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The Twenty-Four Three Study Plan: Increasing Hispanic and Latino Student Nurse Success

Virginia Montez-Ochoa

Submitted in partial fulfillment of

The Doctor of Nursing Practice Degree

Regis University

December 15, 2015

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Executive Summary

In Latino nursing students, the implementation of the Twenty-Four-Three Study plan demonstrated at least one letter grade increase in their overall grades within a midterm time frame. As our nation's Latino populations are exploding, this has given rise to challenges that the profession of nursing faces. Latino populations are experiencing high levels of health care disparities which are compounded by a low national Latino RN representation of 3.9%. This is further compounded by an unusually high Latino student nurse attrition rates which can reach up to 80% by some estimates.

The purpose of this study was to provide Latino nursing students with a study method with a goal designed to increase their overall grades in order to decrease early attrition and increase student retention. The literature has shown little evidence supporting this important area of nursing education. The Twenty-Four-Three Study Plan is a one of a kind strategy which has shown great promise in the area of addressing this vital issue.

The Capstone Project Problem-Intervention-Comparison-Outcome (PICO) for this project was: Will Latino vocational and associate degree nursing students using the Twenty-Four Three Study plan achieve higher course grades than students with no exposure to the study plan?

This pilot study was conducted by a sole investigator with practice site locations consisting of a community college Latino associate degree (ADN) cohort and a vocational nursing (VN) cohort, the study period consisted of a midterm period for both research samples. Grades were collected with student follow up every two weeks until completion of the study. The independent samples t-test, with the purpose of testing the difference between two independent groups provided a strong statistical analysis for this study.

Vocational nurse cohorts: Reject the null ($t=3.807$, $p=.003$). There is a difference in means between the experimental group and the comparison groups with the experimental vocational nursing group posting overall higher grades than did the comparison group (CI: .0676835 to .2533365). Associate degree nursing cohort: Reject the null ($t=3.604$, $p=.001$). There is a difference in means between the experimental group and the comparison groups (a negative direction), with a mean difference of: -.06932070, (CI: -.1085514 to -.0300900).

Conclusion: The mean differences between the vocational nurse experimental and comparison cohorts were statistically significant at $p=.003$, with an effect size of .63. The associate degree nursing cohort demonstrated no statistical significance ($p=.001$) with an effect size of .53. Due to a negative direction in means which is explained by the presence of confounding variables in the associate degree experimental cohort.

Recommendations: Small pilot study significant findings indicates need for further research in the area of study strategies for Latino nursing students.

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I am grateful for the help and support from all my Regis University professors who believed in this very important project and supported me throughout the development and implementation of this Capstone Project. A warm thank you to Dr. Patricia Cullen who truly believes that this project is important for Hispanic and minority student nurse success. I am especially indebted to both Ann Voorhies and Elizabeth Estrada who both believed in the importance of this research project and who were both gracious enough to provide their schools of nursing as practice sites. A very appreciative acknowledgement and thanks to Dr. Mary McHugh for agreeing to mentor me through this process, assisted with statistical analysis, and who showed as much concern for Hispanic and minority nursing student success as I do.

A heartfelt thank you to my son Richard for always being there for me when I needed help during those very stressful times of computer and application difficulties. Most importantly, I would like to thank my husband Henry, for being there for me though this long and arduous journey, providing support and understanding. And finally, I would like to thank all the Latino nursing students who were so accepting and open to learning this method of study. These young Hispanic nurses are our future and will be providing care not only to our diverse and minority populations, but to all.

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Section II: Introduction to Study

Our country is undergoing a vast population and cultural transformation. The United States (U.S.) is experiencing the rapid change of Latino population from being a minority group to becoming the majority in many cities and states. The Latino group is the fastest growing minority group in the U.S. This population consists of groups from countries such as Mexico, Central America and South America. Meanwhile, the U.S. Census Bureau (2012) also reported that our Hispanic population is projected to more than double from 53.3 million in 2012 to 128.8 million in 2060. Consequently, by the end of the period, nearly one in three U.S. residents would be Hispanic, up from about one in six today. Yet we are not seeing the equivalent representation in our Registered Nurse workforce (Moceri, 2010). Latino student attrition has been a contributing factor which leads to their under representation in the nursing workforce (Condon, Morgan, Miller, Mamier, Zimmerman, & Mazar, 2013).

In past decades, there has been a lack of research recognizing that there is a true disparity between the Hispanic nurse representation and the general population of Hispanics in the United States as noted by the Registered Nurse Population Findings of 2008 (U.S. Department of Health and Human Services Health Resources and Services Administration (2010). This lack of Latino nurses directly affects the provision of culturally appropriate care to this rapidly expanding group, which in turn gives rise to the problems of health care disparities that a large percentage of this population faces (Condon et al., 2013). Furthermore, Condon et al., noted that minority health care providers are more inclined to help and are less likely to be biased against minority and medically underserved communities (2013).

According to the Registered Nurse Population Survey (2010) conducted by the U.S. Department of Health and Human Services Health Resources (HHS) and Services

Administration (HRSA), racial and ethnic representation has been disproportionate to the general population of the United States and only small gains are being made. The HRSA's Registered Nurse Population Survey cites that the White population of the United States is noted at 68.3 percent; with nurses from minority racial and ethnic groups still representing only 16.8 percent of all nurses and Latino nurses only representing 3.9 percent overall nationally as compared to their White-non Hispanic counterparts who represent 82.2 percent (HRSA, 2010), (Appendix A). The report further expands on the educational levels attained by Hispanic Registered Nurses noting that those who obtained a Bachelor's degree for their initial nursing degree were less likely to obtain a graduate education when compared to their White counterparts (2010). Harris, Rosenberg, & O'Rourk, (2014) also noted that this increase in racial and ethnic diversity is not represented in the RN workforce. In the RN Survey, the U.S. Department of Health and Human Services (HRSA, 2010) further demonstrates the disparity in their findings that 83.2 percent of the RN population is White, non-Hispanic (Fig. 1). The White, non-Hispanic general population comprises only 65.6 percent of the overall U.S. population. (Harris et al., 2014).

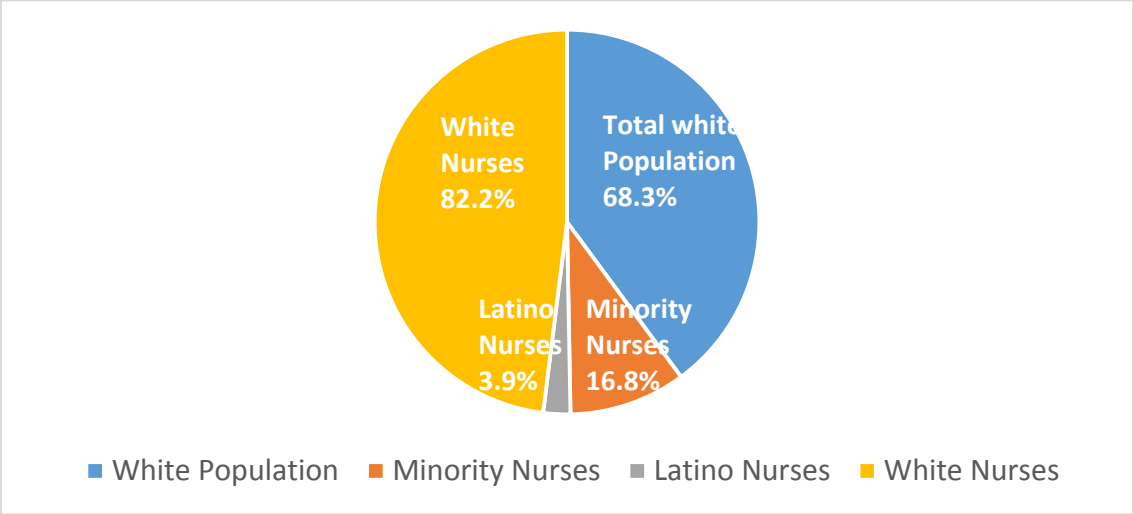

Figure 1 The Registered Nurse Population Report (U.S. Department of Health and Human Services Health Resources and Services Administration. 2010)

Problem Statement

Conducting research that seeks to help a student succeed and that can provide better outcomes for the Latino nursing student therefore increasing their national presence can help in addressing the multiple problems this population faces in the delivery of health care. This study provided the opportunity for Latino nursing students to succeed in their nursing program. The academic and socio-cultural engagement factors and the roles that they play in student retention were identified and a pathway toward student success was identified. For purposes of this study, the term "vocational nurse" is equivalent to the term of "practical nurse" which is not to be confused with the term of registered nurses.

In attempting to address the problem of the high dropout rate of Hispanic nursing students, Condon et al. (2013) addresses the question: What does it take for a school of nursing to break away from accepting only high achievers and choose to accept and nurture nursing students who reflect the diverse community they serve and thus help decrease racial and ethnic health disparities? In answering this question, the authors determined that minority/ethnic nurses are in a unique position to help decrease health disparities for ethnic and minority patients as they are trusted health advocates in their communities. Harris et al. (2014) found that in addition to the various demographic, and personal factors, academic unpreparedness contributes in large part to the attrition of the Latino nursing student. Because of their cultural barriers and educational unpreparedness, Latino students face many academic challenges. Nadeau (2014) noted from study interviews, that students identified science courses, especially biological chemistry, as the most challenging. Additionally, social barriers that impede success of Hispanic/Latino nursing student include multiple family units, financial obligations of support for family members, the

need to work in order to support their education, and factors of race and discrimination (Veal, Bull, & Fitzgerald Miller, 2012).

In their study, Harris et al. (2014) found that many themes emerged regarding the educational factors surrounding the problem of attrition in this cultural group. In a retrospective literature review, the authors concluded that Latino nursing students who were interviewed cited the need for faculty mentorship, coaching, as well as social and peer support activities to improve study habits, test-taking skills, and time management, skill building in reading, writing, mathematics, communication, and stress management skills, were needed to ensure student success.

