not retained* participants and 362 *retained* participants at the end of the first nursing course. Higher mean scores for the MSLQ and the AES indicate greater levels of the constructs. Table 3 summarizes the data analysis using independent samples *t* tests on the mean scores for the AES and MSLQ with retention at the end of the first nursing course. Mean scores for the MSLQ scales and total AES mean scores with retention at the end of the first nursing course were not statistically significant at the .05 level. The data analysis supported the null hypothesis suggesting no statistically significant relationship between EI, motivation, and retention at the end of the first nursing course.

Table 3

AES and MSLQ scales and retention at end of first nursing course

Primary Predictor Scales	*M*	*SD*	*t*	*p* value
Motivation				
Not retained	5.68	.497	.626	.531
Retained	5.62	.464		
Learning strategies				
Not retained	4.99	.655	.063	.950
Retained	4.99	.708		
Resource management				
Not retained	5.57	.760	.431	.667
Retained	5.50	.755		
Total motivation				
Not retained	5.39	.542	.391	.696
Retained	5.35	.529		
Emotional intelligence				
Not retained	4.00	.495	-.326	.745
Retained	4.03	.419		

Note. df = 386. **p < .05.*

Independent samples *t* tests analyzed the mean scores for the 15 subscales of the MLSQ and retention at the end of the first nursing course. The data analysis indicated statistically significant *p* values at the .05 level of significance for the control of learning beliefs (.043) and test anxiety (.012) subscales. The data analysis did not support the null hypothesis. The results suggested a statistically significant relationship between control of learning beliefs and test anxiety and retention at the end of the first nursing course.

The *p* value of .089 for the time and study subscale included in the learning strategies scale was statistically significant at the .10 level. In exploratory research, researchers are sometimes willing to accept alpha levels at the .10 level (Warner, 2008). Table L1, located in Appendix L, displays the mean scores for the 15 MSLQ subscales with retention at the end of the first nursing course. The mean scores represent the value of the seven possible responses ranging from "0" to "7" for each of the statements within the subscales for academic motivation.

Independent samples *t* tests analyzed the mean scores for participant responses for the AES four subscales and retention at the end of the first nursing course. The data analysis provided support for the null hypothesis suggesting no statistically significant relationship between EI subscales and retention at the end of the first nursing course. The data analysis suggested there were no statistically significant differences in the mean scores for all subscales of the AES with nursing student retention at the end of the first nursing course. Table 4 displays the data analysis for the AES subscales with nursing student retention at the end of the first nursing course. The mean scores represent the value of the five possible responses ranging from "0" to "5" for each of the statements within the subscales for EI.

Table 4

AES subscales and retention at end of first nursing course

AES subscales	M	SD	t	p value
Perception of emotion				
Not retained	3.93	.526	-.010	.992
Retained	3.93	.518		
Managing own emotions				
Not retained	4.12	.505	-.386	.700
Retained	4.16	.515		
Managing other's emotions				
Not retained	4.28	.560	.344	.731
Retained	4.25	.469		
Utilization of emotions				
Not retained	3.84	.819	-1.323	.187
Retained	3.99	.517		

*Note. df = 386. * p < .05.*

Emotional Intelligence, Motivation, and Retention at End of First Semester

The data analysis for the hypotheses associated with the research subquestion 2 tested the potential relationship of the primary predictor variables and the outcome variable at the end of the first semester. The data analysis excluded data collected from

two participants who submitted surveys with missing responses. The data analysis included the responses for 57 *not retained* participants and 331 *retained* participants at the end of the first semester.

Table 5 summarizes the data analysis using independent samples *t* tests on mean scores for the AES and MSLQ with retention at the end of the first semester. Mean scores for the MSLQ scales and total AES with retention at the end of the first semester were not statistically significant at the .05 level. The data analysis suggested no statistically significant differences in the mean scores on the AES and MSLQ with retention at the end of the first semester. The data analysis supported the null hypothesis suggesting no statistically significant relationship of EI, motivation, and retention at the end of the first semester.

Independent samples *t* tests analyzed the mean scores for the MLSQ subscales with retention at the end of the first semester. The data analysis resulted in statistically significant *p* values at the .05 level of significance for extrinsic motivation (.043), task value (.048), time and study (.043), and effort regulation (.040). The *p* values for the control of learning beliefs (.060), test anxiety (.093), critical thinking (.077), and peer learning (.067) were significant at the .10 level. The data analysis did not support the null hypothesis and suggested a statistically significant relationship between extrinsic motivation, task value, time and study, and effort regulation and nursing student retention at the end of the first semester. Table M1, located in Appendix M, displays the mean scores of participant responses for the 15 MSLQ subscales with retention at the end of the first semester.

Table 5

AES and MSLQ scales and retention at end of first semester

Primary Predictor Scales	*M*	*SD*	*t*	*p* value
Motivation				
Not retained	5.63	.517	.008	.994
Retained	5.63	.458		
Learning strategies				
Not retained	4.99	.726	.097	.922
Retained	4.98	.701		
Resource management				
Not retained	5.53	.708	.256	.798
Retained	5.51	.763		
Total motivation				
Not retained	5.36	.542	.142	.887
Retained	5.35	.527		
Emotional intelligence				
Not retained	4.04	.406	.158	.875
Retained	4.03	.428		

*Note .df =386. * p < .05.*

Table 6

AES subscales and retention at end of first semester

AES subscales	*M*	*SD*	*t*	*p* value
Perception of emotion				
Not retained	3.94	.472	.152	.879
Retained	3.93	.527		
Managing own emotions				
Not retained	4.16	.456	.004	.996
Retained	4.16	.523		
Managing other's emotions				
Not retained	4.28	.494	.474	.636
Retained	4.25	.473		
Utilization of emotions				
Not retained	3.98	.657	.009	.993
Retained	3.98	.521		

*Note. df = 386. * p < .05.*

Independent samples *t* tests analyzed the mean scores for participant responses for the AES subscales with retention at the end of the first semester. The data analysis suggested no statistically significant differences in the mean scores of participant responses for the AES with retention at the end of the first semester. The data analysis

supported the null hypothesis suggesting no statistically significant relationship between EI subscales and retention at the end of the first semester. Table 6 displays the mean scores for the AES subscales with retention at the end of the first semester.

Secondary Predictor Variables and Retention at End of First Course

The data analysis for the hypotheses regarding the research subquestion 3 tested the potential relationship of the secondary predictor variables and the outcome variable, nursing student retention, at the end of the first nursing course. A summary of the findings is presented in the following sections. The analysis for the potential relationship between age, gender, race/ethnic background, ADN School, readmission status, and retention at the end of the first nursing course is discussed.

Age. The hypothesis for the research subquestion 3 examined the possible relationship of the secondary predictor variable, age, and retention at the end of the first nursing course. Two students did not report an age on the demographic sheet. The data analysis using independent samples *t* tests for age and retention at the end of the first nursing course included data on 388 participants.

The data rejected the null hypothesis which suggested no statistically significant relationship between age and nursing student retention. The data provided sufficient evidence to suggest a relationship exists between older nursing students and retention status at the end of the first nursing course. The mean age of *not retained* participants was 33.20 ($n = 25$) as compared with the mean age of 29.34 for the *retained* participants ($n = 363$). Table 7 presents the independent samples *t*-test findings and *p* value obtained in the analysis for age with retention at the end of the first nursing course.

Table 7

Inferential statistics for age and retention at end of first nursing course

Retention Status	*N*	*M*	*SD*	*t*	*p* value
Not retained	25	33.20	8.201	2.236	.026*
Retained	363	29.34	8.367		

Note. df = 386.*p* < .05.

Gender. As shown in Table K1 in Appendix K, the majority of both *retained* (*n* = 321) and *not retained* (*n* = 25) participants were female at the end of the first nursing course. A Pearson chi-square analysis conducted determined the possible relationship between gender and nursing student retention. The data analysis supported the null hypothesis suggesting no statistically significant relationship between gender and retention at the end of the first nursing course.

Race/Ethnic Background. Data regarding race/ethnic background in Table K1 showed a higher number of participants were White at the end of the first nursing course. A Pearson chi-square analysis conducted determined the possible relationship between race/ethnic background and nursing student retention at the end of the first nursing course. The data analysis supported the null hypothesis suggesting no statistically significant relationship between race/ethnic background and retention at the end of the first nursing course. A further analysis using a Pearson chi-square test using two

categories of race/ethnic background, non-White and White participants, with retention resulted in a *p* value of .728, which was not statistically significant at the .05 level.

ADN School. Included in Table K1, were the frequencies of the *retained* and *not retained* participants from each ADN school of nursing at the end of the first nursing course. A Pearson chi-square analysis conducted determined the possible relationship between ADN School and retention at the end of the first nursing course. An initial cross tabulation of the frequencies of retention and ADN Schools indicated 50% of the cells had expected *N* of less than five.

A follow-up Pearson chi-square analysis on the possible relationship between ADN School and retention grouped the schools by number of students admitted during the last fall semester to increase the frequencies per cell (Warner, 2008). Group 1 included ADN schools admitting 30 to 50 students. Group 2 included ADN schools admitting 51 to 79 students. Group 3 ADN schools admitting at least 80 students. The follow-up data analysis supported the null hypothesis suggesting no statistically significant relationship between ADN schools and nursing student retention at the end of the first nursing course.

Returning Student. As displayed in Table K1, a higher percentage of *retained* (97.3%) and *not retained* (96.2%) participants were not *returning* students at the end of the first nursing course. A Pearson chi-square analysis conducted determined the possible relationship between *returning status* (*readmission status*) and nursing student retention. The data analysis supported the null hypothesis suggesting no statistically significant relationship between *returning status* and retention at the end of the first nursing course.

Table 8 summarizes the Pearson chi-square analysis on gender, race/ethnic background, ADN School, and returning status and retention at the end of the first nursing course.

Table 8

Gender, race/ethnic background, ADN School, returning status, and retention at end of first nursing course

Demographic Variable	chi-square	*df*	*p* value
Gender	1.539	1	.215
Race/ethnic			
Five categories	3.991	4	.407
Two categories	.121	1	.728
ADN School			
Nine schools	11.741	8	.163
Three groups	2.167	2	.338
Returning	.107	1	.744

*Note. *p* < .05.*

Secondary Predictor Variables and Retention at End of First Semester

The data analysis for the hypotheses regarding the research subquestion 4 tested the potential relationship between the secondary predictor variables and the outcome variable, nursing student retention, at the end of the first semester. A summary of the

findings are presented in the following sections. The data analysis for the potential relationship between age, gender, race/ethnic background, ADN School, readmission status, and retention at the end of the first semester is discussed in the following sections.

Age. The hypothesis for the research subquestion examined the possible relationship between the secondary predictor variable, age, and retention at the end of the first semester in the nursing program. As stated earlier, two students did not report an age on the demographic sheet. The data analysis using independent samples *t* tests for age and retention at the end of the first semester included data on 388 participants.

The data supported the null hypothesis, which demonstrated no statistically significant relationship of age with retention at the end of the first semester. The mean age of *retained* participants was 29.57 (*n* = 332) and the mean age of the *not retained* participants was 29.70 (*n* = 56). Table 9 summarizes the independent samples *t*-test findings and *p* value for age with retention at the end of the first semester.

Table 9

Inferential statistics for age and retention at end of first semester

Retention Status	*N*	*M*	*SD*	*t*	*p value*
Not retained	56	29.70	8.686	.107	.915
Retained	332	29.57	8.364		

Note. df = 386.*p* < .05.

Gender. As shown in Table K1, the majority of both *retained* ($n = 296$) and *not retained* ($n = 50$) participants were female at the end of the first semester in the nursing programs. A Pearson chi-square analysis conducted determined the possible relationship of the categorical variable, gender, and nursing student retention at the end of the first semester. The data analysis supported the null hypothesis suggesting no statistically significant relationship of gender and retention at the end of the first semester.

Race/Ethnic Background. Descriptive statistics regarding race/ethnic background displayed in Table K1 showed a higher number of *retained* participants ($n = 263$) at the end of the first semester were White. The initial Pearson chi-square analysis was conducted using five categories of race/ethnic background. A subsequent Pearson chi-square analysis followed compressing the four categories of non-White participants into one category. For both analyses, the results did not support the null hypothesis. The data suggests a statistically significant relationship between race/ethnic background and retention at the end of the first semester.

The initial data analysis using five categories of race/ethnic background indicated a p value less than .001 which was statistically significant at the .05 level. In the non-White categories, a higher percentage (8.1%) of Hispanics/Native Americans was retained when compared with Asian/Pacific Islander, Black/African American, and the mixed category of participants. Further analysis using a Pearson chi-square test using two categories of race/ethnic background, non-White and White participants, and retention showed a p value of .001. Data analysis using the two categories indicated 79% of White participants were retained.

ADN School. Data exhibited in Table K1 included the frequencies of the *retained* and *not retained* participants from each ADN school of nursing at the end of the first semester. A Pearson chi-square analysis conducted to determine the possible relationship between ADN School and retention at the end of the first semester did not support the null hypothesis. The data suggested a statistically significant relationship of ADN School and nursing student retention at the end of the first semester ($p < .001$). The significant results must be carefully interpreted when one cell has an expected frequency of less than five. The minimum expected cell frequency is 5 (Warner, 2008).

A follow-up Pearson chi-square analysis was conducted by grouping the ADN schools as stated in the analysis for retention at the end of the first nursing course. The follow-up data analysis did not support the null hypothesis. The data provided sufficient evidence to suggest a statistically significant relationship between ADN School and nursing student retention at the end of the first semester ($p = .017$).

Returning Student. As displayed in Table K1, a higher percentage of *retained* (97.3%) and *not retained* (96.5%) participants were not *returning* students at the end of the first semester. Only 11 participants of the total sample of participants were *returning* students. A Pearson chi-square analysis conducted determined the possible relationship between returning status and retention. The data analysis supported the null hypothesis suggesting no statistically significant relationship between returning status and nursing student retention at the end of the first semester.

The initial and follow-up analysis for the secondary predictor variables indicated only race/ethnic background and ADN School resulted in statistically significant *p* values with retention at the end of the first semester. The results suggested a relationship

between race/ethnic background, ADN School, and retention. Table 10 summarizes the

data analysis findings on the variables, gender, race/ethnic background, ADN School,

returning status, and retention at the end of the first semester.

Table 10

Gender, race/ethnic background, ADN School, returning status, and retention at end of

first semester

Demographic Variable	chi-square	*df*	*p* value
Gender	.067	1	.796
Race/ethnic			
Five categories	27.088	4	.000**
Two categories	11.827	1	.001**
ADN School			
Nine schools	49.480	8	.000**
Three groups	8.196	2	.017*
Returning	.115	1	.734

*Note. *p < .05. **p < .01.*

Predictor Variables and Retention at End of First Nursing Course

     The hypotheses regarding the research questions examined the potential

relationship between the primary predictor variables, EI and motivation, and the

secondary predictor variables, demographic characteristics, and the outcome variable, nursing student retention at the end of the first nursing course. Table 11 summarizes the hierarchal logistic regression analysis findings for age, race/ethnic background, EI, motivation, and retention. The hierarchal regression analysis included total scores for EI and motivation. The secondary predictor variables, gender, returning status, and ADN School were found to be not significant in the initial analysis and were not included in the hierarchal regression analysis. The hierarchal regression analysis allowed the opportunity to examine the possible contribution of other predictor variables, which may explain the variation in the outcome variable, retention.

Step 1 in Table 11 exhibits the hierarchal regression analysis findings examining the potential relationship between age and race/ethnic background and retention at the end of the first nursing course. In the Step 1 section of Table 11, the data analysis does not support the null hypothesis for age and retention at the end of the first nursing course. The data analysis for age and retention resulted in a p value of .039, which was statistically significant at the .05 level. The results suggest a negative association of age with retention and the odds of retention decreasing for older nursing student participants. The data analysis suggests a statistically significant relationship between age and retention at the end of the first nursing course.

The data analysis adding race/ethnic background to the model was not statistically significant. The results suggested race/ethnic background was not predictive of nursing student retention at the end of the first nursing course. There was no significant difference in the odds of retention for race/ethnic background. The p value of .522 would not provide sufficient evidence to reject the null hypothesis.

Table 11

Hierarchal logistic regression analysis at end of first nursing course

Variable	B	SE B	Wald	df	p value
Step 1					
Age	-.047	.023	4.247	1	.039*
Race/ethnic background			3.216	4	.522
Step 2					
Age	-.048	.023	4.347	1	.037*
Race/ethnic background			3.285	4	.511
EI	.244	.489	.248	1	.618
Step 3					
Age	-.047	.023	4.277	1	.039*
Race/ethnic background			2.929	4	.570
EI	.316	.509	.386	1	.534
Motivation	-.210	.505	.173	1	.678

Note. Step 1 R^2 = .50, Step 2 R^2 = .51, Step 3 R^2 = .52. * $p < .05$.

Step 2 in Table 11 summarizes the hierarchal logistic regression analysis of age, race/ethnic background, EI, and retention at the end of the first nursing course. There was no significant difference in the odds of retention for EI. The results suggested EI was not predictive of nursing student retention at the end of the first nursing course. The p value of .618 for EI would not provide sufficient evidence to reject the null hypothesis.

Age remained statistically significant with the influence of the p value changing from .039 to .037. Age continued to show a negative association with retention. Race/ethnic background remained not statistically significant with the influence of the p value changing from .522 to .511. The results suggest there was no significant difference in odds of retention for race/ethnic background.

In the Step 3 section of Table 11, the model added motivation to the hierarchal logistic regression analysis. The addition of total scores for motivation to the model was not statistically significant at the .05 level ($p = .678$). There was no significant difference in the odds of retention for motivation. The results suggested motivation was not predictive of nursing student retention at the end of the first nursing course. The p value of .678 for motivation would not provide sufficient evidence to reject the null hypothesis.

The data analysis suggested age remained statistically significant, with the influence of the p value changing from .037 to .039. Age continued to show a negative association with retention. Race/ethnic background remained not statistically significant, with the influence of the p value changing from .511 to .570. The results for EI remained not statistically significant, with a p value changing from .618 to .534.

The resulting hierarchal regression analysis suggested age was the only secondary predictor of retention at the end of the first nursing course, explaining only 5.2% of the

variance with retention. The odds of retention were less for participants who were older. The results suggest there was no significant difference in the odds of retention for race/ethnic background. The data analysis did not support the null hypothesis proposing all secondary regression coefficients would be zero.

While the initial analysis revealed significant differences in the mean scores between the *retained* and *not retained* participants in several subscales of the motivation survey, the differences were not statistically significant to provide sufficient evidence to support the alternative hypothesis. The addition of EI to the regression analysis did not provide sufficient evidence to support the alternative hypothesis. The results did not support the alternative hypothesis proposing at least one primary regression coefficient would not be zero.

Predictor Variables and Retention at End of First Semester

The hypotheses regarding the research questions examined the potential relationship between the primary predictor variables, EI and motivation, and secondary predictor variables, demographic characteristics, and the outcome variable, nursing student retention at the end of the first semester. Table 12 summarizes the hierarchal logistic regression analysis findings for age, race/ethnic background, ADN schools, EI, motivation, and retention. The data analysis included total scores for EI and motivation. The secondary predictor variables, gender, and returning status, found to be not significant in the initial analysis were not included in the logistic regression analysis.

