5-1-2011

Self-efficacy and retention among ethnically diverse nursing students

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UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

SELF-EFFICACY AND RETENTION AMONG ETHNICALLY DIVERSE NURSING STUDENTS

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

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College of Natural and Health Sciences
School of Nursing
Nursing Education

May, 2011

This Dissertation by: Jacqueline C. Lewis

Entitled: *Self-Efficacy and Retention Among Ethnically Diverse Nursing Students*

Has been approved as meeting the requirement for the degree of Doctor of Philosophy in the College of Natural and Health Sciences in the School of Nursing, Program of Nursing Education

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ABSTRACT

Lewis, Jacqueline C. *Self-Efficacy and Retention Among Ethnically Diverse Nursing Students*. Published Doctor of Philosophy dissertation, University of Northern Colorado, 2011.

College enrollment, retention, and graduation rates for ethnically diverse students remain lower than the rates for Caucasian nursing students, thus affecting the number of diverse professionals working in health care. Previous research has focused on a variety of internal and external factors that might possibly explain some of these disparities. Self-efficacy, which is the belief in one's ability to perform various tasks, has been established as a key predictor in academic success. Low academic self-efficacy has been identified as one possible contributor to lower than expected rates of academic achievement. However, no research investigating the role of self-efficacy in the academic progression of ethnically diverse nursing students has been identified.

This study examined nursing academic self-efficacy and nursing clinical self-efficacy among ethnically diverse nursing students to determine whether these factors were significantly associated with academic progression from the first semester to the second semester of a nursing program. The sample consisted of 878 first year Associate of Science in Nursing and Bachelor of Science in Nursing students in state nursing schools who were enrolled in this study; 82% were Caucasian and 18% reported being ethnically diverse. No racial differences existed between the two groups in nursing academic or clinical self-efficacy scores. However, logistic regression analyses indicated

while academic self-efficacy was a significant predictor of progression for Caucasian students, it was not a predictor of success for the ethnically diverse students in this sample. Nursing clinical self-efficacy was not a significant predictor for either group. Further, ethnically diverse students had an 82.5% lower odds (β = -.175; $p < .001$) of progressing to the second semester compared to their Caucasian counterparts after adjusting for the other covariates such as self-efficacy, age, marital status, employment status, vicarious experience, mastery experience, verbal persuasion, and physiological state. These findings suggest that factors other than self-efficacy need to be examined to determine the predictors of academic retention among ethnically diverse students. Lack of ethnically diverse students in nursing poses a challenge to the provision of culturally competent care in the rapidly growing diverse American society.

ACKNOWLEDGEMENTS

Dissertations are not complete without the loving support from people close to a student and this project was no exception. Above all, I would like to thank my friend, Dr. Melissa Joy Magness, who has always been there from the very beginning until the end, encouraging and supporting me no matter what. I have immeasurable gratitude to my dissertation chair, Dr. Faye Hummel, for her patience, wisdom, and guidance throughout the dissertation process. Her sincerity and caring will always be appreciated.

I would like to thank my children (Kenya, Kwame, Cornell, Christopher, Talia, Bria, & Logan) who survived this ordeal that has been a dream for the past 23 years. I finally made it. To Kelsey, Kalah, and Kyle, my grandchildren, thank you. I hope you know that although you have only seen me twice a year, this journey is completed. I love you all and you will now see me more often. Hopefully, all of you (my children and grandchildren) have realized through me the importance of determination, perseverance, and being well-educated. May all of you have a life filled with love, happiness, health, equality, and opportunity.

Thanks to my very special friend, Ms. Robin Parker-Jones. We have been friends for over 38 years and you still call me from time to time and always inspire me no matter what. You have always been a true and special friend.

I have so much gratitude to my other mother, friend, and mentor Dr. B. Fleming, who always made time for me, listened to me patiently, gave me constructive criticism,

watched over me, and supported me through my academic endeavors. Thank you so much.

I would like to thank Dr. L. Knieps, Dr. P. Hull, and Ms. M. Reese for their guidance, patience, and extensive work with this study from the proposal stage to data analysis.

I would be negligent if I did not thank some of my mentors and friends from Tennessee State University and Veteran's Administration Hospital (VA) who have been patient and supportive through this whole experience: Dr. V. Vaughan, Dr. C. Bompart, Dr. C. Sharpe, Mrs. B. Thompson, Dr. L. Spelle (VA), and Mrs. C. Campbell.

Thanks to all the students who participated in my study; without their participation, I would not have a study. Thanks to all the Deans, Directors, and Chairs who willingly agreed to welcome me in their Schools of Nursing.

Thanks to Dr. N. White who welcomed me and my classmates to the University of Northern Colorado and opened her home to us. To all the specials friends in the 2006 Ph.D. nursing cohort, we had a fun time that week in the dorms and at Breckenridge. You all are some amazing nurse educators: Kristen Kulkosky, Lori Brown, Diane Bilotta, Kaleen Cullen, Chrissie Perkins, Maggie Reneau, Stephanie Witmer, and Lynne Zajac. Special Thanks to Kristen and Lynne for blazing the trail.

Lastly, thanks to my dissertation committee members, Dr. V. Wilson, Dr. S. Weiler, and Dr. L. Clukey for guidance and support; thanks for being flexible and working with me. I am truly grateful.

DEDICATION

This study is dedicated in memory of my father, Mr. Garrison Scott Bell, and in honor of my mother, Mrs. Ann Russell, who has been my motivating force. My other mother, Mrs. Gertrude Bell, who has always been there for me no matter what difficulties that have been placed before me. And lastly, my aunt, Louise Mayberry, the first person in my family with a college education and who instilled in me the rewards of being educated and love of education. Additionally, who instilled in me a belief in God and the determination to finish anything I set out to do no matter what obstacles were placed before me. For this, I am forever grateful.

To my children who may not know why I have stayed in school so long but always supported my decision to do so. Hopefully, you will see that your mother, no matter what, worked hard and persevered through it all. I love you all and thank you all for being there.

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CHAPTER I

INTRODUCTION

The Nursing Shortage

The shortage of registered nurses continues to increase across the nation (Crow, Hartman, & McLendon, 2009). A number of universally documented causative factors indicate the current nursing shortage is different from previous cyclic shortages; these factors will worsen considerably in the next few years. A report issued by the U.S. Health Resources and Services Administration (U.S. Department of Health and Human Services, 2004) projects a severe shortage of registered nurses (RN). Data from the National Survey of Registered Nurses indicate that 1.89 million full-time RNs were employed in the United States in 2000, a 6% deficit of those needed (U.S. Department of Health and Human Services, 2004). By the year 2020, the effects of the nursing shortage will be felt; it is estimated that as many as 1.5 million RN positions will go unfilled within the United States (Bleich et al., 2003). By 2025, the nursing workforce could be nearly 500,000 short, consistent with a 40% RN vacancy nationwide (Buerhaus, Staiger, & Auerbach, 2009).

One underlying factor to the nursing shortage is that although colleges and universities across the country are experiencing pressure to increase enrollment levels to meet the rising demand for nursing care, because of the faculty shortage, limited clinical and classroom space, and dwindling college budgets, many students are turned away

(American Association of College of Nurses [AACN], 2009). Buerhaus (2008) pointed out that despite tremendous interest in nursing, thousands; as many as 100,000 qualified applicants are declined enrollment into nursing each year due to the shortage of faculty and several other factors. The demographic composition of the qualified applicants who are declined admission to nursing programs has not been investigated and published.

Another contributory explanation to the nursing shortage has been the significant decrease in young RNs over the past two decades (Buerhaus et al., 2003); hence, enrollment of young students in nursing programs would have to increase by 40% annually to replace those expected to leave the workforce through retirement (AACN, 2005). The percentage of RNs younger than 30 has steadily declined; in 2006, one in every eight RNs was under the age of 30. The nursing field has traditionally been primarily occupied by females. However, young women of today do not enter nursing as in past decades because they have more career choices with increasingly more fields from which to choose with more exciting professions and better salaries accompanying these opportunities (Buerhaus et al., 2009).

Minority Nurses

In addition to the insufficient number of nurses, the diversity of those practicing in the discipline is limited. The U.S. Census Bureau (2000) reports 47% of the U.S. population will be comprised of ethnic minorities by 2050. Currently, minorities represent 30.9% of the population in the United States but only 12.3% of the nursing labor force (Noone, 2008). Ethnic/racial minorities are underrepresented in nursing and, as such, are a factor in the nursing workforce shortage.

Nursing leaders from all specialties are petitioning for a workforce that will be able to provide culturally competent care and one that will resemble the population at large (Gardner, 2005). A report by the Institute of Medicine (IOM, 2004) suggested worse health outcomes and higher mortality rates in racial and ethnic minority groups due to the lack of ethnically diverse and culturally competent health care providers**.** The IOM proposed that increasing the proportion of underrepresented members of minority groups in the healthcare professions would strengthen patient provider relationships and reduce health care disparities (Smedley, Stith, & Nelson, 2002). The Sullivan Commission's (2004) report cited diversity as the key to excellence in the future of healthcare. The Sullivan Commission recommended a new vision for health care that includes competent health care professionals whose ethnicity mirrors the population it serves.

As the United States attempts to identify solutions to the escalating nursing shortage, schools of nursing must actively strengthen their efforts to attract and retain more ethnically diverse students (Stanley, Capers, & Berlin, 2007). Lower high school graduation rates and the minimal quantity of ethnically diverse students who enter college negatively affect the number of students who pursue a career in nursing (Coffman, Rosenoff, & Grumbach, 2001). Another key factor contributing to the underrepresentation of minority nurses is the high number of minority students who drop out of nursing school before graduation (Gardner, 2005). It is estimated that minority attrition rates range from 15% to 85% (Crow et al., 2009; Peters, 2005; Sadler, 2003; Taxis, 2002).

Attrition

Attrition in nursing programs throughout the United States has been and continues to be a problem, specifically among ethnically diverse/minority students (Gardner, 2005). Attrition occurs principally in the first semester of nursing programs (Jeffreys, 2006; Mulholland, Anionwu, Atkins, Tappern, & Franks, 2008; Rees, 2006). The specific number of ethnically diverse nursing students who are not successful in nursing programs is not known, but the National Advisory Council on Nurse Education and Practice (2000) recognized the number to be disproportionately high. Retention of ethnically diverse nursing students is imperative in the development of a workforce that can deliver culturally sensitive healthcare (Jeffreys, 2006; Wilson, Andrews, & Leners, 2006).

Although all colleges and universities accept ethnically diverse students, there has been some difficulty retaining these students (Klisch, 2000). Poor academic experience, poor communication, limited understanding of the English language (Klisch, 2000), feelings of alienation and loneliness (Villarreal, Canales, & Torres, 2001), discrimination (Yoder, 2001), and other non-academic factors lead to withdrawal or failure (American Council on Education, 2006). Issues related to student attrition from nursing programs can be grouped in several categories with no one specific reason but academic difficulty or failure being the major factors (Pringle & Green, 2004).

Factors that predict retention differ for ethnically diverse students and Caucasian students, suggesting that for ethnically diverse students, non-cognitive variables may be more of an issue than cognitive reasons (Palmer & Strayhorn, 2007; Palmer & Young, 2009; Zea, Reisen, Beil, & Caplan, 1997). It has been shown that African-American students' self-confidence, realistic appraisal of academic skills, and academic familiarity

were found to be more of a predictor of college retention than for Caucasian students (Palmer & Young, 2009). Over the last four decades, ethnic minorities have advanced with regard to social status and access to education but still remain disadvantaged and more likely to be at risk for academic failure compared to their Caucasian counterparts (Aragon, 2000). The number of ethnically diverse students who enter nursing is small in comparison to Caucasian students; therefore, attrition is higher when compared to the proportion of Caucasian students who enter nursing. These high attrition rates in nursing schools are disturbing to scholars, administrators, policy makers, and state governing bodies. While these groups have requested increased enrollment of ethnically diverse students in nursing programs to relieve the nursing shortage, this action would be ineffective without sustained efforts to reduce attrition (Higgins, 2005).

The lack of role models or mentors who resemble the ethnically diverse student has been indicated as another contributor to the low number of ethnically diverse individuals who matriculate in nursing programs (Stanley et al., 2007). Several studies have been conducted to better understand problematic education patterns of ethnically diverse students (Carter, 2006; Evans, 2007; Lee, 2002; Symes, Tart, Travis, & Toombs, 2002). Feelings of alienation and loneliness were cited by several researchers as problems that can lead to poor academic performance by ethnically diverse students at predominately Caucasian institutions. It is not unusual for ethnically diverse students to feel isolated because they see very few to no students or faculty who resemble them. This lack of resemblance can lead ethnically diverse students to experience inferior feelings and to question their abilities to be successful in a place where they feel alienated (Peters, 2005).

Diversification, mentoring, learning strategies, motivational strategies, and self-management are a few of the measures needed to decrease attrition of ethnically diverse nursing students (Palmer & Young, 2009; Wilson et al., 2006). Evans (2007) supported previous studies on retention of ethnically diverse students and emphasized the need for continued research that examines the issue. The problem of retaining ethnically diverse nursing students has many social and economic implications. Identification of factors that contribute to attrition and the development of interventions that can absolve attrition are needed to alleviate the retention issue of ethnically diverse nursing students are crucial to their success in nursing programs.

One positive predictor of college persistence is academic self-efficacy (Gore, 2006; Harvey & McMurray, 1994; Jackson, 2002; Pajares, 1996; Peters, 2005). Bandura (1997) posited,

> Students whose sense of efficacy is raised set higher aspirations for themselves, show greater strategic flexibility in the search of solutions, achieve higher intellectual performances, and are more accurate in evaluating the quality of their performance than are students of equal cognitive ability who lacked such a high efficacy. (p. 215)

Academic self-efficacy has been identified as an important component in the academic success of diverse populations (Lindley, 2006).

Self-Efficacy

Self-efficacy has been discussed extensively in the literature investigating academic success (Andrew & Vialle, 2005; Gore, 2006; Zajacova, Lynch, & Espenshade, 2005). Self-efficacy, a component of the social cognitive theory (SCT) has contributed to student success in academia by influencing effort, persistence, and perseverance (Bandura & Schunk, 1981). Bandura (1993) defined self-efficacy as

people's judgment of their capabilities to organize and execute courses of action required to attain designated types of performance. Students with higher levels of self-efficacy are more likely to be successful in scholastic endeavors (Chemers, Hu, & Garcia, 2001). Bandura (1977) emphasized the importance of self-efficacy: "Efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences" (p. 192). Self-efficacy can be enhanced (Bandura & Schunk, 1981). However, there are gaps in knowledge regarding the relationship between academic self-efficacy and success as it relates to minority nursing student's retention and progression (Chamot, 2005).

Problem Statement

Nursing students are most vulnerable to attrition in the first semester of a nursing program (Gardner, 2005). Self-efficacy has been established as a predictor of academic perseverance. Therefore, self-efficacy needs to be investigated as a variable affecting the progression of nursing students from the first semester to the second semester in the first year of a nursing education program.

Purpose

The purpose of this study was to evaluate the relationship between nursing academic and clinical self-efficacy and the progression of nursing students from the first semester to the second semester in the first year of a nursing program. Nursing has two domains--theory and practice; both areas were appraised utilizing Bandura's (1982) social cognitive theory (SCT) as the guiding framework. According to Bandura, self-efficacy is defined as the belief in one's ability to perform a specific task. Self-efficacy is influenced by four primary sources of information: vicarious experience (observation of

tutors, other nurse's performance), verbal persuasion (lectures, suggestions, advice), self evaluation of physiological state (before, during, and after attempts at tasks), and mastery experience (successful execution of similar task; Bandura, 1978). Self-efficacy and success must be investigated in order to provide insight into factors that affect progression in nursing, which can impact the disparity of minority representation in the nursing profession. Research has demonstrated that there is a shortage of nurses; furthermore, ethnically diverse individuals are marginally represented in the discipline (Buerhaus et al., 2009). Studies have shown that students with higher levels of self-efficacy are more likely to be successful in educational endeavors (Gore, 2006); however, the relationship between self-efficacy and progression in ethnically diverse nursing students is not well documented and warrants further investigation.

Significance of Problem

The number of minorities in the United States has been projected to increase by 50% for the period 2000 and 2020; however, minorities account for less than a fourth of the total number of practicing nurses (U.S. Census Bureau, 2000), which consequently creates difficulty in providing competent ethnically, culturally, linguistically appropriate, and sensitive care (Gardner, 2005). The IOM recommends taking measures to increase the proportion of racial and ethnic minorities working in health care positions (Smedley et al., 2002). Furthermore, with ethnically diverse students having a higher attrition rate (Beacham, Askew, & William, 2009; Gardner, 2005), identification of those factors that impact a nursing student's progression and success is becoming of greater importance to higher education institutions (Buerhaus et al., 2009). Nurse educators nationwide need to

take a proactive step to ensure graduates of nursing programs reflect the faces of America.

The role of self-efficacy in ethnically diverse nursing student progression has not been a focus of study within the United States. Discovering those factors that affect ethnically diverse nursing student's progression and success are essential to nurse educators and institutions of higher education. Therefore, increasing awareness of the variables that impact progression and success can lead to a more diverse, cultural and abundant workforce in healthcare.

Research Questions

Q1 What are the relationships between nursing academic self-efficacy (NASES), nursing clinical self-efficacy (NCSES), and demographic variables such as age, marital status, gender, ethnicity, and work status?

Q2 Is there a difference in the nursing clinical self-efficacy and nursing academic self-efficacy scores between those nursing students who progressed to the second semester in a nursing program and those who did not progress?

Q3 Is there a difference in nursing clinical self-efficacy and nursing academic self-efficacy between nursing students of different racial/ethnic groups and progression from the first semester to the second semester?

Q4 What is the relationship of progression of nursing students from the first semester to second semester and demographic variables (gender, ethnicity, marital status, etc.)?

Theoretical and Operational Definition of Terms

To enhance the reader's understanding of the terminologies utilized and employed in this dissertation, the following conceptual and operational definitions are provided.

Cultural Competence

Conceptual. A set of integrated attitudes, knowledge, and skills that enable individuals or organizations to care effectively for diverse cultures, groups, and communities (Pacquiao, 2007).

Operational. The nursing student demographic questionnaire inquired as to the ethnicity of the participant: Native, Asian, Black or African American, Native Hawaiian, Middle Eastern or Other Pacific Islander, Hispanic or Latino, and other.

Ethnically Diverse Individuals/ Persons

Conceptual. The U.S. Census Bureau (2000) categorized the following groups as minorities: American Indian, Alaska Native, Asian, Black or African American, Native Hawaiian, Middle Eastern or Other Pacific Islander, Hispanic or Latino, and other.

Operational. The nursing student demographic questionnaire asked respondents to identify their race/ethnicity: Caucasian, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian, Middle Eastern or Other Pacific Islander, Hispanic or Latino, and other.

Mastery Experience

Conceptual. Successful past experiences and/or accomplishments the individual has experienced within a particular behavioral domain (Bandura, 1977, 1978, 1983).

Operational. The Nursing Student Demographic Data Sheet (see Appendix A) inquired whether or not the nursing student had a prior degree, had ever completed a program or course in the past and performed extremely well, felt good about their successful accomplishment, and whether they worked in a healthcare setting. Response

was in a *yes* or *no* format. A response of *yes* indicated past experiences with success and was associated with enhanced self-efficacy.

Physiological States

Conceptual. A level of emotional arousal an individual exhibits when experiencing different levels of anxiety (Bandura, 1977, 1978, 1983).