Purpose of Study

While there has been some progress in decreasing student nurse attrition in this cultural group, we are only seeing a very gradual rise in Latino RN representation in the United States. We are still continuing to see slow progress addressing these contributory obstacles leading to low Hispanic-Latino nurse representation in our country. Student nurse attrition needs to be addressed at the core of the problem which for purposes of this study, is at the textbook and student learning level. The Twenty-Four-Three Study Plan is a precise strategy aimed at improving student study habits. The purpose of this study was to provide Latino nursing students with a study method designed to increase their grades by at least one letter grade, therefore decrease early attrition and increase student retention.

Project Model and Question

The problem issue was identified as Latino student nurse attrition leading to an under-representation of Latino nurses across the United States. Lack of representation directly impacts the increasing identification of health care disparities in this population. At the cognitive level,

the Twenty-Four-Three Study Plan is a precise study strategy that has success in addressing this problem. By presenting a precise and basic approach to nursing education with the use the Twenty-Four-Three Study plan, the goal was to help the Hispanic/Latino nursing to be successful in nursing school. According to Houser and Oman (2011), once an issue has been identified that can be addressed by evidence, the formal research question can be constructed. Using the elements of Problem-Intervention-Comparison-Outcome (PICO) model, the structure of the statement is as follows:

P Hispanic-Latino nursing students at a community college and a proprietary vocational nursing college.

I The Twenty-Four-Three Study Plan

C Latino students at a community college and a proprietary vocational nursing college who did not have a study plan.

0 Demonstrate an increase in their overall course grades.

Research question:

Will Latino vocational and associate degree nursing students using the Twenty-Four Three Study plan achieve higher course grades than students with no exposure to the study plan?

Project Significance

There is a lack of research addressing not only the specific cultural factors that lead to failure in nursing school for the Latino nursing student, there are even fewer studies that address specific strategies to help these students achieve academic and cultural success.

The rigors of nursing education often proves to be an academic challenge to the Latino nursing student and combined with the multiple cultural barriers faced by students in this group, attrition continues to remains a problem (Alicia-Planas, 2009; Loftin, Newman, Dumas, Gilden,

& Bond, 2012a; Moceri, 2010), The Twenty-Four-Three Study Plan is a precise method of study that has been developed in order to address the problems related to the academic challenges that the Latino students face in nursing education. To address the complexity and rigorous academics of nursing education, this study plan focuses on a single study strategy instead of multiple combined methods of study. For the purposes of this report, the term of Latino and Hispanic will be used interchangeably to refer to those students who originate from the Latin American Continent.

Moceri (2010) argues that there are few studies in the research literature focusing specifically on personal and cultural strategies employed by Hispanic nursing students for success and that when coupled with existing research, educators could find strategies aimed at decreasing obstacles and encourage successful strategies to enhance Hispanic success in academic nursing programs. In accord with these findings, the Twenty-Four Three Study Plan focuses directly on a student's learning process which occurs within a twenty-four-hour period, providing three exposures to the lecture content. Additionally, the Twenty-Four Three Study Plan emphasizes the basic methods of human learning which according to Fleming (2015), are the visual, aural, reading, writing, and kinesthetic methodologies hereafter referred to as the VARK learning system.

Theoretical Underpinning: Dorothy Johnson's Behavioral System Model

A theory is an idea or notion that explains observations or experiences, relationships, and project outcomes. In the realm of nursing, a theory helps to understand what knowledge is needed and how to understand that knowledge (Alligood & Tomey, 2013). Therefore, for nurses, theory is a framework which helps the profession create meaning from experiences, organize and articulate knowledge, and ask questions that can lead to new insights. Simply stated, nursing

theories are human inventions (Parker & Smith, 2011). The theoretical framework that will serve as the major underpinning for this capstone project is Dorothy Johnson's Behavioral System Model (Johnson, 1980).

During her career, Dorothy Johnson was concerned with matters of nursing practice, nursing education, and nursing science (Parker and Smith, 2010; Alligood and Tomey, 2010). She was concerned about the validity of a behavioral systems model, as well as her model's sub-system theories. The model has some distinctive major concepts that are relevant to cognition and behaviors that affect the sample population of Latino nursing students of this Capstone project.

> Johnson's Behavioral Model is described by Alligood & Tomey (2013) as: One of the basic assumptions that embrace the concept of order. Another assumption is that a system is a set of interacting unit that form a whole intended to perform some function. Johnson conceptualized the person as a system, in which the behavior of the individual as a whole is the focus. It is this focus on what the individual does and their reasons for doing so. One of the strengths of the Johnson's Behavioral System Theory is the consistent integration of concepts defining behavioral systems drawn from general system theory. Some of these concepts include holism, goal seeking, interrelationships and interdependencies, stability, instability, subsystems, regularity, structure, function, energy, feedback, and adaptation (p. 367).

Johnson posed that the development of knowledge of behavioral systems was focused on specific behavioral responses and that empirical literature has supported the notion of the behavioral system (or person) as a whole and has demonstrated its usefulness as a framework for nursing decisions in research, nursing education and practice (Alligood & Tomey, 2013; Johnson, 1980). The Dorothy Johnson Behavioral System Model incorporates five core

principles of system thinking which are the wholeness and order, stabilization, reorganization, hierarchic interaction, and dialectical contradiction.

Wholeness and Order

The premise of wholeness and order is continuity and identity. The basic feature of the system is that both continuity and change can happen across the life span. The model uses the concept of plasticity or the ability to have the potential for change across the life span. The model also asserts that at the psychological level, continuity is the relationship of the parts rather than their individuality. In other words, the individual operates as a whole (Parker & Smith, 2010). In this process, the model expands by inferring that attachment and dependence are examples of specific behaviors that can change over time while the meaning may remain the same. At the developmental level, social dependence behaviors evolve from almost total dependence on others and the self which is essential for survival of social groups. On the behavioral systems level, the interdependence maybe repeated as the behavioral system engages in new situations during the life span (Parker & Smith, 2011; Johnson, 1980).

Stabilization

Dynamic systems respond to contextual changes by either a homeostatic or homeorhetic process. In other words, systems have a set point which the organism tries to maintain by altering the internal conditions to compensate for those in the external environment. In terms of behavior systems (students in this case), homeorrhesis is an important stabilizing process (Parker & Smith, 2010). This process occurs when a system stabilizes around a trajectory rather than a set point. Nurses observe adaptation as a result of stabilization, which occurs as a result of the nurse altering external factors with the goal of achieving successful adaptation (Parker & Smith, 2011; Johnson, 1980).

Reorganization

Parker & Smith (2010) explained that adaptive reorganization occurs when the behavioral system encounters new experiences in the environment that cannot be balanced by existing system mechanisms. Adaptation is the change that permits the behavioral system (students) to maintain its set points best in the newly acquired situation. One important point to consider is that there is a difference between stabilization and reorganization. Reorganization involves change or evolution whereas the process of stabilization maintains the status quo (Parker & Smith, 2011; Johnson, 1980).

Hierarchic Interaction

In describing hierarchies, Parker & Smith (2010) explain that hierarchies are a pattern of relying on a particular subsystem that lead to a degree of stability. This general systems theory operates on a ranked system based on the properties of wholeness, order, stabilization, and reorganization which leads to stability (Parker & Smith, 2010). A disruption of the order will not lead to destruction of the system, but will lead to some degree of decomposition and an inability to transition to another level of stability.

Dialectical Contradiction

This is the motivational force for change which Johnson (1980) describes as the drivers and responses that are developed and modified over time through maturation, experience, and learning. In other words, it is the individual's activities in the environment that lead to knowledge and development (Parker & Smith, 2010). This process is an ongoing acquisition of knowledge that leads to change and development of new goals. The domains are holistically related and include biological, psychological, cultural, family, social, and physical categories. With dialectical contradiction, there needs to be a balance of a cascade of contradictions between

goals that are related to the physical, social, and cognitive statuses of the individual (Parker & Smith, 2010). Nursing interventions during these times of contradiction can have a significant impact on the lives of the person's or student's behavioral system balance, leading to attainment of a new level of development (Parker & Smith, 2011; Johnson, 1980). In addition to the five core principles, Johnson (1980) included some major concepts that especially relate to the cognition and application of basic human learning behaviors.

Major Concepts of Johnson's Behavioral Systems Model

Behaviors are responses that are reactive to changes in sensory stimulation. The system functions as a whole by means of the interdependence of the composite parts. The components of the whole are reliant on integration and interdependency of the parts (of the system or student). Johnson further notes that the person strives to maintain balance through adjustments and adaptations on the impinging forces (Alligood & Tomey, 2010; Johnson, 1980). The behavioral system encompasses purposeful ways of acting which form an organized and integrated functional unit which relates the person to objects, events, and situations within their environment with the goal of achieving balance (Alligood & Tomey, 2010; Johnson, 1980).

Johnson (1980) also addresses subsystems which she describes as mini-systems with their own particular goals and functions that can be maintained as long as their relationship with each other or their environment are not disturbed (Alligood & Tomey, 2010). Some of the subsystems that are especially applicable to this Capstone project are: (a) dependency subsystem which calls for promotion of helping behaviors and a shift from dependence on others to self-dependence; (b) achievement subsystem which functions to control or master the environment using intellectual, physical, creative, or social skills; and (c) equilibrium which is a key concept and is defined by Johnson (as cited by Alligood, 2010) as a "stabilized but more or less transitory,

resting state in which the individual is in harmony with himself and with his environment (p. 369)".

Dorothy Johnson's Behavioral Systems Model Application to Capstone Project

Parker (2010) outlines many applications that Johnson's Behavioral Systems Model can contribute to nursing practice. As one of the theoretical frameworks for this project, the model served as a scaffolding for supporting the expanding knowledge of the use of nursing therapeutics. In the research context, this model provided a useful structure to Hispanic-Latino nursing students by assisting them in maintaining and restoring behavioral balance and understanding. Additionally, this model assisted the researcher in focusing as a change agent when delivering the Twenty-Four-Three Study Plan and in gathering the research data.