Step 1 exhibits the hierarchal regression analysis findings examining the potential relationship between age, race/ethnic background, ADN School, and retention at the end of the first semester. In the Step 1 section of Table 12, the data analysis supports the null

hypothesis for age and retention at the end of the first semester. The results suggested there was no significant difference in the odds of retention for age. The data analysis suggested no statistically significant relationship between age and retention with a *p* value of .481.

The hierarchal regression analysis adding race/ethnic background and ADN School to the model was statistically significant. The statistically significant *p* value of .023 suggested ADN School was predictive of nursing student retention at the end of the first semester. The results for race/ethnic background were statistically significant (*p* < .001). The statistically significant *p* values suggest ADN School and race/ethnic background were predictive of nursing student retention at the end of the first semester.

Step 2 in Table 12 summarizes the hierarchal logistic regression analysis of age, race/ethnic background, ADN School, EI, and retention at the end of the first semester. The data analysis in Step 2 indicated age remained not statistically significant, with the influence of the *p* value changing from .481 to .464. The data analysis for race/ethnic background remained statistically significant (*p* < .001). The results for ADN School remained statistically significant, with the influence of the *p* value changing from .023 to .022. The data analysis suggested the addition of EI to the model was not statistically significant at the .05 level with a *p* value of .747.

Table 12

Hierarchal logistic regression analysis at end of first semester

Variable	*B*	*SE B*	*Wald*	*df*	*p value*
Step 1					
Age	-.013	.018	.497	1	.481
Race/ethnic background			22.487	4	.000*
ADN school			7.553	2	.023*
Step 2					
Age	-.013	.018	.537	1	.464
Race/ethnic background			22.539	4	.000*
ADN School			7.640	2	.022*
EI	.123	.382	.104	1	.747
Step 3					
Age	-.012	.019	.426	1	.514
Race/ethnic background			22.570	4	.000*
ADN School			7.597	2	.022*
EI	.184	.425	.188	1	.664
Motivation	-.105	.338	.097	1	.756

Note. Step 1 R^2 = .137, Step 2 R^2 = .137, Step 3 R^2 = .138. *p* < .05, ** *p* < .01.

In the Step 3 section of Table 12, the model added motivation to the hierarchal logistic regression analysis. The addition of total scores for motivation to the model was not statistically significant at the .05 level. The *p* value of .756 for motivation would not provide sufficient evidence to reject the null hypothesis. There was no significant difference in the odds of retention for motivation at the end of the first semester. The results suggested motivation was not predictive of nursing student retention at the end of the first semester.

The data analysis in Step 3 indicated age remained statistically not significant, with the influence of the *p* value changing from .464 to .514. Race/ethnic background remained statistically significant (*p* < .001). ADN School remained statistically significant, with the influence of the *p* value changing from .023 to .022. EI remained not statistically significant, with the influence of the *p* value changing from .747 to .664.

The hierarchal regression analysis showed the secondary predictors race/ethnic background and ADN School explained 7.7 to 13.8% of the variance with retention at the end of the first semester. The results suggested race/ethnic background and ADN School were predictors of retention at the end of the first semester. In contrast to findings at the end of the first nursing course, the results suggest there was no significant difference in the odds of retention for age at the end of the first semester. The data analysis did not support the null hypothesis proposing all secondary regression coefficients would be zero.

While the initial analysis revealed significant differences in the mean scores between the *retained* and *not retained* participants in several subscales of the motivation survey, the hierarchal regression analysis did not provide sufficient evidence to reject the

null hypothesis. The addition of EI to the regression analysis did not provide sufficient evidence to support the alternative hypothesis or reject the null hypothesis. The results did not support the alternative hypothesis proposing at least one primary regression coefficient would not be zero.

The primary null hypothesis for the current research study proposed all regression coefficients would be zero. The p value for the secondary predictor, age, was statistically significant with nursing student retention at the end of the first nursing course. The p values for the primary predictive variables, EI and motivation, were not statistically significant at the end of the first nursing course and at the end of the first semester. The p values for the secondary predictor variables, race/ethnic background and ADN School, were predictive of nursing student retention at the end of the first semester.

The data analysis provided sufficient evidence to reject the primary null hypothesis. The overall results of the data analysis indicated at least one regression coefficient was not zero. The results of the data analysis suggested the secondary predictors, age, race/ethnic background, and the ADN School, contributed significantly to the variance accounted for in the outcome variable, nursing student retention.

<center>Significant Findings</center>

Statistically significant results were not identified for participant responses on total scores and all subscales of the EI survey and retention at the end of the first nursing course and the end of the first semester. The hypothesis testing using logistic regression analysis did not provide sufficient evidence to validate the alternative hypothesis or reject the null hypothesis regarding a possible predictive relationship between EI and retention.

The data analysis suggested EI was not a statistically significant predictor of nursing student retention at the end of the first nursing course and at the end of the first semester.

The statistically significant findings in the current research study provided support for the relationship between subscales of the motivation survey and nursing student retention at the end of the first nursing course and first semester. The independent samples t-tests analysis suggested a statistically significant relationship between control of learning beliefs and test anxiety MSLQ subscales and nursing student retention at the end of the first nursing course. The p value of .089 for the time and study MSLQ subscale was statistically significant at the .10 level at the end of the first nursing course. The independent samples t tests suggested a statistically significant relationship between extrinsic motivation, task value, time and study, and effort regulation MSLQ subscales and nursing student retention at the end of the first semester. The p values of .060 for the control of learning beliefs, test anxiety (.093), critical thinking (.077), and peer learning (.067) were significant at the .10 level with nursing student retention at the end of the first semester.

The statistically significant findings in the current research study provided support for the relationship between several demographic variables and nursing student retention at the end of the first nursing course and first semester. The hypothesis testing for demographic characteristics suggested age was a statistically significant predictor of retention ($p < .001$) during the first nursing course. Race/ethnic background was a statistically significant predictor variable at the end of the first semester in the nursing program ($p < .001$). The relationship between the ADN schools and retention was statistically significant for the first semester ($p < .001$) for the initial analysis using nine

ADN schools and a follow-up analysis categorizing the ADN schools into three groups (p = .017) by number of students admitted last fall. Gender and returning status were not statistically significant predictors of retention at the end of the first nursing course or semester.

Summary

The current research study examined the relationship of EI, academic motivation, demographic variables, and retention among first-year undergraduate students attending ADN programs in the state of Illinois. Surveying nursing students attending nine ADN schools of nursing provided a rich source of information to gain an understanding the potential relationship of two noncognitive variables, EI and motivation, and retention. Investigating the potential relationship of academic motivation and selected demographic characteristics of first-year ADN students and retention achieved the goal of testing the nursing student retention model developed by Jeffreys (2004). The application of logistic regression analysis was an appropriate statistical method to analyze data on self-reported EI and motivation provided by the two survey tools and retention data provided by the nursing administrators.

The most significant findings supported the relationship of the secondary predictor variables, age, and retention at the end of the first nursing course and race/ethnic background and ADN School and retention at the end of the first nursing semester. The data analysis on several subscales of the MSLQ noted to be statistically significant during the first nursing course and first semester provided empirical support suggesting academic motivation is a variable related to nursing student retention. The data analysis on EI and retention was not statistically significant.

Chapter 4 displayed in aggregate the responses of 390 participants, the data analysis, and the findings of the study using descriptive and logistic regression analysis. The data analysis of the primary predictor variables, EI and motivation, the secondary variables, demographic characteristics, and the outcome variable, nursing student retention, were represented in a compilation of tables to provide an opportunity to examine the potential relationship between the variables. Chapter 5 will conclude the research study by presenting a discussion of the relevance of the relationship between EI, motivation, demographic variables, and retention among first-year undergraduate nursing students. The chapter begins with a brief restatement of the problem statement, purpose, methodology, and research questions. The chapter continues with a summary of the findings, conclusions, a discussion of the implications and recommendations for administrators in health care and nursing education, and suggestions for further research.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

The results of the current research study may offer leaders in health care and nursing education a rich source of information to understand the relationship between noncognitive variables, demographic characteristics, and nursing student retention. Gaining an understanding of the relationship between emotional intelligence (EI), motivation, demographic characteristics, and retention among nursing students may provide leaders in health care and nursing education worthwhile knowledge to strengthen retention strategies and thereby address the critical nursing shortage. The phenomenon of an increase in the supply of fully trained RN graduates who are self-motivated and prepared for the emotional demands of the nursing profession may allow healthcare administrators the opportunity to retain nursing graduates and address the critical need for more RNs (Gooch, 2006; Stuttard, 2007).

The organization of Chapter 5 begins with a brief summary of the current research problem, the purpose of the study, and methodology. The chapter restates the research questions guiding the current research study. Chapter 5 proffers a reflection regarding the significant findings from the hypotheses testing, implications of the results, and probable alternative explanations for the results. A juxtaposition of the implications of the results with previous research in the literature is provided. Recommendations for healthcare leaders and nursing education administrators in the realm of retention of nursing students and graduates and suggestions for further research endeavors to improve nursing student retention and nursing practice are proposed.

The current research problem spawned from literature indicating students accepted into nursing programs are likely to experience increased challenges adjusting to

a rigorous nursing curriculum, which may influence the decision of students to persist, fail, drop out, or withdraw from the nursing program (Alden, 2008; Bowden, 2008). In the U.S., 20% of nursing students decide to drop out of nursing programs (ICNR, n. d.; Kaufman, 2008; NLN, 2008). The national drop out percentage of nursing students is considered problematic, high attrition (Gilchrist & Rector, 2007; Hanna et al., 2005) and a significant issue associated with the critical nursing shortage (Jeffreys, 2007b). As a result, nurse educators must increase the likelihood of retention for each nursing student who takes one of the limited positions in a nursing program (Gilmore, 2008; Jenkins, 2006; Porter, 2008).

The purpose of the quantitative, descriptive non-experimental study was to determine what the relationship is between EI, motivation, demographic variables, and nursing student retention. The research also tested the NURS model by examining demographic variables and the academic motivation of nursing students (Jeffreys, 2004). The specific population targeted for study was undergraduate nursing students attending ADN programs in the Midwestern state of Illinois.

The primary research question and subquestions guiding the analysis of the current research study examined what is the relationship between EI, motivation, and retention among undergraduate students attending ADN programs in Illinois. The research subquestions examined the potential relationship between the predictor variables, EI and motivation, and retention at the end of the first nursing course and first semester. The secondary predictor variables, age, gender, race/ethnic background, ADN School, and readmission status, were examined with retention at the end of the first nursing course and first semester. In the quantitative, descriptive non-experimental study,

descriptive and logistic regression statistical techniques were conducted to analyze data collected on EI, motivation, demographics, and retention of students attending ADN nursing programs.

Summary of Findings

The substantial sample of nursing students attending the nine ADN schools of nursing who responded to the two surveys revealed the self-reported EI and academic motivation of the students. The regression analysis suggested the primary predictor variable, EI, was not predictive of retention at the end of the first nursing course or first semester. The independent samples t tests analysis suggested statistically significant differences between control of learning beliefs and test anxiety subscales of the motivation tool and nursing student retention at the end of the first nursing course. The independent samples t tests suggested statistically significant differences between extrinsic motivation, task value, time and study, and effort regulation MSLQ subscales and retention at the end of the first semester.

The hierarchal regression analysis suggested age was the only predictive demographic variable with retention at the end of the first nursing course. The race/ethnic background of participants and ADN School attended were predictive of retention at the end of the first semester of the nursing program. Gender and a returning status to the nursing program were not predictive demographic variables with retention at the end of the first nursing course or at the end of the first semester.

Conclusions

The primary research question guiding the current research study examined the potential relationship between two noncognitive variables, EI and motivation, and

nursing student retention. Two hypotheses tested the potential relationship between the primary predictor variables, EI and motivation, and nursing student retention. Two hypotheses tested the potential relationship between secondary predictor variables, demographic characteristics, and nursing student retention.

Emotional Intelligence, Motivation, and Retention at End of First Nursing Course

As discussed in Chapter 4, the results for the first research subquestion addressing the potential relationship between EI, motivation, and retention at the end of the first nursing course, did not reject the null hypothesis. In the initial data analysis, the results suggested a statistically significant difference in the mean scores for control of learning beliefs and test anxiety subscales in the motivation scale and nursing student retention at the end of the first nursing course. The *retained* group of participants had higher mean scores as compared with the *not retained* group for the control of learning beliefs subscale. Higher mean scores were noted in the *not retained* group for test anxiety as compared with the *retained* group. The finding of higher mean scores among *retained* group for time and study in the learning strategies scale is worth noting.

The control of learning beliefs subscale reflects "students' beliefs that their efforts to learn will result in positive outcomes" (Pintrich et al., 1991, p. 12). The higher mean scores among the *retained* participants suggested students might believe personal efforts to study affected the learning outcomes (Pintrich et al., 1991). The students who perceived control over academic learning may exert more effort to study strategically and effectively (Pintrich et al., 1991).

The test anxiety subscale reflects an affective component of student motivation associated with academic performance (Pintrich et al., 1991). The higher mean scores

suggest the *not retained* students may have experienced increased worry, anxiety, and negative thoughts over taking exams. The resulting emotions experienced by students may disrupt academic performance (Pintrich et al., 1991).

The time and study subscale refers to the ability of students to manage and regulate the time to study and the study environment (Pintrich et al., 1991). The higher mean scores among the *retained* participants suggest the students were able to schedule, plan, and manage study time in an environment conducive to learning (Pintrich et al., 1991). A study environment conducive to learning should be "organized, quiet, and relatively free of visual and auditory distractions" (Pintrich et al., 1991, p. 25).

The data analysis regarding EI suggested no predictive relationship with retention and no statistically significant differences in the mean scores for all subscales of the AES with retention at the end of the first nursing course. In contrast to previous literature, EI subscales on the self-report EQ-i were predictive of academic success of traditional university students (Sparkman, 2008; Walker, 2006). In previous studies, the university students indicating higher mean scores persisted through four semesters of study. Differences in EI scores with retention might not be detected with data at the end of the first nursing course. Future research might explore the potential relationship between EI and retention at the end of the nursing program.

Emotional Intelligence, Motivation, and Retention at the End of the First Semester

The data analysis for the second research subquestion examining the potential relationship between EI, motivation, and retention at the end of the first semester did not reject the null hypothesis. The initial data analysis suggested a statistically significant difference in the mean scores for extrinsic motivation, task value, time and study, and

effort regulation subscales of the motivation scale and retention at the end of the first semester. The *retained* group of participants had higher mean scores as compared with the *not retained* group for the task value, time and study, and effort regulation subscales. Higher mean scores were noted in the *not retained* group for extrinsic motivation as compared with the *retained* group. The findings of higher mean scores among *retained* group for control of learning beliefs and higher mean scores for the *not retained* group for test anxiety, critical thinking, and peer learning are worth noting.

Extrinsic motivation refers to the degree to which the students perceive themselves to "be participating in a task for reasons such as grades, rewards, performance, evaluation by others, and competition" (Pintrich et al., 1991, p. 10). The nursing students who indicated higher scores on extrinsic goal orientation perceived learning is a "means to an end" (Pintrich et al, 1991, p. 10). The reasons for why the students participate in the class might be to focus on achieving good grades and receive approval from others (Duncan & McKeachie, 2005; Pintrich et al., 1991). In contrast, students who have higher intrinsic goal orientation show more interest in the coursework rather than achieving good grades or approval (Schunk, 2005). Recent literature noted high extrinsic goal orientation among a sample of nursing students, including the high achieving nursing students (Salamonson, Everett, Koch, Wilson, & Davidson, 2009).

Task value indicates the perceptions of students regarding the importance and value of the course material (Schunk, 2005). The higher mean scores for *retained* participants indicated high task value. The nursing students indicating higher task value believe learning and gaining an understanding of the coursework is important, relevant and useful (Pintrich et al., 1991; Schunk, 2005). A higher task value indicates the nursing

students had an interest in the content of the course and liked the subject matter of the course (Pintrich et al., 1991). Students who perceive high task value are more involved in learning (Pintrich et al., 1991).

Self-regulation includes the ability to manage and regulate the time to study and organize the study environment (Pintrich et al., 1991). The *retained* participants indicated higher mean scores in the management and self-regulation of study time and study environments. Self-regulated students are more likely to create study schedules, set realistic goals for learning, and attend class regularly (Schunk, 2005). Higher mean scores in the management and self-regulation of study time and study environment subscales reflect the *retained* students may effectively schedule, plan, and manage time for study (Pintrich et al., 1991).

Self-regulated learners are able to "control their effort and attention in the face of distractions and uninteresting tasks" (Pintrich et al., 1991, p. 27). The higher mean scores on effort regulation reported by the *retained* participants reflect the students are able to self-manage academic learning (Pintrich et al., 1991). Self-regulated students are committed to completing learning goals, despite distractions or difficulties (Pintrich et al., 1991). Self-regulated learners who have high effort regulation are more likely to continue use of learning strategies (Pintrich et al., 1991).

The data analysis regarding EI suggested no predictive relationship with retention and no statistically significant differences in the mean scores for the scale and all subscales of the AES with retention at the end of the first semester. In contrast to previous literature, EI was predictive of academic success and retention in university students (Parker, Hogan, Eastabrook, Oke, & Wood, 2006; Schutte & Malouff, 2002;

Sparkman, 2008; Walker, 2006). Grewal and Salovey (2005) wrote, "Individuals may not have a good idea of their own strengths and weaknesses, especially in the domain of emotions" (p. 336).

Discrepancies in the findings regarding EI may be due to differences in measurement models, sampling procedures, or inclusion criteria (Parker et al., 2006). Parker et al. (2006), Sparkman (2008), and Walker (2006) measured EI using the self-report EQ-i tool before or at the beginning of the first university course. Schutte and Malouff (2002) administered the AES prior to a transition course incorporating EI skills. Several researchers found EI scores were significantly higher in first-year university students who persisted through the first year as compared with those students who did not persist (Parker et al., 2006; Schutte & Malouff, 2002).

In previous studies, researchers noted differences in EI and academic success with data obtained in four semesters (Sparkman, 2008; Walker, 2006). Higher EI scores were predictive of academic success through four semesters or graduation (Sparkman, 2008; Walker, 2006). The potential relationship between EI and retention might not be detectable with data obtained at the end of the first semester. Future research might explore the potential relationship between EI and retention at the end of four semesters.

Secondary Predictors and Retention at End of the First Nursing Course

The third research subquestion tested the hypotheses examining the potential relationship between the five secondary predictor variables, age, gender, race/ethnic background, ADN School, and readmission status, and retention at the end of the first nursing course. Previous literature noted the selected secondary predictor variables as possibly influencing nursing student retention. The results of the data analysis of the

relationship between the secondary predictor variables and retention suggested age is a predictor of nursing student retention at the end of the first nursing course.

Age. As stated in Chapter 4, the findings suggested age was the only secondary predictor of retention at the end of the first nursing course. The statistically significant relationship between age and nursing student retention was consistent with prior research noted by Jeffreys (2007b). The data indicated the mean age of the participants ($n = 25$) who did not persist was 33.20, while the mean age of the participants ($n = 363$) who persisted was 29.34.