Operational. The Nursing Student Demographic Data Sheet (see Appendix A) inquired whether the nursing student had experienced stress in the nursing program, at work, or with their family responsibilities. The nursing student ranked their level of stress as follows: 1 = *not stressed*, 2 = *somewhat stressed*, 3 = *very stressed*, or 4= *extremely stressed*. A response of 3 or 4 indicated that the student was experiencing some degree of stress of stress which could negatively affect a person's self-efficacy.

Retention

Conceptual. Meeting the progression requirements for the next semester as defined in the Tennessee State University School of Nursing Student Handbook: achieving a grade of "C" or higher in the theoretical portion of the fundamentals nursing course and "satisfactory" in the clinical portion of the course.

Operational. Successfully moving from the first semester to second semester of the first year in an Associate Degree Nursing Program or moving from the first semester to the second semester in a bachelor's degree nursing program.

Self-Efficacy

Conceptual. A key predictor variable in academic success is self-efficacy. In the SCT, the concept of self-efficacy is defined as the belief in one's ability to out the actions mandated by a specific task (Bandura, 1977, 1978, 1983), i.e., an individual's judgments

of his or her capabilities to organize and execute courses of action required to be successful.

Operational. The scores obtained on the 22-item Nursing Academic Self-Efficacy Scale (NASES) and the scores obtained on the 24-item Nursing Clinical Self-Efficacy Scale (NCSES; Harvey & McMurray, 1994). The NASES focuses on a nursing student's confidence in his or her ability to learn the educational requirements of a nursing curriculum and the NCSES.

Verbal Persuasion

Conceptual. A component of building self-efficacy in which persons with influence on an individual's life use persuasive measures to convince him/her of his or her capacity to perform behaviors in a given domain (Bandura, 1977, 1978, 1983).

Operational. The Nursing Student Demographic Data Sheet (see Appendix A) inquired whether the nursing student had a family member or significant other who provided verbal support or praise about their nursing studies. Response was in a *yes* or *no* format. A response of *yes* indicated the existence of verbal encouragement and was associated with higher self-efficacy.

Vicarious Experience

Conceptual. An individual's experience with people who are similar and who have successfully executed behaviors in a given domain instills a sense of confidence that the individual can accomplish a similar task in that domain (Bandura, 1977, 1978, 1983).

Operational. The Nursing Student Demographic Data Sheet (see Appendix A) inquired whether the nursing student knew an individual who is a Registered Nurse and

serves as a role model. Response was in a *yes* and *no* format. A response of *yes* indicated the vicarious experience was associated with a higher self-efficacy.

Theoretical Framework

A key concept from the social-cognitive theory (SCT)--self-efficacy--was developed by Albert Bandura. Bandura (1978, 1983) predicted that individuals who are confident in their abilities are more likely to attempt difficult tasks, put forth greater effort toward mastery of those tasks, and persist in attempts despite difficulties. Bandura asserted perception of the possible consequences or outcome expectancies pertained to personal action control or agency. Therefore, behavior results from an individual's belief that he or she is able to perform a particular task (self-efficacy) combined with a belief that the action will lead to a desired outcome (outcome expectancy). A more active and self-determined life course is accomplished when people believe in being able to cause an event; a sense of control over one's environment is accomplished by this "I can do it" attitude (Bandura, 1978, 1983).

Self-efficacy makes a difference in how people think, feel, and act. In terms of emotions, a low self-efficacy is connected with depression, helplessness, and anxiety. Individuals with low self-efficacy have low self-esteem, little to no sense of self-worth, and manifest negative thoughts about their accomplishments and personal growth (Schwarzer & Fuchs, 1996). Within Bandura's (1977) concept of perceived self-efficacy, the causal predictor of behavior is an individual's belief in his or her capability to perform an act. Bandura (1983) elaborated further by stating that what people think, believe, and feel affects how they behave; hence, people are products and producers of their own environment and social system. In addition, people not only learn from their own

experiences but experiences of others (Pajares, 1996). According to Bandura (1993), persons who have a strong sense of efficacy show an increase in human endeavors and personal happiness. Self-efficacy has been shown to positively impact success by influencing effort, persistence, and perseverance (Bandura & Schunk, 1981). Self-efficacy has been the principal variable in numerous behavioral investigations (Ali & Saunders, 2006; Katon et al., 2006; Porr, Drummond, & Richter, 2006; Skaff, Mullan, Fisher, & Chesla, 2003) and has been discussed extensively in literature attempting to explain motivation and learning theory. Pajares (1996) and Schunk (1991) affirmed that self-efficacy influences academic motivation, learning, and achievement. An individual's personal expectations influence the effort and persistence that he/she will expend in the behavioral domain (Bandura, 1978, 1983). Although not concerned with academic performance, Harvey and McMurray (1994) found students with a low self-efficacy were more likely to withdraw from a nursing program. In another study, less successful students demonstrated a lack of motivation, e.g., the aversion to apply the challenge and persistence required to complete college (Vanderstoep & Pintrich, 2003). Self-efficacy beliefs have been found to influence people by affecting the environment people choose, i.e., most people prefer to be in an environment where they feel competent and avoid those where they feel inadequate (Jackson, 2002).

Summary

In summary, Taxis (2002) and Pintrich and Schauben (1992) asserted that the research is limited but established that minority students hold lower self-efficacy than nonminority students. A limited number of studies applied self-efficacy to nursing education, minority students' persistence, and academic performance, indicating the need

for further investigation (Gore, 2006). Self-efficacy plays a significant role in the regulation of affective processes (Bandura, 1997). Efficacy beliefs encompass a personal evaluation of one's ability to perform behavior skills competently (Bandura, 1977). Gaining insight into the self-efficacy of students in nursing programs can provide an avenue for interventions that will potentially decrease attrition and enhance progression within nursing programs (see Figure 1).

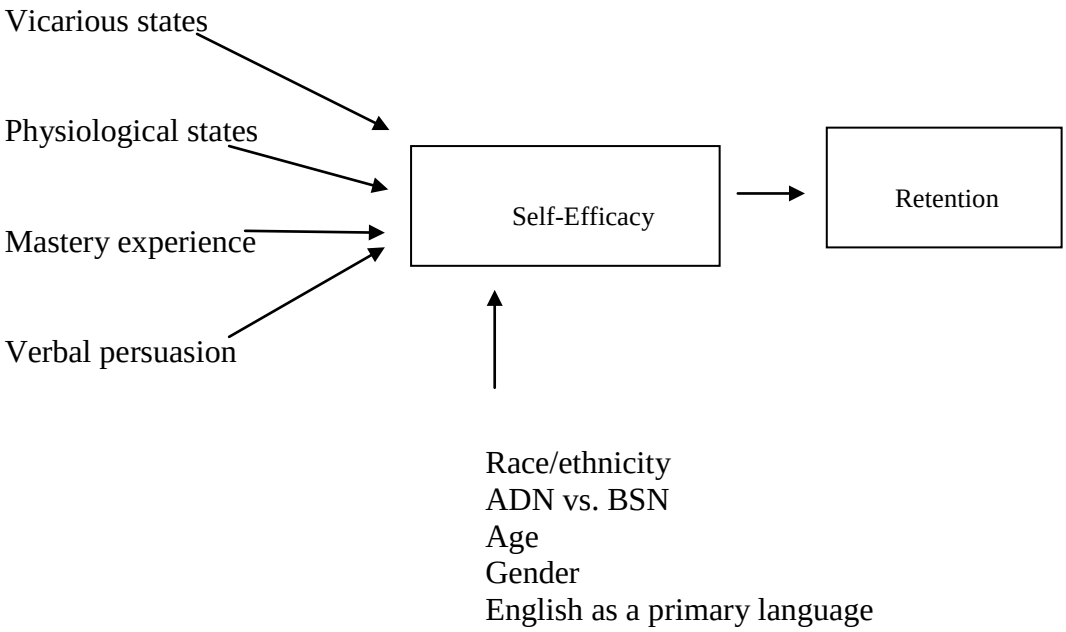


Figure 1. Conceptual model.

CHAPTER II

LITERATURE REVIEW

Background

The Institute of Medicine (2002) reported empirical support validating the unequal treatment of ethnic minorities in health care. Higher rates of poverty, lack of role models and mentors in higher education, higher rates of unemployment, substandard education, higher rates of attrition from college programs, and cultural differences are just a few of the issues that contribute to substantial racial and ethnic disparities in health status and outcomes (Gardner, 2005). Thayer (2000) described students coming from low-income and ethnic minority backgrounds as high-risk, referring to the probability of attrition from college. These students were considered especially vulnerable if they were first generation college students (students who did not have a parent or any immediate family member that had attended college).

Becoming a nurse is a way to escape poverty and break the cycle of unemployment and reliance on public assistance for many ethnically diverse individuals (Gardner, 2005). Yet, the number of ethnically diverse students who enter nursing programs is modest in comparison to Caucasians students, with the ethnically diverse student having higher rates of attrition occurring among the few who are admitted (Stewart, 2005). Failing out of nursing school can produce feelings of disappointment and low self-efficacy for the student (Chemers et al., 2001).

Hence, identifying potential obstacles that impact ethnically diverse nursing students' success is of paramount importance. Therefore, the social cognitive theory was utilized as the guiding theoretical framework for this study to determine whether self-efficacy, a construct of the social cognitive theory, contributed to the success of first semester nursing students. Contributing factors were identified and examined related to the retention and success of ethnically diverse students in nursing. In addition, the nursing shortage was discussed with an examination of attrition in nursing, the lack of ethnic diversity in nursing was investigated, the importance of providing culturally congruent healthcare was explored, and the impact on health when the numbers of ethnic minorities in nursing were increased.

Self-Efficacy and the Social Cognitive Theory

Self-efficacy is a construct that has gained recognition as a tool for facilitating positive behavioral change. Bandura (1977) is credited with developing the construct of self-efficacy as a "theoretical framework to explain or predict psychological changes in clients presenting for psychotherapy" (p. 192). He further postulated that this construct is relevant to other human activities. In Bandura's seminal work, he posited that cognitive processing was a mediator of behavioral change and cognitive events are induced or altered by experiences of mastery. Bandura's (1982, 1997) contemporary social learning theory of behavioral change suggests human agency and control are essential components of self-efficacy. Bandura proposed self-efficacy as an important mediator of behavior and defined the concept as "a judgment of one's capacity to accomplish a certain level of performance" (Bandura, 1986, p.192). Bandura focused on perceived self-efficacy, which is defined as a belief in one's ability to organize and execute the course of action

required to meet a goal. Within Bandura's (1977) concept of perceived self-efficacy, the causal predictor (motivation) of behavior is an individual's belief in his or her capability to perform an act. Bandura (1986) further elaborated, "What people think, believe, and feel affects how they behave" (p. 25); hence, people are products and producers of their own environment and social system. Bandura (1977, 1997) postulated that positive self-efficacy expectations enhance motivation and performance attainment.

Bandura (1977) viewed humans as agents engaged in their own development with the ability to make things happen by their actions. He conceived that individuals possess self-beliefs that are critical in the employment of control and personal agency. The critical attributes associated with self-efficacy are (a) highly individualized, (b) temporal or momentary, (c) task specific, (d) perceived, (e) control related to an outcome, and (f) based on cognitive processes that require consciousness. Four sources of information that influence self- efficacy are (a) mastery of experiences--when the individual positively accomplishes a task, (b) vicarious experiences--observing a cohort/friend accomplish a task, (c) verbal persuasion--achieving positive verbal encouragement and/or praise towards a task, and (d) physiological and emotional states--when a person approaches a task with confidence and certainty with no apprehension and anxiety when approaching a task (Bandura, 1986, 1995, 1997).

Mastery Experience

Of the aforementioned factors, the source with the most profound impact is mastery experience, which refers to an individual's past experiences with success or failure (Bandura, 1986, 1997). These experiences are internalized, which directly influence self-efficacy in a positive or negative manner (Bandura, 1986, 1997). Mastery

experiences provide evidence of whether an individual has the capacity to be successful. Successful experiences can boost a person's self-efficacy; whereas failure lowers self-efficacy. Mastery experiences inspire confidence and enhance a positive self-efficacy; failure cultivates a negative belief of a person's self-efficacy (Bandura, 1986, 1997). Kim (2005) supported Bandura's self-efficacy theory in that students with on-line course experience (mastery experience) have higher on-line course self-efficacy when attempting another on-line course. An individual's confidence in his or her abilities impacts his or her decision to attempt or persevere. A student's self-efficacy is influenced by past experiences, failures, and successes that can consequently impact prospective failures and successes, e.g., a student's grades and progression in nursing. Self-efficacy is dynamic and ever-changing in response to self-assessments during previous performances (Bandura, 1986).

Vicarious Experience

Bandura (1997) postulated that self-efficacy has predictive capabilities when a task is familiar. In vicarious experience, individuals tend to compare themselves to peers, role models, or others whom they view similar to themselves in ability and intelligence. Learning is accomplished through observing others perform a given task. Witnessing the success of peers, role models, and or mentors can raise one's self-efficacy just as witnessing a peer's failure can lower self-efficacy (Bandura, 1997). Martin-Holland, Bello-Jones, Shuman, Rutledge, and Secrist (2003) found utilizing ethnically diverse peer tutors increased success with ethnically diverse nursing students. Students found that working with other ethnically diverse students informally or through an ethnic student association helped them overcome barriers to success (Amaro, Abriam-Yogo, &Yoder,

2006). Role models are of significant importance when they are viewed as similar to the observer.

Verbal Persuasion

Another factor contributing to self-efficacy is verbal persuasion. Verbal persuasion is instituted by a person to convince a self-doubting individual that they possess the skills needed to complete a particular task (or that they are incapable of completion; Bandura, 1986, 1997). In the educational setting, an instructor's verbal encouragement or praise often takes the form of verbal feedback, evaluation, and inspiration, which must be realistic, sincere, and must come from a credible source; otherwise, it can negatively impact a student's sense of self-efficacy (Bandura, 1986, 1997). Critiques and commendations are strategies that are most effective when the individual has some skill and confidence in his and her capabilities; therefore, belief is obtainable. Verbal persuasion is a method that can be utilized to boost a students' confidence in their ability to succeed academically. Feedback is a persuasive technique of self-efficacy information. Performance feedback apprises the learner of goal progress, fortifies self-efficacy, and sustains motivation (Hall, 2002). Rewards enhance self-efficacy when it can be linked to an accomplishment (Peters, 2005). In a Learn for Success Program for at-risk students, faculty coaches were utilized to encouraged students to try hard and persist in task (Peters, 2005). Faculty coaching was found to result in sustained academic success in nursing. Early identification and coaching of at-risk students is imperative for a student's success, particularly because of the rigor and stress of the first semester of nursing (Peters, 2005).

Physiological State

The final measure contributing to self-efficacy is physiological state, e.g., a student who is in fear of failure and in a hyper aroused emotional condition that can impair his or her performance. A physiologically hyperactive state includes signs of *fight or flight* symptoms of the autonomic nervous system: an increase in heart rate, respiratory rate, and the ability to perceive everything in our environment as a threat (Bandura, 1986). Emotional states refer to an individual's mood when performing nursing skills: feelings of anxiousness, uncertainty, and doubt (Harvey & McMurray, 1994). An individual's self-efficacy is based in part on interpretation of his or her emotional and physical states or task preparation and performance. Feeling calm and composed, rather than nervous and worried when preparing for and performing a task, leads to higher self-efficacy. Depending on the mood, emotional states have a positive or negative impact on an event outcome (Bandura, 1986, 1997). The predictors of and relationships among burnout, stress, and attrition of nursing students were investigated in a longitudinal study (Deary, Watson, & Hogston, 2003). Data were collected at four time periods: entry, one year, two years, and at completion. Although the participant numbers decreased, the results of this study found no relationship between stress, burnout, and attrition. In addition, Deary et al. found nursing students who experienced a greater degree of stress were more likely to complete the program. As a source of efficacy, physiological state is less powerful than other facets of self-efficacy. Bandura (1986) cautioned against giving too much credence to physiological state.

Self-Efficacy and Academic Performance

Self-efficacy is individualized and subjective (Bandura, 1997). Self-efficacy can predict whether a person is successful or fails an endeavor. The concept has a narrow scope, e.g., self-efficacy is representative of a transient belief in the ability to perform a particular operation at a certain level; it is often measured prior to performance. The person must make a decision regarding his or her aptitude to perform the task that necessitates the requirement of awareness. Bandura's social cognitive theory (1977) defined the concept of self-efficacy and the relationship between self-efficacy and individual performance. Students need strong self-efficacy beliefs to utilize an array of learning strategies to be successful academically in their first year of a nursing program (Andrew & Vialle, 2005). A combination of high expectations and instructional practices are the tools needed for high achievement and success (Chamot, 2005). Recapitulated by Bandura (1997), "Students, whose sense of efficacy is raised set higher aspirations for them, show greater flexibility in search of solutions, achieved higher intellectual performances, and are more accurate in evaluating the quality of their performance" (p. 215).

Self-efficacy has been shown to influence academic motivation as choice of activities, level of effort, persistence, and emotional reactions (Zimmerman, 2000). Zimmerman posited that self-efficacious students work harder, participate longer, and have less emotional reactions when they encounter difficulties than those who doubt their capabilities. Self-efficacy clearly impacts academic performance by means of cognition and determination.

Self-efficacy and learning strategies have been linked with academic performance (Chemers et al., 2001; Pintrich & Schauben, 1992). Several studies (Andrew, 1998; Bandura & Locke, 2003; Pajares, 1996; Stevens, Olivarez, Lan, & Tallent-Runnels, 2004) have correlated self-efficacy with academic achievement, psychosocial functioning, work performance, health functioning, group functioning, mathematics, and science achievement. As a result of the multidimensional forms of self-efficacy beliefs, it is not arduous to understand how self-efficacy beliefs can affect many different areas of a student's life. Students who are low achievers employ less self-regulated learning strategies than high achievers (Gore, 2006). Schunk (2001) defined academic self-efficacy as an individual's confidence in his or her ability to perform academic tasks at a designated level. Palmer and Young (2009) expanded Schunk's definition of academic self-efficacy to include a student's confidence in his or her ability to accomplish and perform various academic tasks. Operationally, Gore (2006) concluded that academic self-efficacy is a student's confidence in his or her ability to respond correctly to items when assessing course content knowledge. Zimmerman (1989) conceptualized self-efficacy items on a questionnaire by emphasizing task-specific performance expectations such as enquiring from the participant, "How certain are you in a certain task" (p. 84)? These measures can be observed when utilizing the Nursing Academic Self-Efficacy (NASES) and the Nursing Clinical Self-Efficacy Scale (NCSES) developed by Harvey and McMurray (1994). Upon assessment, these measures are connected with a specific content domain or curriculum requirements in an attempt to identify students who might be at risk for attrition (Gore, 2006). Participants completing these instruments at this level of specificity are asked to rate how confident they are in certain skills or tasks. To

better understand the importance of evaluating self-efficacy of a nursing student, a prelude of the problem is addressed.

Elias and Loomis (2000) investigated how academic self-efficacy plays a major role in predicting university major persistence. Elias and Loomis' research was composed of 83% Caucasians, 4% Spanish Americans, 1% African Americans, 1% Mexican Americans, 1% Asian Americans, 1% American-Indian, and 1% other. The Self-Efficacy for Broad Academic Milestone Scale (SEBAM) and the Self-Efficacy for Academic Milestone Scale were two measures utilized to determine if students with higher levels of academic self-efficacy were less likely to change their majors than students with lower self-efficacy levels. The findings suggested that students had different levels of academic self-efficacy for different academic issues. Furthermore, the researchers did not find any causal relationship when a correlation coefficient was utilized in their study. However, when examining the relationship between grade point average and efficacy beliefs, it was found that efficacy could be enhanced. The authors supported Bandura's (1986) findings that *mastery* (successful) experiences can be increased and strengthened because a person's self-efficacy provides a person with real verification and that individual's hold of what is necessary to be successful (Bandura, 1997). Elias and Loomis concluded that future experimental studies should be conducted that would replicate and expand their study to confirm if and how efficacy beliefs can be controlled so that academic performance can be enhanced.