Parker (2010) further expanded on the usefulness of the Johnson Behavioral Systems Model in the context of nursing education. Dorothy Johnson first developed her model for use as the basis for under-graduate education at the University of California, Los Angeles (UCLA) School of Nursing; and the model was used as the framework for the curriculum. According to Johnson, the use of this model will help individuals strive for equilibrium through behavioral strategies (Riegel, 1989). In reference to this Capstone project, the Johnson's Behavioral Systems Model was used as a framework for the Twenty-Four-Three Study Plan research project.

Theoretical Underpinnings: Cognitive Learning Theory

Bastable (2011) describes learning theories as a "coherent framework of integrated constructs and principles that describe, explain, or predict how people learn" (p. 52). As an additional theory that has application to this Capstone project, the Cognitive Learning Theory (Bastable, 2008) is a culmination of various sub theories and goes beyond what the behavioral theories present and delves into what the learner is experiencing. This theory provides frequent structure

to the forums of education and counseling (Bastable, 2008). The main premise of the Cognitive Learning Theory is that key to the learner's ability to internalize the lesson is the changing of one's cognition, which is the learner's perception, thought, memory, and ways of processing the delivered information. The theory is highly individualized and involves the learner perceiving the information, interpreting that information using what is known to that individual, and reorganizing it into new knowledge or understanding (Bastable, 2008; Johnson, 2014).

Perspectives of the Cognitive Learning Theory

The Cognitive Learning Theory incorporates some well-known perspectives such as Gestalt, information processing, human development, social constructivism, and social cognition theories (Bastable, 2008). Each component is essential to the development of cognition and together these perspectives delineate what is occurring within the learner. Additionally, one's past experiences, perceptions, and ways of incorporating and thinking about incoming information, and social influences as well as one's Metacognition will influence the learning experience (Bastable, 2008; Johnson, 2014).

The Gestalt perspective emphasizes the importance of perception in learning. This perspective refers to the arrangement or patterned organization of cognitive components suggesting that the whole is greater than the sum of the parts (Bastable, 2008; Johnson, 2014). In other words, Gestalt will infer that each learner will perceive, interpret, and respond to the learning situation in their own way. Gestalt theorizes that psychological organization is favored to simplicity, equilibrium, and regularity and that perception is a selective process of the learner. In other words, the learner will select those stimuli which are a priority to him or her.

The information processing perspective emphasizes the thinking processes of thought, reasoning, memory input and storage, and memory functioning. There are four stages of learning

which occur after the information is perceived, interpreted, and remembered by the learner. Bastable (2008) notes that close attention to this perspective can assist the educator in improving the structure of the learning process.

In the first stage of the learning process the memory process involves paying attention to environmental stimuli; therefore, it is felt that attention is the key to success. If attention is not present in the learner, the educator may choose to provide another learning interaction with decreased distractions (Bastable, 2008; Johnson, 2014).

In state two, the information introduced in the learning encounter is processed by the learner's senses. Of importance in this stage is the learner's preferred learning style. This may involve visual, aural, reading or writing, and kinesthetic approaches. It is also important to identify the learner's deficits in the learning process (Bastable, 2008).

In the third stage, the information is retained as short term memory until the learner has decided if it has value and substance to be retained as long-term memory. In this stage, long term memory is organized and stored according to the learner's preferred methods such as the use of imagery, association, rehearsal, or breaking down the information into several units (Bastable, 2008). This is very individualized process which is determined by the learner's cultural and societal learned patterns.

In the fourth and final stage, the learner demonstrates retrieval of the information that has been stored in their memory. In this stage, errors are corrected by helping the learner reprocess erroneous information (Bastable, 2008).

Cognitive Learning Theory Application to Capstone Project

In a general summation of the Cognitive Learning Theory, Bastable (2011) notes that this well-recognized theory emphasizes that memory processing and retrieval are enhanced by the

organization of the information, making it meaningful to the student's learning process (as cited by Gagne, Briggs, & Wager, 1992, p. 62). Additionally, the Cognitive Learning Theory has the advantage of containing elements of many other theories. One theorist which is noted by Bastable (2008) is Robert Gagne. Together with his colleagues, Gagne introduced nine events that activate effective learning and consequently, are applicable to this Capstone project. Those nine events are (a) gain the learner's attention (reception); (b) inform the learner of the objectives and expectations; (c) stimulate the learner's recall of prior learning (retrieval); (d) present information (selective perception); (e) provide guidance to facilitate the learner's understanding (semantic encoding); (f) have the learner demonstrate the information or skill (responding); (g) give feedback to the learner (reinforcement); (h) assess the learner's performance retrieval); and (i) work to enhance retention and transfer through application and varied practice (as cited by Gagne, Briggs, & Wager, 1992).

Scope of Evidence and Appraisal

Evaluating research studies is a complex process when making judgments regarding a choice of evidence that is collected in order to support the research question (Houser and Oman, 2011). It is essential that research is supported with evidence-based studies, especially when developing recommendations that involve nursing practice, clinical practice, and life-saving therapeutics. A systematic approach that can grade the quality or level of the evidence and strength of practice recommendations is essential when making these types of clinical judgments and decisions (Houser and Oman, 2011). Various types of leveling models and grading systems with the minimum evaluations of study design, population studies, methodology, sample size, and benefits versus risks are available. Therefore, it is crucial that the correct model for appraisal be used in order to classify the vast amount of research available (Houser and Oman, 2011).

Leveling Model for Literature Appraisal

According to Houser and Oman (2011), the most often used leveling models are derived from the medical models. For this study, the leveling model used for evaluating the literature search was obtained from these authors (2011, p.143). The number of research articles retrieved were classified using the noted grading table and classifications of: (1) level A-meta-analysis of multiple controlled studies or meta-synthesis of qualitative studies with results that consistently support a specific action, intervention, or treatment yielded 3 articles; (2) level B: well-designed controlled studies, both randomized and nonrandomized, with results that consistently support a specific action, intervention, or treatment yielded 10 articles; (3) level C: qualitative studies, descriptive or correlational studies, integrative reviews, systematic reviews, or randomized controlled trials with inconsistent results yielded 11 articles; (4) level D: peer-reviewed professional organizational standards, with clinical studies to support recommendations yielded 2 articles; (5) level E: theory-based evidence from expert opinion or multiple case reports yielded 5 articles; (6) level M: manufacturers' recommendations only yielded 0 articles. A total of 52 research, articles, and organizational websites were used for this Capstone review..

Systematic Review of the Literature

The availability of research in the area of decreasing Latino student nurse attrition in nursing school remains scarce despite the ongoing calls for increasing the overall Hispanic-Latino nurse populations across the country by many of our notable leading regulatory agencies, health care systems, and academic institutions (Alicea-Planas, 2009; Condon et al., 2013). Examples of organizations such as the National League for Nursing (2014), the Sullivan Commission (2004), and American Association of Colleges of Nursing (2003) all advocate for increasing Hispanic nurse representation. Despite the slow growth of this population of nurses,

their growth continues to demonstrate overall disparity between the Latino nurse population and the general Latino population across the United States (Alicea-Planas, 2009; Condon et al., 2013). This literature review revealed some major themes such as the presence of health care disparities impacting Hispanic population and that increasing the cultural nursing pool may help to decrease these disparities. Additionally, the evidence demonstrated that there is a need to address the low overall national representation of Hispanic-Latino registered nurses. Additional themes noted that a lack of financial, cultural, family, English as a second language status, and the level of educational preparedness of this population are also factors leading to high attrition rates.

The primary database used for the literature review was the Regis University Library, CINAHL, PubMed, and Google Scholar. Data search terms used for the literature search were: Hispanic nursing students, Latino nursing students, attrition of Hispanic and Latino nursing students, academic achievement Latino nursing students, cultural barriers Latino nursing students, diverse nursing students, academic success Latino nursing student, retention Latino nursing student, minority nursing students, minority health disparities, English as a second language (ESL), and cultural barriers of Latino nursing students. A total of fifty-three articles were retrieved. As themes emerged, the literature search narrowed to those articles that focused on cultural barriers that contribute to Latino student nurse attrition.

Health Care Disparities of the Hispanic-Latino Population

As our country's Latino-Hispanic population increases, the presence of health care diversity is equally disproportionate due to the unmet demand for a culturally competent RN workforce. This problem is placing a sizable demand on our health care system and is proving to be one of the prime factors contributing to the increased burden that is being placed on our already depleted

stores Latino health care work force (Loftin et al., 2012). This phenomenon has proven to be one of our biggest challenges in addressing health care disparities, status, access, and experience. Furthermore, Loftin and colleagues (2012) noted that a major contribution to addressing this growing problem is to focus on increasing the diversity of our health care workforce. The underrepresentation of minorities in nursing is a serious concern due to the dire need for culturally competent health care (Alicea-Planas, 2009; Condon et al. 2013; Institute of Medicine, 2011). The improved compliance of Hispanic populations with their prescribed medical treatment and increased health literacy are by-products of receiving culturally competent care, which leads to improved minority health (Alicea-Planas, 2009; Condon, 2013). Minority and ethnic nurses are in a unique position to decrease health disparities for patients of like ethnic backgrounds as they are trusted health advocates in their communities. Minority health care providers are more inclined to help and are less likely to be biased against minority and medically underserved communities (Condon, et al., 2013). The Institute of Medicine (2011) identified that the lack of minority nurses has been a long standing problem and has been a major contributor to the increasing disparities that plague not only Hispanic populations but a majority of minority groups as well. The Hispanic patient who receives care from a Hispanic nurse who can speak the same language and is cognizant of the same cultural beliefs and values can result in improved outcomes than the same can delivered by the non-Spanish speaking nurse (Alicea-Alvarez, 2012).