Previous literature suggested older nursing students were less likely to persist to completion of the nursing program as compared with younger nursing students (Jeffreys, 2007b). The statistically significant findings of the current research study provided empirical support for the NURS model of nursing student retention developed by Jeffreys (2004). The findings are meaningful as older nursing students may be more likely at risk for early departure from the nursing program during the first nursing course. Nursing administrators may need to consider the needs of older nursing students entering nursing education when designing curriculum (Buerhaus et al., 2009) and retention strategies.

Gender. Findings from the current research study suggested gender was not associated with nursing student retention in the sample population. The majority (88.7%) of nursing student participants were female. The higher response rate of female nursing student participants was consistent with the literature in light of the fewer numbers of men than females in nursing (Buerhaus et al., 2009; Jeffreys, 2004). Only 11.3% ($n = 44$) of the participants were male. A higher percent of *retained* (88.2%) and *not retained* (11.8%) participants in the current research study were female.

The findings did not suggest a statistically significant difference between genders and nursing student retention. More female participants were in the *not retained* group at the end of the first nursing course. Only one male participant did not persist to the end of the first nursing course. Jeffreys (2007b) previously noted more female nursing students were more likely to drop out of a nursing program than male nursing students were.

Race/ethnic background. The findings of race/ethnic background and nursing student retention at the end of the first nursing course were in contrast to previous research. In the current research study, a higher number of *retained* and *not retained* participants were White. Minority-nursing students were less successful than White nursing students were in other studies (Gardner, 2005a, 2005b; Jeffreys, 2007b; Salamonson & Andrew, 2006; Stickney, 2008). The findings of the current research study should be considered in the context of a predominantly White sample of participants ($n =$ 296) as compared with non-White participants ($n = 94$) in the current research study.

ADN School. The findings of ADN School and nursing student retention suggested the institutional environment in nursing education did not influence the decision of nursing students to persist at the end of the first nursing course. The Pearson chi-square analysis on grouping ADN schools by number of students admitted suggested differences in expected percentages of *retained* and *not retained* students. The three ADN schools admitting 30 to 50 students last fall had almost equal percentages of *retained* (28.2%) and *not retained* students (26.9%). In the 51 to 79 group, a higher percentage of students were in the *retained* group (35.1%) as compared with the *not retained* group (23.1%). The three ADN schools admitting 80 or more students had a lower percentage

of *retained* students (36.7%) than expected when compared with the *not retained* students (50%).

As described in the literature in Chapter 2, ADN programs attract the majority of people who enter nursing education as compared with BSN and diploma programs (Buerhaus et al., 2009). In the context of a critical nursing shortage, nursing administrators face the demand for increasing the number of RN graduates to meet public health care demands (Hopkins, 2008). The differences in expected retention percentages among the ADN schools suggest a further area of exploration.

Readmission status. The finding supporting the null hypothesis regarding readmission status and retention was not surprising. In the current research study, only one of the *returning* students did not persist at the end of the first nursing course. The finding should be viewed in context of the small number ($n = 11$) of *returning* students in the sample population. Previous research suggested nursing students who fail, drop out, or withdraw from the nursing program and who later return are at risk for attrition (Jeffreys, 2004).

Secondary Predictors and Retention at End of the First Semester

The fourth research subquestion examined the potential relationship between five secondary predictor variables, age, gender, race/ethnic background, ADN School, and readmission status, and retention at the end of the first semester. Previous literature noted the secondary predictor variables as influencing nursing student retention (Hopkins, 2008; Stickney, 2008; Sutherland et al., 2007; Wong et al., 2008). As stated in Chapter 4, the results of the data analysis of the secondary predictor variables and retention at the

end of the first semester suggested race/ethnic background and ADN School were predictive of nursing student retention in the sample population.

Age. In contrast to the current research study findings on retention at the end of the first nursing course, age was not a predictor of persistence at the end of the first semester in the nursing program. The mean age of the *not retained* participants ($n = 56$) was 29.70, while the mean age of the *retained* participants ($n = 332$) was 29.57. The results showing the mean ages of first-year nursing students reflected a similar trend noted in the research literature toward a later entry of individuals into nursing education and in the older age of nursing graduates entering the nursing workforce (Buerhaus et al., 2009). Further research might explore the effect of an older nursing student population on persistence to successful completion of the nursing program. Research conducted on the effect of age of nursing students on retention at the end of each semester of the nursing program might be able to detect differences between age and retention experienced later in the program.

Gender. Findings from the current research study suggested gender was not associated with nursing student retention at the end of the first semester in the sample population. The higher response rate of female nursing student participants was consistent with the literature given the significantly lower numbers of men than females entering the RN nursing workforce (Buerhaus et al., 2009). In 2006, national survey data estimated only eight percent of the RN workforce to be men (Buerhaus et al., 2009). The current research finding regarding a lower number of male participants was consistent with previous literature noting men remain to be an underrepresented group entering the RN workforce (Buerhaus et al., 2009). Further research might employ the participation of

an equal sample of male and female nursing students to examine the relationship of gender and nursing student retention and potential barriers experienced by male nursing students entering nursing programs.

Only 11.3% ($n = 44$) of the participants were male at the beginning of the current study. Of the initial 44 participants, 37 were in the *retained* group and seven were in the *not retained* group at the end of the first semester. A higher percent of the *retained* (88.9%) and *not retained* (87.7%) participants in the current research study were female. Even though the findings did not suggest a statistically significant difference between gender and nursing student retention, more female participants ($n = 50$) did not persist at the end of the first semester. The findings are consistent with previous research noting more female nursing students than male nursing students were likely to drop out of a nursing program (Jeffreys, 2007b).

Race/ethnic background. The statistically significant findings of race/ethnic background and nursing student retention at the end of the first semester were consistent with previous research. In the current research study, a higher percent of the *retained* (79%) participants were White. The findings are consistent with the current literature indicating the majority of nursing students in the U.S. are White (Buerhaus et al., 2009). The findings of the current research study should be considered in the context of a predominantly White sample population of participants ($n = 296$) as compared with non-White participants ($n = 94$).

Previous literature noted minority-nursing students experience higher attrition rates (Jeffreys, 2004). In the current research study, 42.1% of the *not retained* students ($n = 24$) were minority-nursing students. Percentages within the minority groups showed a

higher percent (8.1%) of the Hispanic/Native Americans was retained as compared with the other minority groups. Minority-nursing students were less successful than White nursing students were in other studies (Gardner, 2005a, 2005b; Jeffreys, 2007b; Salamonson & Andrew, 2006; Stickney, 2008). The findings suggest minority-nursing students may experience barriers to persistence during the first semester of the nursing program.

ADN School. The statistically significant findings of ADN School and nursing student retention suggested the institutional environment of the nursing schools might influence the decision of nursing students to persist through the end of the first semester. The Pearson chi-square analysis revealed differences in expected percentages of *retained* students among the ADN schools. The three ADN schools admitting 30 to 50 students last fall had equal percentages of *retained* and *not retained* students (28.1%). In the 51 to 79 group, a lower percentage of students were in the *retained* group (31.7%) as compared with the *not retained* group (49.1%). The three ADN schools admitting 80 or more students had a higher percentage of *retained* students (40.2%) than expected when compared with the *not retained* students (22.8%).

As described in the literature review in Chapter 2, the environment or climate of each participating institution may differ and influence the perceptions of nursing students to persist (Bell-Scriber, 2008; Jeffreys, 2007a). Previous assumptions noted in the literature were the climate of a school and classroom might influence teacher and student interactions (Schunk et al., 2008). Wong et al. (2008) wrote, "Some of the variation in student perceptions can be explained by the specific institutional environments presented by each individual school variable" (p. 193). Previous literature noted the support

provided by nurse educators in the institutional environment might influence nursing student retention within a nursing school (Bell-Scriber, 2008; Jeffreys, 2007a; Shelton, 2003). The findings of the current research study suggest further inquiry could explore possible variables influencing retention within the ADN school environment.

Readmission status. The finding supporting the null hypothesis regarding readmission status and retention may be due to the small number of *returning* students. In the current research study, only two of the *returning* students did not persist at the end of the first semester. The finding should be viewed in context of the small number ($n = 11$) of *returning* students in the sample population. Jeffreys (2004) wrote nursing students who fail, drop out, or withdraw from the nursing program and who later return are at risk for attrition. Given the possible small number of returning students in ADN programs, further research might employ qualitative studies to gain an understanding of the unique experiences and perceptions of nursing students who reenter nursing programs.

Implications

The results of the data analysis supported a number of concepts from well-known retention theories discussed in the literature review. The retention concepts most relevant to the research study revealed in the data were the relationship between specific demographic characteristics of nursing students and aspects of motivation with nursing student retention. In contrast to previous research proposing EI to be a predictor of retention, the data suggested EI was not predictive of nursing student retention. The significant findings in the current study supported previous assumptions proposing a critical period in which nursing students experience barriers to persistence is during the first nursing course and the first semester (Jeffreys, 2007b; Rees, 2006; Wells, 2007).

As demonstrated in the responses of the nursing students, nursing students who persisted reflected specific behaviors in self-regulation and motivation. The findings suggested the *retained* nursing students demonstrated self-management and planning in study time and the study environment. Self-regulated students exhibit control of learning beliefs. Nursing students who are self-regulated learners demonstrate forethought in achieving academic success by setting goals (Schunk, 2005). The data suggested the nursing students who persisted expressed liking the course content and perceived the coursework to be important, relevant, and useful to academic learning.

In contrast to nursing students who persisted, the survey responses of nursing students who did not persist represented the students indicated extrinsic motivation and a higher test anxiety. Students who prefer extrinsic motivation focus on the extrinsic goal of getting good grades or receiving approval from others as the reason for learning. The data suggested the nursing students who did not persist to the end of the first nursing course experienced higher test anxiety.

The findings regarding EI and retention might warrant further investigation (Macnee & McCabe, 2008). The potential link between retention and EI is an emerging topic in research. In previous studies, university students who persisted reported higher EI scores (Parker et al., 2006; Schutte & Malouff, 2002; Sparkman, 2008; Walker, 2006) and were more able to cope and deal with stress (Montes-Berges & Augusto, 2007). The literature suggested nursing students who possess EI skills might be more likely to manage stress in a rigorous nursing program and consequently persist to completion (Bulmer Smith, Profetto-McGrath, & Cummings, 2009; Kingston, 2008). Bulmer Smith

et al. (2009) surmised, "EI needs to be explicit within nursing education as EI might impact the quality of student learning" (p. 1624).

Implications for leaders in health care and nursing education expressed by the results of the data analysis suggest age and race/ethnic background are important demographic characteristics related to nursing student retention. Based on the results of the current research study, older nursing students were more at risk for attrition than younger nursing students were during the first nursing course. Older nursing students may face issues related to children, a spouse, or parents, which present obstacles to persistence (Bean, 2005). The results of the current study suggested minority-nursing students were at risk for attrition in the first semester of the nursing program.

The data suggested the phenomenon of the experience of nursing student retention might relate to the ADN school environment. Previous literature suggested the influence of the learning environment with retention (Bell-Scriber, 2008; Jeffreys, 2007a; Shelton, 2003; Wong et al., 2008). The results of the current research study implied the learning environment in ADN schools might interact positively or negatively with retention.

The findings from the current research study provided empirical data to add to the body of knowledge regarding retention theories. A central theme among the retention theories described in Chapter 2 was the importance of congruence between the student and the institution (Starck et al., 2008), the interactions between the faculty and students (Jeffreys, 2004), and the support provided by the faculty (Shelton, 2003; Tinto, 1993) with student retention. The findings regarding the predictor variable, ADN School, with retention suggests further exploration into factors within the learning environment, which may influence persistence. Support for having knowledge of the personal characteristics

of students with retention (Jeffreys, 2004; Tinto, 1993) was evident in the findings regarding age and race/ethnic background. Aspects of academic motivation, including goal orientation, noted as statistically significant in the current research study supported the affective components of nursing student retention models (Jeffreys, 2004; Shelton, 2003).

<div align="center">Recommendations</div>

The recommendations for the current research study stem from the literature review and current research findings proposing diverse variables shape student retention. Many factors may lead to students leaving college, regardless of the age, gender, race, or ethnic background of students, or the environment of the institution (Bean, 2005). The statistically significant findings from the current research study suggest actions the administrators and nurse educators might undertake to augment nursing student retention (Bean, 2005). Leaders in nursing education might benefit from the findings in the current research study to identify nursing students at risk for attrition.

Recommendations for Leaders in Health Care

To enhance the success and retention of RN graduates entering the RN workforce, healthcare leaders might consider the inclusion of motivation and EI skills in professional development programs. Gooch (2006) contended EI skills will be important skill-sets to help RN graduates transition into nursing practice when graduates will need to cope with the pressures of the nursing profession. Healthcare leaders may benefit from RN graduates who possess EI and motivational skills (Baggett & Baggett, 2005; Davis, 2005; Palethorpe, 2006). Previous studies found an association between transformational leadership, EI, and motivation (Bishop, 2008; Bissessar, 2008). An abundance of

literature suggested positive organizational outcomes and employee retention are associated with emotionally intelligent nurse leaders and nurses (Akerjordet & Severinsson, 2008; Bulmer Smith et al., 2009; Carson et al., 2005; Humphreys et al., 2005; McCallin & Bamford, 2007; Quoidbach & Hansenne, 2009).

Nursing administrators might consider the demographic characteristics of participants from the current research study paralleled trends noted in the demographics of RNs in the labor force. The mean age of the *retained* RN students at the end of the first semester in the current study was 29.57. National trends in the U.S. reflect the percentage of RNs under the age of 30 in the RN workforce has gradually decreased (Buerhaus et al., 2009). Consequently, the age at which a RN graduate enters the workforce will affect the long-run supply of RNs to fill hospital RN vacancies and the number of hours available to work (Buerhaus et al., 2009). In light of the current and projected RN shortage, national data indicates the number of younger RNs entering the workforce is declining (Buerhaus et al., 2009).

The low percentages of minority groups and men in the current study mirrors trends noted with minority groups and men in the RN labor force (Buerhaus et al., 2009). According to a recent national survey, most hospital RNs were White and female (Buerhaus et al., 2009). Minority groups, specifically Hispanics, and men remain the underrepresented groups among the RN workforce (Buerhaus et al., 2009). Leaders in health care could evaluate current recruitment strategies to identify persistent barriers for men and minorities preventing the entry into nursing (Buerhaus et al., 2009). Providing opportunities for men and minorities to enter nursing may increase the long-run supply of RNs and address the critical nursing shortage (Buerhaus et al., 2009).

Recommendations for Leaders in Education

Leaders in health care have noted the importance of the influence of EI in the preparation and retention of RNs and in the improvement of patient care outcomes (Bulmer Smith et al., 2009; Reeves, 2005). The literature also underscored the value of the influence of EI in nursing education for the preparation of nursing students who must deal with the realities of a rigorous nursing program (Gooch, 2006; Stuttard, 2007). Based on the data obtained from the participants in the current research study, EI was not predictive of nursing student retention during the first nursing course or first semester. Recommendations for leaders in nursing education propose further inquiry into the potential influence of EI with nursing student retention before incorporating EI in admission and retention policies.

The motivation scores of nursing students who responded to the current survey suggested specific areas of student weaknesses and strengths. Academic motivation scales might be administered with admission assessments during orientation as nursing students enter the nursing program to identify at-risk nursing students. The inclusion of motivation in admission assessments early in the nursing program might identify areas of weaknesses to direct remediation and counselling efforts. Nurse educators who assess the motivation of students early in the nursing program might ensure nursing students receive the support and assistance to succeed (Jeffreys, 2004).

During the critical first year of the nursing program (Braten & Olaussen, 2007), nurse educators might assist students who have extrinsic motivation to improve the attachment of the student to the institution and increase retention (Bean, 2005). Nurse educators may assist students at risk for attrition to develop goals and effective coping

mechanisms and strategies to reduce stress (Bean, 2005) during the transition into a rigorous nursing curriculum. Interventions employed by nurse educators may enhance the learning strategies and test-taking skills of nursing students to reduce test anxiety experienced by students (Pintrich et al., 1991). Nurse educators may provide challenging activities in the classroom and clinical setting to raise intrinsic motivation (Schunk et al., 2008).

Leaders in nursing education might use the significant findings from the current research study to design or modify retention programs. Based on the data from the current research study older nursing students might be at risk for attrition during the first nursing course and minority-nursing students during the first semester. The mean age of RN participants during the first semester of the nursing programs in the current research study reflected national data indicating ADN programs attract older individuals (Buerhaus et al., 2009). Nursing leaders may need to consider the older age of nursing students entering nursing education when designing curriculum (Buerhaus et al., 2009) and retention strategies.

The lower percentages of men and minority groups in the current research study reflect an underrepresented group in nursing education and the RN workforce. Leaders in nursing education might consider augmenting efforts to attract more men and minorities into nursing. Attracting more men and minority groups into nursing and assisting the students to completion of the nursing program may help address the current and projected RN shortage (Buerhaus et al., 2009). Once men and minority groups enter nursing programs, leaders in nursing education need to develop and provide "culturally

congruent" advisement, guidance, and support strategies to increase retention and academic success (Jeffreys, 2007b, p. 416).

The findings regarding the interaction of ADN schools and retention implied the importance of the institutional environment. The literature delineated interactions between faculty and students to have a much greater effect on attitudes of students toward an institution than interactions with other employees at the institution (Bean, 2005). Providing opportunities for increased in-class support and interactions between nurse educators and nursing students might motivate nursing students to learn and persist in the nursing program (Bean, 2005; Jeffreys, 2004, 2007a; Schunk et al., 2008; Shelton, 2003). Developing smaller communities within large ADN schools might allow greater opportunities for building positive relations between nurse educators and nursing students and foster interactions among the students (Schunk et al., 2008). As a result, nurse educators might positively shape the attitudes of students to increase student commitment to the institution and increase the likelihood of retention (Bean, 2005).

<div align="center">Suggestions for Further Research</div>

The findings of the current research study suggested areas of further inquiry in nursing education, practice, and leadership. The statistically significant results of the single current research study should not be viewed as conclusive (Warner, 2008). Additional confounding variables unrecognized in the current research study might have influenced results with nursing student retention (Warner, 2008). The results of the study, which were not significant in the current study, are not conclusive evidence of supporting the null hypothesis (Warner, 2008). Replication of statistically significant outcomes

across new samples of nursing students may provide accumulated empirical evidence to support the current findings (Warner, 2008).

Because the construct EI is still in the infancy stage, further research is essential to the development and refinement of the construct and EI measures (Bar-On et al., 2007; Semadar et al., 2006). Academic motivation remains a critical variable in educational research warranting further investigation (Schunk et al., 2008). Few studies have examined the relationship between EI and motivation with nursing education, practice, and leadership (Carson et al., 2005; Grace, 2004; Jenkins, 2006; Mullen, 2007; Shanta, 2007). The significant findings of ADN School and retention suggested further areas of inquiry on the potential influence of the academic climate in nursing education with nursing student retention.