In an effort to develop a multidimensional instrument to assist in predicting success of college students, Robbins et al. (2004) performed a meta-analysis examining the relationship between psychosocial, study skills factors, and college outcomes. The

researchers utilized 18 studies for the meta-analysis that included more than 9,000 participants. The researchers found a significant correlation between academic self-efficacy and college persistence. The results of this study found a 14% variance to account for the student's college grade point average.

First-year college student performance and adjustment (Chemers et al., 2001) were examined via a longitudinal study. First-year university students were evaluated by observing the effects of academic self-efficacy and optimism on a student's academic performance, stress, health, and commitment to remain in school. The predictive variables utilized were high school grade point average (GPA), academic self-efficacy, and optimism. The moderating variables were academic expectations and perceived coping abilities. The participants were measured at the end of the first academic quarter and at the end of the academic year. Chemers et al. investigated the hypothesis (which was consistent with Bandura's [1977] self-efficacy theory) that academic self-efficacy is significantly related to academic expectations and performance. Students who entered college with certainty and confidence in their ability to be successful performed better and showed higher performance than those students who had low self-confidence (Chemers et al., 2001). They found that evaluating a student's self-efficacy had predictive powers of expectations and performance (Chemers et al., 2001).

Gore (2006) provided additional support by extending previous research on the relationship of academic self-efficacy in predicting college outcomes. Gore's participants were 629 first year college students in a three-credit freshman orientation class and sophomore students. Students self-identified their ethnicity and their high school GPAs. The ethnicity of the participants was as follows: 78% Caucasian, 13%

African American, 3% Latino, 2% Asian American and 4% other. Ethnicity was not used as an independent variable in this study. Additional measures for this study were ACT composite scores, the College Self-Efficacy Inventory (CSEI; Solberg, O'Brien, Villarreal, Kennel, & Davis, 1993), and the Academic Self-Confidence Scale (ACS; Le, Casillas, Robbins, & Langley, 2005) that was developed as a measure of academic self-efficacy. Students completed the CSEI the first and last two weeks of their courses. The CSEI consisted of a 20-item measure that ascertained questions on the student's capability to complete a college course. The ASC measured student's ability to focus and maintain goal directed activities. CSEI scores negatively correlated with physical and psychological distress but positively correlated with adjustment, academic persistence, and social integration.

Linear regression was used to evaluate the degree to which ACT composite, GPA, CSEI, and ASC predicted college outcome. Gore (2006) found that self-efficacy beliefs of experienced college students were more strongly related to college performance and persistence than inexperienced first semester students. Additionally, Gore's study supported the notion that the first semester of college is a critical time for promoting academic self-efficacy in college students. Gore further supported Bandura's (1977) self-efficacy belief that self-efficacy is influenced as a result of personal performance accomplishment, vicarious learning, persuasion, and physiological states. CSEI scores changed as students became more experienced in college. Gore concluded that academic self-efficacy can predict college student's academic performance and persistence but is further dependent on when academic self-efficacy is measured, the aspect of self-efficacy is being measured, and what college outcome the researcher is attempting to predict.

Gore warned that advisors should not attempt to use a self-efficacy tool as an admissions indicator but rather as an assessment tool at the end of the first semester or beginning of the second semester. Moreover, Gore suggested that academic self-efficacy assessment could be used to identify students who could benefit from academic interventions to prevent attrition. This study suggested that the first semester of college is a critical time for the promotion of academic self-efficacy interventions.

In a study conducted by Andrew and Vialle (1998), the relationship among self-efficacy, learning strategies, and academic performance was assessed. Participants were nursing students in their first year undergraduate science courses. Students from several universities were surveyed by questionnaire and interviewed via phone. The students completed a socio-demographic tool, the Self-efficacy for Science (Andrew, 1998), the Nursing Academic Self-efficacy scale (Harvey & McMurray, 1994), and selected portions of the Motivated Strategies for Learning Questionnaire (Pintrich & Schauben, 1992). The three self-efficacy measures used in this study were all statistically related to performance in science. It was found that students with higher self-efficacy for science achieved higher academic performance in their first year science course. Students who described themselves as low achievers used fewer learning strategies and appeared not to know how to study. Therefore, to be academically successful in a first year Bachelor of Science nursing program, students must have strong self-efficacy beliefs and employ a variety of learning strategies.

In a doctoral dissertation by Ivory (2002), the relationship between college academic self-efficacy and ethnic identity was examined using hierarchical multiple regression analysis. College academic self-efficacy was found to be a significant

predictor of academic performance as opposed to ethnic identity. Regression analysis revealed a higher level of ethnic identity that was positively related to a higher level of self-confidence concerning college academic self-efficacy beliefs. Based on the implications of this study, the researcher concluded that with possible interventions students' academic self-efficacy could increase. Jackson (2002) examined how communication could enhance the self-efficacy of beliefs of students. He divided his psychology students into three performance categories: above average, average, and below average. Students then were divided into two groups--those sent communication by email to enhance self-efficacy and those who were not sent enhancing self-efficacy communication. Self-efficacy beliefs were significantly influenced by the email enhancing self-efficacy belief communication.

Consistent with these explanations, research suggests that low self-efficacy adversely affects stress (Bandura, 1993; Chemers et al., 2001), coping (Bandura, 1993, 1995), academic expectations, academic performance (Chemers et al., 2001), and motivation and learning (Bandura, 1993; Zimmerman, 2000). Beliefs of self-efficacy vary from individual to individual and fluctuate depending on the attempted task (Bandura, 1997). Fluctuations in performance may be explained by fluctuations in self-efficacy; task outcome can be altered by varying beliefs in self-efficacy (Bandura, 1997). In many activities, self-efficacy can make a positive contribution to an individual's self-esteem (Bandura, 1986) and self-concept (Bandura, 1997). Self-efficacy beliefs affect how an individual approaches new challenges and can also contribute to future performance since these beliefs influence behavior and thought-processes (Bandura, 1997). Self-efficacy emerges through the experiences that an individual accumulates.

The cognitive appraisal and integration of data stemming from these experiences ultimately determine an individual's self-efficacy (Bandura, 1982).

Self-Efficacy and Minorities

Bandura (2002) postulated that there may be cultural variations in the ways in which self-efficacy is developed and experienced in ethnically diverse individuals but personal self-efficacy is not less important. Because self-efficacy is highly significant and theoretically variable across cultures, appreciation of its application to diverse persons is imperative (Lindley, 2006). Chamot (2005) posited that English as a second language (ESL) minority students may lack or have a low self-efficacy secondary to prior experiences of failure at school, segregation into remedial courses or programs, negative attitudes of teachers and other students who do not look or sound like them, and low expectations of success both from others and from themselves. Self-efficacy was found to be relevant and variable across cultures; therefore, awareness of its usage with ethnically diverse individuals is vital (Lindley, 2006).

Only a small number of studies exist that examine academic self-efficacy with different ethnic minority groups, but all call for further research concerning the development of efficacy beliefs in racially diverse populations (Bandura & Locke, 2003; Schunck, 2003). This information could be invaluable, allowing for the development of interventions. Furthermore, this information could be useful in further explaining why some ethnically diverse students are not successful in their academic endeavors, namely nursing.

Evaluating a student’s academic self-efficacy could be of utmost importance to nursing education administrators. Identifying those students who have lower academic

self-efficacy could possibly predict nursing academic success or failure in nursing. According to Jeffreys (2007), precise assessment of a student's perceptions, obstacles, strengths, and weaknesses is an essential predecessor for any investigative-prescriptive intervention. Although there has been support for the role self-efficacy plays in academic achievement (Bandura, 1997), there is an absence of research focusing specifically on the effects of academic self-efficacy on progression in ethnically diverse nursing students. It was the aim of this researcher to evaluate the level of academic self-efficacy in this group to determine its effects on progression and success.

Attrition

As defined by Deary et al. (2003), attrition is the loss of students from a nursing program. Attrition has been found to be more prominent in the first semester of a nursing program due to the rigor of the curriculum and adjusting to a new way thinking (Jeffreys, 2005). Lindley (2006) found there were many unanswered questions regarding the self-efficacy of ethnically diverse individuals; further investigation would provide a valuable source of understanding.

Attrition and Minorities

Attrition in nursing is higher for minorities (Sutherland, Hamilton, & Goodman, 2007). One such reason is ethnically diverse students are often from economically and socially disadvantaged backgrounds that can be negatively associated with their ability to be academically prepared. Inadequate high school preparation, using ESL classes, being recipients of vocational rehabilitation programs, and living in public housing are all consistent with being disadvantaged (Zuzelo, 2005). Many minorities come to nursing school academically undereducated and with poor test-taking skills, common indicators

of an unsuccessful nursing student (Tinto, 1993). Nursing students from diverse backgrounds often feel powerless and lack the ability to be successful (Gilchrest & Rector, 2007). Ethnic minorities and individuals, for whom English is their second language (ESL), have difficulty communicating and are vulnerable because they are trying to fit in (Zuzelo, 2005). Attrition is associated with social issues that impact socioeconomic levels (Aday, 2001, Smedley et al., 2002), long-term social mobility (Carter, 2006), and the nation's health and resources (Shi & Stevens, 2005). All are consequence of lower educational attainment and decreased opportunities for careers and earning potential (U.S. Census Bureau, 2003).

Another key factor identified by Gardner (2005) that contributes to the underrepresentation of minorities in nursing is the high number of minority students who drop out of nursing school before graduation. Dowell (1996) estimated the minority attrition rate ranges from 15% to 85%; the exact number is unknown. The National League for Nursing (NLN) proposed 80% as a suitable retention rate for both associate and baccalaureate nursing programs, although completion of these programs ranged from 44-53% (Peters, 2005).

In a study conducted at Texas Women University (Symes et al., 2002), 98 students were admitted to the nursing program--51% were Caucasian non-Hispanic and 49% were Asian, African American, Hispanic, or other ethnic groups. During the first semester of the nursing program, attrition was 4% for Caucasian students and 35% for non-Caucasian students (Symes et al., 2002). Attrition was found to be higher for ethnically diverse students than Caucasian students. Lent et al. (2005) ascertained that African American students in engineering at a historically Black university had higher

self-efficacy than African American students at a predominately Caucasian institution. Childs, Jones, Nugent, and Cook (2004) found the graduation rate for African American nursing students to be lower than any other ethnic group. Attrition rates for people of color continue to be problematic in nursing. Therefore, in a country that is so diverse, why is there such a disparity in educational success among people of color?

Cultural Competence in Healthcare

Health disparities have been attributed to the lack of ethnic minority health care providers. Qualitative and quantitative research is replete with justification of the need for more culturally diverse quality care. The NLN, American Academy of College of Nurses (AACN), Institute of Medicine (IOM) and Pew Commission all have incorporated cultural competent care in their guidelines. According to Healthy People 2010, one of its goals is the provision of health care that is culturally competent. According to Gilchrest and Rector (2007), improved communication with clients who are ethnically diverse was identified as a major reason for a more diverse workforce.

Concepts of health and healing, of right and wrong, and of what is proper and what is not are rooted in culture. Cultures have different explanatory models regarding health and illness that reflect their beliefs about the causes, symptoms, treatments of illness, and response to dying and death. The Joint Commission on Accreditation of Health Care Organizations (JCAHO; 2006) has required that communication and language for all ethnically diverse clients must be addressed in the client health care records. This is another rationale for a more diverse healthcare. Transcultural issues arise when nurses, patients, and families hold differing views of what is important or necessary regarding health, recovery, illness, and the dying process (Pacquiao, 2007).

The contemporary health care system is not user-friendly when it comes to incorporating diversity. According to Farmer (2005), this system includes the attitude that the health care provider knows what "best is for the patient" as viewed from the health care provider's point of view. The health care provider's perspective generally derives from a combination of two cultural orientations: the biomedical model and the provider's personal cultural background. If the patient's perspective is different from this model and is not considered, a dilemma may emerge. Lack of understanding of language, procedures, expectations, and other elements of the culture can lead to miscommunication, unclear decisions, and a sense of powerlessness or lack of control by the ethnically diverse client (Chamot, 2005). Ethical or legal dilemmas may arise due to misunderstandings. Misunderstanding of the nurse's intent might lead the family to decide to terminate nursing care or to bring legal action against the nurse because of their perception. Health care decisions are often made by a group such as the family, community, or society, rather than the individual (Andrew, 1998; Ludwick & Silva, 2000; Palmer & Young, 2009).

Recent studies link the experience of racism to poorer mental and physical health. Perceived discrimination is associated with psychological distress, lower well-being, self-reported ill health, and number of days confined to bed. A proportion of ethnically diverse individuals have voiced that a health care provider has judged them unfairly or treated them with disrespect because of their ethnicity. These issues are amplified when the provider is of a different ethnicity than the client and the provider does not understand the client's culture (Etowa, Foster, Vikic, Wittstock, & Youden, 2005). Hence, increasing the number of ethnically diverse nurses would alleviate the aforementioned

problems. According to the *National Healthcare Disparity Report 2007* (U.S. Department of Health and Human Services, 2008), health disparities are prevalent for all ethnicities in healthcare organizations. Hence, identifying those issues related to attrition of ethnically diverse nursing students could eliminate many of the cultural misfortunes of ethnically diverse persons, which could help to create better health care outcomes for the client and their family as well as help to resolve many of the issues related to the nursing shortage.

Nursing Shortage

Hospital Chief Executive Officers (CEO) identified nursing shortages as their leading concern regarding issues confronting hospitals today (Buerhaus et al., 2009). The shortage of registered nurses was identified by the majority of hospital administrators as their primary staffing concern (Buerhaus et al., 2009). The National Commission on Nursing Workforce for Long-Term Care (2005) reports there are approximately 100,000 vacant nursing positions in long-term care facilities on any given day and a nurse turn-over rate that exceeds 50%. In an attempt to mitigate the nursing shortage issue, long-term care facilities are spending an estimated $4 billion a year in recruitment and training expenses for RNs. The American Hospital Association (2002) terms the current shortage the most serious manpower problem facing hospitals across America. The current shortage of nurses in the U.S. health care system in 2010 is 12% and is expected to be 20% internationally. The estimated shortfall in nurses is anticipated to be as high as 800,000 registered nurses by 2013 (Andrews, 2003). In a publication by the Robert J. Woods Foundation (2009), the current and projected shortage of nurses is estimated to escalate to a half-million full-time nurses by the year 2025, caused by nurses retiring,

aging nursing faculty not being replaced, students selecting other professions, and an increase in the number of older Americans with greater health care needs. Another issue impacting the nursing shortage is that fewer students are available to become nurses with the growing population of individuals needing health care, especially with the baby boomer generation aging into elderly (Dunham, 2009). This shortage is compounded by a lack of educational capacity to train the next generation of students who select nursing as a profession, educational programs that need revision to better match advances in clinical practice, and greater emphasis on quality and safety (Gardner, 2005).

Compounding the shortage of nurses are issues related to safety such as inadequate staffing within healthcare facilities. The nursing shortage has contributed to the closing of entire nursing units and the creation of mandatory overtime for nurses as an approach to lessen staffing demands; placing added stress and personal and physical demands on practicing nurses (Gilchrest & Rector, 2007). Nurses are necessary to ensure high-quality patient care. As a result, there is a growing awareness that the supply of nurses is unacceptable to meet the needs of a diverse population (Gilchrest & Rector, 2007). This shortfall will grow more serious over the next 20 years (U.S. Bureau of Labor Statistics, 2004). In a recent report from the U.S. Bureau of Labor Statistics (2004), more than one million new and replacement nurses will be needed by the year 2012. Although there is a severe nursing shortage and our population continues to become more diverse, minorities are marginally represented in the nursing profession. Thus, without an effective intervention, a shortage of registered nurses will continue to cause serious consequences in the delivery of healthcare. Identification of the impact of self-efficacy on ethnically diverse nursing students may be a means of possibly

mitigating the nursing shortage and addressing the issue of having more ethnically diverse nurses, thereby solving the issue of providing culturally congruent care. In a report generated by the National Advisory Council on Nurse Education and Practice (2000), issues were acknowledged concerning the lack of racial and ethnic minorities in nursing. The report concluded that there has been minimal research addressing the issues that affect minority nursing students' graduation rates. Therefore, the number of minorities who complete nursing program successfully is disproportionately low compared to Caucasian students. According to the literature, adequate education of sufficient numbers of ethnically diverse nurses and their access to the nursing workforce is crucial (Amaro et al., 2006). Furthermore, identifying those issues that impact the success of ethnically diverse individual is of paramount importance. Ethnically diverse students have a higher attrition rate and there are multiple non-cognitive causes that have been linked to their ability to be successful in nursing programs. Therefore, identifying barriers that impact the matriculation of ethnically diverse student is imperative.

Conclusion

Self-efficacy is utilized by many disciplines and is well-developed in the literature from various career perspectives. Yet, self-efficacy literature in nursing is limited. Approximately 10.7% of all Registered Nurses (RN) are ethnically diverse; investigating the link between an ethnically diverse nursing student's academic self-efficacy and success is imperative. Research clearly demonstrates that there is a shortage in nursing and minorities are marginally represented in the discipline. Learning more about the attrition of ethnically diverse nursing students could lead to their success and should be investigated in order to increase the number of practicing ethnically diverse nurses.

Variables affecting recruitment, retention, and success must be investigated in order to determine which of these variables affect the disparity of minority representation in the nursing profession. While there is a growing body of knowledge regarding the educational needs and experience of minorities in nursing education, much of these data have been generalized to minorities as if they were a homogeneous group (Rees, 2006). The National Advisory Council on Education and Practice (2000) has recommended that schools of nursing continue working toward a better understanding of factors leading to minority students' success in nursing school. Successful completion of a nursing program has enormous social and economic implications for the ethnically diverse student. Many ethnic diverse students are bereft of these benefits because, while a few may get into a nursing program, retaining them is a serious issue. Academic self-efficacy identification in ethnically diverse nursing students as a construct to avert attrition and facilitate retention has not been investigated. Although numerous researchers have established that self-efficacy and academic achievement are interrelated, educators must be aware of nursing students' level of self-efficacy and embark on endeavors to assist them in being successful. Nurse educators must become aware of negative influences that may have an impact on a student's self-efficacy; just as self-efficacy can be raised, it can also be lowered.

Nursing faculty have an important role in helping ethnically diverse students achieve success in nursing programs. First, nursing educators must identify the barriers that ethnically diverse students encounter and develop interventions to assist this group in being successful. Hence, research is needed that examines the impact of self-efficacy on retention and success among ethnically diverse nursing students. Although the full

predictive utility of nursing self-efficacy expectations has not been established, preliminary evidence suggests that students who withdrew from nursing programs had significantly lower nursing academic self-efficacy scale scores (NASES) than students who completed the nursing program. In other words, students with low self-efficacy gave up their academic pursuits more readily than those students with higher self-efficacy. Since nursing is both a theoretical and clinical profession, nursing self-efficacy involves examining expectations of both knowledge and various skills required to become a nurse. Self-efficacy will be evaluated academically and clinically.

In summary, reliable evidence supports the belief that self-efficacy affects academic achievement and perseverance leading to retention of students and success. In study after study, high academic self-efficacy has been shown to be a strong predictor of academic achievement. As postulated by Bandura (1997), by achieving higher goals, highly efficacious students will continue to challenge themselves intrinsically and extrinsically. Furthermore, as Bandura summarized, students with high efficacy typically established higher goals for themselves, showed increased flexibility in searching for solutions, performed better academically, and more realistically evaluated the quality of their performances when compared with students of similar aptitude who had lower self efficacy. By accomplishing these challenges, students are motivated to set even higher academic goals. Researchers have repeatedly conceded the importance of high self-efficacy. Consequently, they have emphasized the necessity for faculty mentors, role models, tutoring, and various other interventions aimed at facilitating and encouraging the development of academic self-efficacy.