Slow growth of Hispanic Student Nurses Population

While the population of minority student nurse enrollment that graduate is slowly increasing, enrollment is still not representative of the U.S. population as noted by multiple prominent regulatory agencies such as the American Association of Colleges of Nursing (AACN), Healthy

People (2010), the Institute of Medicine (IOM), The Sullivan Commission, the National League of Nursing, and The U.S. Department of Health and Human Services (Harris, 2014). The National League for Nursing (NLN) reported that in 2011, only 27 percent of enrolled associate degree students represented a racial or ethnic minority. Furthermore, it is suggested that increased numbers of minority nurses are needed to provide quality and culturally appropriate care to an increasing racially and ethnically diverse U.S. population (Harris, 2014; Condon et al., 2013).

In their study, Harris et al. (2014) noted that the literature demonstrates the obvious need for increasing Latino and minority nurses in order to meet our country's rising need. There is no shortage of Latino and minority applicants; but the presence of cultural barriers is preventing successful nursing school completion due to attrition. Harris also noted that nontraditional students have been one group of individuals identified as having an increased risk for attrition.

> Harris et al. (2014) stated "One notable group of nontraditional students has been described as students who are…" ethnically diverse, and who enter into college with varying degrees of academic aptitude…often have multiple stressors, including financial strain, employment constraints, and familial responsibilities. Ethnically diverse students are at increased risk for attrition due to additional barriers, including lack of awareness of their cultural needs by nursing programs, feelings of isolation, lack of faculty support, academic disadvantages, and language barriers. Lack of college preparation is also a risk factor for nontraditional students, as they present to colleges and universities in need of remediation" (2014, p.32).

In their literature review, Harris et al. (2014) observed some strategies were implemented to decrease student attrition but progress remains at a snail's pace. Some common emerging themes

that Harris identified included the need for faculty mentorship and coaching, activities to improve study habits, skill building in reading, and faculty use of various teaching strategies (Harris et al., 2014; Loftin et al., 2012b).

The Rigors of Nursing Education and the Latino Nursing Student

One significant fact of nursing education is that this field of study is extremely rigorous. In her book, Claywell (2014) devotes a chapter entirely to success strategies in the classroom. Although not aimed at the minority or student and their existing identified barriers, Claywell (2014) noted that there is a need to find balance in the world of nursing education, which is a concept very relevant to Hispanic students. Barriers in the Latino community such as language, family obligations, finances, and multiple family homes make standard study strategies such as time management, self-directedness, stress reduction, listening and reading skills, note-taking, and test taking skills are often overwhelming and not understood by the Latino student (Loftin et al., 2014a). Finding the balance is often a skill that is foreign and un-attainable due to the multiple cultural barriers faced by the Hispanic-Latino nursing student. As nursing school progresses, students often finds themselves completely immersed in the rigors and requirements of academia, and discover that their entire life and those of their family members revolve around theory and clinical course work (Claywell, 2014 p. 42). While this is difficult enough for the non-Hispanic student, Latino nursing students often cannot balance the rigors of nursing education due to the cultural barriers that they face (Loftin et al., 2012a).

In their study, Loftin et al., (2012b) conducted interviews which revealed that many Hispanic nursing students had no comprehension of what would be required of them academically in order for them to succeed in the nursing program, and that they thought they were going to learn was how to give medications and some other tasks. The authors also noted other perceptions which

led early attrition were that the students believed that they had not received adequate support in order to learn the required academic materials. Additionally, the students reported that they were unaware of tutoring or other support services which were available to them as nursing students (Loftin et al., 2012b; NLN, 2014). The students also cited a lack of knowledge of the requirements and pre-requisites, and that the substantial academic workload of the nursing program actually interfered with their academic performance when compared to their White counterparts (Loftin et al., 2012b). Unfortunately, these realities are not conducive to Latino nursing student success, and what is seen is that many will fall to attrition in the nursing program (Sheils, 2010; Nadeau, 2014). Although more Hispanic nurses are essential to the growth of this culturally competent nurse population, our future supply is in doubt. Adding to the demand of supply and according to the Health Resources and Services Administration, Hispanic students account for only 7.1% of nursing school graduates nationally (HRSA, 2010).

Hispanic students face many cultural barriers when deciding to enter college. One major contributing factor that influences their choice is the college receptiveness and openness to diversity in their culture (Bond & Cason, 2014). There is an increased incidence of student success in this culture when the college offers opportunities for mitigation of cultural barriers such as financial, cultural, academic, social, and environmental that Latino students face (Bond & Cason, 2014; Harris et al., 2014; Torregosa, Ynalvez, Schiffman, R, & Morin, 2015; Loftin et al., 2012a). In order to help Hispanic students succeed in nursing school, it is the responsibility of nursing educators to promote and assist these students toward success (Bond & Cason, 2014).

Rapid Identification of "at risk" Latino Nursing Students

The identification of the students' educational needs in their first semester of nursing school will help to identify important approaches that best lead to success (Harris et al., 2014). Proactive

identification of this student group using both academic and psychosocial risk factors, has the potential to decrease attrition through the use of well-timed and supportive programming (D'Amico, Dika, Elling, Allgozaine, & Ginn, 2014; Nadaeu, 2014). Early implementation of interventions is important to success, versus waiting until the student enters the nursing school, which may not allow sufficient time for successful integration of strategies (Harris, 2014).

Educational Unpreparedness

Harris et al., (2014) argue that low American College Testing (ACT) reading sub scores, lack of social support, failure and attrition in a beginning nursing course, grade point average (GPA) less than 2.5, student scores lower than 76 percent on any examination, poor performance in verbal and written communication, math, reading, and anatomy and physiology are all risk factors that lead to attrition. Additionally, Harris et al. (2014) noted that these risk factors are compounded for colleges that have open-enrollment policies and those that accept more at-risk students, therefore leading to a high attrition rate for minority and Latino nursing students. These factors not only impact the state and city college systems, but also proprietary colleges. Alicea-Planas (2009) also discusses the problem of educational unpreparedness which is a significant factor contributing to barriers faced by Latino nursing students in her study. Contributing factors in schools of nursing also included; lack of Latino faculty and student body, pressure from faculty, perceived discrimination, lack of advisement or mentors, the academics of nursing theory was hostile or demanding, and lack of peer understanding (Alicea-Planas, 2009). Although these minority students have the desire, potential and necessary diversity, they are not able to make entrance requirements or suffer attrition due to poor academic performance (Alicea-Planas, 2009; Harris et al., 2014).

In their study, Torregosa, Ynalvez, Schiffman, & Morin (2015) argue that English-language proficiency has influenced nursing students' academic performance in both the performance and social interaction venues. Findings from the authors' data analysis from this qualitative study indicated that the students had inherent difficulties with the English language or had been raised as English as a second language (ESL), both of which contributed to students' lack of academic preparedness for the nursing major (Torregosa et al., 2015).

Move toward Addressing Health Care Disparities through Latino Nurses

It is a fact that the Latino population is the fastest growing minority group in the United States, and as a country we are witnessing a disparity in the delivery of culturally sensitive health care resulting in health care disparities (U.S. Census Bureau Quick Facts, 2011). In order to help address the health care disparities that the Hispanic populations face in our American society, notable regulatory agencies such as the National League for Nursing have emphasized the importance to and the commitment of addressing and decreasing health care disparities of minority populations by taking the position that "We must acknowledge that quality and safety are adversely affected by a lack of diversity and address the consequent disparities in access to health care services that preclude quality care for all" (p. 1).

Alicea-Planas, (2009) notes that in an attempt to increase the numbers of Hispanic nursing students, the National League for Nursing and the Institute of Medicine are examples of some of the largest proponents calling for an increase in Latino nurse representation in order to address the nation wide problem of health care disparities of the Latino population.

As a voice for nursing education, the National League for Nursing (2014) has published a "diversity toolkit" which addresses a multitude of cultural essentials for the delivery of culturally sensitive care. The diversity toolkit contains a set of assumptions within the organization's

Reflection & Dialog, A Commitment to Diversity in Nursing and Nursing Education paper. The National League for Nursing has been expanding on the importance of addressing and decreasing health care disparities of our minority populations with one of their assumptions noting that "quality, safety, and diversity are intertwined (2014)". Barriers to health care are a significant factor that leads to health care disparities in the Hispanic population and language barriers appear to contribute to an increase in patient safety. Additionally, those patients who are not fluent in English appear to suffer a greater number of adverse events and harm when compared to those who were fluent in English (Alicia-Alvarez, 2012).

Disparity in the United States Registered Nurse Force

In order to understand the disparity of the registered nurse workforce in relation to the general diverse populations, McGinnis, Brush, & Moore (2010) concluded that compared to the general United States population, registered nurses are the nation's largest health worker cohort but are overwhelmingly White and non-Hispanic. Furthermore, McGinnis et al. (2010) found that efforts to remedy the diversity gap between the registered nurse pool and the United States population through the aggressive recruitment of minorities have been largely unsuccessful, at least as measured by current benchmarks of nurse workforce diversity that categorize registered nurses by broad racial and ethnic classifications at a national level. However, McGinnis et al. (2010) also found that little data exists about the registered nurse to population mix at local levels and whether addressing this racial and cultural gap will improve culturally competent care and decrease the health care disparities of this population.

In their report, the Sullivan Commission (2004) described the disparities of the health care workforce in relationship to the general population of the United States. The findings of the Sullivan Commission (2004) further support the need for increasing the diversity of our national

nursing pool by explaining that due to the lack of minority health professionals, we are experiencing a compounding of the nation's persistent racial and ethnic health disparities. From cancer, heart disease, and HIV/AIDS to diabetes and mental health we are witnessing African Americans, Hispanic Americans, and Native Americans tend to receive less and lower quality health care than whites, resulting in higher mortality rates. The consequences of health disparities are grave and will only be remedied through sustained efforts and a national commitment (Sullivan Commission, 2004; National League of Nurses, 2014). When addressing the disparity of the Hispanic nurse populations in the United States, Moceri noted that this population is expected to reach roughly twenty-five percent of our national population while our Latino RN workforce representation is minute at best (Moceri, 2010). This is a disquieting revelation regarding our Latino nurse to general population ratios. In addition, the U.S. Census Bureau (2012) reports that our Hispanic population is projected to more than double by the year 2060 and that one of every three people will be of Hispanic orientation.