Future research might compare the current findings on the relationship between EI and retention with the inclusion of different measures of EI and a social-desirability response scale. Inquiry employing trait-based self-report tools with an ability-based performance EI tool might detect differences in retention based on different theoretical frameworks (Parker et al., 2006). Students may want to present a favorable image by selecting socially desirable responses in self-report measures (Salamonson et al., 2009). Because of the risk of participants supplying socially desirable responses with self-report measures, adding a social-desirability response bias scale to the regression model might generate a more useful understanding of the relationship between EI and nursing student retention (Warner, 2008).

The findings in the current research study may be limited by the sampling procedure and inclusion criteria. Parker et al. (2006) concluded discrepancies in the

research literature regarding EI, academic success, and retention were likely attributed to differing sampling procedures and inclusion criteria. Based on the previous research, obtaining a larger sample of nursing students might allow the opportunity to match participants equally by demographic characteristics and retention status (Parker et al., 2006). The data analysis might detect statistically significant differences in EI and retention by using matched groups of participants (Parker et al., 2006).

The sole examination of retention at the end of the first nursing course and first semester limited the findings in the current research study. Future data garnered through a cross-sectional and a longitudinal study might advance the understanding of the relationship between EI, motivation, and retention. Recent literature suggested differences in EI scores among undergraduate nursing students in each semester of a four-year BSN program (Benson, Ploeg, & Brown, 2010). Unique differences in potential predictor variables with retention might be detectable in data garnered as a nursing student progresses to the end of each semester and the end of the nursing program.

Further inquiry linking the theoretical concepts of EI and findings from previous research might be useful in designing a grounded theory of EI specific to nursing education, practice, and leadership. Qualitative research might explore the meaning and use of emotions in nursing education, practice, and leadership among nursing students, educators, and administrators. Themes identified in qualitative research might strengthen the "depth of understanding about the meaning" of EI and provide a clearer definition of EI for leaders in nursing education, practice, and leadership (Bulmer Smith et al., 2009, p. 1632). Benson et al. (2010) asserted, "It is only through further research that the influence of EI in nursing and nursing education can ultimately be ascertained" (p.53).

Because the current sample population was predominantly White, female nursing students, further inquiry might broaden the source of information regarding other undergraduate nursing students. Replicating the study in diverse samples of first-year undergraduate students attending ADN programs in other geographic areas of the U.S. might furnish a rich source of data regarding the body of knowledge comprising nursing student retention. Further inquiry into the relationship between EI, motivation, and retention among nursing students in other regions of the U.S. might augment the understanding of the effect of the variables on retention.

Summary

The quantitative, descriptive non-experimental study was a primary investigation to examine the potential link between EI, motivation, demographic characteristics, and nursing student retention. The theoretical framework proposed noncognitive factors and demographic characteristics of nursing students would affect nursing student retention. The literature implied a relationship between the predictive variables and the outcome variable, nursing student retention. According to 390 participants attending nine ADN schools in Illinois, a relationship exists between demographic characteristics, academic motivation, and nursing student retention at the end of the first nursing course and first semester. Self-reported EI was not predictive of nursing student retention in the current study.

The results of the data analysis provided in Chapter 4 accentuated the relevance of demographic characteristics, motivation, and nursing student retention. The findings supported previous retention theories and literature noting a relationship exists between demographic variables, motivation, and retention. The statistically significant findings

regarding ADN school and retention unfolds a unique predictor of nursing student retention requiring further exploration. The recommendations invite leaders in health care and nursing education to apply the results of the study to improve nursing student retention. Future inquiry might consider the suggestions on how to gain a further understanding of nursing student retention.

Conclusion

The results of the current study highlighted the importance of contemporary leaders in nursing education having knowledge of the preexisting characteristics and the academic motivation of nursing students during the most critical time for drop out in the nursing program. Contemporary leaders in nursing education will need to capture and acknowledge the preferences and perceptions of nursing students accepted into the nursing program. Knowledge of the preferences and perceptions of nursing students making the transition into the nursing program might be useful in directing recommendations for remediation regarding identified academic weaknesses and supplementing retention strategies for at-risk students. Supportive measures proffered by leaders in nursing education, which are sensitive to the unique needs of at-risk students, might encourage persistence to completion of the nursing program.

Central to the complex retention problem is the demand for highly sophisticated health care voiced by healthcare consumers, policymakers, and accrediting bodies across the nation. Contemporary healthcare leaders nationwide rely upon leaders in nursing education to retain and produce RN graduates capable of rendering quality patient care and achieving expected patient care outcomes. In an era of national and global nursing shortages, an aging nursing workforce, and a cohort of aging adults, efforts of

contemporary leaders in nursing education to retain nursing students will remain a pivotal issue in resolving the RN crisis and meeting the future demands for quality health care.

REFERENCES

Abraham, A. (2006). The need for the integration of emotional intelligence skills in business education. *Business Renaissance Quarterly*, *1*(3), 65-79. Retrieved October 27, 2007, from EBSCOhost database.

Akerjordet, K., & Severinsson, E. (2007). Emotional intelligence: A review of the literature with specific focus of empirical and epistemological perspectives. *Journal of Clinical Nursing*, *16*(8), 1405-1416. Retrieved October 14, 2008, from EBSCOhost database.

Akerjordet, K., & Severinsson, E. (2008). Emotionally intelligent nurse leadership: A literature review study. *Journal of Nursing Management*, *16*(5), 565-577. Retrieved January 14, 2010, from EBSCOhost database.

Alden, K. R. (2008). *Early academic success and program completion among baccalaureate nursing students.* Retrieved January 9, 2009, from www.lib.ncsu.edu/ETD-dlb

Allan, J. D., & Aldebron, J. (2008). A systematic assessment of strategies to address the nursing faculty shortage, U.S. *Nursing Outlook*, *56*(6), 286-297. Retrieved March 13, 2009, from ScienceDirect database.

Allen, L. (2008). The nursing shortage continues as faculty shortage grows. *Nursing Economic$*, *26*(1), 35-40. Retrieved June 13, 2008, from EBSCOhost database.

Al-Omiri, M. (2007). A preliminary study of electronic surveys as a means to enhance management accounting research. *Management Research*, *30*(7), 510-524. Retrieved June 16, 2008, from Emerald database.

Amaro, D. J., Abriam-Yago, K., & Yoder, M. (2006). Perceived barriers for ethnically

    diverse students in nursing programs. *Journal of Nursing Education*, *45*(7), 247-

    254. Retrieved July 28, 2007, from ProQuest database.

American Association of Colleges of Nursing. (2005). *Faculty shortages in*

    baccalaureate and graduate nursing programs: Scope of the problem and

    strategies for expanding the supply. Retrieved March 4, 2009, from

    http://www.aacn.nche.edu/Publications/05FacShortage.pdf

American Association of Colleges of Nursing. (2006). *Media-Press Release. Student*

    enrollment rises in U.S. nursing colleges and universities for the 6th consecutive

    year. Retrieved August 10, 2007, from http://www.aacn.nche.edu/06Survey.htm

American Association of Colleges of Nursing. (2007). *Nursing faculty shortage fact*

    sheet. Retrieved August 10, 2007, from http://www.aacn.nche.edu

American Association of Community College. (2008). *American Association of*

    Community College STATS. Retrieved March 11, 2009, from

    http://www2.aacc.nche.edu/research/home.htm

American College Testing. (2007). *National college dropout and graduation rates,*

    1997. ACT News Releases. Retrieved September 13, 2007, from

    http:file://F:\ACT%20News%20Release

American Hospital Association. (2007). *When I'm 64: How boomers will change health*

    care. Retrieved November 23, 2007, from http://www.aha.org/aha/research-and-

    trends/index.html

Anbu, J. (2008). Developing intelligent feelings. *Nursing Standard*, *22*(29), 52.

    Retrieved October 14, 2008, from EBSCOhost database.

Anderman, L. H., & Kaplan, A. (2008). The role of interpersonal relationships in student motivation: Introduction to the special issue. *The Journal of Experimental Education*, *76*(2), 115-119. Retrieved January 9, 2009, from ProQuest database.

Anonymous. (2005). Position statement: Transforming nursing education. *Nursing Education Perspectives*, *26*(3), 195-197. Retrieved February 24, 2007, from ProQuest database.

Anonymous. (2006). Executive summary from the Nursing Data Review, academic year 2004-2005, baccalaureate, associate degree, and diploma programs. *Nursing Education Perspectives*, *27*(5), 287-289. Retrieved March 2, 2007, from ProQuest database.

Archer, J. (1994). Achievement goals as a measure of motivation in university students. *Contemporary Educational Psychology, 19*, 430-446.

Archer, J., Cantwell, R., & Bourke, S. (1999). Coping at University: An examination of achievement, motivation, self-regulation, confidence, and method of entry. *Higher Education Research & Development*, *18*(1), 31-54. Retrieved October 23, 2007, from EBSCOhost database.

Ashkanasy, N. M., & Daus, C. S. (2005). Rumors of the death of emotional intelligence in organizational behavior are vastly exaggerated. *Journal of Organizational Behavior*, *26*(4), 441-452. Retrieved June 13, 2008, from ProQuest database.

Astin, A. W., & Oseguera, L. (2005). Pre-college and institutional influences on degree attainment. In A. Seidman (Ed.), *College student retention: Formula for success* (pp. 245-293). West Port, Connecticut: Praeger.

Auerbach, D. I., Buerhaus, P. I., & Staiger, D. O. (2007). Better late than never: Workforce supply implications of later entry into nursing. *Health Affairs*, *26*(1), 178-185. Retrieved March 5, 2009, from ProQuest database.

Baernholdt, M., & Lang, N. M. (2007). Government chief nursing officers' perceptions of barriers to using research on staffing. *International Nursing Review*, *54*(1), 49-55. Retrieved June 13, 2008, from EBSCOhost database.

Baggett, M. M., & Baggett, F. B. (2005). Executive exchange. Move from management to high-level leadership. *Nursing Management*, *36*(7), 12. Retrieved October 14, 2008, from EBSCOhost database.

Bailey, T. (2005). Student success: Challenges & opportunities. *Community College Journal*, *76*(1), 16-19. Retrieved August 2, 2007, from ProQuest database.

Bar-On, R. (2007). *The 5 meta-factors and 15 sub-factors of the Bar-On Model.* Retrieved October 11, 2007, from http://www.reuvenbaron.org/bar-on-model/essay.php?i=3

Bar-On, R., Maree, J. G., & Elias, M. J. (2007). *Educating people to be emotionally intelligent*. West Port, CT: Praeger.

Bastian, V. A., Burns, N. R., & Nettlebeck, T. (2005). Emotional intelligence predicts life skills, but not as well as personality and cognitive abilities. *Personality & Individual Differences*, *39*(6), 1135-1145. Retrieved January 9, 2009, from EBSCOhost database.

Baughan, J., & Smith, A. (2009). *Caring in nursing practice*. Harlow, England: Pearson Education Limited.

Bay, D., & McKeage, K. (2006). Emotional intelligence in undergraduate accounting

    students: Preliminary assessment. *Accounting Education: An International*

    Journal, *15*(4), 439-454. Retrieved February 7, 2009, from EBSCOhost

    database.

Bean, J. P. (2005). Nine themes of college student retention. In A. Seidman (Ed.),

    College student retention: Formula for student success. West Port, Connecticut:

    Praeger.

Bellack, J. P. (1999). Emotional intelligence: A missing ingredient? *Journal of Nursing*

    Education, *38*(1), 3-4. Retrieved July 23, 2007, from ProQuest database.

Bellack, J. P. (2005). Threatening our diversity. *Journal of Nursing Education*, *44*(5),

    199-200. Retrieved February 2, 2009, from ProQuest database.

Bellack, J. P., Morjikian, R., Barger, S., Strachota, E., Fitzmaurice, J., Lee, A., et al.

    (2001). Developing BSN leaders for the future: The Fuld Leadership Initiative

    for Nursing Education (LINE). *Journal of Professional Nursing, 17*(1), 23-32.

Bell-Scriber, M. J. (2008). Warming the nursing education climate for traditional-age

    learners who are male. *Nursing Education Perspectives*, *29*(3), 143-150.

    Retrieved June 14, 2009, from EBSCOhost database.

Benson, G., Ploeg, J., & Brown, B. (2010). A cross-sectional study of emotional

    intelligence in baccalaureate nursing students. *Nurse Education Today*, *30*(1),

    49-53. Retrieved January 4, 2010, from ProQuest database.

Bergman, C. M. (2006). The outcomes of doctoral study in four professional fields.

    Dissertation Abstracts International, 67 (12), 194A. (UMI No. 3243397)

Birenbaum, M., & Rosenau, S. (2006). Assessment preference, learning orientations, and learning strategies of pre-service and in-service teachers. *Journal of Education for Teaching*, *32*(2), 213-225. Retrieved March 15, 2008, from EBSCOhost database.

Birks, Y. F., & Watt, I. S. (2007). Emotional intelligence and patient-centred care. *Journal of the Royal Society of Medicine*, *100*(8), 368-374. Retrieved February 16, 2009, from EBSCOhost database.

Bishop, J. P. (2008). Does leadership motivation predict the leadership component of emotional intelligence for college student leaders? *Dissertation Abstracts International, 69* (10), 146A. (UMI No. 3334997)

Bissessar, C. S. (2008). College students' emotional intelligence, extrinsic and intrinsic motivation as measurement of students' transformational leadership. *Dissertation Abstracts International, 69* (11), 190A. (UMI No. 3337533)

Black, G. L. (2008). A correlational analysis of servant leadership and school climate. *Dissertation Abstracts International, 69* (04), 214A. (UMI No. 3309254)

Blecher, L. (2006). Persistence toward bachelor degree completion of students in family and consumer sciences. *College Student Journal*, *40*(3), 469-484. Retrieved January 26, 2009, from ProQuest database.

Board of Nurse Examiners for the State of Texas. (2006). *Strategic plan for fiscal years 2007-11*. Retrieved November 23, 2007, from http://www.bne.state.tx.us

Bond, M. L., Gray, J. R., Baxley, S., Cason, C. L., & Denke, L. (2008). Voices of

    Hispanic students in baccalaureate nursing programs: Are we listening? *Nursing*

    Education Perspectives, *29*(3), 136-142. Retrieved June 13, 2009, from ProQuest

    database.

Bowden, J. (2008). Why do nursing students who consider leaving stay on their courses?

    Nurse Researcher, *15*(3), 45-58. Retrieved December 23, 2008, from

    EBSCOhost database.

Brackett, M. A., & Mayer, J. D. (2007). Convergent, discriminant, and incremental

    validity of competing measures of emotional intelligence. In P. Salovey, M. A.

    Brackett, & J. D. Mayer (Eds.), *Emotional intelligence: Key readings on the*

    Mayer and Salovey model (pp. 195-219). Port Chester, New York: Dude

    Publishing.

Bradshaw, F. B. (2008). Exploring the relationship between emotional intelligence and

    academic achievement in African American female college students.

    Dissertation Abstracts International, 69 (03), 266A. (UMI No. 3304794)

Braten, I., & Olaussen, B. S. (2007). The motivational development of Norwegian

    nursing students over the college years. *Learning in Health & Social Care*, *6*(1),

    27-43. Retrieved January 5, 2009, from EBSCOhost database.

Brearley, M. (2006). The emotionally intelligent school: Where leaders lead learning.

    Management in Education, *20*(4), 30-31. Retrieved June 13, 2008, from

    EBSCOhost database.

Brown, F. W., & Moshavi, D. (2005). Transformational leadership and emotional intelligence: A potential pathway for an increased understanding of interpersonal influence. *Journal of Organizational Behavior*, *26*(7), 867-871. Retrieved September 5, 2008, from ProQuest database.

Brown, R. F., & Schutte, N. S. (2006). Direct and indirect relationships between emotional intelligence and subjective fatigue in university students. *Journal of Psychosomatic Research, 6*(6), 585-593.

Buchan, J. (2006). Evidence of nursing shortages or a shortage of evidence? *Journal of Advanced Nursing*, *56*(5), 457-458. Retrieved June 13, 2008, from EBSCOhost database.

Buerhaus, P. I., Donelan, K., Norman, L., & Dittus, R. (2005). Nursing students' perceptions of a career in nursing and impact of a national campaign designed to attract people into the nursing profession. *Journal of Professional Nursing*, *21*(2), 75-83. Retrieved March 11, 2009, from ScienceDirect database.

Buerhaus, P. I., Donelan, K., Ulrich, B. T., DesRoches, C., & Dittus, R. (2007). Trends in the experiences of hospital-employed registered nurses: Results from three national surveys. *Nursing Economic$, 25*(2), 69-80. Retrieved October 16, 2008, from EBSCOhost database.

Buerhaus, P. I., Donelan, K., Ulrich, B. T., Norman, L., & Dittus, R. (2005). Is the shortage of hospital registered nurses getting better or worse? Findings from two recent national surveys of RNs. *Nursing Economics*, *23*(2), 61-71. Retrieved March 2, 2007, from ProQuest database.

Buerhaus, P. I., Donelan, K., Ulrich, B. T., Norman, L., & Dittus, R. (2006). State of the registered nurse workforce in the United States. *Nursing Economics*, *24*(1), 6-12. Retrieved February 3, 2007, from ProQuest database.

Buerhaus, P. I., Donelan, K., Ulrich, B. T., Norman, L., DesRoches, C., & Dittus, R. (2007). Impact of the nurse shortage on hospital patient care: Comparative perspectives. *Health Affairs*, *26*(3), 853-862. Retrieved August 19, 2007, from EBSCOhost database.

Buerhaus, P. I., Donelan, K., Ulrich, B. T., Norman, L., Williams, M., & Dittus, R. (2005). Hospital RNs' and CNO 's perceptions of the impact of the nursing shortage on the quality of care. *Nursing Economic$*, *23*(5), 214-221. Retrieved March 5, 2009, from EBSCOhost database.

Buerhaus, P. I., Staiger, D. O., & Auerbach, D. I. (2009). *The future of the nursing workforce in the United States: Data, trends, and implications*. Sudbury, Massachusetts: Jones and Bartlett Publishers.

Bulmer Smith, K., Profetto-McGrath, J., & Cummings, G. G. (2009). Emotional intelligence and nursing: An integrative literature review. *International Journal of Nursing Studies*, *46*(12), 1624-1636. Retrieved January 4, 2010, from ScienceDirect database.

Burley, H., Butner, B., Causey-Bush, T., & Bush V, L. (2007). African American alumni feelings of attachment to a predominantly white research intensive university. *College Student Journal*, *41*(1), 203-216. Retrieved February 21, 2009, from ProQuest database.

Burns, N., & Grove, S. K. (2005). *The practice of nursing research: Conduct, critique, and utilization* (5th ed.). St. Louis, MO: Elsevier Saunders.

Cadman, C., & Brewer, J. (2001). Emotional intelligence: A vital prerequisite for recruitment in nursing. *Journal of Nursing Management*, *9*(6), 321-324. Retrieved June 20, 2008, from EBSCOhost database.

Campbell, A. R., & Dickson, C. J. (1996). Predicting student success: A 10-year review using integrative review and meta-analysis. *Journal of Professional Nursing, 12*(1), 47-59.

Canadian Nurses Association. (2007). *Moving towards a common measurement for nursing student attrition.* Retrieved March 13, 2009, from http://www.cna-aiic.ca

Carroll, C. A., & Garavalia, L. S. (2004). Factors contributing to the academic achievement of pharmacy students: Use of the goal-efficacy framework. *American Journal of Pharmaceutical Education*, *68*(4), 1-8. Retrieved March 15, 2008, from EBSCOhost database.