CHAPTER III

RESEARCH METHODOLOGY

Study Design

A cross-sectional, correlational research design was employed in this study. Cross-sectional designs assess behavior and/or attitudes at a single time in a participant's life (Polit & Beck, 2008). This method is efficient at identifying associations but does not test causality. The purpose of survey methodology is to measure quantitative information about variables by asking questions of participants and then examining the relationships among the variables (Field, 2000). This study examined the relationships among self-efficacy and ethnically diverse nursing students' retention in associate and baccalaureate degree nursing programs. The following research questions guided the study:

Q1 What are the relationships between nursing academic self efficacy, nursing clinical self-efficacy, and demographic variables such as age, marital status, gender, ethnicity, and work status as measured by the Nursing Academic Self-Efficacy Scale(NASES) and Nursing Clinical (NCSES)?

Q2 Is there a difference in the nursing clinical self-efficacy and nursing academic self-efficacy scores between those nursing students who progressed to the second semester in a nursing program and those who did not progress as measured by Nursing Academic Self-Efficacy Scale(NASES) and Nursing Clinical Self-Efficacy Scale (NCSES)?

Q3 Is there a difference in nursing clinical self-efficacy and nursing academic self-efficacy between nursing students of different racial/ethnic groups and progression from the first semester to the second semester as measured by Nursing Academic Self-Efficacy Scale(NASES) and Nursing Clinical Self-Efficacy Scale (NCSES??

Q4 What is the relationship of progression of nursing students from the first semester to second semester and demographic variables (gender, ethnicity, marital status, etc.) as measured by Nursing Academic Self-Efficacy Scale(NASES) and Nursing Clinical Self-Efficacy Scale (NCSES?

Population

Twenty community colleges and/or universities in the state of Tennessee offer 11 associate and 9 baccalaureate degree programs in nursing. Each community college, college and/or university admits approximately 40-185 nursing students each fall and/or spring. In 2009, 1269 first year Associate of Science in Nursing (ASN) students were admitted to state nursing programs. Additionally, 1452 Bachelor of Science in Nursing (BSN) students were enrolled in state schools but these students were not divided into newly admitted versus previously enrolled students. When examining the demographics of these nursing students at the various schools, the population consisted of 86.6% female and 13.4% male for ASN admission and 89.4 % female and 11.5% male for bachelor programs. There were 10.45% ethnically diverse and 87.1% Caucasian individuals in ASN programs and 13.8% ethnically diverse and 83.9% Caucasian individuals in BSN programs (Wagner & Murray, 2010).

Sample

The sample was obtained using a cross-sectional, correlational research design. Statistical power analysis assists in the estimation of the needed sample size to enable accurate and reliable statistical judgments. The sample size was calculated using G power software (Erdfelder, Faul, & Buchner, 1996). In order to have a medium effect size and confidence interval of $p < .05$, power of .95 with a two-tailed test, at least 210 subjects were required for the study sample (Cohen, 1988). The sample consisted of 878 first semester nursing students. All students enrolled in Fundamentals of Nursing or its

equivalent at 14 state nursing schools were recruited (individual school IRBs granted the researcher approval to conduct the study). Participants were 18 years of age or older and were an associate or baccalaureate degree nursing student in their first semester in their nursing program. Data were collected within the last six weeks of the first semester. Exclusion criteria were students under the age of 18, students in other semesters of their nursing program, and students who had been readmitted or failed a nursing program in the past; this variable could impact self-efficacy.

Setting

The study sites were two- and four-year state and/or public community colleges, colleges, and/or universities with associate or baccalaureate degree nursing programs in Tennessee. Participants were recruited from schools of nursing by contacting the dean, director, or chairperson of the college or university from whom approval was sought to perform research on first semester nursing students within their respective programs. Assistance was sought from nurse educators within the first semester Fundamentals, Basic, and or Introduction nursing courses. The researcher administered the survey in person at the end of class on a designated day. The professor of the class exited after the introduction of the researcher so students would not feel coerced to participate in the study. At the researcher's university, a doctoral faculty member with non-teaching capacity administered the questionnaires to eliminate students feeling coerced. Participation in the survey was completely voluntary; students were free to stay or leave the classroom setting. The surveys took approximately 20 minutes to complete. Refreshments were provided to thank the students for their participation.

Measures

The main independent variables used in this study were measured using the Nursing Academic Self-Efficacy Scale (NASES) and the Nursing Clinical Self-Efficacy Scale (NCSES). The measures are described below and listed in Table 1. The dependent variable was whether students achieved a passing grade in the Fundamentals of Nursing class or equivalent (1= *continued to second semester*, 0=*not passed*).

Table 1

Description of Measure

Variable	Description
Retention	1 = progressed to 2nd semester 0 = did not progress
Nursing Academic Self-Efficacy (NASES 1-22)	Nursing academic self-efficacy scale (NASES) is a 22 item scale which asks the student to assess how confident they were they could learn each of the confident they were they could learn each of the educational requirements using a 10-point response format ranging from 1 (very unsure) to 10 (very sure). The higher the rating the stronger the nursing academic self-efficacy expectation.
Nursing Clinical Self-Efficacy (NCSES 1-24)	Nursing clinical self-efficacy scale (NCSES) is a 24 item summated scale that assesses the student's confidence in successfully learning each skill. This scale uses a 10-point Likert response format ranging from 1 (very unsure) to 10 (very sure). The higher the rating the stronger the nursing clinical self-efficacy expectation.
Race/Ethnicity	1 = Caucasian 2 = African-American, African 3 = American Indian 4= Hispanic 5= Asian 6 = Latino 7 = Middle Eastern 8 = Alaskan Native 9 = Pacific Islander 10 = other-please specify
Degree Program	1 = ADN ; 2 = BSN
Age	Age in years
Gender	1 = Male; 2 = Female
Employment Status	1 = Full-time; 2 = Part-time; 3 = Not Employed

Table 1 Continued

Variable	Description
Marital Status	1 = married 2 = divorced/widowed 3 = single
First language	Is English your first language? 0 = No; 1 = Yes
Parent's Education	Has your parent(s) completed a college degree? 0 = No; 1 = Yes
Family Member	Did any other family members attend college? 0 = No; 1 = Yes
Mastery Experiences	(a) Do you have a prior degree? 0 = No; 1 = Yes (b) Have you ever completed a program or course in the past and performed extremely well and felt good about your successful accomplishment? 0 = No; 1 = Yes (c) Have you worked in a healthcare setting? 0 = No; 1 = Yes
Vicarious Experiences	-Do you know someone who is a Registered Nurse and serves as a role model to you? 0 = No; 1 = Yes
Physiological states	(a) -How stressed does this program make you feel? 1 = not stressed to 4 = extremely stressed (b) -How stressed do work or family responsibilities make you feel? 1 = not stressed to 4 = extremely stressed
Verbal persuasion	-Do you have a family member or significant other who provides verbal support or praise about your nursing studies? 0 = No; 1 = Yes

Nursing Academic Self-Efficacy Scale

Measuring academic self-efficacy in nursing students was validated using the NASES (Andrew & Vialle, 1998; Harvey & McMurray, 1994). This tool assessed how confident students were that they could learn each of the educational requirements using

a 10-point response format ranging from 1 (*very unsure*) to 10 (*sure*). The higher the student's ratings the stronger the student's nursing self-efficacy expectations (Harvey & McMurray, 1994). Psychometrics of the survey included an alpha coefficient of 0.94 (Harvey & McMurray, 1994). Internal consistency was satisfactory with test-retest reliability over a two week period of $r = 0.67$ ($p < 0.0010$). In this sample, the Cronbach's alpha reliability for the NASES was .956 at the 95% confidence level.

Nursing Clinical Self-Efficacy Scale

The NCSES offers a validated measure of clinical self-efficacy for nursing students (Andrew & Vialle, 1998; Harvey & McMurray, 1994). The NCSES uses the same response format as the NASES and sought to identify how sure nursing students were that they could confidently and successfully learn certain nursing skills (Harvey & McMurray, 1994). Psychometrics of the survey included an alpha coefficient of 0.96. NCSES showed good reliability over time with a test-retest reliability of $r = 0.76$ ($p < 0.001$). A high alpha reliability for this scale was found in this sample of nursing students. The Cronbach's alpha reliability for the NCSES was .959 at the 95% confidence level.

Demographic and Other Extraneous Variables

A nursing student demographic questionnaire was created to focus on relevant variables associated with nursing student attrition and progression. The nursing student demographic survey included personal background information such as age, marital status, ethnicity, whether English was the participant's primary language, and whether the student was enrolled in an associate or baccalaureate degree nursing program. In addition, the questionnaire included items to assess mastery experience, vicarious

experience, physiological states, and verbal persuasion. The questions used to measure these variables are listed in Table 1 above.

Ethical Considerations

Permission to complete research using human subjects was first obtained from the University of Northern Colorado (UNC) Institutional Review Board (IRB). Letters of cooperation were obtained from the participating TBR universities and colleges where the research was conducted. All nursing students who met the inclusion criteria and were present in class on the day of survey administration had the opportunity to participate; however, participation was completely voluntary and did not impact their grade or outcome in the class. After the professor left the classroom, the researcher made a verbal presentation to the class by explaining the study, reviewing the consent form, answering any questions, and emphasizing the voluntary nature of the study. In addition, participants were informed of their right to withdraw at any time and given the opportunity to leave if they chose not to participate. After all participants' questions were answered and informed consent had been provided, the nursing students who chose to participate were asked to sign the consent form and complete the questionnaire. No more than minimal risk was associated with this study except for possible mild psychological discomfort in answering questions and the risk of disclosure of identity. Students who agreed to participate were assigned an anonymous identification number to protect their identities. A master list was generated and locked in a storage container in the researcher's office until final grades were submitted and the student's status could be matched.

Data Collection

The researcher established contact with the identified schools of nursing dean, director, chairperson and/or relevant professors to make logistical arrangements. Inclusion and exclusion criteria and copies of study materials were provided. The researcher visited each school once during the Fall 2010 semester approximately one to two weeks after the mid-term of the semester for the administration of the questionnaire. This time-frame allowed the students to get oriented and somewhat acclimated to the nursing program and begin their on-campus clinical experiences. The participants were asked to complete the questionnaire. The researcher remained present throughout the completion of surveys for any assistance or questions. Students were asked to use their university-issued identification number or the last four digits of their social security number. This allowed the researcher to contact the student's home school at the end of the semester and ask the faculty leader to provide information regarding whether the student passed, failed, or withdrew, and to accurately link this information to the participant's baseline data.

Data Analysis

Data were entered into the Statistical Package for the Social Sciences (SPSS; Version 17). Psychometric properties of all measures were evaluated to ensure applicability of tools with this population.

Descriptive Analysis

The characteristics of the sample were described using frequency distributions, means, and standard deviations. Means and standard deviation were used for the continuous variables and frequency and percentages for the categorical variables.

Bivariate and Multivariate Analysis

For research questions 1-4, bivariate statistics were estimated to assess the empirical relationship of pairs of variables (Polit & Beck, 2008). The first research question (What are the relationships between nursing academic self efficacy, nursing clinical self-efficacy, and demographic variables such as age, marital status, gender, ethnicity, and work status?) was evaluated using ANOVA to examine the mean differences among categories of the various demographic variables. For the second research question (Is there a difference in the nursing clinical self-efficacy and nursing academic self-efficacy scores between those nursing students who progressed from the first semester to the second semester in a nursing program and those who did not progress?), Analysis of Variance (ANOVA) was utilized to determine whether those who progressed (retention) and those who did not progress differed in the means on the nursing clinical self-efficacy and the nursing academic self-efficacy. The third research question (Is there a difference in nursing clinical self-efficacy and nursing academic self-efficacy between nursing students of different racial/ethnic groups and progression from the first semester and second semester?) was examined using ANOVA to determine whether nursing students of different racial/ethnic groups differed in the means on nursing clinical and academic self-efficacy. The research question was then tested using multiple logistic regressions since the dependent variable (retention) was a binary variable. In addition to the nursing clinical self-efficacy and nursing academic self-efficacy variables, race and other demographic data were also included in the model as independent variables. The fourth question (What is the relationship of progression of nursing students from the first semester to second semester and demographic variables

[gender, ethnicity, marital status]?) was evaluated using logistic regression analysis to examine the mean differences among categories of the various demographic variables.

CHAPTER IV

RESULTS

Sample Selection and Response Rate

The sample for this study was drawn from first-year nursing students enrolled in Associate of Nursing (ASN) and Bachelor of Science in Nursing (BSN) programs in state universities and colleges in Tennessee. Fourteen out of 21 schools, representing 14 different counties in Tennessee, provided IRB approval for the survey to be conducted; however, only 13 schools were able to participate in the survey in the time allotted. Three universities/colleges had two or more satellite campuses and only one university offered both ASN and BSN degrees. The survey sample consisted of 468 students from seven ASN programs and 410 students from seven BSN programs for a total of 878 participants. When the survey was administered during the fall 2010 semester, the approximate enrollment from all programs was 1079 first-year students. The overall response rate for the survey (79%) was calculated as a percentage of the number of students who completed the survey divided by the number of students enrolled in the participating schools at the time the survey was administered.

Sample Characteristics

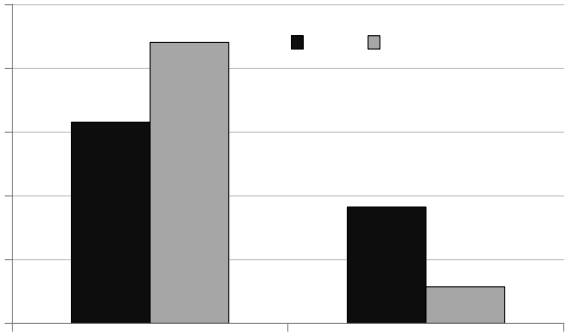
Descriptive Analysis

Descriptive analyses consisted of calculating means and standard deviations for each continuous variable and frequencies (%) for categorical variables. The descriptive

statistics are presented in Table 1. The sample was comprised of relatively young females, most of whom were Caucasian. The average age of the respondents was 26.7 years (*SD* = 8.05). The sample had an age range of 44 years (min =18 years, max = 62 years). Five hundred and eleven (58.2%) respondents were between ages 18 and 25 years, approximately 27% were between ages 26 to 35 years, and 15% of the respondents were 36 years and older, which is typical for new nursing students based on previous reports (Jeffreys, 2006). Traditionally, women have filled positions in the nursing field; thus, it was not surprising that nearly 84% of the sample of nursing students was female. A total of 141 male nursing students (14%) were enrolled in this study. Nursing faculty and nursing academic administrators were comprised of a very homogenous group; men represented only 3.5% of faculty and 2.45% of deans of schools of nursing (AACN, 2001).

In this sample, approximately 82% were Caucasian, 12% were Black or African American, and 6% were Asian, Hispanic or some other race. Interestingly, 6% of the sample also indicated that English was not their first or primary language of communication. The majority of the nursing students sampled were single/never married (56.7%), which may be attributed to the fact that the majority of students are relatively young. Just under one third of the sample was married (31%), 7% were cohabiting/living with a partner, and 5% were divorced or widowed. A significantly higher proportion of students in the ASN program were married or living with a partner (49%) than students in the BSN program (25%). Marital status has been used to estimate level of social support (Wells, 2003). These data were examined to assess whether or not marital status impacted nursing academic self-efficacy or nursing clinical self-efficacy scores.

Other demographic characteristics of interest included the fact that the majority of nursing students over the age of 30 years (37%) were enrolled in ASN programs and the majority of younger students (88%) were enrolled in BSN programs (see Figure 2). Associate degree students are known to attract greater numbers of non-traditional students such as students who are older, parents of dependent children, first generation college students, part-time students, recent immigrants, ESL, individuals with a General Equivalency Diploma (GED), and/or men (Jeffreys, 2007).



A significantly higher proportion of men were in the ASN program (21%) compared to the proportion of men in the BSN program (11%). Nearly half of the sample (47%) was not currently working, 42% reported that they were working part-time, and only 11% were engaged in full-time employment. Table 2 provides a broader demographic description of the sample.

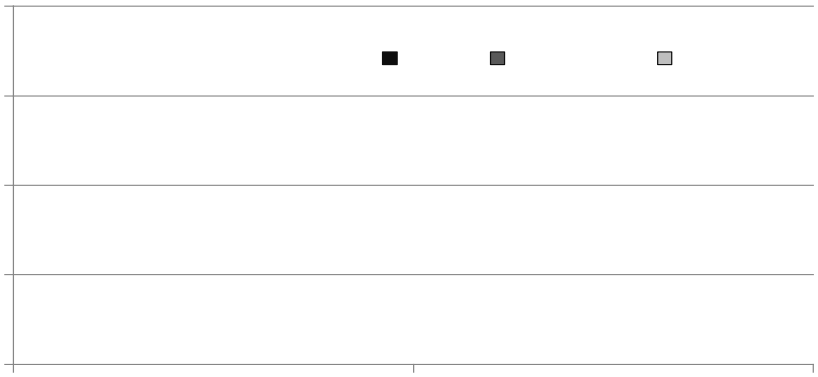
Table 2

Demographic Characteristics of Sample

Variable	ASN (*n*=468)		BSN (*n*=410)		Total (*N*=878)	
	(%)	*n*	(%)	*n*	(%)	*n*
Age Group*						
18 to 20 years	16%	(76)	30%	(124)	22.8%	(200)
21 to 25 years	27%	(126)	45%	(185)	35.4%	(311)
26 to 30 years	20%	(94)	13%	(53)	16.7%	(147)
31 to 35 years	13%	(62)	6%	(25)	9.9%	(87)
36 to 40 years	13%	(59)	3%	(13)	8.2%	(72)
41 and older	11%	(50)	2%	(9)	6.7%	(59)
Unreported	<1%	(1)	<1%	(1)	<1%	(2)
Gender*						
Male	21%	(98)	11%	(43)	16.1%	(141)
Female	79%	(370)	89%	(367)	83.9%	(737)
Race*						
Caucasian	85%	(399)	77%	317	82%	(716)
Black	10%	(47)	15%	(61)	12%	(108)
Asian	2%	(8)	3%	(13)	2%	(21)
Hispanic/Latino	2%	(7)	2%	(6)	2%	(13)
Other/Unidentified	2%	(7)	3%	(13)	2%	(21)
Marital Status*						
Single	43%	(203)	72%	(295)	57%	(498)
Living with Partner	9%	(42)	5%	(21)	7%	(63)
Married	40%	(189)	20%	(83)	31%	(272)
Divorced	7%	(33)	2%	(10)	5%	(43)
Widowed	<1%	(1)	0%	(0)	<1%	(1)
Unreported	0%	(0)	<1%	(1)	<1%	(1)
Employment Status*						
Full time	15%	(70)	5%	(22)	11%	(92)
Part-time	44%	(206)	41%	(166)	42%	(372)
Not working	41%	(191)	54%	(222)	47%	(413)
Unreported	<1%	(1)	0%	(0)	<1%	(1)
First Language English						
No	5%	(23)	7%	(30)	6.0%	(53)
Yes	95%	(445)	93%	(380)	94%	(825)

*Significant association by academic program based on Chi-square $p < .05$.
N=878

The main outcome variable in this study was academic progression to second semester (Pass/Fail). Figure 3 is a depiction of academic progression by race. Ninety five percent of the total sample achieved academic progression.