Factors of Hispanic/Latino Nursing Student Retention

The increasing diversity of the United States is evidenced by a recent census report predicting that by midcentury, racial and ethnic minorities will make up over half of the United States population with the Hispanic population by some estimates is expected to comprise at least twenty-five percent of this forecast (Loftin, et al., 2012b). A culturally diverse nursing workforce is critically needed to meet the health care needs of this increasingly diverse population (Stickney, 2008; Harris et al., 2014; Alicea-Planas, 2009). Recruiting and retaining underrepresented minority nursing students continues to be an important component of this process but remains a challenge for the nursing education community (Loftin, et al. (2012a).

Financial Considerations

Alicea-Planas (2009) noted that one major barrier to Latino nursing student success was the lack of available finances. The affordability and lack of financial aid is a key factor in both entering nursing school and staying in school. Many Latino students do not have the backing of their families or if they do, the financial support is minimal. Harris et al. (2014) noted that a major criterion often leading to "at risk" status includes those minority students who are employed more than 16 to 20 hours per week, and those who are working to support their families or who have to work in order to fund their education. The rigors of nursing education coupled with outside employment, causes extreme stress for many students, leading to student attrition (Harris et al., 2014).

Lack of Knowledge of Financial Aid

Due to the problems encountered such as English as a second language (ESL), many Latino nursing students are unaware of available financial aid packages. For those who are first-generation college students or for those who are ESL in academia, the process is even more taxing. The presence of cumbersome forms and lack of internet resources for application of financial aid often made the task unattainable therefore leading to matters of attrition (Alicea-Planas, 2009).

Cultural Barriers Leading to Attrition

In order to address the challenges that the United States faces, Condon et al. (2013) argue that the underlying cause of this disparity lies in the fact that the Latino student nurse population is challenged by multiple cultural barriers when faced with the rigors of academia. Although our leading health care agencies are calling for recruitment and retention of Latino nursing students, we are still seeing a high level of attrition in this group. In order to understand the origin of this

phenomenon, the underlying causes must be investigated (Alicea-Planas, 2009). When addressing our country's lack of Latino nurses, Alicea-Planas explains a major problem lies in the fact that while schools of nursing are willing and eager to enroll minority nursing students, these disadvantaged prospective students lack the necessary attributes to effectively deal with the financial, academic, and social challenges that present as barriers to success in nursing school (2009).

Since our country's ethnic make-up is actively changing, Harris et al., (2014) emphasize the fact that many of our states becoming a minority-majority. Harris el al. also cited a news brief published by the U.S. Census Bureau which reported that the number of minorities residing within U.S. has increased in all 50 states over the past decade (2014). These investigators also note that states such as Hawaii, New Mexico, Texas, California, and The District of Columbia all are currently showing a majority of minority as more than 50 percent of the population is represented by minorities (2014).

Another important factor in helping to reduce attrition of Latino nursing students is to recruit and employ diverse faculty who can foster and mentor the Latino nursing students (Alicea-Alvarez, 2012). Unfortunately, there still exists a shortage of diverse nursing faculty who can help mentor and develop a relationship with their Latino nursing students by providing culturally sensitive education which will translate to the provision of culturally sensitive patient care (Alicea-Alvarez, 2012).

Perceived Cultural Barriers to Education

In their study, Veal, Bull, & Fitzgerald Miller (2012) noted that Hispanic students voiced concerns of stressors and moderators that took place within the overarching context of what was termed "a monolithic culture." In this context, this term refers to the values, perspectives, and

beliefs that exist in predominately White educational institutions where there is an absence of ethnically diverse students and faculty with an absence of diverse perspectives in the classroom and at social events. Veal et al. (2012) further elaborated that learning to balance cultural and academic stressors with moderators was one of the major emerging themes of their research. Furthermore, in their study they noted that all participants reported on the need to develop and utilize skills that helped them move between academic, work, and family cultures.

Factors of Race

Veal et al. (2012) demonstrated in their study that students also viewed issues of race as a significant factor that influenced how they were welcomed and how they acclimated within the academic and clinical settings. The authors addressed the fact that students often felt the need to validate their value to other non-Hispanic students and faculty, based on their perceptions that others would recognized their cultural differences as evidenced by skin tone or language (2012). The monolithic culture affects the decisions students make, the resources they choose to use, and their psychological well-being (Veal et al., 2012). Additionally, in their study, Loftin et al., (2012b) also argued that Latino nursing students are being subjected to discrimination and racism by faculty, preceptors, peers, hospital staff, and patients with several studies citing various recounts from their experiences.

Perceived Discrimination as Result of English as Second Language

Veal et al. (2012) noted in their literature review that past research studies suggested that the students' lack of their command of the English language had negative consequences in the establishment of personal networks and, eventually, social interactions in the academic and clinical settings. Students reported having perceptions of racial discrimination and being viewed and mislabeled as academically weak due to their limitations with the English language (Veal et

al., 2012). The lack of English language skills has precluded students from engaging in meaningful interactions with their peers and faculty, therefore resulting in feelings of isolation. The authors also noted that these same experiences extended into the clinical sites with faculty and staff who viewed the language difficulties as time intensive, weak, and a possible threat to the clinical setting and patient care (Veal et al., 2012)

English as a Second Language (ESL)

ESL has been a contributing factor in student difficulties especially when students are completing examinations. This is due to the fact that the student has to translate the English text into their native language in order to understand exams and assignments (Veal et al., 2012). Problems faced by ESL students has resulted in the need for to excessive time, poor scores, and stress. Additionally, difficulties with writing and communication skills further compounded student success (Torregosa et al., 2015).

In her study, Alicea-Planas (2009) identified problems of emersion as a Spanish speaking child into an English speaking school system, and the difficulties with educational attainment at the high school level due to being a second language learner, which was a factor attributed to their educational unpreparedness for the challenges of nursing school. Alicea-Planas (2009) also argues that as many began their journey in schools around the country and regardless of the type of programs, academic problems have been identified as a stumbling blocks. Given that many are unprepared for the difficulty of academia, Alicea-Planas (2009) further noted that these students found the workload of academia to be overwhelming and almost impossible to handle. Latino students are in need of tutoring, study groups, and additional guidance that is often not available. Alicea-Planas (2009) recommended providing mentorship programs or the provision of academic

support such as tutoring, time management, and prioritizing and study skills and involving a Hispanic or Latino coordinator and mentor would be ideal situation for success.

Balancing the Academic Challenges and Family

Nadaeu (2014) noted that academia and nursing school content is very comprehensive and difficult to understand, especially in new learning environments. Nursing students are overwhelmed with the volumes of material to be learned and with the need to understand complex foundational concepts and often students note that their instructors answered their questions by asking them more questions. These issues often lead to academic difficulties and can separate the students from their family obligations and social contacts rendering the student to a situation of risk for attrition and failure in nursing school (Nadeau, 2014).

In her dissertation, Shiels (2013) discusses the struggles of Hispanic students who were first-generation attendees in college and were therefore based on historical data, at higher risk for failure. This risk for failure in part is attributed to lack of parental familiarity with college, as is frequently seen among immigrant populations. Such decisions include choosing college preparatory courses in high school, the college application process, and access to sources of financial aid (Shiels, 2013).

Educational Requirements of Mexico

Purnell (2013) notes that Mexican or Latino second and third generations have a higher level of job skills than did their parents or grandparents who migrated to the United States in search of a better life. Because the United States shares a common border with Mexico, newer immigrants most often come to this country with poor educational backgrounds and many place little value on education because a vast portion of the population are impoverished and feel academia is of no use in Mexico. Purnell (2013) also notes that in past years the Mexican educational

requirement for the general population was at a fifth grade level with a literacy rate of 86.1 percent. Recently this requirement has been increased to a ninth grade education, (Purnell, 2013). A common practice in Mexico has been for parents to educate their children only to what they need to know in order to survive in Mexican society; this practice is a major reason why we are witnessing many of the immigrants who present to the United States educational systems with deficient educational aptitudes (Purnell, 2013). Of prime concern, Purnell (2013) stresses that the Latino cultural group are the most under-educated ethnic group in the United States with only a 45 percent of those ages 25 years and over having a high school educational as compared with 90 percent for non-Hispanic Whites.

General Family Structure of Latinos

The traditional family pattern is patriarchal, with a slow movement toward egalitarian in recent years. Machismo patterns see men as having strength, valor, and self-confidence and are considered to still be a valued trait (Purnell, 2013). Men are seen as wiser, braver, stronger, and more knowledgeable regarding sexual and family matters as well as major financial decisions. The female role is that of being responsible for decisions within the home and family health issues (Purnell, 2013). For many Latino students, family and cultural heritage are essential and irreplaceable aspects of their life, and unfortunately, often contribute to the demise of their educational goals. Purnell further elaborates that there is often an intense and almost overpowering sense of family obligation felt by students, regardless of distance or other responsibilities they may have (Purnell, 2013). These profound feelings are often not understood by faculty in schools of nursing, or are often misunderstood. Students are expected to put nursing school first during their academic career, and therefore having to place nursing school as a priority was viewed as a deterrent for many Latino students which often leads to attrition

(Harris et al., 2014). Issues regarding family support are also identified as both facilitators and barriers. For some Latino students, family members were described as less supportive because of gender role stereotyping. Families of Hispanic female students often did not consider it as important for them to complete their education as they did for their male family members (Loftin et al., 2012b). Additionally, role stereotyping is also often considered as a barrier for Hispanic males entering the field of nursing as this profession is often considered a female vocation and not necessarily an appropriate career choice for Hispanic males (Loftin et al., 2012a).