Carson, K. D., Carson, P. P., Fontenot, G., & Burdin, J. J. (2005). Structured interview questions for selecting productive, emotionally mature, and helpful employees. *Health Care Manager*, *24*(3), 209-215. Retrieved October 14, 2008, from EBSCOhost database.

Caruso, D. R., & Salovey, P. (2004). *The emotionally intelligent manager*. San Francisco, CA: Jossey-Bass.

Chabeli, M. M. (2006). Higher order thinking skills competencies required by outcomes-based education from learners. *Curationis*, *29*(3), 78-86. Retrieved October 14, 2008, from EBSCOhost database.

Chapman, B. P., & Hayslip, B. (2005). Incremental validity of a measure of emotional intelligence. *Journal of Personality Assessment*, *85*(2), 154-169. Retrieved June 13, 2008, from EBSCOhost database.

Charney, W., & Schirmer, J. (2007). Nursing injury rates and negative patient outcomes -- Connecting the dots. *AAOHN Journal*, *55*(11), 470-475. Retrieved June 13, 2008, from EBSCOhost database.

Chia, Y. M. (2005). Job offers of multi-national accounting firms: The effects of emotional intelligence, extra-curricular activities, and academic performance. *Accounting Education: An International Journal*, *14*(1), 75-93. Retrieved February 7, 2009, from EBSCOhost database.

Christie, A., Jordan, P., Troth, A., & Lawrence, S. (2007). Testing the links between emotional intelligence and motivation. *Journal of Management & Organization*, *13*(3), 212-226. Retrieved February 9, 2009, from ProQuest database.

Christmas, K., & Hart, K. A. (2007). Workforce shortages are a global issue. *Nursing Economics*, *25*(3), 175-177. Retrieved June 13, 2008, from EBSCOhost database.

Clark, P. A., Leddy, K., Drain, M., & Kaldenberg, D. (2007). State nursing shortages and patient satisfaction: More RNs-better patient experiences. *Journal of Nursing Care Quality*, *22*(2), 119-129. Retrieved October 16, 2008, from EBSCOhost database.

Codier, E. (2006). The emotional intelligence of clinical staff nurses. *Dissertation Abstracts International, 68* (02), 142B. (UMI No. 3251045)

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (Rev. ed.). New York, New York: Psychology Press.

Colalillo, G. (2007). Mentoring as a retention strategy in a diverse, multicultural, urban associate degree nursing program. *Teaching and Learning in Nursing, 2*(2), 28-33.

Community Colleges Survey of Student Engagement. (n.d.). *Community colleges survey of student engagement. 2006 findings, Executive Summary. Act on fact: Using data to improve student success.* Retrieved August 3, 2007, from http://www.ccsse.org/publications/resources.cfm

Conte, J. M. (2005). A review and critique of emotional intelligence measures. *Journal of Organizational Behavior*, *26*(4), 433-440. Retrieved June 16, 2008, from EBSCOhost database.

Cram, N. (2007). Where have all the nurses gone? *Journal of Clinical Engineering*, *32*(4), 162-167. Retrieved October 25, 2008, from Journals@Ovid database.

Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating research* (2nd ed.). Upper Saddle River, New Jersey: Pearson Prentice-Hall.

Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Upper Saddle River, NJ: Pearson Education.

Cutliffe, J. R., & Yarbrough, S. (2007). Globalization in nursing. Globalization, comodification, and mass transplant of nurses: Part 1. *British Journal of Nursing*, *16*(14), 876-880. Retrieved June 13, 2008, from EBSCOhost database.

Dahl, T. I., Bals, M., & Turi, A. L. (2005). Are students' beliefs about knowledge and learning associated with their reported use of learning strategies? *British Journal of Educational Psychology*, *75*(2), 257-273. Retrieved March 14, 2008, from EBSCOhost database.

Daus, C. S., & Ashkanasy, N. M. (2005). The case for the ability-based model of emotional intelligence in organizational behavior. *Journal of Organizational Behavior*, *26*(4), 453-466. Retrieved June 16, 2008, from EBSCOhost database.

Davis, C. (2005). Can you read the emotional radar? *Nursing Standard*, *20*(12), 26-27. Retrieved June 20, 2008, from EBSCOhost database.

Dekker, S., & Fischer, R. (2008). Cultural differences in academic motivation goals: A meta-analysis across 13 societies. *The Journal of Educational Research*, *102*(2), 99-110. Retrieved January 6, 2009, from ProQuest database.

DeLapp, T., Hautman, M. A., & Anderson, M. S. (2008). Recruitment and retention of Alaska Natives into nursing (RRANN). *Journal of Nursing Education*, *47*(7), 293-297. Retrieved June 13, 2009, from ProQuest database.

DeWitz, S. J., Woolsey, M. L., & Walsh, W. B. (2009). College student retention: An exploration of the relationship between self-efficacy beliefs and purpose in life among college students. *Journal of College Student Development*, *50*(1), 19-34. Retrieved March 12, 2009, from ProQuest database.

Dhiman, S. (2008). Enhancing business education: Bringing ethics and excellence to classroom. *Journal of Global Business Issues*, *2*(1), 7-11. Retrieved December 29, 2008, from ProQuest database.

Dienno, M. E. (2006). Patient safety and the nursing shortage: A national concern. *Plastic Surgical Nursing*, *26*(3), 113-115. Retrieved August 19, 2007, from EBSCOhost database.

Donelan, K., Buerhaus, P., DesRoches, C., Dittus, R., & Dutwin, D. (2008). Public perceptions of nursing careers: The influence of the media and nursing shortages. *Nursing Economics*, *26*(3), 143-165. Retrieved November 11, 2008, from ProQuest database.

Donley, S. R. (2005). Challenges for nursing in the 21st century. *Nursing Economic$*, *23*(6), 312-318. Retrieved October 18, 2008, from EBSCOhost database.

Duncan, T. G., & McKeachie, W. J. (2005). The making of the Motivated Strategies for Learning Questionnaire. *Educational Psychologist*, *40*(2), 117-128. Retrieved March 15, 2008, from EBSCOhost database.

Esmond-Kiger, C., Tucker, M. L., & Yost, C. A. (2006). Emotional intelligence: From the classroom to the workplace. *Management Accounting Quarterly*, *7*(2), 35-42. Retrieved October 27, 2007, from EBSCOhost database.

Evans, B. C. (2007). Student perceptions: The influence of a nursing workforce diversity grant on retention. *Journal of Nursing Education*, *46*(8), 354-359. Retrieved June 13, 2009, from ProQuest database.

Fike, D. S., & Fike, R. (2008). Predictors of first-year student retention in the community college. *Community College Review*, *36*(2), 68-88. Retrieved March 11, 2009, from ProQuest database.

Fradd, L. (2006). Global thinking. *Nursing Management*, *13*(8), 20-26. Retrieved June 13, 2008, from EBSCOhost database.

Freeman, T. M., Anderman, L. H., & Jensen, J. M. (2007). Sense of belonging in college freshmen at the classroom and campus level. *The Journal of Experimental Education*, *75*(3), 203-220. Retrieved March 25, 2009, from ProQuest database.

French, B. F., Immekus, J. C., & Oakes, W. C. (2005). An examination of indicators of engineering students' success and persistence. *Journal of Engineering Education*, *94*(4), 419-425. Retrieved January 8, 2009, from ProQuest database.

Freshwater, D. (2004). Emotional intelligence: Developing emotionally literate training in mental health. *Mental Health Practice*, *8*(4), 12-15. Retrieved February 16, 2009, from EBSCOhost database.

Freshwater, D., & Stickley, T. (2004). The heart of the art: Emotional intelligence in nurse education. *Nursing Inquiry*, *11*(2), 91-98. Retrieved June 20, 2008, from EBSCOhost database.

Fulcher, R. (2007). Nursing: Both the nation's health-care and nursing education systems are in crisis. *Community College Journal*, *77*(5), 38-42. Retrieved November 11, 2008, from ProQuest database.

Gardner, E. A. (2006). Instruction in mastery goal orientation: Developing problem solving and persistence for clinical settings. *Journal of Nursing Education*, *45*(9), 343-347. Retrieved January 5, 2009, from ProQuest database.

Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.

Gardner, J. (2005a). A successful minority retention project. *Journal of Nursing Education*, *44*(12), 566-568. Retrieved June 13, 2009, from ProQuest database.

Gardner, J. (2005b). Understanding factors influencing foreign-born students' success in nursing school: A case study of East Indian nursing students and recommendations. *Journal of Cultural Diversity*, *12*(1), 12-17. Retrieved June 14, 2009, from EBSCOhost database.

Geisler, B. A. (2007). Understanding nontraditional student persistence and attrition: A qualitative study. *Dissertation Abstracts International, 69* (01), 246A. (UMI No. 3298294)

Gignac, G. E., Palmer, B. R., Manocha, R., & Stough, C. (2005). An examination of the factor structure of the Schutte self-report emotional intelligence (SSREI) scale via confirmatory factor analysis. *Personality and Individual Differences, 39*(6), 1029-1042.

Gilchrist, K. L., & Rector, C. (2007). Can you keep them? Strategies to attract and retain nursing students from diverse populations: Best practices in nursing education. *Journal of Transcultural Nursing*, *18*(3), 277-285. Retrieved June 16, 2009, from Sagepub database.

Gilmore, M. (2008). Predictors of success in associate degree nursing programs. *Teaching and Learning in Nursing, 3*(4), 121-124.

Glazer, G., & Alexandre, C. (2008, November 14). Legislative: The nursing shortage: A public health issue for all. *The Online Journal of Issues in Nursing*. Retrieved March 4, 2009, from http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ ANAPeriodicals/OJIN/Columns/Legislative/NursingShortage/aspx

Goldenberg, I., Matheson, K., & Mantler, J. (2006). The assessment of emotional intelligence: A comparison of performance-based and self-report methodologies. *Journal of Personality Assessment*, *86*(1), 33-45. Retrieved June 13, 2008, from EBSCOhost database.

Goleman, D. (2006a). *Emotional intelligence: Why it can matter more than IQ. The 10th anniversary edition*. New York, New York: Bantam Books.

Goleman, D. (2006b). *Social intelligence: The new science of human relationships. Beyond IQ, beyond emotional intelligence*. New York, New York: Bantam Books.

Gooch, S. (2006). Emotionally smart. *Nursing Standard*, *20*(51), 20-22. Retrieved October 14, 2008, from EBSCOhost database.

Grace, F. R. (2004). The relationship between student satisfaction and emotional intelligence among undergraduate students enrolled in nursing programs. *Dissertation Abstracts International, 65* (10), 131A. (UMI No. 3151785)

Gray, B. (2009). The emotional labour of nursing - Defining and managing emotions in nursing work. *Nurse Education Today*, *29*(2), 168-175. Retrieved March 13, 2009, from ScienceDirect database.

Grewal, D., & Salovey, P. (2005). Feeling smart: The science of emotional intelligence. *American Scientist, 93*(4), 330-339.

Guiffrida, D. A. (2006). Toward a cultural advancement of Tinto's theory. *The Review of Higher Education*, *29*(4), 451-472. Retrieved February 21, 2009, from ProQuest database.

Gunther, M., Evans, G., Mefford, L., & Coe, T. R. (2007). The relationship between leadership styles and empathy among student nurses. *Nursing Outlook*, *55*(4), 196-201. Retrieved March 13, 2009, from ScienceDirect database.

Hagedorn, L. S. (2005). SQUARE pegs. *Change*, *37*(1), 22-29. Retrieved April 19, 2006, from EBSCOhost database.

Hand, M. W. (2006). Lived experiences of student learning in alternative Master of Science in Nursing programs. *Dissertation Abstracts International, 67* (07), 98B. (UMI No. 3224156)

Hanna, K., Herman, S., Morris, W., Nunn, D., Shennum, A., Shoo, P., et al. (2005). *The status of nursing education in the California community colleges.* Retrieved May 28, 2009, from http:www.asccc.org/Publications/Papers

Hastings, J. K., West, D. S., & Hong, S. H. (2005). Changes in pharmacy student motivation during progression through the curriculum. *American Journal of Pharmaceutical Education*, *69*(2), 251-255. Retrieved July 23, 2007, from ProQuest database.

Hayes, L. J. (2007). Recruitment strategies for baccalaureate nursing students in Ontario. *Journal of Nursing Education*, *46*(6), 261-268. Retrieved February 2, 2009, from ProQuest database.

Health Resources and Services Administration. (2004). *What is behind HRSA's projected supply, demand, and shortage of registered nurses?* Retrieved August 14, 2007, from http://bhpr.hrsa.gov/nursing/

Hermanowicz, J. C. (2007). Reasons and reasoning for leaving college among the academic elite: Case study findings and implication. *Journal of College Student Retention*, *8*(1), 21-37. Retrieved August 2, 2007, from ProQuest database.

Higgins, B. (2005). Strategies for lowering attrition rates and raising NCLEX-RN pass rates. *Journal of Nursing Education*, *44*(12), 541-547. Retrieved March 3, 2007, from ProQuest database.

Higginson, R. (2006). Fears, worries, and experiences of first-year pre-registration nursing students: A qualitative study. *Nurse Researcher*, *13*(3), 32-49. Retrieved July 18, 2007, from ProQuest database.

Holt, S. (2007). Emotional intelligence and academic achievement in higher education. *Dissertation Abstracts International, 68* (03), 155A. (UMI No. 3256101)

Hopkins, T. H. (2008). Early identification of at-risk nursing students: A student support model. *Journal of Nursing Education*, *47*(6), 254-259. Retrieved June 13, 2008, from EBSCOhost database.

Horton, C. D. (2006). Predictors of academic success for undergraduate nursing students and graduates. *Dissertation Abstracts International, 67* (12), 221A. (UMI No. 3245275)

Horton-Deutsch, S., & Sherwood, G. (2008). Reflection: An educational strategy to develop emotionally-competent nurse leaders. *Journal of Nursing Management*, *16*(8), 946-954. Retrieved February 28, 2009, from EBSCOhost database.

Humphreys, J., Brunsen, B., & Davis, D. (2005). Emotional structure and commitment: Implications for health care management. *Journal of Health Organization and Management*, *19*(2), 120-129. Retrieved October 25, 2008, from Journals@Ovid database.

Hunt, R. (2006). Developing emotional competence through service learning. *Annual Review of Nursing Education*, *4*, 251-273. Retrieved June 20, 2008, from EBSCOhost database.

Hunter, B., & Smith, P. (2007). Emotional labour: Just another buzz word? *International Journal of Nursing Studies*, *44*(6), 859-861. Retrieved March 13, 2009, from ScienceDirect database.

Huynh, T., Alderson, M., & Thompson, M. (2008). Emotional labour underlying caring: An evolutionary concept analysis. *Journal of Advanced Nursing, 64*(2), 195-208.

Illinois Coalition for Nursing Resources. (n.d.). *Nursing educational system capacity vs. demand.* Retrieved January 25, 2008, from http://www.ic4nr.org/nurseEduData-cfni.asp

Jacobson, D. L. (2005). The new core competence of the community college. *Change*, *37*(4), 52-61. Retrieved April 19, 2006, from EBSCOhost database.

Jaeger, A. J., & Eagan, M. K. (2007). Exploring the value of emotional intelligence: A means to improve academic performance. *NASPA Journal*, *44*(3), 512-537. Retrieved March 19, 2008, from EBSCOhost database.

Jeffreys, M. R. (1993). The relationship between self-efficacy and select academic and environmental variables on academic achievement and retention. *Dissertation Abstracts International, 54* (08), 188B. (UMI No. 9400570)

Jeffreys, M. R. (1998). Predicting nontraditional student retention and academic achievement. *Nurse Educator*, *23*(1), 42-48. Retrieved August 3, 2007, from Ovid database.

Jeffreys, M. R. (2004). *Nursing student retention: Understanding the process and making a difference*. New York: Springer Publishing Company.

Jeffreys, M. R. (2007a). Nontraditional students' perceptions of variables influencing retention: A multisite study. *Nurse Educator*, *32*(4), 161-167. Retrieved October 25, 2008, from Ovid database.

Jeffreys, M. R. (2007b). Tracking students through program entry, progression, graduation, and licensure: Assessing undergraduate nursing student retention and success. *Nurse Education Today*, *27*(5), 406-420. Retrieved January 6, 2009, from Gale database.

Jenkins, B. E. (2006). Emotional intelligence of faculty members, the learning environment, and empowerment of baccalaureate nursing students. *Dissertation Abstracts International, 67* (07), 165B. (UMI No. 3225156)

Jennings, B. M., Scalzi, C. C., Rodgers, J. D., & Keane, A. (2007). Differentiating nursing leadership and management competencies. *Nursing Outlook*, *55*(4), 169-175. Retrieved March 13, 2009, from ScienceDirect database.

Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Jones, D., Caton, B., DeWitt, J., Stubbs, N., & Conner, E. (2007). Student-to-faculty ratios, teaching loads, and salaries in associate degree nursing programs in the central United States. *Teaching and Learning in Nursing, 2*(1), 17-21.

Justice, M., & Espinoza, S. (2007). Emotional intelligence and beginning teacher

   candidates. *Education*, *127*(4), 456-461. Retrieved December 29, 2008, from

   ProQuest database.

Kaisershot, H. A. (2006). Academic motivation, coping indicators, receptivity to student

   support services and the first-year university experience. *Dissertation Abstracts*

   International, 67 (11), 126A. (UMI No. 3241672)

Kane, R. L., Shamliyan, T., Mueller, C., Duval, S., & Wilt, T. J. (2007). *Nurse staffing*

   and quality of patient care. Agency for Healthcare Research and Quality

   evidence report/Technology assessment. Retrieved March 4, 2009, from

   http://www.ahrq.gov/downloads/pub/evidence/pdf/nursestaff.pdf

Kaufman, K. (2008). Headlines from the NLN. Executive summary from the Nursing

   Data Review, academic year 2005-2006, baccalaureate, associate degree, and

   diploma programs. *Nursing Education Perspectives*, *29*(3), 182-184. Retrieved

   October 17, 2008, from EBSCOhost database.

Keogh, B., & O'Lynn, C. (2007). Male nurses' experiences of gender barriers: Irish and

   American perspectives. *Nurse Educator*, *32*(6), 256-259. Retrieved June 16,

   2009, from OvidSP database.

Kerfoot, k. (2006). Authentic leadership. *Nursing Economics*, *24*(2), 116-117. Retrieved

   June 13, 2008, from ProQuest database.

Kerfoot, K. M. (2008). Hospitality and service: leading real change. *Nursing*

   Economic$, *26*(3), 191-194. Retrieved January 17, 2008, from EBSCOhost

   database.

Kingston, E. (2008). Emotional competence and drop-out rates in higher education. *Education & Training*, *50*(2), 128-139. Retrieved February 8, 2009, from ProQuest database.

Klomegah, R. Y. (2007). Predictors of academic performance of university students: An application of the goal efficacy model. *College Student Journal*, *41*(2), 407-415. Retrieved March 15, 2008, from EBSCOhost database.