A descriptive report on the independent variables is included in Table 3. The mean nursing academic self-efficacy score (NASES) for the total sample was 183.3 (*SD*=27.12). The mean for the nursing clinical self-efficacy score (NCSES) was 221.0 (*SD*=22.83). The variables measuring vicarious experience, mastery experience, verbal persuasion, and physiological state were each coded as dichotomous variables (where 0 = *No or not having the condition* and 1 = *Yes or having the condition*).

Vicarious experience is an individual's experience with people who have made accomplishments similar to what the individual is trying to achieve that instills a sense of confidence that the individual can accomplish a similar task. Two questions were used to measure vicarious experience in this sample. Nursing students were asked to indicate

whether or not their parents had completed college and whether or not other family members had completed college. Approximately 78% of the sample reported having some vicarious experience. There were no racial differences in level of vicarious experience.

Mastery experience relates to successful past experiences and accomplishments the individual has had that could influence confidence in his or her ability to be successful in their nursing program. In this survey, three questions that inquired whether or not the nursing student had a prior degree, had ever completed a program or course in the past and performed extremely well, felt good about their successful accomplishment, and whether or not they previously worked in a healthcare setting were used to create the mastery experience scale. About 54% of the sample reported a higher level of mastery experience. There were no racial differences in mastery experience.

Verbal persuasion is a component wherein persons with influence on an individual's life--parents, family members, or role models--use persuasive measures and support to convince him or her of his or her capacity to perform behaviors in a given domain. Verbal persuasion was measured using a single dichotomous variable that inquired whether the nursing student had a family member or significant other who provided verbal support or praise about their nursing studies. Although a majority of students from both racial groups (over 90%) reported having support and encouragement, there was a significant difference between groups based on chi-square analyses (χ^2 (1, N = 878) = 8.37, p = .002). In other words, a significantly higher proportion of Caucasian students (96.2%) received support and encouragement in their nursing program from family or other significant persons than did ethnically diverse students (90.7%).

Physiological state is a level of emotional arousal an individual exhibits when experiencing different levels of anxiety. In this survey, physiological state was assessed by measuring the level of stress experienced by the nursing students. Stress level was obtained from 346 respondents only because this question was included for students from six schools (four community colleges and two universities). Most students (75.4%) reported being highly stressed; however, there was a significantly higher proportion among ethnically diverse students (χ^2 (1, N = 346) = 6.52, p = .011). Over 88% of ethnically diverse students reported very high or extremely high levels of stress compared to approximately 73% of their Caucasian counterparts (see Table 3 for descriptive statistics of main independent variables).

Table 3

Descriptive Statistics on the Main Independent Variables

Variable	Caucasian *n*=716		Ethnically Diverse *n*=162		TOTAL *n*=878	
Continuous Variables	Mean	*SD*	Mean	*SD*	Mean	*SD*
NASES (n=874)	183.2	*27.14*	184.1	*27.39*	183.3	*27.12*
NCSES (n=874)	220.9	*22.62*	221.4	*23.82*	221.0	*22.83*
Dichotomous Variables	*n*	% Yes	*n*	% Yes	*n*	% Yes
Vicarious Experience (*n*=878)	560	78.2%	126	77.8%	686	78.1%
Mastery Experience (*n*=875)	390	54.6%	83	51.6%	473	54.1%
Support* (*n*=878)	689	96.2%	147	90.7%	836	95.2%
High Stress* (*n*=376)	208	72.7%	53	88.3%	261	75.4%

*Significant between group difference by race based on Chi-square $p < .05$.

Statistical Analysis

Bivariate analyses such as chi-squares, cross tabulations, *t*-tests, and Pearson correlations as well as multivariable logistic regression models were conducted to examine the research questions.

Relationship between NASES and NCSES and demographic variables.

Q1 What are the relationships between nursing academic self-efficacy, nursing clinical self-efficacy, and demographic variables such as age, marital status, gender, ethnicity, and work status?

Bivariate analyses including Pearson correlations and chi square tests were used to examine relationships between these key variables without controlling and/or adjusting for other factors. Correlations between the nursing self-efficacy scales and the demographic variables are displayed in Table 4. A moderate, but significant, positive relationship existed between age and marital status ($r = .425$; $p < .01$). In other words, the older the respondents, the more likely they were to be married or living with a partner. There was also a significant relationship between age and NASES ($r = .108$; $p < .01$) and NCSES ($r = .073$; $p < .05$). Although Pearson coefficients suggested that these relationships were not very strong, these unadjusted estimates suggest that older respondents were more likely to have higher self-efficacy scores on both self-efficacy scales. Older respondents were also significantly less likely to be female ($r = -.206$, $p < .01$).

There were also positive significant relationships between being married or cohabiting and NASES ($r =. 114$; $p < .01$) and NCSES ($r = .097$; $p < .01$). Previous research suggested that married or cohabiting increased a person's level of social support, which in turn tended to have a positive impact on self-efficacy (Amaro et al., 2006).

Further analysis revealed that students who were married or living with a partner had significantly higher mean scores on both the NASES and NCSES than those who were not married or living with a partner.

A significantly higher percentage of ethnically diverse students were working part-time or full time jobs when compared to their Caucasian counterparts. Based on chi-square (χ^2) and difference of proportions tests (*z-test*), this difference was mainly between the students who were working part-time. A significantly higher proportion of male nursing students were ethnically diverse than the proportion of male students who were Caucasian ($\chi^2(1, N = 878) = 9.47, p = .002$).

Table 4

Relationship Between Self-efficacy Scales and Demographic Variables

Variables		1	2	3	4	5	6	7
1	Age	1						
2	Married	.425**	1					
3	Female	-.206**	-.026	1				
4	Not Caucasian	-.042	-.060	-.104**	1			
5	Working	.031	.025	-.166**	.090**	1		
6	NASES	.115**	.122**	-.037	.012	.032	1	
7	NCSES	.070*	.098**	.055	.008	.054	.686**	1
	N =	872	873	874	874	873	872	874

* Correlation significant at the p < 0.05 level (2-tailed).

** Correlation significant at the p < 0.01 level (2-tailed).

Q2 Is there a difference in the nursing clinical self-efficacy and nursing academic self-efficacy scores between those nursing students who progressed to the second semester in a nursing program and those who did not progress?

Independent samples *t*-tests were used to examine (a) differences in mean scores on the nursing academic self-efficacy scores (NASES) and (b) means scores on the nursing clinical self-efficacy scale (NCSES) between the two groups. This analysis determined that there was a statistically significant difference in mean scores on the NASES between students who progressed, M=183.9 (SD=26.85) and those who failed to progress to the second semester, M=170.6 (SD=30.83); $t(872) = -3.080$, $p = .002$.

The mean NCSES score for participants who progressed to the second semester was 221.3 (SD=22.63) while the mean score for those who failed was 215.3 (SD=26.23). These differences were *not* significant at $p < .05$ using a 95% confidence interval, $t(872) = -1.640$, $p = .101$. In other words, nursing clinical self-efficacy scores did not differ between these two groups.

Racial differences in academic and clinical self efficacy.

Q3 Is there a difference in nursing clinical self-efficacy and nursing academic self-efficacy between nursing students of different racial/ethnic groups and progression from first semester to the second semester?

Independent samples *t*-tests were used to examine this question. The sample was first split by the categorical variable *pass/fail* (0 = *failed* and 1 = *passed*) and then the *t*-test was calculated (the *t*-test group was race). No statistically significant difference was found between groups for those who progressed ($t(831) = -1.380$, $p = .168$) and those who did not progress ($t(39) = .912$, $p = .367$). However, on the NASES scale among the ethnically diverse group, a significant, within group difference existed. Among the ethnically diverse group of students, those who progressed to the second semester had a

significantly higher mean NASES score (*M*=187, *SD* =25.49) than those who did not progress (*M*=167, *SD* = 31.55; *t*(152) = -2.824, *p* = .005). This within group difference was non-existent among Caucasian students

Likewise, an independent samples *t*-test was used to examine mean differences by race on the nursing clinical self-efficacy scale between students who progressed and those who did not progress to the second semester. No statistically significant difference was found between groups for those who progressed (*t*(749) = -.454, *p* = .650) and no significant difference in NCSES between groups for those who did not progress (*t*(34) = .041, *p* = .967). There were also no within group differences (see Figure 4). In other words, nursing clinical self-efficacy scores were similar for all students regardless of ethnicity.

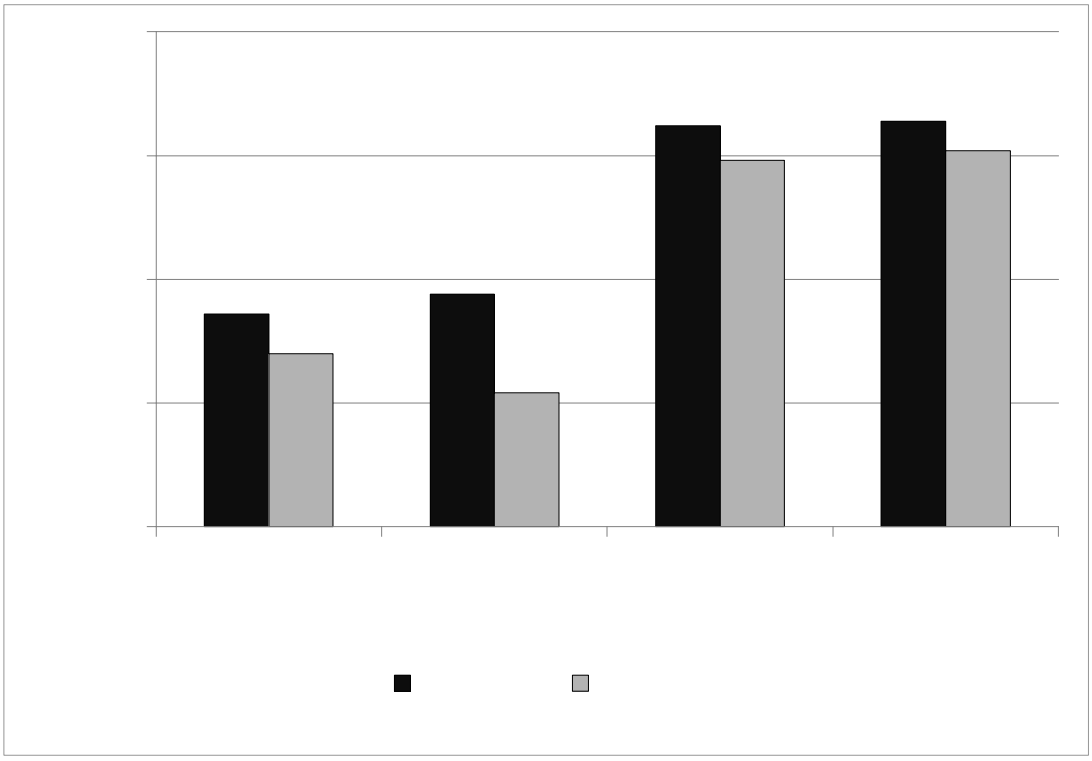


Figure 4. Racial comparisons of average NASES scores by academic progression.

Effect of ethnicity on academic progression.

Q4 What is the relationship of progression of nursing students from first semester to second semester and demographic variables (gender, ethnicity, marital status, etc.)?

Two direct multivariate logistic regression models were used to examine the fourth research question, which looked at whether or not students' demographic factors (age, gender, married or living with a partner, ethnic diversity, work status), nursing academic (NASES), and nursing clinical self-efficacy (NCSES) scores predicted the likelihood of academic progression of nursing students from first semester to second semester. A total of 868 respondents were included in this analysis. The first model was statistically significant, χ^2 (7, N = 878) = 34.83, $p < .001$, indicating that the model was able to distinguish between respondents who progressed and those who did not. The regression model classified 95.4% of the sample and explained between 3.9% (Cox and Snell R^2) and 12.6% (Nagelkerke R^2) of the variance in academic progression. Two factors (ethnic diversity and score on the NASES) significantly predicted the likelihood of students achieving academic progression at $p < .05$. The ethnic diversity variable had the strongest predictive effect on academic progression. The odds ratio for the ethnically diverse variable (β = -.175; $p < .001$) indicated these students were .175 times less likely to progress to the second semester while adjusting for the other covariates. When an odds ratio is greater than one, the occurrence is more likely in the first group; whereas when the odds ratio is less than one, the same occurrence is less likely in the first group (Polit & Beck, 2008). Higher scores on the NASES predicted an increased likelihood of academic progression to the second semester (β = 1.019; $p < .05$).

The second model (*n*=346) included vicarious experience, mastery experiences, verbal support, and stress level as additional predictors. The regression-adjusted probabilities indicated that the association between being non- Caucasian (ethnically diverse) and academic progression remained statistically significant after adjusting for vicarious experience, mastery experiences, support, and stress--even though according to the literature, these factors, which impact self efficacy, should be expected to have a significant association with academic success. These added variables did not significantly alter the effect of ethnic diversity or nursing academic self-efficacy on academic progression. This second regression model classified 94.7% of the sample and explained between 11.7% (Cox and Snell R^2) and 34.6% (Nagelkerke R^2) of the variance academic progression (see Table 5).

Table 5

Logistic Regression Estimates of Effect of Demographics on Academic Progression

	Model 1 (*n*=868)			Model 2 (*n*=340)		
Variables	*b*	Exp (β)	*p*	*b*	Exp (β)	*p*
Age	-.001	.999	.972	.006	1.006	.907
Female	-.094	.910	.838	-.709	.492	.420
Married/Cohabiting	.175	1.191	.775	.594	1.811	.350
Ethnically Diverse	-1.743	.175	.000	-2.102	.122	.001
Working	-.242	.785	.481	-1.122	.326	.099
NASES	.019	1.019	.013	.041	1.042	.001
NCSES	-.005	.995	.600	-.014	.986	.337
Vicarious Experience				.643	1.903	.287
Mastery Experience				.082	1.085	.891
Support				1.232	3.427	.208
Stress Level				-1.378	.252	.254
Cox & Snell R^2	.039			.117		
Nagelkerke R^2	.126			.346		

N=878.

In order to examine whether there were differences in the factors that predicted academic success for either group, the same covariates were included in a logistic regression model that was split by ethnic diversity. Table 6 shows that nursing academic self-efficacy was a significant predictor for Caucasian students (β = 1.056; p = .010) but not for students who were ethnically diverse. Nursing academic self-efficacy had only a marginally significant effect for non-Caucasian students (p = .064). None of the

variables had any significant main effect for academic progression for nursing students in this sample.

Table 6

Regression Estimates of Effect of Covariates on Academic Progression by Race

	Caucasian (*n*=282)			Ethnically Diverse (*n*=58)		
Variables	*b*	Exp (β)	*p*	*b*	Exp (β)	*p*
Age	.001	1.001	.983	.045	1.046	.697
Female	.392	1.480	.741	-1.620	.198	.245
Married/Cohabiting	1.003	2.727	.270	-.009	.991	.993
Working	-1.270	.281	.236	-1.062	.346	.271
NASES	.049	1.050	.012	.034	1.034	.090†
NCSES	-.026	.975	.267	-.006	.994	.792
Vicarious Experience	.769	2.157	.359	-.020	.980	.983
Mastery Experience	.009	1.009	.991	-.202	.817	.850
Support	-16.890	.000	.999	1.570	4.806	.201
Stress Level	-17.305	.000	.997	-.267	.766	.881
Cox & Snell R^2	*.053*			*.201*		
Nagelkerke R^2	*.256*			*.324*		

†Marginally significant $p < .10$.
N=878

Summary

This study sought to measure academic self efficacy (NASES) and clinical self-efficacy (NCSES) among first semester nursing students to determine (a) if these factors were significantly associated with progression from the first semester to the second semester of a nursing program, and (b) whether or not there were racial differences

between Caucasian and ethnically diverse students. This study confirmed previous research that described the typical demographic characteristics of nursing students as being predominantly young Caucasian females. With only 18% of the sample reported as being ethnically diverse, the results of this study confirmed previous studies that demonstrated the critical lack of ethnic diversity among nursing students. The study also supported other research that showed differences between typical ASN and BSN students. ASN students tended to be older students and nearly twice as many men were enrolled in the ASN than in the BSN program.

Importantly, this study revealed no racial differences in academic or clinical nursing self-efficacy. Nursing academic self-efficacy was a significant predictor of academic progression for Caucasian nursing students but not for ethnically diverse students. Nursing clinical self-efficacy was not a predictor of academic progression for either group in this sample. Ethnically diverse students were significantly more likely to fail their first semester in nursing than their Caucasian counterparts even after adjusting for self-efficacy, age, marital status, employment status, vicarious experience, mastery experience, verbal persuasion, and physiological states. These findings suggest that other variables and theories need to be examined to determine the factors that predict academic retention among ethnically diverse students.

CHAPTER V

DISCUSSION

Self-efficacy and retention among ethnically diverse (non-Caucasian) nursing students was the focus of this study. Survey results found no racial differences in academic or clinical nursing self-efficacy. However, ethnically diverse students were significantly more likely to fail their first semester in nursing than their Caucasian counterparts. Attrition or failure to progress among ethnically diverse students has implications for the field of nursing as well as for other disciplines. The results of this study suggested that failure to address this issue could create a possible threat to the quality of nursing care and practice in the United States related to the number of ethnically diverse students who cannot successfully become nurses. The purpose of this chapter is to discuss and analyze the findings of this study. In addition, the limitations of the study, the implications for future research, some recommendations for addressing the problem of attrition among first year nursing students, and the broader outcome of the lack of ethnic diversity in the nursing profession are discussed.

Ethnic/Racial and Gender Diversity

The sample for this study was drawn from 14 universities and community colleges across the state of Tennessee during the fall 2010 semester. Although this sample was a fairly representative sample of nursing students in public schools in the state of Tennessee, it demonstrated the lack of ethnic and gender diversity that currently

exists in the nursing profession. In addition, there was one historically Black college or university (HBCU) School of Nursing within this sample of surveyed schools. HBCUs fall under the Higher Education Act of 1965; the U.S. government defines an HBCU as "any historically black college or university that was established prior to 1964, whose principal mission was, and is, the “education of black Americans” (U.S. Department of Education, 2010, p. 1). There are 105 HBCU’s located within the United States; traditionally HBCUs have a higher numbers of ethnically diverse students and faculty (Savali, 2010). Of the 878 first semester nursing students who participated in this study, 82% were Caucasian. This finding supported national data and other studies that indicate Caucasian women account for more than 80% of nurses practicing in the United States (Noone, 2008; U.S. Census Bureau, 2000). Efforts to promote and enroll ethnically diverse students in the field of nursing should be encouraged at all levels since the current supply of nurses does not mirror the population at large. According to the Sullivan Commission report (2004), 25% of the U.S. population is Hispanic, African American, or Asian; however, only 9% of all nurses fall within this ethnic or racial group range. The numbers of ethnically diverse students who participated in this study and progressed are quite consistent with the literature supporting the fact that there are low numbers of ethnically diverse individuals who matriculate and become nurses.

It is well established that there is a shortage of nurses in the United States (AACN, 2009). The Bureau of Labor Statistics predicts a deficit of more than one million registered nurses (RN) by the year 2020 (AACN, 2010). This is due to the growing demand for nursing care and the increase in the retirement of nurses in education and practice (U.S. Department of Labor Statistics, 2002). Compounding the issue for

better representation of minorities in the profession of nursing raises the question of whether culturally competent nursing care is being provided to the expanding ethnically diverse groups in the United States.