Multi-family Homes and Obligations

Often Latino nursing students sacrifice their own personal success for the benefit of their families, which often hinders their academic progression (Alicea-Planas, 2009). For others, the decision to start nursing school or pursue advanced degrees is often met with resistance by their families and significant others which provides a major barrier for Hispanic-Latino students to meet the obligations of their children and families in addition to keeping up in their studies. Alicea-Planas (2009) also noted that it is not uncommon for these households to have multiple family units living under one roof. It is a tradition for the younger members of families to care for their elders; which often gives students a sense of feeling selfish about their academic endeavors in school and feelings of guilt over missed time with their loved ones (Alicea-Planas, 2009). This presents another barrier than can contribute to the lack of study time, study habits, and eventually attrition (Alicea-Planas, 2009). In addition, Loftin et al. noted that meeting family obligations and caring for children, elders, and homes was found to be of great importance even to the extent of sacrificing study time (2012b). Students who missed family functions to study or attend class are often subjected to criticism and negative feedback from family members (Loftin et al., 2012b).

Section III: Market Risk and Cost Benefit Analysis

The market analysis section of a business or strategic plan should illustrate the industry and market knowledge as well as any of current research findings and conclusions regarding the proposed plan (U.S. Small Business Administration, n.d.). This Capstone research project was conducted at two schools of nursing during the 2015 spring cohort fundamentals associate degree nursing program at Cerritos College (Appendix D). A second cohort of vocational nursing students was recruited from a private vocational nursing program (Appendix E). The vocational nursing cohort were in the third term of their nursing program. Affiliation agreements to participate as practice sites were established for this research project.

Cost Benefit Analysis Related to Capstone Research

There was minimal cost involved because the project is a study plan which will be introduced in a lecture format, with minimal handouts. There were no textbooks, computers, or software to purchase. The intervention was simply delivered in a lecture format using a didactic power point format. The total time frame to conduct the research project was approximately two months, which was the midterm point of their scheduled courses. Although there was no charge to the individual colleges of nursing, in order for this program to be instituted within the respective campuses as part of the curriculum or as tutoring services, the regular charges would entail a charge of $60.00 per hour for instructor wages, with a total of eighteen hours of actual presentation and preparation time. The entire projected cost of implementing this project would be approximately $1008.00 per college campus. For the purpose of this Capstone study, the actual classroom time and costs were absorbed by Cerritos College and InfoTech Vocational College. The benefits of this Capstone research project were potentially improved grades and decreased attrition of the Latino nursing students with minimal costs to the facilities.

Required Resources

Resources for the project were provided by Cerritos College and included: (1) securing of a practice site, Cerritos College located in Norwalk, CA and InfoTech Vocational Nursing College; (2) classroom space for initial meeting, follow-up sessions, and data collection; (3) adequate sample of Latino nursing students, first semester fundamentals course and vocational nursing students in their third term; (4) agreement of Latino students to voluntarily enroll in the program for one semester; (5) preparation and duplication (copying) of handout materials.

SWOT Analysis

The University of Kansas (2014) describes the Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis process as a method that guides an investigation into identification of Strengths (S), Weakness (W), Opportunity (0), and Threats (T) of projects, research, or planned events. This method of inquiry can identify information, both negative and positive inside and outside of organizations. Using a SWOT analysis can give full awareness programs under development and can help with strategic planning and decision making (Appendix C).

A final assessment of the variable aspects of SWOT revealed that there were definitely more strengths identified than there were weaknesses. All strengths were met with only one Latino student in the vocational experimental group falling to poor academic preparedness in the internal weaknesses. In the associate degree experimental cohort, both internal and external threats were manifested by the presence of external factors related to lack of participation due to work, time constraints, and illness.

Some internal factors strengths of the SWOT analysis included; (a) support from college, administration, and faculty support for the Capstone project; (b) adequate classrooms; and (c) computer access to the faculty grade book for monitoring student participant progress. Internal

weaknesses primarily consisted of; (a) cultural barriers such as the need to work, family obligations; (b) poor academic preparedness; and (c) attrition from the nursing program.

Notable external opportunities were primarily experienced in the vocational nursing cohort were; (a) increased student retention; (b)decreased attrition; (c) community support and community recognition; and (d) increased NCLEX success. External threats primarily were present in the associate degree student cohort and consisted of; (a) lack of student participation; (b) cultural barriers such as work, family obligations; and (c) illness which prevented student success.

Driving and Restraining Forces

In addressing the rigors of nursing education and the cultural barriers that often prevent success for Latino nursing students, an overall evaluation of the study plan was examined. The driving forces of this plan are to: (a) increase the overall United States Latino nurse representation; (b) decrease the cultural barriers that inhibit Latino student nurse success; and (c) increase Latino student nurse success in nursing school. Some examples of restraining forces are: (a) student nurse engagement; (b) social barriers; (c) cultural barriers; (d) lack of state or federal funds; and (e) lack of educationally prepared students. Examples of sustaining forces include: (a) available state or federal grants; (b) expertise of faculty and staff; (c) integration of the study program into school curriculum; and (d) educationally prepared student nurses (Appendix D).

Need, Resources, Sustainability, Feasibility

The need for this study program was evident; given Latino nursing students suffer high attrition rates and low national Latino nurse representation. Resources needed were schools of nursing who were willing to adopt a strategic study plan aimed at improving the success of their students. Sustainability was built in this study plan as it can increase success of the nursing

student if the student adheres to the strategy. The feasibility outlook for implementation of the Twenty-Four Three Study Plan is favorable as the introduction and follow up is fiscally attainable, with the outcomes for any compliant student posting marked increases in their grades. Once the program is introduced to the students, there is minimal follow up as it is the responsibility of the students to maintain their newly acquired study method. (Appendix E).

Stakeholders and Project Team

Stakeholders were the individuals, groups, or other organizations that were affected by and also affect a school or college's decisions and actions. Terry (2012) suggests that when designing a practice change, involving stakeholders in the identification of strategies that explore the original issue and then using those stakeholders as part of the practice is referred to as a clinical protocol. In this case, the primary stakeholders were the college campuses and the students who benefitted with increased grades. Terry (2012) further points out that the less complex the protocol is, the more likely the stakeholder is to accept it. Additionally, Terry also notes that conducting a pilot test can make the implementation of the study plan more acceptable and can allow the college as stakeholders to integrate the plan into their curriculum (2012). Other stakeholders were the community, local health care facilities who will benefit from increased Hispanic nurse representation, and the general Latino community who experience a far superior cultural delivery of health care services, therefore decreasing health care disparities to this population. The project team consisted of two schools of nursing, Cerritos College for the associate degree nursing experimental cohort and InfoTech Career College for the vocational nursing experimental cohort. Additionally, the program directors and the nursing professors for both nursing schools were actively involved in this project. Serving in pivotal roles were the

Capstone Chair from Regis University Loretto Heights School of Nursing and the DNP mentor who guided the entire process from start to completion (Appendix R).

Section IV: Program Goals and Objectives

Goals are broad statements that are general intentions and are not specific enough to be measured. A S.M.A.R.T. goal is defined as one that is specific, measurable, achievable, results-focused, and time bound (University of Virginia, n.d.). Whereas a goal is an overarching principle that guides decision making, objectives are specific, measurable steps that can be taken to meet the goal (Tulane University, n.d.). After the general goals were established, clear and measurable objectives were developed in order to reach the specific goals.

Objectives for this Capstone project were to: (a) identify and recruit student cohorts in both an associate degree of nursing program and a vocational nursing program; (b) verification of student nurse cultural status as Latino which was determined by a pre-study questionnaire; (c) enrollment of Latino nursing students into the Capstone study; and (d) increase in student grades by the midterm point of their nursing program.

Mission Statement

The mission of this project was to provide a mentored program to improve study skills, to decrease early program attrition, and to nurture Latino nursing students toward persistence in school.

Vision Statement

The vision of this project was to increase Latino nursing student success and representation in the profession; and to improve the quality of culturally appropriate care to Latino patients.

Logic Model

In order to present a visualization of a project, a logic model presents an easily understandable schematic of a process. Zaccagnini and White (2011) explain that logic models present a picture of how a project developer believes a program will work. Logic models include a series of diagrams that indicate how different parts of a program work together or how they are sequenced together. The logic model template for this Capstone Project is a simple model using standard details as inputs, and activities and stakeholders as outputs connected to Latino associate degree nursing and vocational nursing students. Both short term and long term outcomes were listed along with possible constraints (Appendix I).

Some of the inputs were class time, faculty participation, recruitment of a school of nursing. Additionally, refinement of the Twenty-Four Three Study Plan was an ongoing process throughout the project. Outputs had two categories which were activities and stakeholders. The activities involved continued recruiting of a school of nursing as a practice site, recruiting a DNP mentor, beginning to announce the intent of a research study, and refinement of the Twenty-Four Three Study Plan. Stakeholders were local schools of nursing, community health care facilities, Hispanic and Latino populations who also suffer health care disparities, and the students themselves.

Outcomes involved two categories which were short term outcomes and long term outcomes. The short term outcomes included increased Latino student nurse success, increased retention, increased NCLEX pass rates, decreased attrition rates, increased local Latino nurse presence, and overall community satisfaction. Long term outcomes consisted of increased Latino nurse at the local, state, and national level, increased employment of Latino nurses, increased community satisfaction, and decreased health care disparities for the Latino populations.

Constraints are the restrictive forces that are a possible outcome. Some constraints related to this study were attrition from the study, and non-adherence to the study plan for such reasons as illness, time constraints, working, and other reasons. These constraints were examples of confounding variables that could lead to project failure or a disruption of scheduled progress of the study.

Population and Sampling

The type of population sampling that was used for this Capstone Project was purposive sampling. With this type of sampling, the group characteristics are defined and of interest to the investigator and rely on the judgment of the researcher when it comes to selecting the units (e.g., people, cases, organizations, events, pieces of data) that are to be studied. Usually, the sample being investigated is quite small, especially when compared with probability sampling techniques (Laerd, 2015). The population whose characteristics were of interest to this study was Latino nursing students. The samples consisted of Cerritos College Latino associate degree nursing students in their first semester fundamentals course and a cohort from InfoTech Vocational Nurse College with students in their third term of study. These samples were very specific to the instruments that were developed.