Kooker, B. M., Shoultz, J., & Codier, E. E. (2007). Identifying emotional intelligence in professional nursing practice. *Journal of Professional Nursing*, *23*(1), 30-36. Retrieved February 27, 2009, from ScienceDirect database.

Kowalski, S. D., Dalley, K., & Weigand, T. (2006). When will faculty retire? Factors influencing retirement decisions of nurse educators. *Journal of Nursing Education*, *45*(9), 349-355. Retrieved October 23, 2008, from ProQuest database.

Landy, F. J. (2005). Some historical and scientific issues related to research on emotional intelligence. *Journal of Organizational Behavior*, *26*(4), 411-424. Retrieved June 16, 2008, from EBSCOhost database.

Lankisch, K. M. (2007). The first-generation student in a two-year open access college: Improving emotional intelligence and retention using the Freeze-FrameRTM technique. *Dissertation Abstracts International, 68* (04), 177A. (UMI No. 3262895)

Larossa, R. (2005). Grounded theory methods and qualitative family research. *Journal of Marriage & Family*, *67*(4), 837-857. Retrieved March 18, 2008, from EBSCOhost database.

Larson, L. (2006). Who will teach the nurses we need? *Trustee*, *59*(10), 8-12. Retrieved

February 21, 2007, from EBSCOhost database.

Laschinger, H. K., & Leiter, M. P. (2006). The impact of nursing work environments on

patient safety outcomes. *Journal of Nursing Administration*, *36*(5), 259-267.

Retrieved January 7, 2009, from OvidSP database.

Lavender, M. M. (2005). A comparison of academic motivation of academically

prepared and academically unprepared community college students. *Dissertation

Abstracts International, 66* (11), 95A. (UMI No. 3198233)

Leedy, P. D., & Ormrod, J. E. (2005). *Practical research: Planning and design* (8th

ed.). Upper Saddle River, NJ: Pearson Education.

Letvak, S., & Buck, R. (2008). Factors influencing work productivity and intent to stay

in nursing. *Nursing Economic$*, *26*(3), 159-165. Retrieved October 16, 2008,

from EBSCOhost database.

Lewis, C. A. (2006). Academic motivation among college students. *Dissertation

Abstracts International, 67* (12), 194A. (UMI No. 3244135)

Linnenbrink, E. A., & Pintrich, P. R. (2002). Motivation as an enabler for academic

success. *School Psychology Review*, *31*(3), 313-327. Retrieved March 15, 2008,

from ProQuest database.

Liu, S., Gomez, J., Khan, B., & Yen, C. (2007). Toward a learner-oriented community

college online course dropout framework. *International Journal on E-Learning*,

6(4), 519-542. Retrieved March 13, 2009, from EBSCOhost database.

Livsey, K. R., Campbell, D., & Green, A. (2007). Yesterday, today, and tomorrow: Challenges in securing federal support for graduate nursing education. *Journal of Nursing Education*, *46*(4), 176-183. Retrieved October 16, 2008, from EBSCOhost database.

Longwell-Grice, R., & Longwell-Grice, H. (2008). Testing Tinto: How do retention theories work for first-generation, working-class students? *Journal of College Student Retention*, *9*(4), 407-420. Retrieved January 7, 2009, from ProQuest database.

Lust, E., & Moore, F. C. (2006). Emotional intelligence instruction in a pharmacy communications course. *American Journal of Pharmaceutical Education*, *70*(1), 1-8. Retrieved December 29, 2008, from ProQuest database.

MacCann, C., Matthews, G., Zeidner, M., & Roberts, R. D. (2003). Psychological assessment of emotional intelligence: A review of self-report and performance-based testing. *International Journal of Organizational Analysis*, *11*(3), 247-274. Retrieved June 13, 2008, from EBSCOhost database.

Macnee, C. L., & McCabe, S. (2008). *Understanding nursing research: Reading and using research in evidence-based practice* (2nd ed.). Philadelphia: Lippincott Williams & Wilkins.

Macy, A., & Terry, N. (2008). Regional differences in the shortage of professional nurses. *International Advances in Economic Research*, *14*(2), 260-261. Retrieved June 13, 2008, from EBSCOhost database.

Madsen, F. B. (1986). Withdrawal of academically qualified students from nursing

education. *Dissertation Abstracts International, 47* (07), 147A. (UMI No.

8624606)

Manchester, A. (2007). Changing unhealthy work environments. *Kai Tiaki Nursing New

Zealand*, *13*(3), 15. Retrieved June 13, 2008, from EBSCOhost database.

Mann, S., & Cowburn, J. (2005). Emotional labour and stress within mental health

nursing. *Journal of Psychiatric and Mental Health Nursing*, *12*(2), 154-162.

Retrieved October 25, 2008, from EBSCOhost database.

Manthey, M. (2008). Peter Buerhaus talks about the nursing shortage. *Creative Nursing*,

14(1), 38-39. Retrieved June 13, 2008, from EBSCOhost database.

Matthews, G., Zeidner, M., & Roberts, R. D. (2004). *Emotional intelligence: Science

and myth*. Cambridge, Massachusetts: MIT Press.

Mayer, J. D., & Geher, G. (1996). Emotional intelligence and the identification of

emotion. *Intelligence*, *22*, 89-113. Retrieved August 3, 2007, from ProQuest

database.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2004). Emotional intelligence: Theory,

findings, and implications. *Psychological Inquiry, 15*(3), 197-215.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2008). Emotional intelligence: New ability

or eclectic traits? *American Psychologist*, *63*(6), 503-517. Retrieved October 23,

2008, from EBSCOhost database.

McCallin, A., & Bamford, A. (2007). Interdisciplinary teamwork: Is the influence of

emotional intelligence fully appreciated? *Journal of Nursing Management*,

15(4), 386-391. Retrieved October 14, 2008, from EBSCOhost database.

McCarey, M., Barr, T., & Rattray, J. (2007). Predictors of academic performance in a cohort of pre-registration nursing students. *Nurse Education Today*, *27*(4), 357-364. Retrieved June 16, 2009, from ScienceDirect database.

McClenney, K. M., & Waiwaiole, E. N. (2005). Focus on student retention: Promising practices in community colleges. *Community College Journal*, *75*(6). Retrieved November 10, 2007, from ProQuest database.

McCollum, D. L., & Kajs, L. T. (2007). Applying goal orientation theory in an exploration of student motivations in the domain of educational leadership. *Educational Research Quarterly*, *31*(1), 45-59. Retrieved May 17, 2008, from EBSCOhost database.

McEnrue, M. P., & Groves, K. (2006). Choosing among tests of emotional intelligence: What is the evidence? *Human Resource Development Quarterly*, *17*(1), 9-42. Retrieved June 13, 2008, from EBSCOhost database.

McGregor, A. (2007). Academic success, clinical failure: Struggling practices of a failing student. *Journal of Nursing Education*, *46*(11), 504-511. Retrieved October 23, 2008, from ProQuest database.

McLaughlin, B. N. (2008). Retention issues: What can we do? *Teaching and Learning in Nursing, 3*(2), 83-84.

McLaughlin, K., Moutray, M., & Muldoon, O. T. (2008). The role of personality and self-efficacy in the selection and retention of successful nursing students: A longitudinal study. *Journal of Advanced Nursing*, *61*(2), 211-221. Retrieved March 4, 2009, from EBSCOhost database.

Metropolitan Chicago Healthcare Council. (2005). *Caring for the future. A plan for meeting metropolitan Chicago's growing health care workforce needs.* Retrieved August 10, 2007, from http://www.mchc.org

Miedema, L. L. (2008). Impact of remediation on success of nursing students in a community college associate degree program. *Dissertation Abstracts International, 69* (06), 101A. (UMI No. 3311412)

Miller, J. E. (2006). Testing an ADN predictive model of student retention. *Dissertation Abstracts International, 67* (10), 66B. (UMI No. 3236530)

Montes-Berges, B., & Augusto, J. M. (2007). Exploring the relationship between perceived emotional intelligence, coping, social support and mental health in nursing students. *Journal of Psychiatric and Mental Health Nursing*, *14*, 163-171. Retrieved November 11, 2008, from EBSCOhost database.

Moore, J., Yin, L., Weaver, T., Lydell, P., & Logan, S. (2007). Preschool caregiver perceptions of the effect of gender on literacy skills. *Reading Improvement*, *44*(3), 132-148. Retrieved March 18, 2008, from EBSCOhost database.

Moore, R. (2007). Course performance, locus of control, and academic motivation among developmental education students. *Research & Teaching in Developmental Education*, *24*(1), 46-62. Retrieved March 15, 2008, from EBSCOhost database.

Morrison, J. B. (2005). The relationship between emotional intelligence competencies and preferred conflict-handling styles: A correlational analysis of selected registered nurses in southern Mississippi. *Dissertation Abstracts International, 66* (06), 148A. (UMI No. 3179350)

Moss, M. T. (2005). *The emotionally intelligent nurse leader*. San Francisco: John

Wiley & Sons.

Muis, K. R., Winne, P. H., & Jamieson-Noel, D. (2007). Using a multitrait-multimethod

analysis to examine conceptual similarities of three self-regulated learning

inventories. *British Journal of Educational Psychology*, *77*(1), 177-195.

Retrieved March 15, 2008, from EBSCOhost database.

Mullen, P. A. (2007). Use of self-regulating learning strategies by students in the second

and third trimesters of an accelerated second-degree baccalaureate nursing

program. *Journal of Nursing Education*, *46*(9), 406-412. Retrieved March 15,

2008, from EBSCOhost database.

Munro, B. H. (2005). *Statistical methods for health care research* (5th ed.).

Philadelphia: Lippincott Williams & Wilkins.

Murray, K. T., Merriman, C. S., & Adamson, C. (2008). Use of the HESI admission

assessment to predict student success. *Computers, Informatics, Nursing*, *26*(3),

61S-66S. Retrieved January 5, 2009, from EBSCOhost database.

Nakajima, M. A. (2008). What factors influence student persistence in the community

college setting? *Dissertation Abstracts International, 69* (09), 208A. (UMI No.

3325086)

National Center for Educational Statistics. (2008). *Special analysis 2008: Community

colleges.* Retrieved March 11, 2009, from

http://nces.ed.gov/programs/coe/2008/analysis/sa02a.asp

National Council of State Boards of Nursing. (2008). *The nursing and nursing faculty

shortage.* Retrieved March 5, 2008, from http://www.ncsbn.org/381.htm

National Council of State Boards of Nursing. (2009). *Nursing profession candidate projections: Delaware to Illinois.* Retrieved March 19, 2009, from http://www.ncsbn.org/NursingProgCandProjDEtoIL.pdf

National League for Nursing. (2008). *Nursing data review: Academic year 2005-2006.* New York, NY: National League for Nursing.

Newton, S. E., Smith, L. H., & Moore, G. (2007). Baccalaureate nursing program admission policies: Promoting success or failure? *Journal of Nursing Education, 46*(10), 439-444. Retrieved February 2, 2009, from ProQuest database.

Newton, S. E., Smith, L. H., Moore, G., & Magnan, M. (2007). Predicting early academic achievement in a baccalaureate nursing program. *Journal of Professional Nursing, 23*(3), 144-149. Retrieved February 27, 2009, from ScienceDirect database.

Nilsson, K. E., & Stomberg, M. I. (2008). Nursing students' motivation toward their studies - a survey study. *BMC Nursing, 7*(6), 1-7. Retrieved March 11, 2009, from EBSCOhost database.

Norman, L. D., Donelan, K., Buerhaus, P. I., Willis, G., Williams, M., Ulrich, B., et al. (2005). The older nurse in the workplace: Does age matter? *Nursing Economics, 23*(6), 282-289. Retrieved November 11, 2008, from ProQuest database.

Norman, L., Buerhaus, P. I., Donelan, K., McCloskey, B., & Dittus, R. (2005). Nursing students assess nursing education. *Journal of Professional Nursing, 21*(3), 150-158. Retrieved February 27, 2009, from ScienceDirect database.

Oncology Nursing Society. (2007). The impact of the national nursing shortage on

    quality cancer care. *Oncology Nursing Forum*, *34*(6), 1095-1096. Retrieved June

    13, 2008, from EBSCOhost database.

Palethorpe, M. (2006). Are you emotional but intelligent - or are you emotionally

    intelligent? *Engineering Management*, *16*(1), 11-13. Retrieved October 27, 2007,

    from EBSCOhost database.

Papes, K., & Lopez, R. (2007). Establishing a method for tracking persistence rates of

    nursing students: One school's experience. *Journal of Professional Nursing*,

    23(4), 241-246. Retrieved March 12, 2009, from ScienceDirect database.

Parker, J. D., Hogan, M. J., Eastabrook, J. M., Oke, A., & Wood, L. M. (2006).

    Emotional intelligence and student retention: Predicting the successful transition

    from high school to university. *Personality and Individual Differences*, *41*(7),

    1329-1336. Retrieved January 18, 2010, from ScienceDirect database.

Pascarelli, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade

    of research* (Rev. ed.). San Francisco, CA: John Wiley & Sons.

Perin, D. (2006). Academic progress of community college nursing aspirants: An

    institutional research profile. *Community College Journal of Research &*

    Practice, *30*(8), 657-670. Retrieved October 18, 2008, from EBSCOhost

    database.

Perrot, L. J., Deloney, L. A., Hastings, J. K., Savell, S., & Savidge, M. (2001).

    Measuring student motivation in health professions' colleges. *Advances in*

    Health Sciences Education: Theory and Practice, *6*(3), 193-203. Retrieved

    August 6, 2007, from EBSCOhost database.

Pintrich, P. (2004). A conceptual framework for assessing motivation and self-regulated

    learning in college students. *Educational Psychology Review*, *16*(4), 385-407.

    Retrieved April 10, 2008, from EBSCOhost database.

Pintrich, P. R. (2002). The role of metacognitive knowledge in learning, teaching, and

    assessing. *Theory into Practice*, *41*(4), 219-225. Retrieved March 15, 2008, from

    ProQuest database.

Pintrich, P. R., Smith, D. A., Garcia, T., & McKeachie, W. J. (1991). *A manual of the*

    use of the motivated strategies for learning questionnaire (MSLQ). (Tech Rep.

    No. Publication No. NCRIPTAL-91-B-004). Ann Arbor, MI: National Center for

    Research to Improve Post Secondary Teaching and Learning.

Piper, L. E. (2005). Passion in today's health care leaders. *The Health Care Manager*,

    24(1), 44-47. Retrieved September 5, 2008, from Ovid SP database.

Polit, D. F., & Beck, C. T. (2008). *Nursing Research: Generating and assessing*

    evidence for nursing practice (Rev. ed.). Philadelphia, PA: Lippincott Williams

    & Wilkins.

Porter, K. B. (2008). Current trends in student retention: A literature review. *Teaching*

    and Learning in Nursing, 3(1), 3-5.

Potter, G. R. (2005). The impact of an emotional intelligence intervention program on

    freshmen at a South Texas higher education institution. *Dissertation Abstracts*

    International, 67 (02), 139A. (UMI No. 3204096)

Power analysis and sample size software. (2008). Retrieved June 22, 2009, from

    http:www.ncss.com

Price, B. (2008). The intelligent workforce. *Nursing Management*, *15*(5), 28-33.

    Retrieved October 14, 2008, from EBSCOhost database.

Quible, Z. (2006). Analysis of the motivational orientation of and learning strategies

    used by students in a written business communication course. *Delta Pi Epsilon*

    Journal, *48*(3), 168-190. Retrieved March 15, 2008, from EBSCOhost database.

Quoidbach, J., & Hansenne, M. (2009). The impact of trait emotional intelligence on

    nursing team performance and cohesiveness. *Journal of Professional Nursing*,

    25(1), 23-29. Retrieved February 27, 2009, from ScienceDirect database.

Ramsburg, L. (2007). Strive for success: A successful retention program for associate of

    science in nursing students. *Teaching and Learning in Nursing, 2*(1), 12-16.

Reed, L. E. (2007). Determining the relationship between motivation and academic

    outcomes among students in the health professions. *Dissertation Abstracts*

    International, 68 (08), 98A. (UMI No. 3276459)

Rees, B. B. (2006). Can you have both retention and increased pass rates on the

    NCLEX-RN? *Teaching and Learning in Nursing, 1*(1), 18-21.

Reeves, A. (2005). Emotional intelligence: Recognizing and regulating emotions.

    AAOHN Journal, *53*(4), 1172-176. Retrieved September 6, 2008, from ProQuest

    database.

Roberts, R. D., Zeidner, M., & Matthews, G. (2001). Does emotional intelligence meet

    traditional standards for an intelligence? Some new data and conclusions.

    Emotion, 1(3), 196-231.

Robertson Jr., D. N., & Merriam, S. B. (2005). The self-directed learning process of

    older, rural adults. *Adult Education Quarterly*, *55*(4), 269-287. Retrieved March

    18, 2008, from EBSCOhost database.

Rochester, S., Kilstoff, K., & Scott, G. (2005). Learning from success: Improving

    undergraduate education through understanding the capabilities of successful

    nurse graduates. *Nurse Education Today*, *25*(3), 181-188. Retrieved March 13,

    2009, from ScienceDirect database.

Roman, L. (2008). Nursing shortage: Looking to the future. *RN*, *71*(3), 34-36. Retrieved

    June 13, 2008, from EBSCOhost database.

Romanelli, F., Cain, J., & Smith, K. M. (2006). Emotional intelligence as a predictor of

    academic and/or professional success. *American Journal of Pharmaceutical

    Education*, *70*(3), 1-10. Retrieved December 29, 2008, from ProQuest database.

Rosenberg, L., Perraud, S., & Willis, L. (2007). The value of admission interviews in

    selecting accelerated second-degree baccalaureate nursing students. *Journal of

    Nursing Education*, *46*(9), 413-416. Retrieved February 1, 2009, from ProQuest

    database.

Rudel, R. J. (2006). Nontraditional nursing students: The social influences on retention.

    Teaching and Learning in Nursing, 1(2), 47-54.

Saklofske, D. H., Austin, E. J., Galloway, J., & Davidson, K. (2007). Individual

    difference correlates of health-related behaviours: Preliminary evidence for links

    between emotional intelligence and coping. *Personality and Individual

    Differences, 42*(3), 491-502.

Salamonson, Y., & Andrew, S. (2006). Academic performance in nursing students: Influence of part-time employment, age, and ethnicity. *Journal of Advanced Nursing, 55*(3), 342-351. Retrieved June 16, 2009, from EBSCOhost database.

Salamonson, Y., Everett, B., Koch, J., Wilson, I., & Davidson, P. M. (2009). Learning strategies of first year nursing and medical students: A comparative study. *International Journal of Nursing Studies, 46*(12), 1541-1547. Retrieved January 11, 2010, from ScienceDirect database.

Salovey, P., & Mayer, J. D. (2007). Emotional intelligence. In P. Salovey, M. A. Brackett, & J. D. Mayer (Eds.), *Emotional intelligence: Key readings on the Mayer and Salovey model* (2nd., pp. 1-27). Port Chester, New York: Dude Publishing.

Salovey, P., Brackett, M. A., & Mayer, J. D. (2007). *Emotional intelligence: Key readings on the Mayer and Salovey Model*. Port Chester, New York: Dude Publishing.