The need for bilingual nurses is imperative in healthcare. Improved communication has been cited as a rationale for a more diverse nursing workforce (U.S. Department of Health and Human Services, 2005). Although, individuals where English is not their primary language (ESL) have been the center of quite a few research studies, Chamot (2005) posits that ESL minority nursing students have more difficulty because of language. They are not only contending with the issues of being ethnically diverse but trying to understand the syntax of the English language. Although language can be a barrier for ESL students, Fletcher et al. (2003) found ethnically diverse nurses have a long history of contributing care to the poor and sick, improving health within their communities, and advocating for those whom they serve. Ethnically diverse nurses provide culturally competent care because they are diverse and understand many of the disparities faced by people of color. Ethnically diverse nurses actively work to eliminate disparities in health.

Not only is ethnic diversity an issue in nursing practice but there is also a significant gender divide. Traditionally, women have largely filled positions in the nursing field. Thus, it was not surprising that nearly 84% of the sample of nursing students was female. According to a bulletin published by the AACN (2001), Caucasian females comprised approximately 91% of the nation's nursing students admitted to nursing programs each year. Men have traditionally not entered nursing; according to the U. S. Department of Health Resources and Services (2005), only 5.4% of registered

nurses are men. Possible explanations include gender stereotypes associated with women who have provided care to their families, their children, and the sick; therefore, it might appear unmanly in a woman-dominated profession (Gilchrest & Rector, 2007). In addition, nursing faculty comprise a very homogenous group of women. Men represent only 3.5% of faculty and 2.5% of deans of nursing (AACN, 2001). While gender diversity was not a main focus of this study, this information is relevant to the overall issue of diversity and competent care.

Retention

Many research studies have addressed recruitment of ethnically diverse students but retention of this group in higher education is of national concern (ACE, 2006; Crow et al., 2009) and even more so in the field of nursing (Fletcher, 2003; Gardner, 2005; Gilchrest & Rector, 2007; Mulholland et al., 2008). In this study, a significantly higher percentage of ethnically diverse students (14%) failed to progress in their nursing program compared to 3% among their Caucasian counterparts. In a similar study conducted at Texas Women's University (TWU) over two semesters, 98 students were admitted: 51% were Caucasian non-Hispanic and 49% were Asian, African American, Hispanic, or other types of ethnicity. After the first semester at TWU, the nursing program's attrition was 4% for Caucasians and 35% for ethnically diverse nursing students (Symes et al., 2002). Research continues to support the supposition that African American students in predominately Caucasian institutions find it difficult to reach a level of comfort and acceptance within their new environment. Ethnically diverse students attributed their reasons for withdrawing or not being successful in predominately Caucasian nursing programs to feeling alienated, lonely, isolated, and not blending in

with the racial majority students (Childs et al., 2004). Ethnically diverse nursing students may have limited exposure to primary and secondary education opportunities compared to people of higher socioeconomic means. This inadequate education is reflective when the student enters higher education and has difficulty competing within the Eurocentric curriculum of most nursing programs; many ethnically diverse students feel powerless and have feelings of inadequacy (Gilchrest & Rector, 2007). In other research studies, ethnically diverse students cited they had no faculty who understood their cultural needs, resembled them, or served as role models or mentors. Many times, ethnically diverse students are first generation college students and have parents who may not give them the parental support and encouragement needed to attend college (Stanley et al., 2007). Many Latino students have had high school experiences that have been substandard. They have not been taught study skills and time management. In addition, many Latinos have been in middle and high schools where they received no motivation, encouragement, or confidence usually offered by teachers and guidance counselors (Alicea-Planos, 2009). These factors are significant obstacles to achieving success. The results of this present study supported previous findings that students who are ethnically diverse have a more difficult time being successful in a nursing program.

While researchers have speculated factors regarding attrition of ethnically diverse nursing students, the concept of self-efficacy has not been extensively studied or applied in their exploration and research. The main purpose of this investigation was to evaluate the relationship among nursing academic and clinical self-efficacy, sources of self-efficacy and selected variables among ethnically diverse and Caucasian nursing students, and the progression of nursing students from the first semester to the second semester in

the first year of a nursing program. The first semester of nursing was chosen because within schools of nursing, students who fail their first semester of nursing are not allowed to continue in the nursing program. The literature supported that first semester nursing students underestimate the rigor of this semester and do not realize the expectations and change in thinking (critical-thinking, problem-solving, decision-making) required for successful progression from the first semester to subsequent semesters within the program (Peters, 2005). Chamot (2005) posited that many ethnically diverse students have learned rote memory and not application, therefore, this can be a barrier to success. The first semester lays the foundation and provides the groundwork for this change in thinking. Jeffreys (2007) posited that success in the first nursing courses predicted success in future courses or could contribute to poor academic outcomes.

Predictors of Academic Progression

Academic and clinical self efficacy. Since nursing is composed of two domains (theoretical and clinical), both domains were evaluated to determine their relationship regarding academic progression. Self-efficacy was measured utilizing two tools: the Nursing Academic Self-Efficacy Scale (NASES) and the Nursing Clinical Self-Efficacy Scale (NCSES; Harvey & McMurray, 1994). Harvey and McMurray (1994) developed these tools based on many aspects of nursing behavior that they felt were significant in nursing education. Constructed on Bandura's (1977) theory, nursing self-efficacy was developed through four factors: mastery experience, vicarious states, physiological states, and verbal persuasion. Mastery experience refers to an individual's success with past performance. Vicarious experiences are when individuals compare themselves to peers or significant others whom they view as similar to what they are attempting to

accomplish. Verbal persuasion is when someone provides verbal support, reassurance, or praise related to the task. Physiological states are emotional states that can arise due to stress, anxiety, or an emotional reaction. In summary, the only variable of these four domains that showed significance for the sample group was vicarious experience. Although not as potent as mastery experience, vicarious experience can influence an individual's self-efficacy. According to Bandura (1997), a person can persuade him or herself that if others can do it, he or she too has the capacity to enhance his or her performance. He further posits that seeing others perceived to be similar fail can lower a student's self-efficacy; the greater the similarity, the more persuasive the facsimile's accomplishments or failures can be. Bandura (1997) further explains that the different sources of self-efficacy seldom operate independently.

The first research question examined whether or not there were differences in self-efficacy based on demographic factors. The variables of age and being married or cohabiting were significantly correlated with both self-efficacy domains. In addition, the mean age for Associate of Science in Nursing (ASN) students was 29 years and the mean age for the Bachelor of Science in Nursing (BSN) students was 24 years. This finding regarding age for the two groups was consistent with current research. This suggests that age mature students feel more confident in their ability to perform both academic and clinical tasks in nursing. Muholland et al. (2008) found that older students were more likely to complete a nursing program than their younger cohorts. Kevern and Webb (2004) posited that mature students were likely to invest more time and effort because they had more to lose from not progressing. In a metasynthesis, Alicea-Planas (2009) described a 33-year-old Puerto-Rican full-time female nursing student who was attending

nursing school for a better life for her and her family. She indicated that although she was a full-time nursing student, she still worked full-time to provide for her family. The variable of age is important; it is related to persistence and determination. When a student is non-traditional and has family responsibilities, they do not have time to be unsuccessful. Attending school for mature adults produces a hardship; they must work full-time (possibly to maintain health insurance and provide for their family), attend school, and take care of children and family obligations. The demands of being a student with family responsibilities are intense compared to younger students who may not have to work or may not have family responsibilities. Therefore, younger students may not be as serious or as committed as more mature nursing students. This may explain the higher NASES and NCES for a mature nursing student. The mature nursing student feels "I can do it" or "I must do it." The whole nursing school experiences may be an overwhelming occurrence for them. But they accomplish what they set out to do--complete nursing school.

When it comes to the variable of being married or cohabiting, it was significantly correlated with both academic self-efficacy (NASES and NCSES) domains. Students who were married or living with a partner had significantly higher mean scores on both the NASES and NCSES than those who were not married or living with a partner. There were no racial differences in nursing academic or clinical self-efficacy. It has been shown that married or cohabiting is associated with social support; this in turn tends to have a positive impact on self-efficacy (Amaro et al., 2006). Being in some type of relationship can have two different outcomes depending on the significant other's stance regarding education. In many ethnically diverse families, if the female is obtaining a

nursing degree, the significant other may feel paranoid and view it as a way for them to lose control of the female nursing student. In the African American family, if the male does not have a degree and the female is attempting nursing school, it can contribute to relationship problems; the male may feel the female is trying to be better than them. Many times, these females withdraw because the significant other was not supportive; therefore, the only recourse was to withdraw from nursing school. For many ethnically diverse female students who are in a relationship, returning to school or attending school can create unnecessary personal conflicts. In a study by Gardner (2005), Bani, an East Indian nursing student, was married with children and had in-laws living with her family. Bani's husband and in-laws opposed her attending college and studying. Her husband believed all of her attention should be on her family. This is very typical of a male-dominated society. In contrast, in many Caucasian relationships, attending college is viewed as a way to accomplish a goal, to get a better job with more security, a change in lifestyle, to have health insurance, to purchase a home, live in a nice neighborhood, and take vacations. In the Caucasian family, the significant other may pick up family responsibilities, which may have traditionally been the nursing student's responsibility, while they are in school to lighten the student's household responsibilities and assist them in being successful. In some Caucasian families, one member may work while the other member is in school. Although, this may cause a financial strain, it is to accomplish something that will help the family in the long run. In Caucasian families, the couple may take turns in going to school and working; they usually will work together for the betterment of the family.

More than one-third of Caucasians in their late twenties had a bachelor's degree compared to 18% African Americans and 10% Hispanics (Alicea-Planos, 2009; Pathways to College, 2003). Peters (2005) postulated that students who attended ASN programs are usually non-traditional, minority students from disadvantaged backgrounds, students who are returning to school for career changes, students whose children were now in school and/or independent, or students who may have had a prior degree. Alicea-Planos (2009) found that many Hispanics only attain a ninth grade education. However, when selecting a higher education route, they will attend a community college compared to Caucasians.

Students in the BSN program are usually younger and have decided on nursing as a career path upon graduation from high school. Muholland et al. (2008) found that the variable of past education relating to success within a nursing program did not contribute to educational achievement. Mastery experience was found to be the most potent source of self-efficacy (Bandura, 1986). For the participant sample, however, prior education had no effect on academic success. Of the 246 students who had prior degrees, 27% did not progress to the second semester. This finding indicated no relationship between prior degrees and progression. Bednarz, Schim, and Doorenbos (2010) found that second degree nursing students should be the most academically prepared; yet because of the rigor of nursing education, many students struggle with the high demands of nursing education.

Ethnicity. Persons who scored higher on the NASES were more likely to progress academically; whereas persons who were ethnically diverse were less likely to progress. However, within the ethnically diverse group, those who progressed to the

second semester had significantly higher academic self-efficacy scores than their ethnically diverse counterparts. This within group difference was not evident among Caucasian nursing students**.** According to Bandura (1978), students can usually use their own performance as a reliable guide for efficacy. If the ethnically diverse student was failing when they participated in this study, then their confidence in their academic ability to be successful when questioned concerning academic aspects of nursing would create a low NASES. On the other hand, those students who were passing their Introduction to Nursing course when they participated in this study would have a higher NASES because they knew they were successful/passing. In many studies, high self-efficacy was shown to be a strong predictor of academic achievement. Enhanced intrinsic motivation is achieved by students who have higher self-efficacy, leading to sustained levels of motivation and persistence in the face of difficulties (Bandura, 1997). Racial minorities, more than Caucasian nursing students, have been found to experience stressful life events or situations such as unemployment, poverty, or being a single parent (Hibbard et al., 2008). Ethnic minorities have a smaller social network than their Caucasian counterparts. African Americans were found to have higher levels of psychological distress measured by hopelessness, depression, and life dissatisfaction (Hibbard et al., 2008). Academic difficulties and financial concerns were found to contribute to a high attrition rate for ethnic minorities in a California state school (Gardner, 2005). For many ESL students, cultural and language difficulties were identified as barriers to their ability to be successful in a nursing program. Lack of role models and mentors who are ethnically diverse has been cited as a recurrent problem in the literature that impacts students' ability to be successful in nursing (Alicea-Planas, 2009). Bednarz et al. (2010) identified

cultural variations in approaches to academia as a pitfall creating problems for the English as a Second Language (ESL) student. Classes in many countries are lecture-based; in the United States, discussions, case studies, scenarios, simulations, and presentations make it very difficult for language minority students to be successful. These findings suggest that there are many reasons or barriers that impinge upon an ethnically diverse student's ability to be successful in a nursing program. However, the student must take these adversities and approach them in a positive manner; they should not become discouraged and view them as a challenge and or motivator. Nursing faculty must help ethnically diverse students be successful. These factors must be addressed even though research has shown that students who are more efficacious tend to have more perseverance and resilience during difficulties and failures and are ultimately more successful in their academic endeavors (Bandura, 1995; Gore, 2006). Nurse educators must embrace the ethnically diverse nursing students and show the students that they care, are concerned, and would like to help them be successful.

Study Limitations

Although this study included a reasonably large sample of first year nursing students in the state of Tennessee, the major limitation of the study was the lack of random selection at the university/college level. In spite of this limitation, the schools that consented to participate in this study were located in major ethnically diverse population centers in the state of Tennessee. While the results may not be generalized to the wider population, this study provided valid data on the academic experience of ethnically diverse nursing students in Tennessee. Another limitation was the data for the study were collected after the mid-term period; students who withdrew from the nursing

program prior to data collection were lost. The response rate would have been higher (approximately 85% or more) if the study had been performed prior to midterm because students who withdrew at midterm would have been captured; therefore, these participants were lost. If this study had been performed within the first weeks of classes, the results may have been different. Students would not have attended clinical yet and may not have taken their first exam, therefore they may have been under the premise of "I can do it."

The length of time securing IRB approval was a limitation. I had to complete an IRB packet at all institutions. At two schools, I performed human subject modules. Then some of the schools had to check with the presidents of their school. Finally, all schools had to secure consent from the Dean, Chair, or Director of the Nursing program. Because of the time involved in securing IRB approval at each school, there was a specific community college in Memphis with a high number of ethnically diverse students that I could not visit. The response rate would have been different if this study was performed within the first few weeks of the classes prior to midterm. By performing this study later in the semester, it allowed students to get a better idea of their academic and clinical potential because all students had begun their clinical experience.

Nursing Implications

The Institute of Medicine's report (IOM; 2002) described evidence of racial and ethnic disparities in healthcare across a wide array of disease areas, clinical services, and clinical settings. Diversity was cited as a way to strengthen the patient-provider relationship, improve health care, and decrease health disparities. The report attributed this problem to many factors but identified one of the leading contributors as the quantity

of underrepresented numbers of minority groups in the health profession (IOM, 2004). According to the U.S. Census Bureau (2000), by the year 2050, the U.S. population will change drastically with approximately 50% ethnic minorities becoming the majority instead of minority. The AACN (2005) has developed several solutions to address the nursing shortage. One strategy to address the crisis is for nursing schools to increase their enrollment of ethnic minorities and men.

Lack of role models, making the connection, lack of minority faculty representation, lack of representation within the university, and discriminatory assumptions were some issues minority nursing students indicated impinged on their success in a nursing program (Mills-Wisneski, 2005). Retention of ethnically diverse nursing students affects the healthcare of the nation. As the United States works on healthcare reform, the basic premise is to improve the conditions in which people are born, grow, live, age, and die. According to Wilensky and Satchel (2009), this has a more lasting effect than changes in medical care. The retention of ethnically diverse students is needed to bring to the profession of nursing a better grasp of the issues and concerns facing many health care consumers. Success in nursing improves the lives of ethnically diverse nursing students, their families, and society by increasing their social status and long-term earning potential (Zuzelo, 2005). Hence, increasing the number of ethnic minority nurses to provide culturally congruent and competent care and insure the quality of healthcare to an increasing diverse population remains a national concern. Additionally, since the problem is cyclical, by increasing the number of ethnical diverse students, we are assisting in increasing the number of minority faculty.

Although there are new national initiatives on increasing the number of ethnically diverse nurses practicing, nurse educators are in a unique position to focus on effective interventions and preventive measures, particularly in the School of Nursing, regarding retention efforts. Acknowledging the role of self-efficacy in an individual's view of self and in their behaviors, academic self-efficacy interventions need to be implemented to improve confidence in the ethnically diverse student ability to prevent attrition in nursing. The focus of the interventions should (a) improve the individual's knowledge of, hence affecting mastery experience; (b) improve regimen specific efficacy beliefs; (c) identify mentors who are exemplar to serve as role models; and (d) increase behavior outcome. This can be accomplished by

1. Improving the individual's knowledge, hence affecting mastery experience. A well-planned and efficient tutorial program could ensure that all students, including the culturally diverse, could be successful and progress through the program. The creation of an alternative multicultural/multiethnic, innovative educational approach could retain the ethnically diverse nursing student; during the summer, nursing students would be invited for enrichment activities to get them prepared for nursing school and introduce them to concepts such as problem-solving, decision-making, and critical-thinking.
2. Improving regimen-specific efficacy beliefs by using the best practices of social and cognitive theory that emphasize interaction and collaboration. Students and the instructor will use instructor prepared tutorial guides to examine the conceptual and practical elements that must be mastered for

basic performance per nursing standards. Instructors in the tutorial program will use a variety of instructional strategies (illustrated lecture, discussion groups, problem-solving, discussion boards and other social media) to engage students in discovering best practices and achieving good grade marks on weekly tests, midterms, and final exams. Students will use software programs and face-to-face dialogue to overcome language barriers between the native languages and English. Students will be provided with a concise job aid (e.g., pocket reference card) that can be conveniently carried and quickly referenced to assure compliance with and professionalism in performing tasks where legal and ethical issues arise. Students will be presented with case studies and simulations based on real client cases where responses are evaluated in dialogue by peers and instructors. Students will be able to use nursing labs equipped with electronic equipment to gain proficiency in responding to a variety of client needs.

3. Identifying mentors who are exemplar to serve as role models. Having ethnically diverse faculty can make the difference for minority nursing students in the development of security versus insecurity. An environment that offers diverse students role modeling and mentoring has been linked to retention (Mills-Wisneski, 2005). Each student will be assigned a mentor/role model who will work closely with the student, providing praise, encouragement, and verbal support.
4. Increasing behavior outcome. Increasing behavior outcomes could be accomplished by setting up mandatory tutoring for students. For students

who participate in the program, a monthly stipend would be awarded for attendance. Students would be required to attend a predetermined number of sessions to get their full awards. Awards would be generated through an U.S. Department of Health and Human Services funds for the purpose of increasing the retention of ethnically diverse students.

Implications for Future Research

Since self-efficacy was not a significant predictor of academic success for ethnically diverse nursing students in this study, future research needs to be qualitatively assessed to (a) identify which factors are intrinsically important to ethnically diverse students who enter the field of nursing and (b) examine the challenges they face that can hinder their ability to succeed.

Study Conclusions

This study investigated ethnically diverse nursing students and the relationships of self-efficacy, sources of self-efficacy, and selected variables associated with retention in the first semester of a nursing program. Self-efficacy and its application to ethnically diverse students' progression have never been previously studied. Among the variables, academic self-efficacy and being ethnically diverse were the only two variables found to be significant and associated with retention. These findings did not completely support the social cognitive theory but demonstrated that self-efficacy intervention might assist in the retention of ethnically diverse nursing students. Ethnically diverse nursing student retention should be of utmost concern at all schools of higher education since it impacts on the healthcare of the nation.

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APPENDIX A

CONSENT FORMS

UNIVERSITY of NORTHERN COLORADO

INFORMED CONSENT TO PARTICIPATE IN RESEARCH

Title of Project Title: *Self-Efficacy and Retention among Ethnically Diverse Nursing Students*

Principle Investigator: Jacqueline Lewis, RN, MSN
Phone: 615-496-5492
Email: lewi3616@blue.unco.edu

You are being asked to volunteer as a participant in a research study. This form is designed to provide you with information about this study.