Inclusion and Exclusion Criteria

Inclusion criteria for the project included: (1) samples that consisted of voluntarily enrolled Hispanic-Latino associate degree nursing students who are in their first semester fundamentals course and vocational nursing student cohort in their third term of study; (2) ages of participants were over 18 years of age; (3) ethnic verification of Latino nursing students by questionnaire; (4) practice site was in the respective schools of nursing, first semester cohort for ADN students

and third term for the vocational nursing students. Exclusion criteria included: (1) students who are not of Latino cultural status; (2) students under the age of 18 years.

Study Design

This study employed a quasi-experimental longitudinal cohort design using a convenience sample of nursing students at two different campus sites. The intervention was the Twenty-Four Three Study Plan. Based on the roots of positivism, the objective was to increase student grades by their midterm course which could be quantified and measured (Terry, 2012). The end point for both samples was the midterm point of their semester.

Methodology

This study used a quantitative research methodology as employing a quasi-experimental longitudinal cohort design. Terry (2012) describes a quasi-experimental research design as one which does not use randomly assigned study groups, although there may still be a control or comparison group involved. Subjects are usually not randomly assigned, either they can be randomly sampled or all the subjects can be used. Terry further explains that a quasi-experimental design can be used when an experimental design is not feasible or ethical, or when a true experimental design cannot be conducted in a real world setting (2012). This study utilized a quasi-experimental design due to the fact that the researcher encountered difficulty in attaining practice sites and experimental groups with sufficient participant numbers. Of note, the researcher added a second cohort in order to add additional numbers to the original study cohorts. Additionally, the researcher encountered great resistance from multiple schools of nursing when attempting to locate practice sites and experimental cohorts.

The descriptive portion of the study was concerned with specific groups of Hispanic-Latino nursing students' cultural demographics which were obtained by a questionnaire in order to

gather study participant baseline demographic data. The Twenty-Four-Three Study Plan was well suited to this research design. Based on the roots of positivism, the objective of measuring Latino student changes in their grades within their midterm course work allowed the collection of quantifiable and measurable data (Terry, 2012).

An invitation was presented to each cohort during their lecture class. All Latino students who requested participation into the study were enrolled. Permission was obtained from the individual students for grade access by the researcher during the study period (Appendix J, K). Data were collected from an experimental vocational nursing program cohort (n = 10) and a comparison group from 2012 of Vocational Nursing Students (n=10). The associate degree nursing experimental cohort consisted of (n=18) and the comparison cohort was (n=15). All experimental participants filled out a cultural demographic questionnaire prior to beginning the intervention.

Protection of Human Subjects Review Category: Exempt

The Office for Human Research Protection (OHRP) is a branch of The United States Department of Health and Human Services (n.d.) which is concerned with clarification and guidance, developing educational programs and materials, maintaining regulatory oversight, and provides advice on ethical and regulatory issues in biomedical and behavioral research. This project qualified for Exempt review and approval. There are five categories that qualify as exempt from IRB review. The two qualifying categories are: (1) Category #1: Research conducted in established or commonly accepted educational settings, involving normal educational practices and instructional techniques. Personal identifiers will not connect data to subjects; (2) Category #2: Research involving the use of educational tests, survey procedures, interview procedures, or observations of public behavior. Personal identifiers will not connect

data to subjects (Terry, 2011; United States Department of Health and Human Services, n.d.). In order to assure compliance of human rights and protection when performing research studies, a human subjects protection course was completed (Appendix O).

Trustworthiness, Reliability and Validity

When researchers discuss whether findings and conclusions from research can be trusted or are trustworthy, they are referring to validity. The researcher must examine the research question, design, and methodology in order to ensure that there is validity to the project. Additionally, one must question if the research design matches the research question and how the research study was conducted. Cope (2014) argues that measures exist to numerically represent degrees of attributes. Most importantly, Cope further argues that quantitative research is based on measurement and is conducted in a systematic, controlled manner. It is the presence of these measures that enable researchers to perform statistical tests, analyze differences between groups, and allows the researcher to determine the effectiveness of treatments. If something is not measurable, it cannot be tested (Cope, 2014).

Testing Reliability using a Pilot Test

Simply stated reliability is the means for determining whether the instrument and its components will give the same results if the research is repeated (Terry, 2012). In the case of this Capstone project, an informal pilot test was conducted using a group of associate degree nursing students in a community college setting. With prior consent from the Director of Nursing of an associate degree nursing program, students in the first semester of their nursing program were identified by their lead instructor as being "at risk" for failure by an overall grade of below 78 percent. A referral was generated and students were invited to participate in the pilot study using the Twenty-Four-Three Study Plan. A total of ten students, referred from the first

semester attended scheduled meetings which lasted for approximately one and a half hours. The program was presented using PowerPoint™ lecture format, including an informal questionnaire requesting demographical data which was filled out by the student participants. A PowerPoint™ and a study guideline were also handed out and students were followed closely via email or face to face contact during the study period every two weeks. The lead instructor was also contacted approximately every two weeks for grade reports.

Pilot Test Results

During the semester, contact was made with each student on campus or via email. Each student verbally expressed their satisfaction with the Twenty-Four-Three Study Plan, and most students were thrilled that their grades had come out of the "at risk" category, and several had even entered into the "A" range. Most students agreed that the plan was very rigorous but were grateful that this plan gave structure to their study habits and gave them more time to focus on their clinical responsibilities and home or social obligations. Of the ten students who were the pilot group, one failed and nine passed at their midterm, yielding a 90 percent success rate. It is also noteworthy that students from the entire associate degree nursing program, who were identified as "at risk" by their professors were also referred for enrollment into this program, but were not part of the pilot test group and performed equally as well with overall increases in their grades.

Study Sequence and Data Collection

During the Capstone Project, sampling occurred every two weeks during the course and the methodology was as follows: (1) Initial presentation of the research program and to administer a questionnaire to determine ethnic origin and characteristics of the student group; (2) Present a Letter of Informed Consent (Appendix K); (3) Enter Latino nursing student population into

study with an Informed Consent (Appendix K); Initial assessment and recording of initial course grades of all student participants; (4) Researcher provided a lecture on the Twenty-Four-Three Study Plan which included handouts; (5) Researcher's assessment of student compliance including examination of the school computer gradebook for grade progress every two weeks; (6) Final assessment of compliance and posting of grades; (7) All grades were recorded on an excel spreadsheet; (8) Comparison of final grade results to a previous cohort obtained from college statistics from previous years.

Cultural Diversity Questionnaire

This research Capstone Project's aim was to decrease Latino nursing student attrition. The enrollment of non-Latino participants into the research program could potentially produce a confounding variable that needed to be minimized in order to keep the study valid. As a melting pot society, the question arose of bi-cultural students entering the study. Defining the study group as Latino will be determined with the use of a questionnaire after the students had shown an interest in enrolling into the study. The questionnaire queried the student's demographic, educational, cultural, and family background information. The questionnaire also identified students regarding their cultural heritage with student selection for entrance into the study group partly based on the answers provided along with their voluntary participation. Bi-cultural students were permitted to enter the study based on whether their reported cultural preference was Latino (Appendix B).

Analysis of Cultural Diversity Questionnaire

Terry (2012) notes that descriptive statistics are used to provide a summary about a specific sample from a study. In other words, descriptive statistics will provide a snapshot of the study group. Data were taken from the Cultural Diversity Questionnaire and using the Statistical

Program for the Social Sciences (SPSS), descriptive data were generated. The questionnaire was given to both experimental study cohorts and was analyzed as one study group. There was missing information giving rise to a total percentage of 73.7% evaluable data. The evaluable data revealed that 50% of the students resided in single family homes and 23.7% resided in multi-family homes. The primary language spoken in the homes was English at 44.7% and Spanish at 28.9%. Mothers of the students educated past high school were 26.3% and those not educated past high school were 47.4%. Fathers educated past high school were 23.7% and those not educated past high school were 44.7%. Students who worked to support their education were 28.9% and those who had to work to support their families were 55.3%.

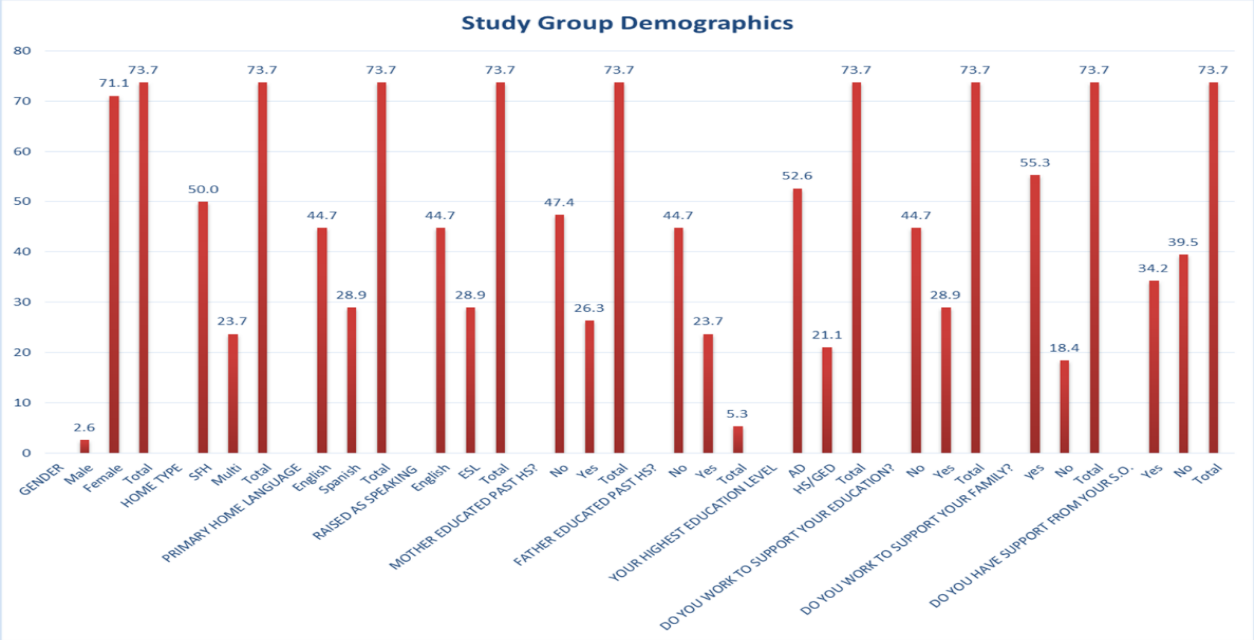

Figure 2: Cultural Diversity Questionnaire

The Intervention: Twenty-Four-Three Study Program

The basic sequence of the program followed a specific method which was enveloped within a twenty-four hour time capsule surrounding a student's lecture day. The plan specifics were as follows: (1) Twenty-four-hour time capsule providing three exposures to the lecture content; (2)