Salvage, J. (2006). Workers of the world. *Nursing Standard, 21*(5), 18-19. Retrieved May 13, 2008, from EBSCOhost database.

Saver, C. (2006, October). Nursing today and beyond. *American Nurse Today*, 18-25.

Schunk, D. H. (2005). Self-regulated learning: The educational legacy of Paul R. Pintrich. *Educational Psychologist, 40*(2), 85-94. Retrieved March 15, 2008, from EBSCOhost database.

Schunk, D. H., Pintrich, P. R., & Meece, J. L. (2008). *Motivation in education: Theory, research, and application* (Rev. ed.). Upper Saddle River, New Jersey: Pearson Prentice-Hall.

Schutte, N. S., & Malouff, J. M. (2002). Incorporating emotional skills content in a college transition course enhances student retention. *Journal of The First-Year Experience, 14*(1), 7-21.

Schutte, N. S., Malouff, J. M., & Bhullar, N. (2009). The Assessing Emotions Scale. In C. Stough, D. H. Saklofske, & J. D. Parker (Eds.), *Assessing Emotional Intelligence: Theory, Research, and Application*. New York, New York: Springer Publishing Company.

Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., et al. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences, 25*, 167-177.

Scott, K. A. (2005). The new nurse executive: Thriving in the first 6 months. *Nurse Leader, 3*(4), 24-27.

Seago, J. A., & Spetz, J. (2005). California's minority majority and the white face of nursing. *Journal of Nursing Education*, *44*(12), 555-562. Retrieved March 14, 2009, from EBSCOhost database.

Seal, C. R., Boyatzis, R. E., & Bailey, J. R. (2006). Fostering emotional and social intelligence in organizations. *Organization Management Journal, 3*(3), 190-209.

Seifert, T. L. (2004). Understanding student motivation. *Educational Research*, *46*(2), 137-149. Retrieved November 9, 2007, from EBSCOhost database.

Semadar, A., Robins, G., & Ferris, G. R. (2006). Comparing the validity of multiple social effectiveness constructs in the prediction of managerial job performance. *Journal of Organizational Behavior*, *27*(4), 443-461. Retrieved March 19, 2008, from EBSCOhost database.

Shanta, L. L. (2007). A quasi-experimental study of the impact of nursing education on

    the development of emotional intelligence above the level acquired through

    general education. *Dissertation Abstracts International, 68* (03), 236A. (UMI

    No. 3257552)

Shelton, E. N. (2003). Faculty support and student retention. *Journal of Nursing*

    Education, *42*(2), 68-76. Retrieved March 3, 2007, from ProQuest database.

Sherrod, B., Sherrod, D., & Rasch, R. (2005). Men at work. *Nursing Management*,

    36(10), 46-51. Retrieved June 16, 2009, from EBSCOhost database.

Shirey, M. R. (2006). Authentic leaders creating healthy work environments for nursing

    practice. *American Journal of Critical Care*, *15*(3), 256-267. Retrieved June 13,

    2008, from ProQuest database.

Shirrell, D. (2008). Critical thinking as a predictor of success in an associate degree

    nursing program. *Teaching and Learning in Nursing*, *3*(4), 131-136. Retrieved

    March 13, 2009, from ScienceDirect database.

Sinatra, G. M. (2005). The 'warming trend' in conceptual change research: The legacy

    of Paul R. Pintrich. *Educational Psychologist*, *40*(2), 107-115. Retrieved March

    15, 2008, from EBSCOhost database.

Smith, K., Farmer, J. E., Walls, N., & Gilligan, A. (2008). Clinical evaluation: An

    essential tool in emotional competency development. *The International Journal*

    of Nursing, *15*(7), 297-305. Retrieved December 23, 2008, from EBSCOhost

    database.

Sparkman, L. A. (2008). Emotional intelligence as a non-traditional predictor of college

  student retention and graduation. *Dissertation Abstracts International, 69* (08),

  105A. (UMI No. 3326728)

Speights, P. S. (2008). A study of teacher encouragement and course persistence in a

  community college. *Dissertation Abstracts International, 69* (07), 154A. (UMI

  No. 3323560)

Spellman, N. (2007). Enrollment and retention barriers adult students encounter. *The*

  Community College Enterprise, *13*(1), 63-79. Retrieved July 26, 2007, from

  ProQuest database.

Stanton, M. W., & Rutherford, M. (2004). *Hospital nurse staffing and quality of care.*

  Retrieved November 23, 2007, from http://www.ahrq.gov

Starck, P. L., Love, K., & McPherson, R. (2008). Calculating graduation rates. *Journal*

  of Professional Nursing, *24*(4), 197-204. Retrieved March 13, 2009, from

  ScienceDirect database.

Stichler, J. F. (2006a). Emotional intelligence: A critical leadership quality for the nurse

  executive. *The Association of Women's Health, Obstetric and Neonatal Nurses*,

  10(5), 422-425. Retrieved January 7, 2009, from EBSCOhost database.

Stichler, J. F. (2006b). The nurse executive. Emotional intelligence: A critical leadership

  quality for the nurse executive. *AWHONN Lifelines*, *10*(5), 422-425. Retrieved

  October 14, 2008, from EBSCOhost database.

Stichler, J. F. (2007). Social intelligence: An essential trait of effective leaders. *Nursing*

  for Women's Health, *11*(2), 189-193. Retrieved June 13, 2008, from EBSCOhost

  database.

Stickney, M. C. (2008). Factors affecting practical nursing student attrition. *Journal of Nursing Education*, *47*(9), 422-425. Retrieved October 23, 2008, from ProQuest database.

Stott, A. (2007). Exploring factors affecting attrition of male students from an undergraduate nursing course: A qualitative study. *Nurse Education Today*, *27*(4), 325-332. Retrieved June 15, 2009, from ScienceDirect database.

Stuttard, P. (2007). Emotional maturity does not necessarily come automatically with increasing years. *Nursing Standard*, *22*(3), 68. Retrieved October 14, 2008, from EBSCOhost database.

Sutherland, J. A., Hamilton, M. J., & Goodman, N. (2007). Affirming at-risk minorities for success (ARMS): Retention, graduation, and success on the NCLEX-RN. *Journal of Nursing Education*, *46*(8), 347-353. Retrieved June 13, 2009, from ProQuest database.

Tanner, C. A. (2005). What are our priorities? Addressing the looming shortage of nursing faculty. *Journal of Nursing Education*, *44*(6), 247-248. Retrieved May 26, 2007, from ProQuest database.

Taylor, R. (2005). Creating a connection: Tackling student attrition through curriculum development. *Journal of Further and Higher Education*, *29*(4), 367-374. Retrieved October 17, 2008, from EBSCOhost database.

Tett, R. P., Fox, K. E., & Wang, A. (2005). Development and validation of a self-report measure of emotional intelligence as a multidimensional trait domain. *Personality and Social Psychology Bulletin*, *31*(7), 859-888. Retrieved January 9, 2009, from SAGE Journals Online database.

Thorndike, E. L. (1920). Intelligence and its uses. *Harper's Magazine, 140*, 227-235.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: The University of Chicago Press.

Tinto, V. (1997). Classrooms as communities. *The Journal of Higher Education*, *68*(6), 599-623. Retrieved August 10, 2007, from ProQuest database.

Tinto, V. (2007). Research and practice of student retention: What next? *Journal of College Student Retention*, *8*(1), 1-19. Retrieved June 20, 2009, from ProQuest database.

Tourangeau, A. E., Doran, D. M., McGillis Hall, L., O'Brien Pallas, L., Pringle, D., Tu, J. V., et al. (2007). Impact of hospital nursing care on 30-day mortality for acute medical patients. *Journal of Advanced Nursing*, *57*(1), 32-44. Retrieved March 5, 2009, from EBSCOhost database.

Trice, L. B., & Foster, P. H. (2008). Improving nursing school diversity through use of a group admission interview. *AORN Journal*, *87*(3), 522-532. Retrieved February 2, 2009, from ProQuest database.

Uyehara, J., Magnussen, L., Itano, J., & Zhang, S. (2007). Facilitating program and NCLEX-RN success in a generic BSN program. *Nursing Forum*, *42*(1), 31-38. Retrieved February 2, 2009, from ProQuest database.

Valencia-Go, G. (2005). Growth and access increase for nursing students: A retention and progression project. *Journal of Cultural Diversity*, *12*(1), 18-25. Retrieved June 13, 2009, from ProQuest database.

Van Rooy, D. L., Alonso, A., & Viswesvaran, C. (2005). Group differences in emotional intelligence scores: Theoretical and practical implications. *Personality and Individual Differences, 38*(3), 689-700.

Van Rooy, D. L., Viswesvaran, C., & Pluta, P. (2005). An evaluation of construct validity: What is this thing called emotional intelligence? *Human Performance*, *18*(4), 445-462. Retrieved June 12, 2008, from EBSCOhost database.

VanNoord, M. L. (2007). Identifying factors of motivation in adult learners returning to higher education in nursing. *Dissertation Abstracts International, 67* (11), 181A. (UMI No. 3241231)

Veenstra, C. P. (2009). A strategy for improving freshman college retention. *The Journal for Quality and Participation*, *31*(4), 19-23. Retrieved March 11, 2009, from ProQuest database.

Walker, M. E. (2006). Emotional intelligence and academic success in college. *Dissertation Abstracts International, 68* (06), 75A. (UMI No. 3268481)

Walrath, J. M., & Belcher, A. (2006). Can we thrive, despite the faculty shortage? *Nursing Management*, *37*(4), 81-84. Retrieved August 18, 2007, from EBSCOhost database.

Warner, R. M. (2008). *Applied statistics: From bivariate through multivariate techniques*. Thousand Oaks, California: Sage Publications.

Watson, R., Gardiner, E., Hogston, R., Stimpson, A., Wrate, R., Deary, I., et al. (2009). A longitudinal study of stress and psychological distress in nurses and nursing students. *Journal of Clinical Nursing*, *18*(2), 270-278. Retrieved March 11, 2009, from EBSCOhost database.

Wells, M. I. (2007). Dreams deferred but not deterred: A qualitative study on undergraduate nursing student attrition. *Journal of College Student Retention, 8*(4), 439-456.

Welsh, J. F., Petrosko, J., & Taylor, H. (2007). The school-to-college transition in the context of educational reform: Student retention and the state policy process. *Journal of College Student Retention*, *8*(3), 307-324. Retrieved March 11, 2009, from ProQuest database.

Wilson VanVoorhis, C. R., & Morgan, B. L. (2007). Understanding power and rules of thumb for determining sample sizes. *Tutorials in Quantitative Methods for Psychology*. Retrieved June 24, 2009, from http://www.tqmp.org/doc/vol3-2/p43-50.pdf

Wilson, S. C., & Carryer, J. (2008). Emotional competence and nursing education: A New Zealand study. *Nursing Praxis in New Zealand*, *24*(1), 36-47. Retrieved November 23, 2008, from EBSCOhost database.

Wilson, V. W., Andrews, M., & Leners, D. W. (2006). Mentoring as a strategy for retaining racial and ethnically diverse students in nursing programs. *The Journal of Multicultural Nursing & Health*, *12*(3), 17-23. Retrieved June 13, 2009, from ProQuest database.

Wing, J. F., Schutte, N. S., & Byrne, B. (2006). The effect of positive writing on emotional intelligence and life satisfaction. *Journal of Clinical Psychology*, *62*(10), 1291-1302. Retrieved February 18, 2008, from EBSCOhost database.

Wong, S. T., Seago, J. A., Keane, D., & Grumbach, K. (2008). College students' perceptions of their experiences: What do minority students think? *Journal of Nursing Education*, *47*(4), 190-195. Retrieved June 13, 2009, from ProQuest database.

Wu, J. (2006). Significant factors in college students' motivation and learning strategies in English courses in Taiwan. *Dissertation Abstracts International, 67* (10), 333A. (UMI No. 3238263)

Yoho, M. J. (2006). The predictive accuracy of HESI A2, MC, and E2 exams on successive HESI exam scores and NCLEX-RN outcomes in an associate degree nursing program. *Dissertation Abstracts International, 68* (01), 86B. (UMI No. 3247562)

Yoho, M. J., Timpanaro, P., & Fowler, C. (2006). Recruiting and retaining nursing faculty in a Texas community college system: A strategy focused on collaboration and support. *Teaching and Learning in Nursing, 1*(1), 4-9.

Yoho, M. J., Young, A., Adamson, C., & Britt, R. (2007). The predictive accuracy of Health Education Systems, Inc. examinations for associate degree nursing students. *Teaching and Learning in Nursing, 2*(3), 80-84.

Young-Ritchie, C., Laschinger, H. K., & Wong, C. (2007). The effects of emotionally intelligent leadership behaviour on emergency staff nurses' workplace empowerment and organizational commitment. *NENA Outlook*, *30*(2), 24. Retrieved October 14, 2008, from EBSCOhost database.

Yumusak, N., Sungur, S., & Cakiroglu, J. (2007). Turkish high school students' biology

achievement in relation to academic self-regulation. *Educational Research &*

Evaluation, *13*(1), 53-69. Retrieved March 15, 2008, from EBSCOhost database.

Zeidenberg, M. (2008). Community colleges under stress. *Issues in Science and*

Technology, *24*(4), 53-58. Retrieved March 11, 2009, from ProQuest database.

APPENDIX A: INVITATION TO PARTICIPATE IN THE STUDY

Dear Nursing Student,

I am a doctoral student at the University of Phoenix. I am seeking your assistance with a research study investigating nursing student retention in associate-degree nursing programs. The research study is part of the requirements for a Doctorate in Education, Curriculum and Instruction from the University of Phoenix. The title for the study is *Emotional Intelligence, Motivation, and Retention among Undergraduate Students Attending Associate-Degree Nursing Programs in Illinois*.

I would like to invite you to participate in the study. The possible benefit to you from participating in the research study is helping nurse educators gain an understanding of other factors which might improve nursing student retention. For the research study there are no potential risks to you.

The purpose of the research study is to gain an understanding of whether a relationship exists between emotional intelligence, motivation, and nursing student retention. You are asked to reflect on how you feel and would most likely respond to various situations. If you are willing to participate in the research project, your participation will involve completing the demographic sheet and the two research tools. You will be required to sign an *Informed Consent Form* prior to receiving the survey materials. In addition, I will need to receive information from the nursing department on whether you persist in the nursing program or withdraw at the end of the first nursing course and the first semester.

To participate in the research study, you must be 18 years of age or older and a

nursing student enrolled in a nursing course of the associate-degree nursing program. Your participation in the study is voluntary. You are free to withdraw from the study at any time. If you choose not to participate or to withdraw from the study at any time, you can do so without penalty. Participation or non-participation in the study will not affect your status in the associate-degree nursing program.

All participants will remain anonymous. Every possible effort will be taken to ensure your privacy and to guarantee the confidentiality of the information provided. Cumulative results of the research study may be published, but your name will not be used to identify your responses. The information you provide will be kept in a locked cabinet at the home of the researcher for three years. At the end of three years the information will be destroyed by shredding the records.

Please answer the survey tools as honestly as possibly. Remember there are no right or wrong answers. Please complete all the demographic questions. Total time to complete the demographic sheet and two questionnaires is 30 minutes. Each participant is invited to complete the enclosed card to be included in a drawing for one of two VISA gift cards worth $50.00. The winners will be drawn at the conclusion of the data collection period for the study.

Your information and responses are valuable to the success of the study. After completion of the dissertation, you will be provided a written summary of the findings by postal mail if requested. If you would like to receive the written summary, please write your name and address on the attached card. To ensure your responses will be kept anonymous, please return the postcard separately from the packet of survey tools.

If you have any questions concerning the research study, please contact me at

_____ (home phone) or at _____. My dissertation advisor is Dr.

_____ who may be reached at _____ if you have any concerns about the

research study.

Thank you for your participation and consideration.

Patricia Pence
Doctoral Student
University of Phoenix

APPENDIX B: INFORMED CONSENT FORM

The research study will investigate nursing student retention in associate-degree nursing programs. The study is part of the requirements for a Doctorate in Education, Curriculum and Instruction from the University of Phoenix. The title for the study is *Emotional Intelligence, Motivation, and Retention among Undergraduate Students Attending Associate-Degree Nursing Programs in Illinois.* There are no foreseeable risks for the participant in the study. The possible benefit to you from participating in the study is helping nurse educators gain an understanding of other factors related to nursing student retention. Please sign the statement below and return the form back to me. Thank you for your time, valuable information, and participation.

Statement of Consent to Participate in the Research Study

I have read the letter of invitation to participate in the study explaining the purpose of the research. I understand the potential risks and benefits from participation in the study and the measures to protect my privacy and confidentiality as explained in the letter of invitation. By signing the form I acknowledge I understand the nature of the study, the potential risks to me as a participant, and the means by which my identity will be kept confidential. By signing the form, I authorize the nursing department at

_____ to release to Patricia Pence information about whether I continued or withdrew from the nursing program at the end of the first class and semester. My signature on the form also indicates I am 18 years old or older and I give my permission to voluntarily serve as a participant in the study described.

Print Name: _____

Signature: _____   Date: _____

APPENDIX C: DEMOGRAPHIC SHEET

Please provide the following demographic information about yourself. Circle the

letter to indicate your answer or write in the answer on the blank line.

1. Name of school   _____

2. What is your age?   _____

3. Gender: A. Female   B. Male

4. Which of the following would describe you?

     A.   Hispanic or Latino
     B.   American Indian or Alaskan Native
     C.   Asian
     D.   Black or African American
     E.   Native Hawaiian or other Pacific Islander
     F.   White

5. Are you a returning student?

     A. No   B. Yes

APPENDIX D: ASSESSING EMOTIONS SCALE

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

There are no right or wrong answers. Please give the response that best describes you.

1 = strongly disagree
2 = somewhat disagree
3 = neither agree nor disagree
4 = somewhat agree
5 = strongly agree

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　　1 2 3 4 5
    similar obstacles and overcame them.

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　　1 2 3 4 5
    other people.

6. Some of the major events of my life have led me to re-evaluate　　1 2 3 4 5
    what is important and not important.

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　　1 2 3 4 5
    how to make it last.

13. I arrange events others enjoy. 1 2 3 4 5

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 tasks 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   1 2 3 4 5
of their voice.

33. It is difficult for me to understand why people feel the way   1 2 3 4 5
they do.

Note. From "Development and validation of a measure of emotional intelligence," by
Schutte et al., 1998, Personality and Individual Differences, 25, p. 172. Copyright
1998 by Elsevier Science Ltd.

APPENDIX E: MOTIVATED STRATEGIES FOR LEARNING QUESTIONNAIRE

Part A. Motivation

The following questions ask about your motivation for and attitudes about this class. **Remember there are no right or wrong answers; just answer as accurately as possible.** Use the scale below to answer the questions. If you think the statement is very true of you, circle 7; if a statement is not at all true of you, circle 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

1   2   3   4   5   6   7

not at all   very true
true of me   of me

1. In a class like this, I prefer course material   1 2 3 4 5 6 7
    that really challenges me so I can learn
    new things.