PURPOSE: The purpose of the study is to evaluate the relationship between self-efficacy and the progression of nursing students from the first semester to the second semester in the 1st year of a nursing program.

PROCEDURE: You will be asked to complete a survey which will take approximately 15minutes. The survey will ask you some demographic information about you and the other two questionnaires will inquire into your participation in the clinical and academics aspects of nursing school.

BENEFITS: This information will help enlighten faculty as to some of the problems that Ethnically Diverse and Caucasian nursing students encounter with the hope of developing interventions at another time to alleviate problems related to attrition and retention/ success.

COSTS

I am asking you to participate in my study; it will help me understand some of the experiences of ethnically diverse students, as well as Caucasian nursing students. Your participation in this study is strictly voluntary, confidential, and anonymous. Only my dissertation committee and I will know your responses. The information will not be associated with your name, a pseudonym to will be assigned to your envelop. The information then will be placed in envelope and coded to allow me to group responses and later associate your grade in the current nursing courses with your questionnaire for data analysis. The master list will be kept in a lock box until grades have been submitted, once the responses you're your grade have been analyzed. The master list will be later be destroyed.

A nursing demographics data sheet survey will be collected. The survey will require less than 15 minutes completing. Once you have signed the consent and

completed the demographics questionnaire, you will complete two different surveys on nursing student self-efficacy. There will be no identifying information on the instrument.

Having read the above and having had an opportunity to ask any questions, indicates your willingness to participate in this research project by signing this consent form. You may omit any question that you do not wish to answer. The University of Northern Colorado Institutional Review Board has approved this project. If you have any concerns about your selection or treatment as a research participant, please contact my research advisor, Dr. Faye Hummel, at (970) 351-1697. You may also contact her by mail at the University of Northern Colorado, School of Nursing, Campus Box 125, Greeley, CO 80639.

Thank you so much for your participation.

Jacqueline Lewis, RN, MSN
Doctoral Candidate, UNC School of Nursing

_____ _____
Participant's Signature Date

_____ _____
Researcher's Signature Date

Your participation is entirely voluntary. You may decide not to participate in this study and if you begin participation, you may still decide to stop and withdraw at any time. Having read the above and having had an opportunity to ask any questions and seek clarification, please sign below if you would like to participate in this research. If you have any questions about your selection or treatment as a research participant, please contact the Sponsored Programs and Academic Research Center, Kepner Hall at the University of Northern Colorado, Greeley, Colorado 80639 or call 970-351-1907.

_____ _____
Full Name (please print) Your Signature Date

UNIVERSITY of NORTHERN COLORADO

INFORMED CONSENT TO PARTICIPATE IN RESEARCH

Title of Project Title: Self-Efficacy and Retention among Ethnically Diverse Nursing Students

Principle Investigator: Jacqueline Lewis, RN, MSN
Phone: 615-496-5492
Email: lewi3616@blue.unco.edu

You are being asked to volunteer as a participant in a research study. This form is designed to provide you with information about this study.

PURPOSE:

The purpose of the study is to evaluate the relationship between self-efficacy and the progression of nursing students from the first semester to the second semester in the 1st year of a nursing program.

PROCEDURE:

You will be asked to complete a survey which will take approximately 15minutes. The survey will ask you some demographic information about you and the other two questionnaires will inquire into your participation in the clinical and academics aspects of nursing school. Once consent has been obtained from you, you will be given a envelope. The envelope will contain a demographic data sheet and two self-efficacy tools. The entire survey will require less than 15 minutes for your completion. Once you have read and signed the consent, this acknowledges your participation in this study. The PI then will collect the consent and distribute a envelope with all three surveys enclosed. You will complete two different surveys on nursing student self-efficacy. Your anonymity will be maintained. The faculty within your course will not have access to your information. There will be no identifying information on the instrument other than your student ID number on the demographic questionnaire. You have the right to withdraw from this study at any time and there will be no penalty if you decide not to participate.

BENEFITS:

This information will help enlighten faculty as to some of the problems that Ethnically Diverse and Caucasian nursing students encounter with the hope of developing interventions at another time to alleviate problems related to attrition and retention/ success.

CONFIDENTIALITY

Your participation in this study is strictly voluntary and confidential. Only my dissertation committee and I will know your responses. The information will not be associated with your name, but your student identification number (ID). Your student ID and name will never be linked. The information on your surveys will be placed in envelope and coded to allow me to group responses and later associate with your status in the current nursing courses for data analysis. The master list of student ID numbers will be kept in a lock box until your status within the program has been determined (withdraw, progress, or failed). In December 2010 after fall

2010 grades have been submitted. I will send a list of student ID numbers to your professor to inquire as to your status within the program. The professor will never see responses and I will never be able to link student ID numbers with name. After the status within the program has been analyzed, the master list of student ID numbers and status within the program will be destroyed.

COST: There are no costs associated with participate in this study. I will provide refreshments for your participation.

POTENTIAL RISKS AND DISCOMFORTS: There are no potential risk or discomfort associate with this study.

Having read the above and having had an opportunity to ask any questions, indicates your willingness to participate in this research project . The University of Northern Colorado Institutional Review Board has approved this project. If you have any concerns about your selection or treatment as a research participant, please contact my research advisor, Dr. Faye Hummel, at (970) 351-1697. You may also contact her by mail at the University of Northern Colorado, School of Nursing, Campus Box 125, Greeley, CO 80639 or Austin Peay State University IRB Department, Dr. C. Grah APSU- IRB –Chair at 931-221-7231 or email him at Grahc@apsu.edu

Thank you so much for your participation.

Jacqueline Lewis, RN, Ph.D. (c) MSN
Doctoral Candidate, UNCO School of Nursing

_____Student participant signature

_____Date

Once again, your participation is entirely voluntary. You may decide not to participate in this study and if you begin participation, you may still decide to stop and withdraw at any time. If you have any questions about your selection or treatment as a research participant, please contact the Sponsored Programs and Academic Research Center, Kepner Hall at the University of Northern Colorado, Greeley, Colorado 80639 or call 970-351-1907.

APPENDIX B

LETTERS OF COOPERATION AND APPROVALS

UNIVERSITY of NORTHERN COLORADO

June 20, 2010

Dear Dr. ,

My name is Jacqueline Lewis. I am an Assistant Professor at Tennessee State University and pursuing a PhD in Nursing Education from the University of Northern Colorado (UNC) in Greeley, Co. I am conducting a study entitled, "Self-Efficacy and Retention among Ethnically Diverse Nursing Students." My objective is to examine how the self-efficacy of students is linked to their ability to be successful through progression/retention. As part of my research study, I need to recruit nursing students at TBR institutions who are newly admitted in the Fall 2010 semester and enrolled in Fundamentals /Introduction to Nursing.

I am writing to request your permission to include your campus in my study this semester. This would involve me recruiting students and collection questionnaires from them one day in a Fundamentals /Introduction to Nursing class (or equivalent), then for the list of final grades for participating students to be provided to me at the end of the semester. I will visit the class on an agreed-upon day, near the end of class. In order to assure students feel comfortable and not obligated in completing the survey, I would like for the professor teaching that class to introduce me and then leave. After the introduction, I will explain the purpose of the study and their right to participate or refuse/leave. Students who choose to participate will complete a consent form, then a demographic questionnaire and two self-efficacy questionnaires, and then place them in a locked drop box (which will later be locked in my office). The students will write down the questionnaire ID number next to their name on a list so that when the semester has concluded, the questionnaires and students' grades can be linked. Later, the list of names and ID numbers will be destroyed. The completion of the surveys will take approximately 10-15 minutes.

In order for me to secure IRB approval from UNC, I must have a letter of cooperation from your institution indicating your agreement for your institution to be a study site. I will not use your school's name in any study reports. After concluding my study, I will send you a copy of my results. I am including a copy of the informed consent document questionnaires with this request for your review. If you need to contact me for additional information, I can be reached at 615-496-5492 or emailed at jlewis@tnstate.edu. Thanking you in advance.

Sincerely,

Jacqueline Lewis, RN, MSN Ph.D. student

PRINT ON YOUR DEPARTMENT LETTERHEAD

June, 2010

Jacqueline Lewis, RN, MSN
Ph.D. Student
505 Appleseed Court
Antioch, TN 37013

Dear Ms. Lewis:

This letter of cooperation is to verify that I give permission for **Name of School of Nursing** will be a study site for your study entitled, "Self-Efficacy and Retention among Ethnically Diverse Nursing Students." We agree to the following as a study site:

- Ms. Lewis will recruit students and collect questionnaires one day in a Fundamentals/ Introduction to Nursing class (or equivalent), on an agreed-upon day, near the end of class.
- In order to assure students feel comfortable and not obligated in completing the survey, the professor teaching that class to introduce Ms. Lewis and then leave.
- After the introduction, Ms. Lewis will explain the purpose of the study to students and their right to participate or refuse/leave.
- Students who choose to participate will complete a consent form, then a demographic questionnaire and two self-efficacy questionnaires, then place them in a locked drop box (which will later be locked in Ms. Lewis's office).
- The students will write down the questionnaire ID number next to their name on a list so that when the semester has concluded, the questionnaires and students' grades can be linked. The completion of the surveys will take approximately 10-15 minutes.
- At the end of the semester, our School will provide the list of final grades for the participating students to Ms. Lewis. Later, the list of names and ID numbers will be destroyed.
- Ms. Lewis will comply with all the all policies and procedures regarding human subjects mandated by the IRB for the University of Northern Colorado, Greeley, Co.

APPROVAL:

_____ _____
Signature Date

_____Name and Title

Nashville State Community College

Memorandum

To: Ms. Jacqueline Lewis

From: Ted M. Washington, NaSCC IRB Chair

Date: 1/31/2011

Re: Research Request

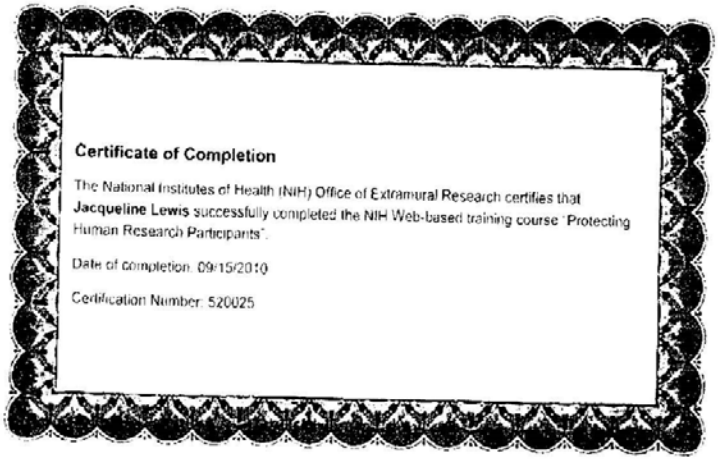
After reviewing the IRB documents associated with your study that were approved by University of Northern Colorado's IRB, Nashville State grants reciprocity to the approval (of exempt status) thereby granting you permission to proceed with the study. If material changes are made to your study you will need to notify Nashville State and update your approval.

Regards,

Ted

Ted M. Washington

Associate Vice President for Planning and Assessment
Nashville State Community College
Phone: (615) 353-3228
Fax: (615) 353-3221
Email: ted.washington@nscc.edu



Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Jacqueline Lewis** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 09/15/2010

Certification Number: 520025

Tennessee Tech
UNIVERSITY

Office of Research and Graduate Studies
Research Box 5036 • Cookeville, TN 38505-0001 • (931) 372-3374 • Fax (931) 372-6374
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November 5, 2010

Project Title: Self-Efficacy and Retention among Ethically Diverse Nursing Students
IRB Approval Date: November 5, 2010 (contingent on approval from TTU Nursing Director)
Agency: Tennessee State University/University of Northern Colorado

Dear Jackie:

As TSU is also a TBR school and subject to the same policies, TTU grants approval to your IRB application for the above-referenced project contingent on approval from the Director of the TTU School of Nursing. This additional approval is necessary since you are also requesting to recruit TTU nursing students as participants in your project.

It is our understanding that this project is part of your doctoral dissertation at the University of Northern Colorado (UNC), and that you are currently a faculty member at TSU. We have received a copy of your application and IRB approval from TSU and also have received the associated documents from your IRB application submitted to UNC.

If your project needs to continue beyond the one year approval window provided by TSU's IRB, please contact me before the expiration date for information on continuation review. Thanks for submitting your application, and best of luck with your research project.

Sincerely,

Robby Sanders

Robby Sanders, Ph.D.
Director
Office of Research and Graduate Studies

TENNESSEE STATE UNIVERSITY
School of Nursing
Tennessee State University
3500 John A. Merritt Blvd.-Box 9590
Nashville, TN 37209-1561

Office of the Dean
(615) 963-5254
Fax: (615) 963-5049

MEMORANDUM

TO: Dr. Faye Hummel, Research Advisor

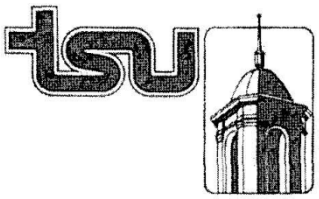
FROM: Dr. Kathy L. Martin, Dean K. Martin by fh
School of Nursing

RE: Letter of Support for Jacqueline Lewis

DATE: September 30, 2010

I am delighted to have this opportunity to support the research of Ms. Jacqueline Lewis entitled *Review of Self-Efficacy and Retention among Ethnically Diverse Nursing Students.* Please consider this letter as documentation of my approval for Ms. Lewis to collect data within the Tennessee State University School of Nursing as delineated in her study proposal.

Should you have any questions or need additional information, please feel free to contact me at kmartin3@TnState.edu or by phone at 615-963-5251.



School of Nursing
MSN FELLOWSHIP PROJECT
Tennessee State University
3500 John A. Merritt Blvd.
Nashville, TN 37209-1561

Master of Science in Nursing Program
615-963-2289
Fax: 615-963-5089

Dear Jacqueline,

I would be more than happy to assist you in the distribution of your surveys to the Associate and Bachelor's Degree nursing students here at Tennessee State University.

Please let me know when you have been cleared by the Institutional Review Board, so that I can begin the process of helping you to conduct your study.

Let me know if I can further assist you.

Sincerely,

Dr. Diane Campbell, DNP-PHN, FNP-BC
Assistant Professor
Tennessee State School of Nursing
3500 John A Merritt Blvd.
Nashville, TN 37209
615-963-5262
Dcampbell12@tnstate.edu

Nov. 24, 2010

Jacqueline Lewis
186 Plum Nelly Court
Brentwood, TN 37027

RE: Your application regarding study number 10-045 Self-efficacy and retention among ethnically diverse nursing students.

Dear Jacqueline Lewis,

Thank you for your recent submission. We appreciate your cooperation with the human research review process. I have reviewed your study on an expedited basis and am pleased to inform you that I have approved your study pending the following modification:

- Include APSU IRB contact information on the consent form.

This approval is subject to APSU Policies and Procedures governing human subject research. The full IRB will still review this protocol and reserves the right to withdraw expedited approval if unresolved issues are raised during their review.

Once you have provided documentation to the IRB that the modifications have been made, you are free to conduct your study. Your study is subject to continuing review on or before Nov. 24, 2011, unless closed before that date. Enclosed please find the forms to report when your study has been completed and the form to request an annual review of a continuing study. Please submit the appropriate form prior to Nov. 24, 2011.

Please note that any changes to the study as approved must be promptly reported and approved. Some changes may be approved by expedited review; others require full board review. If you have any questions or require further information, you can contact me by phone (931-221-7231) or email (grahc@apsu.edu)

Again, thank you for your cooperation with the APSU IRB and the human research review process. Best wishes for a successful study!

Sincerely,

Charles R. Grah, Chair
Austin Peay Institutional Review Board

APPENDIX C

INSTITUTIONAL REVIEW BOARD APPLICATION AND APPROVAL

UNC INSTITUTIONAL REVIEW BOARD

Application Cover Page for IRB Review or Exemption

Select One:	X Expedited Review Allow 2-3 weeks	Full Board Review Allow 1 month	Exempt from Review Allow 1-2 weeks

Project Title: Self-Efficacy and Retention among Ethically Diverse Nursing Students

Lead Investigator
Name: Jacqueline Lewis
Department: Nursing
Telephone: 615-496-5492
Email: lewi3616@ bears.unco.edu or jlewis@tnstate.edu

Research Advisor (if applicable)
Name: Faye Hummel PhD, RN
Department: Nursing
Telephone: 970-351-1697
Email: faye.hummel@unco.edu

Complete the following checklist, indicating that information required for IRB review is included with this application.

Included	Not Applicable	
__X___	_____	Copies of questionnaires, surveys, interview scripts, recruitment flyers, debriefing forms.
__X___	_____	Copies of informed consent and minor assent documents or cover letter. ***Must be on letterhead and written at an appropriate level for intended readers.***
__X___	_____	Letters of permission from cooperating institutions, signed by proper authorities.

CERTIFICATION OF LEAD INVESTIGATOR

I certify that this application accurately reflects the proposed research and that I and all others who will have contact with the participants or access to the data have reviewed this application and the Procedures and Guidelines of the UNC IRB and will comply with the letter and spirit of these policies. I understand that any changes in procedure which affect

participants must be submitted to SPARC (using the Request for Change in Protocol Form) for written approval prior to their implementation. I further understand that any adverse events must be immediately reported in writing to SPARC.

Jacqueline Lewis June 2010
Signature of Lead Investigator Date of Signature

CERTIFICATION OF RESEARCH ADVISOR (If Lead Investigator is a Student)
I certify that I have thoroughly reviewed this application, confirm its accuracy, and accept responsibility for the conduct of this research, the maintenance of any consent documents as required by the IRB, and the continuation review of this project in approximately one year.

_____
Signature of Research Advisor Date of Signature

Date Application Received by SPARC: _____

UNC IRB: Expedited Review Requested

Project Title: Self-Efficacy and Retention among Ethically Diverse Nursing Students

Section I – Statement of Problem / Research Question

The shortage of registered nurses across the nation continues to increase at an accelerating rate. There are a number of universally documented causative factors that indicate the current nursing shortage is different from past cyclical shortages and that these factors will worsen considerably in the next few years. A report issued by the U.S. Department of Health and Human Services (2004) projects a severe shortage of registered nurses (RN). By 2025, the nursing workforce could be nearly 500,000 with a 40% RN vacancy nationwide (Buerhaus, Staiger, & Auerbach, 2009). In data from the National Survey of Registered Nurses, there were 1.89 million full-time RNs employed in the United States in 2000 with a 6% deficit of those needed (U.S. Department of Health and Human Services, 2004). It is estimated by the year 2020, everyone will feel the effects of the nursing shortage with a shortfall of as many as 1.5 million unfilled RN positions within the United States (Melick, 2001).

One underlying factor to the nursing shortage is colleges and universities across the country are experiencing pressure to increase enrollment levels to meet the rising demand for nursing care, but because of the faculty shortage, limited clinical and classroom space and dwindling college budgets, many students are turned away (American Association of Colleges of Nursing, 2009). Buerhaus (2008) relays that despite tremendous interest in nursing, thousands, as many as 100,000 qualified applicants are declined enrollment into nursing each year. The demographic composition of the qualified applicants who are declined admission to nursing programs has not been investigated and published.

Another contributory explanation to the nursing shortage has been the significant decrease in young RNs over the past two decades (Buerhaus, Staiger, & Auerbach, 2003); hence, enrollment of young people in nursing programs would have to increase 40% annually to replace those expected to leave the workforce through retirement (AACN, 2005) . The percentage of RNs younger than 30 has slowly declined, and in 2006, 1 in every 8 RNs was under the age of 30. The young women of today have more career choices; with increasingly more fields to choose with a more exciting reputation and better salaries accompanying these opportunities (Buerhaus et al., 2009).