2. If I study in appropriate ways, then I   1 2 3 4 5 6 7
    will be able to learn the material in this
    course.

3. When I take a test I think about how   1 2 3 4 5 6 7
    poorly I am doing compared with other
    students.

4. I think I will be able to use what I learn   1 2 3 4 5 6 7
    in this course in other courses.

5. I believe I will receive an excellent grade   1 2 3 4 5 6 7
    in this class.

6. I'm certain I can understand the most   1 2 3 4 5 6 7
    difficult material presented in the
    readings for this course.

7. Getting a good grade in this class is the   1 2 3 4 5 6 7
    most satisfying thing for me right now.

	not at all true of me						very true of me

8. When I take a test I think about items on other parts of the test I can't answer.

1 2 3 4 5 6 7

9. It is my own fault if I don't learn the material in this course.

1 2 3 4 5 6 7

10. It is important for me to learn the course material in this class.

1 2 3 4 5 6 7

11. The most important thing for me right now is improving my overall grade point average, so my main concern in this class is getting a good grade.

1 2 3 4 5 6 7

12. I'm confident I can learn the basic concepts taught in this course.

1 2 3 4 5 6 7

13. If I can, I want to get better grades in this class than most of the other students.

1 2 3 4 5 6 7

14. When I take tests I think of the consequences of failing.

1 2 3 4 5 6 7

15. I'm confident I can understand the most complex material presented by the instructor in this course.

1 2 3 4 5 6 7

16. In a class like this, I prefer course material that arouses my curiosity, even if it is difficult to learn.

1 2 3 4 5 6 7

17. I am very interested in the content area of this course.

1 2 3 4 5 6 7

18. If I try hard enough, then I will understand the course material.

1 2 3 4 5 6 7

19. I have an uneasy, upset feeling when I take an exam.

1 2 3 4 5 6 7

	not at all true of me					very true of me	

20. I'm confident I can do an excellent job on the assignments and tests in this course.　　1 2 3 4 5 6 7

21. I expect to do well in this class.　　1 2 3 4 5 6 7

22. The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.　　1 2 3 4 5 6 7

23. I think the course material in this class is useful for me to learn.　　1 2 3 4 5 6 7

24. When I have the opportunity in this class, I choose course assignments that I can learn from even if they don't guarantee a good grade.　　1 2 3 4 5 6 7

25. If I don't understand the course material, it is because I didn't try hard enough.　　1 2 3 4 5 6 7

26. I like the subject matter of this course.　　1 2 3 4 5 6 7

27. Understanding the subject matter of this course is very important to me.　　1 2 3 4 5 6 7

28. I feel my heart beating fast when I take an exam.　　1 2 3 4 5 6 7

29. I'm certain I can master the skills being taught in this class.　　1 2 3 4 5 6 7

30. I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.　　1 2 3 4 5 6 7

31. Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.　　1 2 3 4 5 6 7

Part B. Learning Strategies

The following questions ask about your learning strategies and study skills for this class. **Again, there are no right or wrong answers. Answer the questions about how you study in this class as accurately as possible.** Use the same scale to answer the remaining questions. If you think the statement is very true of you, circle 7; if a statement is not at all true of you, circle 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

not at all   very true
true of me   of me

32. When I study the readings for this course, I outline the material to help me organize my thoughts.

1 2 3 4 5 6 7

33. During class time I often miss important points because I'm thinking of other things.

1 2 3 4 5 6 7

34. When studying for this course, I often try to explain the material to a classmate or friend.

1 2 3 4 5 6 7

35. I usually study in a place where I can concentrate on my course work.

1 2 3 4 5 6 7

36. When reading for this course, I make up questions to help focus my reading.

1 2 3 4 5 6 7

37. I often feel so lazy or bored when I study for this class that I quit before I finish what I planned to do.

1 2 3 4 5 6 7

38. I often find myself questioning things I hear or read in this course to decide if I find them convincing.

1 2 3 4 5 6 7

39. When I study for this class, I practice saying the material to myself over and over.

1 2 3 4 5 6 7

	not at all true of me	very true of me

40. Even if I have trouble learning the material in this class, I try to do the work on my own, without help from anyone. 1 2 3 4 5 6 7

41. When I become confused about something I'm reading for this class, I go back and try to figure it out. 1 2 3 4 5 6 7

42. When I study for this course, I go through the readings and my class notes and try to find the most important ideas. 1 2 3 4 5 6 7

43. I make good use of my study time for this course. 1 2 3 4 5 6 7

44. If course readings are difficult to understand, I change the way I read the material. 1 2 3 4 5 6 7

45. I try to work with other students from this class to complete the course assignments. 1 2 3 4 5 6 7

46. When studying for this course, I read my class notes and the course readings over and over again. 1 2 3 4 5 6 7

47. When a theory, interpretation, or conclusion is presented in class or in the readings, I try to decide if there is good supporting evidence. 1 2 3 4 5 6 7

48. I work hard to do well in this class even if I don't like what we are doing. 1 2 3 4 5 6 7

49. I make simple charts, diagrams, or tables to help me organize course material. 1 2 3 4 5 6 7

| | not at all
true of me | | | | | very true
of me |

50. When studying for this course, I often set aside time to discuss course material with a group of students from the class.

1 2 3 4 5 6 7

51. I treat the course material as a starting point and try to develop my own ideas about it.

1 2 3 4 5 6 7

52. I find it hard to stick to a study schedule.

1 2 3 4 5 6 7

53. When I study for this class, I pull together information from different sources, such as lectures, readings, and discussions.

1 2 3 4 5 6 7

54. Before I study new course material thoroughly, I often skim it to see how it is organized.

1 2 3 4 5 6 7

55. I ask myself questions to make sure I understand the material I have been studying in this class.

1 2 3 4 5 6 7

56. I try to change the way I study in order to fit the course requirements and the instructor's teaching style.

1 2 3 4 5 6 7

57. I often find that I have been reading for this class but don't know what it was all about.

1 2 3 4 5 6 7

58. I ask the instructor to clarify concepts I don't understand well.

1 2 3 4 5 6 7

59. I memorize key words to remind me of important concepts in this class.

1 2 3 4 5 6 7

60. When course work is difficult, I either give up or only study the easy parts.

1 2 3 4 5 6 7

	not at all true of me				very true of me		

61. I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying for this course.　　1 2 3 4 5 6 7

62. I try to relate ideas in this subject to those in other courses whenever possible.　　1 2 3 4 5 6 7

63. When I study for this course, I go over my class notes and make an outline of important concepts.　　1 2 3 4 5 6 7

64. When reading for this class, I try to relate the material to what I already know.　　1 2 3 4 5 6 7

65. I have a regular place set aside for studying.　　1 2 3 4 5 6 7

66. I try to play around with ideas of my own related to what I am learning in this course.　　1 2 3 4 5 6 7

67. When I study for this course, I write brief summaries of the main ideas from the readings and my class notes.　　1 2 3 4 5 6 7

68. When I can't understand the material in this course, I ask another student in this class for help.　　1 2 3 4 5 6 7

69. I try to understand the material in this class by making connections between the readings and the concepts from the lectures.　　1 2 3 4 5 6 7

70. I make sure that I keep up with the weekly readings and assignments for this course.　　1 2 3 4 5 6 7

71. Whenever I read or hear an assertion or conclusion in this class, I think about possible alternatives.　　1 2 3 4 5 6 7

	not at all true of me	very true of me

72. I make lists of important items for this course and memorize the lists.　　1 2 3 4 5 6 7

73. I attend this class regularly.　　1 2 3 4 5 6 7

74. Even when course materials are dull and uninteresting, I manage to keep working until I finish.　　1 2 3 4 5 6 7

75. I try to identify students in this class whom I can ask for help if necessary.　　1 2 3 4 5 6 7

76. When studying for this course I try to determine which concepts I don't understand well.　　1 2 3 4 5 6 7

77. I often find that I don't spend very much time on this course because of other activities.　　1 2 3 4 5 6 7

78. When I study for this class, I set goals for myself in order to direct my activities in each study period.　　1 2 3 4 5 6 7

79. If I get confused taking notes in class, I make sure I sort it out afterwards.　　1 2 3 4 5 6 7

80. I rarely find time to review my notes or readings before an exam.　　1 2 3 4 5 6 7

81. I try to apply ideas from course readings in other class activities such as lecture and discussion.　　1 2 3 4 5 6 7

APPENDIX F: PERMISSION TO USE ASSESSING EMOTIONS SCALE

UNIVERSITY OF PHOENIX

PERMISSION TO USE AN EXISTING SURVEY

Date

Mr. /Ms Patricia Peace

Thank you for your request for permission to use Assessing Emotions Scale in your research study. We are willing to allow you to reproduce the instrument as outlined in your letter at no charge with the following understanding:

- You will use this survey only for your research study and will not sell or use it with any compensated management/consultation development activities.
- You will include the copyright statement on all copies of the instrument.
- You will send your research study and one copy of reports, articles, and the like that make use of this survey data promptly to our attention.

If these are acceptable terms and conditions, please indicate so by signing one copy of this letter and returning it to us.

Best wishes with your study.

Sincerely,

_____
Signature

I understand these conditions and agree to abide by these terms and conditions.

Signed ✓ Date

_____

Expected date of completion

APPENDIX G: PERMISSION TO USE MSLQ

Date ▨ / - /

Mr. /Ms Insert name here (e.g., Mr./Ms. Smith)
Address address line 1
   address line 2

Thank you for your request for permission to use Motivated Strategies for Learning Questionnaire in your research study. We are willing to allow you to reproduce the instrument as outlined in your letter at no charge with the following understanding:

- You will use this survey only for your research study and will not sell or use it with any compensated management/curriculum development activities.

- You will include the copyright statement on all copies of the instrument.

- You will send your research study and one copy of reports, articles, and the like that make use of this survey data promptly to our attention.

If these are acceptable terms and conditions, please indicate so by signing one copy of this letter and returning it to us.

Best wishes with your study.

Sincerely,

_____
Signature

I understand these conditions and agree to abide by these terms and conditions.

Signed____✓____ **Date** 9/29/08

APPENDIX H: PERMISSION BY AUTHOR TO USE RETENTION MODEL

Date: January 8, 2008

This letter is to grant permission to

Pat Pence, RN, doctoral student

For your use of the Nursing Undergraduate Retention and Success (NURS) model in your research study. I do request that you send me a copy of: a) any published work resulting from use of the NURS model; and b) any further reliability and validity test results.

Please acknowledge Dr. Marianne R. Jeffreys as the creator and copyright holder of the above mentioned questionnaires.

Best wishes in your research endeavors and commitment to promoting student retention and success. I would be happy to discuss the questionnaires with you and maintain correspondence as a consultant.

Sincerely,

Marianne R. Jeffreys, EdD, RN
Professor, Nursing
jeffreys@mail.csi.cuny.edu
(718)-982-3825

APPENDIX I: PERMISSION BY PUBLISHER TO USE RETENTION MODEL

SPRINGER / PUBLISHING COMPANY

11 W 42nd Street
New York, NY 10036-8002

P: 212-431-4370
F: 212-941-7842
info@springerpub.com

www.springerpub.com

02/01/2008

Patricia Pence

Dear Ms. Pence,

Thank you for your permission request made on 11/30/2007 to make reproductions of the following:

Nursing Student Retention
Figure 1.1 / Model of Nursing Undergraduate Retention & Success (NURS)
Page 6 / Total Number of Pages requested (1)
ISBN: 0-8261-3446-9

This material will be used in:

Research Study

We will grant permission, contingent upon the following conditions:
1. A permission fee of $.15 per page for each set reproduced. **FEE WAIVED / NO CHARGE**
2. This permission is granted for a one-time use only.
3. There is a minimum permission fee of $25.00 **FEE WAIVED / NO CHARGE**
4. Copyrighted materials from other sources (such as photographs, illustrations, tables, and/or figures) that have been reprinted by Springer Publishing Company are not covered. If you wish to reproduce copyrighted material, please contact the source to obtain their permission.
5. Every reproduction of the requested material must be accompanied by the following credit line:
   Title, Author(s), Copyright Notice
   "Reproduced with the permission of Springer Publishing Company, LLC, New York, NY 10036"

Attached you will find your invoice. Please note that payment is due immediately. If you choose not to use the material, please alert Sales at sales@springerpub.com, so that we may cancel your invoice.

Please send payment along with a copy of your invoice & contract to:
Seniqua Koger
Springer Publishing Company, LLC.
11 West 42nd Street / 16th Floor
New York, NY 10036

All check payments should be made out to: Springer Publishing Company

Sincerely

Seniqua Koger
Associate Account Manager

APPENDIX J: ANNOUNCEMENT LETTER TO STUDENTS

Please announce a reminder regarding my study to the nursing students:

Patricia Pence: Doctoral Candidate attending the University of Phoenix.

I am seeking nursing student assistance with a research study investigating nursing student retention in associate-degree nursing programs. The research study is part of the requirements for a Doctorate in Education, Curriculum and Instruction from the University of Phoenix. The title for the study is *Emotional Intelligence, Motivation, and Retention among Undergraduate Students Attending Associate-Degree Nursing Programs in Illinois*.

I would like to invite the nursing students to participate in the study. The possible benefit from participating in the research study is helping nurse educators gain an understanding of other factors which might improve nursing student retention. Nursing students will be asked to complete 2 surveys.

I will be on campus on _____ to conduct the study. To show appreciation for their participation, a snack and nursing syringe ink pen will be provided. Students who complete the surveys are entered into a drawing for one of two VISA gift cards.

Thank you in advance for your time and assistance.

APPENDIX K: TABLE K1

Frequencies for retained and not retained participants by demographics

Demographic Category	Retained		Not retained	
	1st course 1st semester		1st course 1st semester	
Gender				
Male	43 (11.8%)	37 (11.1%)	1 (3.8%)	7 (12.3%)
Female	321 (88.2%)	296 (88.9%)	25 (96.2%)	50 (87.7%)
Race/ethnic				
Hispanic/Latino	27 (7.4%)	26 (7.8%)	1(3.8%)	2 (3.5%)
American Indian/ Alaskan Native	1 (.3%)	1 (.3%)	0 (0%)	0 (0%)
Asian	32 (8.8%)	22 (6.6%)	2 (7.7%)	12 (21.1%)
Black/ African American	15 (4.1%)	12 (3.6%)	3 (11.5%)	6 (10.5%)
Native Hawaiian/ Pacific Islander	5 (1.4%)	2 (.6%)	0 (0%)	3 (5.3%)
White	277 (76.1%)	263 (79.0%)	19 (73.1%)	33 (57.9%)
Two or more	7 (1.9%)	7 (2.1%)	1 (3.8%)	1(1.8%)

Demographic Category	Retained		Not retained	
	1st course 1st semester		1st course 1st semester	
ADN School				
A	32 (8.8%)	23 (6.9%)	4 (15.4%)	13 (22.8%)
B	36 (9.9%)	36 (10.8%)	2 (7.7%)	2 (3.5%)
C	34 (9.3%)	34 (10.2%)	3 (11.5%)	3 (5.3%)
D	51 (14.0%)	51 (15.3)	8 (30.8%)	8 (14.0%)
E	28 (7.7%)	28 (8.4%)	3 (11.5%)	3 (5.3%)
F	47 (12.9%)	47 (14.1%)	3 (11.5%)	3 (5.3%)
G	38 (10.4%)	37 (11.1%)	2 (7.7%)	3 (5.3%)
H	62 (17.0%)	41 (12.3%)	1 (3.8%)	22 (38.6%)
I	36 (9.9%)	36 (10.8%)	0 (0%)	0 (0%)
Returning				
Yes	10 (2.7%)	9 (2.7%)	1 (3.8%)	2 (3.5%)
No	354 (97.3%)	324 (97.3%)	25 (96.2%)	55 (96.5%)

APPENDIX L: TABLE L1

MSLQ subscales with retention at end of first nursing course

MSLQ subscales	*M*	*SD*	*t*	*p* value
Intrinsic motivation				
Not retained	5.70	.624	.119	.906
Retained	5.683	.784		
Extrinsic motivation				
Not retained	5.68	1.086	1.105	.270
Retained	5.44	1.068		
Task value				
Not retained	6.50	.536	-.275	.784
Retained	6.53	.553		
Control of learning beliefs				
Not retained	5.61	.725	-2.027	.043*
Retained	5.95	.830		
Self-efficacy				
Not retained	5.69	.817	-.976	.330
Retained	5.85	.813		

MSLQ subscales	*M*	*SD*	*t*	*p* value
Test anxiety				
Not retained	4.74	1.227	2.514	.012*
Retained	4.01	1.442		
Rehearsal				
Not retained	5.52	.920	.658	.511
Retained	5.39	1.045		
Elaboration				
Not retained	5.61	.944	.037	.971
Retained	5.61	.884		
Organization				
Not retained	5.28	1.203	1.211	.227
Retained	4.97	1.265		
Critical thinking				
Not retained	4.69	.986	1.280	.201
Retained	4.39	1.143		
Metacognitive self-regulation				
Not retained	5.06	.677	-.374	.708
Retained	5.12	.827		

MSLQ subscales	*M*	*SD*	*t*	*p* value
Time and study				
Not retained	5.33	.968	-1.704	.089**
Retained	5.65	.922		
Effort regulation				
Not retained	5.86	.857	-.494	.622
Retained	5.95	.845		
Peer learning				
Not retained	4.58	1.334	1.575	.116
Retained	4.14	1.410		
Help seeking				
Not retained	4.93	.942	.562	.574
Retained	4.81	1.066		

*Note. df = 386.*p < .05, **p < .10*

APPENDIX M: TABLE M1

MSLQ Subscales with Retention at End of First Semester

MSLQ subscales	*M*	*SD*	*t*	*p* value
Intrinsic motivation				
Not retained	5.57	.743	-1.177	.240
Retained	5.70	.778		
Extrinsic motivation				
Not retained	5.72	1.028	2.031	.043*
Retained	5.41	1.072		
Task value				
Not retained	6.40	.626	-1.985	.048*
Retained	6.55	.535		
Control of learning beliefs				
Not retained	5.74	.846	-1.889	.060**
Retained	5.96	.820		
Self-efficacy				
Not retained	5.78	.838	-.600	.549
Retained	5.85	.810		

MSLQ subscales	*M*	*SD*	*t*	*p* value
Test anxiety				
Not retained	4.36	1.320	1.865	.093**
Retained	4.01	1.454		
Rehearsal				
Not retained	5.46	.901	.481	.631
Retained	5.38	1.059		
Elaboration				
Not retained	5.60	.884	-.022	.982
Retained	5.61	.888		
Organization				
Not retained	5.12	1.270	.829	.408
Retained	4.97	1.261		
Critical thinking				
Not retained	4.66	1.048	1.776	.077**
Retained	4.37	1.144		
Metacognitive self-regulation				
Not retained	5.14	.735	.255	.799
Retained	5.11	.832		

MSLQ subscales	*M*	*SD*	*t*	*p* value
Time and study				
Not retained	5.40	.994	-2.028	.043*
Retained	5.67	.912		
Effort regulation				
Not retained	5.73	1.015	-2.059	.040 *
Retained	5.98	.809		
Peer learning				
Not retained	4.48	1.395	1.835	.067**
Retained	4.11	1.405		
Help seeking				
Not retained	4.85	.948	.306	.760
Retained	4.81	1.076		

*Note. df = 386. *p < .05, **p < .10.*