In addition to the scarce number of nurses, the diversity of those practicing in the discipline is limited. The U.S. Census Bureau reports 47% of the U.S. population will be comprised of ethnic minorities in 2050 with only 12% of the nation's RN being minorities (Symes, Tart, Travis, & Toombs, 2002). Minorities represent 30.9% of the population in the United States, but only 12.3% of the workforce of nurses (Noone,

2008). Ethnic/racial minorities are seriously underrepresented in nursing and, as such, are a factor in the nursing workforce shortage.

Nursing leaders from all specialties are petitioning for a workforce that will be able to provide culturally competent care and one that will resemble the population at large (Gardner, 2005). A report by the Institute of Medicine (IOM; 2004) suggests worse health outcomes and higher mortality rates in racial and ethnic minority groups**.** The IOM proposed that increasing the proportion of underrepresented members of minority groups in the healthcare professions would strengthen patient provider relationships and reduce health care disparities (Smedley, Stith, & Nelson, 2002). The Sullivan Commission's report (2004) cites diversity as the key to excellence in the future of healthcare. The Sullivan Commission's conclusions recommend a new vision for health care that includes competent health care professionals whose ethnicity mirrors the population that it serves.

As the United States attempts to identify resolutions to the escalating nursing shortage, one strategy to address the crisis is for schools of nursing to actively work to strengthen their efforts to attract and retain more ethnically diverse students (Stanley, Capers, & Berlin, 2007). Lower high school graduation rates and the minimal quantity that enter college negatively affect the number of ethnically diverse students who pursue careers in nursing (Coffman, Rosenoff, & Grumbach, 2001). Another major factor contributing to the underrepresentation of minority nurses is the high number of minority students who drop out of nursing school before graduation (Gardner, 2005). It is estimated that minority attrition rate ranges from 15% to 85% (Crow, Hartman, & McLendon, 2009; Peters, 2005; Sadler, 2003; Taxis, 2002).

Attrition in nursing programs throughout the United States has been and continues to be a problem, specifically among ethnically diverse/minority students. Attrition occurs principally in the first semester of nursing programs (Jeffreys, 2006; Mulholland, Anionwu, Atkins, Tappern, & Franks, 2008; Rees, 2006). The specific number of ethnically diverse nursing students who are not successful in nursing programs is not known, but the National Advisory Council on Nurse Education and Practice (2000) recognizes the number to be disproportionately high. Retention of ethnically diverse nursing students is imperative in the development of a workforce that can deliver culturally sensitive healthcare (Jeffreys, 2006; Wilson, Andrews, & Leners, 2006).

Although many colleges and universities accept students of color, there is difficulty retaining these students due to a poor academic experience, therefore leading to withdrawal or failure (American Council on Education, 2006). Issues related to student attrition from nursing programs can be grouped in several categories with no one specific reason, but academic difficulty and failure being the major factors (Pringle & Green, 2004). African American students' self-confidence, realistic appraisal of academic skills, and academic familiarity were found to be more of a predictor of college retention than for White students (Palmer & Young, 2009). Therefore, factors that predict retention differ for ethnically diverse students and White students suggesting ethnically diverse students' noncognitive variables may be more of an issue than cognitive reasons (Palmer & Strayhorn, 2007; Palmer & Young, 2009; Zea, Reisen, Beil, & Caplan, 1997).

Over the last four decades, ethnic minorities have advanced in regards to social status and access to education but still remain disadvantaged and more likely to be at risk for academic failure compared to their white counterpart (Aragon, 2000). The number of ethnically diverse students who enter nursing is small in comparison to White students;

therefore attrition is higher in comparison to the proportion of students of color who enter nursing. These alarmingly high attrition rates in nursing schools are disturbing to scholars, administrators, policy makers, and state governing bodies. These groups have requested increased enrollment in nursing programs to relieve the nursing shortage, but this action would be ineffective without a reduction in attrition (Higgins, 2005).

The lack of role models or mentors who resemble the ethnically diverse student has been indicated as another contributor to the low number of ethnically diverse individuals who matriculate in nursing programs (Stanley, Capers, & Berlin, 2007). Several studies have been conducted to better understand problematic education patterns of ethnically diverse students (Carter, 2006; Evans, 2007; Lee, 2002; Symes et al., 2002). Feelings of alienation and loneliness were cited by several researchers as a problem which can lead to poor academic performance by ethnically diverse students at predominately White institutions. It is not unusual for the ethnically diverse students to feel isolated because they see few to no students or faculty who resemble them. This lack of resemblance can lead the ethnically diverse student to experience inferior feelings and to question his or her ability to be successful in a place where they feel alienated.

Diversification, mentoring, learning strategies, motivational strategies, and self-management are a few of the efforts that have been cited as measures needed to decrease attrition of ethnically diverse nursing students (Palmer & Young, 2009; Wilson et al., 2006). Evans (2007) supports previous studies on retention of ethnically diverse students, but emphasizes the need for continued research. The problem of retaining ethnically diverse nursing students has many social and economic implications. Identification of factors to the retention of ethnically diverse nursing students is significant to their success in nursing programs.

One positive predictor of college persistence that has been identified by researchers is academic self- efficacy (Gore, 2006; Harvey & McMurray, 1994; Jackson, 2002; Pajares, 1996; Peters, 2005). Bandura (1978) posits, “Students whose sense of efficacy is raised set higher aspirations for themselves, show greater strategic flexibility in the search of solutions, achieve higher intellectual performances, and are more accurate in evaluating the quality of their performance than are students of equal cognitive ability who lacked such a high efficacy”(p. 215). Academic self-efficacy has been identified as an important component in the academic success of diverse populations (Lindley, 2006).

Self-efficacy has been discussed extensively in literature investigating academic success (Andrew & Vialle, 2005; Gore, 2006; Zajacova, Lynch, & Espenshade, 2005). Self-efficacy, a component of the social cognitive theory (SCT), has contributed to student success in academia by influencing effort, persistence, and perseverance (Bandura & Schunk, 1981). Bandura (1993) defines self-efficacy as people’s judgment of their capabilities to organize and execute courses of action required to attain designated types of performance. Students with higher levels of self-efficacy are more likely to be successful in scholastic endeavors (Chemers, Hu, & Garcia, 2001). Bandura (1977) emphasized the importance of self-efficacy explaining, “Efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences” (p. 192).

Self-efficacy can be enhanced; however, there are gaps in knowledge regarding the relationship between self-efficacy and success as it relates to minority nursing student's retention and progression (Chamot, 2005).

Problem Statement

Nursing students are most vulnerable to attrition in the first semester of a nursing program. Self-efficacy has been established as a predictor of academic perseverance; therefore, self-efficacy needs to be investigated as a variable affecting the progression of nursing students from the first semester to the second semester in the first year of a nursing education program.

Purpose

The purpose of this study is to evaluate the relationship between self-efficacy and the progression of nursing students from the first semester to the second semester in the 1st year of a nursing program. Bandura's (1986) social cognitive theory (SCT) will be the guiding framework for this investigation. According to Bandura, self-efficacy is defined as the belief in one's ability to perform a specific task. Self-efficacy is influenced by four main sources of information: mastery experience, vicarious experience, verbal persuasion, and physiological information (Bandura, 1977, 1986, 1995, 1997). Bandura's four primary sources of information are depicted by activities such as vicarious experience (observation of tutors, other nurse's performance), verbal persuasion (lectures, suggestions, advice), self-evaluation of physiological state (before, during, and after attempts at tasks), and the successful execution successfully of similar task (Harvey & McMurray, 1994). Self-efficacy and success must be investigated in order to provide insight into factors that affect progression in nursing which can impact the disparity of minority representation in the profession.

Research has demonstrated that there is a shortage of nurses; furthermore, ethnically diverse individuals are marginally represented in the discipline (Buerhaus, Staiger, & Auerbach, 2009). Studies have shown that students with higher levels of self-efficacy are more likely to be successful in educational endeavors (Gore, 2006); however, the relationship between self-efficacy, progression, and success in ethnically diverse nursing students must be investigated.

Significance of Problem

With a reduction of scarce financial resources in institutions(Coffman, Spertz, Seago, Rosenoff, & O'Neil, 2001), identification of those factors that impact a nursing student's progression and success is becoming of greater importance to higher education institutions (Buerhaus et al., 2009). Considering minorities account for less than a fourth of the total number of practicing nurses, it is difficult to provide culturally competent and safe care. The IOM recommends taking measures to increase the proportion of racial and ethnic minorities functioning in health care positions (Smedley et al., 2002). Nurse educators nationwide need to take a positive step to ensure graduates of nursing programs reflect the faces of America.

The role of self-efficacy in ethnically diverse nursing student progression has not been a focus of study within the U.S. Discovering those factors that affect ethnically diverse nursing student's progression and success is essential to nurse educators and institutions of higher education. Furthermore, increasing awareness into these variables can lead to a more diverse and abundant workforce in healthcare.

Research Questions

Q1 Is there a difference in the nursing clinical self-efficacy and nursing academic self-efficacy scores between those nursing students who progressed to the second semester in a nursing program and those who did not progress?

Q2 Is there a difference in nursing clinical self-efficacy and nursing academic self-efficacy between nursing students of different racial/ethnic groups and progression from first semester to the second semester?

Q3 What is the relationship of nursing clinical and academic self-efficacy and demographic variables?

Section II – Procedure

The site of the study will be two and four year Tennessee Board of Regents colleges and universities with associate or baccalaureate degree nursing programs in Tennessee. Participants will be recruited from schools of nursing by contacting the Dean, Director or Chairperson of the college or university and seek approval to perform research on first semester nursing students within their respective programs. Assistance will be sought from nurse educators within the first semester Fundamentals, Basic, and or Introduction nursing courses. The PI will administer the survey in person at the end of class on a designated day. Participation completely voluntary, students are free to stay or leave. The professor of the class will exit after introduction of PI so that students will not feel coerced to participate in the study. Refreshments will be provided as an incentive.

Section III – Disposition of Data

Permission to complete research using human subjects will be sought from the University of Northern Colorado (UNCO) Institutional Review Board (IRB). Letters of cooperation will be obtained from the ten universities and colleges where the research is to be conducted. All nursing students who meet the inclusion criteria and are present in class on the day of survey administration will have an opportunity to participate, but will not be obligated. After the professor leaves the classroom, the PI will make a verbal presentation to the class explaining the study, reviewing the consent form, answering any questions, and emphasizing the voluntary nature of the study. In addition, participants will be informed of their right to withdraw at anytime and given the opportunity to leave if they choose not to participate. After all participants' questions have been answered and informed consent has been provided, the nursing students who choose to participate

will be asked to sign the consent form and complete the questionnaire. There are no more than minimal risk associated with this study such as possible mild psychological discomfort in answering questions and the risk of disclosure of identity. Students who agreed to participate will be assigned an anonymous identification number to protect identities. A master list will be generated and locked in a storage container in the PI office, until final grades and data can be matched, and then the master list will be destroyed.

The PI will establish contact with the identified schools of nursing dean, director, chairperson and/or relevant professors to make logistical arrangements. Inclusion and exclusion criteria and copies of study materials will be provided. The PI will visit each school once during the Spring 2010 semester for the administration of the questionnaire. The participants will be asked to complete the questionnaire. The PI will remain present throughout the completion of surveys for any assistance or questions.

Section IV – Justification for Expedited

This study qualifies for Expedited Review because the participants are adult students, data will be collected in a professional manner, the data are not sensitive in nature - accidental disclosure would not place the participants at risk, and no identifiers will link individuals directly to their responses. The research to be undertaken does not propose to disrupt or manipulate participants' normal life experiences, academic experiences or incorporate any form of intrusive procedures; this research will be conducted in established educational and professional settings.

Section V – Documentation

(See attached Consent form, nursing student demographic questionnaire, nursing student academic and clinical self-efficacy tools, and letters of support for the research).

UNIVERSITY of NORTHERN COLORADO
Institutional Review Board (IRB)

September 14, 2010

TO: Maria Lahman
Applied Statistics and Research Methods

FROM: The Office of Sponsored Programs

RE: Exempt Review of *Self-Efficacy and Retention among Ethnically Diverse Nursing Students*, submitted by Jacqueline Lewis (Research Advisor: Faye Hummel)

The above proposal is being submitted to you for exemption review. When approved, return the proposal to Sherry May in the Office of Sponsored Programs.

I recommend approval.

Signature of Co-Chair 9-24-10
Date

The above referenced prospectus has been reviewed for compliance with HHS guidelines for ethical principles in human subjects research. The decision of the Institutional Review Board is that the project is exempt from further review.

IT IS THE ADVISOR'S RESPONSIBILITY TO NOTIFY THE STUDENT OF THIS STATUS.

Comments: sent email 9-20-10

25 Kepner Hall ~ Campus Box #143
Greeley, Colorado 80639
Ph: 970.351.1907 ~ Fax: 970.351.1934

APPENDIX D

NURSING STUDENT DEMOGRAPHIC QUESTIONNAIRE

UNIVERSITY of NORTHERN COLORADO

Research Identification Number

Nursing Student Demographic Data Sheet

Project Title: Self-efficacy and Ethically Diverse Nursing Students

Directions: Please circle the number which **best** describes your present status.

1. **Age:** _____

2. **Type of nursing student**:
   a. Associate Degree (ASN)
   b. Baccalaureate Degree (BSN)

3. **Gender**:
   a. Male
   b. Female

4. **Race or ethnicity**:
   a. Caucasian/non-Hispanic
   b. Black, African-American or African
   c. Asian
   d. Hispanic
   e. Middle Eastern
   f. American Indian
   g. Other (please specify)_____

5. **Marital status**:
   a. Single
   b. Single, living with partner
   c. Married
   d. Divorced/separated
   e. Widowed

6. Do you currently work?
   a. Full-time
   b. Part-time
   c. Not currently employed

7. Is English your primary language?
   a. Yes
   b. No

8. Do you have a prior degree?
   a. Yes
   b. No

9. Did your parent's complete a college?
   a. Yes
   b. No

10. Has anyone else in your immediate family attended college?
   a. Yes
   b. No

11. Have you ever worked in a healthcare setting?
   a. Yes
   b. No

12. Do you have a family member or significant other who provides verbal support or praise about your nursing studies?
   a. Yes
   b. No

13. Have you ever completed a program or course in the past and performed extremely well and felt good about your successful accomplishment?
   a. Yes
   b. No

14. How stressed does this program makes you feel?

not stressed somewhat stressed very stressed extremely stressed

15. If you work, do you feel work and family responsibilities; all place you in a stressed state?

not stressed somewhat stressed very stressed extremely stressed

APPENDIX E

NURSING ACADEMIC AND CLINICAL SELF-EFFICACY SCALES

Nursing Academic Self-Efficacy Scale (NASES)

Nursing Academic Tasks Scale

For each of the nurses' academic education requirements listed below, please indicate the extent to which you believe you could successfully complete these. Assume you are motivated to make your best effort using the 10 point scale to indicate your level of confidence. If you are very unsure and don't think you could successfully complete the educational requirement circle '1'. If you think you could complete the requirement successfully, use the numbers '2' to '10' to rate how **confident** you are, circling '10 if you are *very sure* you could.

I could learn:

1. the principles of physics as they apply to radiology, radio-activity and nuclear medicine

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

2. nursing management skills related to client care

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

3. about individual differences in people's abilities

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

4. how people communicate and apply this knowledge to my interaction with others

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

5. administrative skills related to unit/ward management

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

6. the different theoretical explanations of health, illness and abnormal behavior

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

7. sufficient chemistry to understand the mechanisms of breathing, micturition (urination), reproduction and pharmacology

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

8. sufficient physics to understand mechanics, basic electricity and electrical safety

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

9. pathophysiology and apply this knowledge to infections, trauma, tumors and allergies

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

10. nutrition needs in health and disease

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

11. the legal and ethical aspects of professional nursing

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

I could learn:

12. how emotional and social needs are modified during illness

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

13. obstetrics (maternity) and gynecological (female reproductive) health care

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

14. sufficient physics to understand equipment management, unit measurement, body mechanisms and pressure processes

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

15. sufficient microbiology to understand the body's immune system

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

16. the neural (nervous control) system

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

17. the emotional and social needs of clients and their families

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

18. sufficient microbiology to understand infection control

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

19. roles people occupy and their attitudes

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

20. sufficient pathophysiology to understand the effects of disease on cells, tissues, organs, and systems of the body

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

21. aspects of chemistry such as atomic structure, chemical bonding, acids and bases and biological molecules

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

22. the body's endocrine (glandular control) system

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

Nursing Clinical Self-Efficacy Scale (NCSES)

Nursing Clinical Skills Scale

Below are a number of skills that nurses acquire in the course of their work. By circling one of the numbers given, please indicate how confident you are that you could learn each skill successfully. If you don't think you could learn this skill successfully, circle '1'. If you think you could learn this skill successfully, use the numbers from '2' to '10' to rate how **confident** you are, circling '10' if you are *very sure* you could.

I could learn to:

1. reassure or comfort a distressed client and help them to cope

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

2. collect a wound specimen from a client

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

3. give a client an enema or suppositories (make their bowels move or pass their motion)

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

4. remove a client's stitches

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

5. clean and instill medication in a client's eyes, ears, or nose

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

6. cope with working with new staff and in new environments following ward changes

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

7. advise a doctor about his/her client's condition or contact a doctor in an emergency

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

8. ask for clarification of instructions or for help with any procedures not understood

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I could do it					I am very sure I could do it

9. explain to the client about the treatment to be given (dress wound, take out stitches, give injection)

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

10. form a positive working relationship with the charge nurse and other nursing staff

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

11. form an interpersonal relationship which assists the client to ask my help, i.e., get on so well with clients that they are able to seek my help without embarrassment

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

I could learn to:

12. take a client's ECG (record of heartbeats)

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

13. Establish and maintain continuous catheter/urodome drainage

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

14. assist the anesthetist in inducing and maintaining an anesthetic

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

15. organize the equipment for and maintain an intravenous drip (monitor flow rate, infusion regulator, change containers)

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

16. catheterize a female client (remove urine via a catheter)

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

17. give a baby or child an injection

1	2	3	4	5	6	7	8	9	10
I don't think I could do it				Fairly sure I I could do it					I am very sure I could do it

18. nurse a client in isolation (barrier nurse)

1	2	3	4	5	6	7	8	9	10

I don't think I could do it — Fairly sure I could do it — I am very sure I could do it

19. attend to a body after death

1 2 3 4 5 6 7 8 9 10

I don't think I could do it — Fairly sure I could do it — I am very sure I could do it

20. give a client drugs by injection as ordered

1 2 3 4 5 6 7 8 9 10

I don't think I could do it — Fairly sure I could do it — I am very sure I could do it

21. discuss problems with a client and help in finding solutions, keeping disclosures in confidence

1 2 3 4 5 6 7 8 9 10

I don't think I could do it — Fairly sure I could do it — I am very sure I could do it

22. assist at an operation (hand instruments to a surgeon)

1 2 3 4 5 6 7 8 9 10

I don't think I could do it — Fairly sure I could do it — I am very sure I could do it

23. give prescribed tablets at the correct times and supervise the drug trolley during this routine

1 2 3 4 5 6 7 8 9 10

I don't think I could do it — Fairly sure I could do it — I am very sure I could do it

24. teach a child how to self-inject insulin

1 2 3 4 5 6 7 8 9 10

I don't think I could do it — Fairly sure I could do it — I am very sure I could do it

APPENDIX F

PERMISSION FOR USE OF RESEARCH QUESTIONNAIRE

Hi Jackie,

I understand you are interested in using the nursing self-efficacy scales. I have attached both of them - feel free to use them and/or adapt them to your use. Best wishes for your research.

Regards,

Nancy McMurray, PhD

Senior Lecturer in Clinical Psychology