First exposure was the evening before lecture. The student performed reading in a light or scanning method over lecture content which had been provided by a power PowerPoint™ or lecture outline; (3) The second exposure occurred during the lecture as the student took active notes, recorded the lecture if desired, and actively participated in lecture by asking questions; (4) The third exposure occurred after lecture and before bedtime of that lecture day. The student used their textbook, lecture notes from class, their recording of lecture, PowerPoint™ or lecture outline. Students were to keep a clean notebook at home in which the students would then rewrite all lecture notes that they did not understand, and make only brief bullet points on the content they did understand. During the process of rewriting notes, the students now actively reread the textbook sections relating to the lecture (Appendix M). This is when the active phase of learning occurred as the students were using all the visual, aural, reading and writing, and kinesthetic methods (VARK, 2014; Fleming, 2014). There was an additional student handout which was a short-cut version of the original Twenty-Four Three Study plan which was also included as a handout (Appendix N).

Section V: Project Findings and Results

For purposes of this study the researcher sampled both populations several times during the study in two week increments with the grades of the experimental cohorts recorded every two weeks until their midterm period. Nominal data was used when classifying the data from the questionnaire into mutually exclusive categories (Polit, 2010). Interval data were used for analysis of the student grades (Polit, 2010).

Twenty-Four Three Study Plan Analysis

In quantitative studies, the variable is something that takes on different values. The independent variable (the intervention) is the hypothesized cause of, or the influence on the

dependent variable (the outcome). The research question was attempting to determine whether the Twenty-Four Three Study Plan as an independent variable, was related to or has caused a variation in the dependent variable (the students' grades) (Polit, 2010). As noted previously, the research question was "Will Latino vocational nursing and associate degree nursing students using the Twenty-Four Three Study plan achieve higher course grades than students with no exposure to the study plan?" In this study the dependent variable was the grades that have increased as a result of the independent variable which is the study plan. The population in this study was Latino nursing students, and the study groups are both the Latino associate degree nursing and vocational nursing students as independent variables.

Data Collection for Analysis

An excel data collection tool was devised in order to record the ongoing grades of the participants. A questionnaire regarding cultural demographic information was also recorded on the data spreadsheet. The excel data collection spreadsheet was created with rows representing both experimental cohorts of the study. The columns were categorized reflecting numeric data which was retrieved from the questionnaire and the grades which were collected from each cohort of study participants in two week increments. After the study period closed, the data were summarized on tables in order to condense the information for easier visualization and for entering into SPSS software.

Coding and Software

After student grades were obtained from the school computer grade book, and were converted from a letter grade into percentage values for both experimental and comparison cohorts using the point values of each exams plus their midterm exam were analyzed using SPSS software. As a Windows based program that can be used to perform data entry and analysis

including the creation of tables and graph, SPSS is capable of handling large amounts of data (IBM, 2015). Since SPSS is commonly used in the social sciences and in the business world, this software program was a perfect choice for analysis of this Capstone Project.

Quantitative Analysis

According to Terry (2012), quantitative research allows the investigator to establish a correlational and causal relationship between variables. When using and analyzing a quantitative research design, the investigator collects data to determine behaviors or phenomenon that occur as a result of the intervention. The prime intention is to conduct a research project and complete data collection in order to provide evidence that the hypothesis or research question is statistically significant (Terry, 2012).

One statistical test proved to be the strongest choice for this research question. The bivariate parametric test used was the independent samples t-test, with the purpose of testing the difference between two independent groups providing a strong statistical analysis for this type of study. The t-test was a good choice for analyzing data of numeric interval grade (Polit, 2010). In this study, the variables which were analyzed consisted of the course grades of the Latino nursing students.

Descriptive Statistics

Descriptive statistics is the term given to the analysis of data that helps describe, show or summarize data in a meaningful way. For example, patterns might emerge from the data which would give a meaning to the research question but does not allow the researcher to make conclusions regarding the research. They are simply a way to describe data (Laerd Statistics, 2015). Using measures of central tendency are ways of describing the central position of a frequency distribution for the participant cohorts by using a mean. Measures of spread are

ways of summarizing a group of data by describing how disbursed the scores are. There are a number of statistics which can be used for describing the spread of scores such as the range, quartiles, variance, and standard deviation (Laerd Statistics. 2015). For a quantitative analysis of the questionnaire on cultural diversity and characteristics and to provide a visual of the descriptive findings of the questionnaires, percentages were used and results generated using SPSS in the form of a graph.

Inferential Statistics

Inferential statistics allow the researcher to draw conclusions that reach beyond a cursory examination of the data. These types of statistics can allow estimation that the probability that the data found in analysis are a reflection of the parameter of the population and analysis must be done on an interval level because of the use of mathematical operations of analysis (Terry, 2012). The t-test tests for differences between groups is a highly reliable test which can be performed when the researcher is interested in comparing the performance of two groups on one measure to determine if a difference exists.

The researcher used the following descriptive statistics: (a) course grades expressed as percent of 100; (b) measures of central tendency (means); (c) frequencies (counts); and (d) measures of variability (range, standard deviation). In addition, inferential statistics included the use of independent samples t-test (difference test) and Pearson's r (for effect size). Using both the Independent Samples t-test to test differences and the Pearson r for effect size, analysis involved comparing the experimental vocational nursing group means to the comparison group means.

Vocational Nurse Cohort Results

Using SPSS statistical software, an independent samples t-test was used to analyze the student's end-of-course final grades. The null and alternate hypotheses were as follows. Ho: $\mu 1 = \mu 2$. There is no statistical difference in the group means. An alternate hypothesis is as follows. Ha: $\mu 1 \neq \mu 2$. There is a statistical difference between the group means (desired) and is explained as follows.

Independent Samples t-test for Vocational Nurse Cohort

When comparing group means when the participants in both groups are not the same people or connected to one another, the independent samples t-test is often used (Polit, 2010). Using SPSS software, the data were analyzed comparing the means of the vocational nurse student grade outcomes after the initiation of the Twenty-Four Three Study Plan. The output data which was used for analysis were the equal variances not assumed as indicated by Levene's Test for Equality of Variances (.004).

Group Statistics

	Program	N	Mean	Std. Deviation	Std. Error Mean
FinalGrade	VN	10	.828760	.0420073	.0132839
	VN Comparison	10	.668250	.1265188	.0400088

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
FinalGrade	Equal variances assumed	10.884	.004	3.807	18	.001	.1605100	.0421564	.0719427	.2490773
	Equal variances not assumed			3.807	10.960	.003	.1605100	.0421564	.0676835	.2533365

Figure 3: Independent samples t-test vocational nurse cohort

Vocational Nurse Cohort Independent Samples t-test Results

The null hypothesis was rejected (t=3.807, p=.003). There was a difference in means between the grades of the experimental group and the comparison groups. After the introduction of the Twenty-Four Three Study Plan, the experimental vocational nursing group experienced overall higher grades than did the comparison group (CI: .0676835 to .2533365). The output data which were used for analysis was the equal variances not assumed as indicated by Levene's Test for Equality of Variances (p=.003). The effect size was calculated using Pearson's r and demonstrated a strong correlation between the two vocational student nurse cohorts (correlation .65). The result of effect size of the experimental group was considerably larger than that of the comparison group, indicating that the grades were statistically improved after the introduction of the Twenty-Four Three Study Plan.

Associate Degree Nursing Cohort Results

Using SPSS statistical software, an independent samples t-test was used to analyze the student's end-of-course final grades. The null and alternate hypotheses are as follows. Ho: $\mu 1 = \mu 2$. There is no statistical difference in the group means. An alternate hypothesis is as follows. Ha: $\mu 1 \neq \mu 2$. There was a statistical difference between the group means and it was explained as follows (Fig. 3). Using SPSS software, the data were analyzed comparing the means of the associate degree nursing program from Cerritos College, and the student grade outcomes after the initiation of the Twenty-Four Three Study Plan.

Group Statistics

	Program	N	Mean	Std. Deviation	Std. Error Mean
FinalGrade	RN	18	.755967	.0557714	.0131454
	RN Comparison	15	.825287	.0540946	.0139672

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
FinalGrade	Equal variances assumed	.068	.796	-3.604	31	.001	-.0693207	.0192353	-.1085514	-.0300900
	Equal variances not assumed			-3.614	30.244	.001	-.0693207	.0191803	-.1084788	-.0301625

Figure 4: Independent Samples t-test associate degree nursing student cohort

Independent Samples t-test Results Associate Degree Cohort

The null hypothesis was not rejected for this group: (t=3.604, p=.001). There was a difference in means between the experimental group and the comparison groups. After the introduction of the Twenty-Four Three Study Plan, the experimental associate degree cohort experienced an increase, but in a negative direction in their grades with results therefore demonstrating no statistical significance with (p=.001) when compared to the comparison group (CI:-.1085514 to -.0300900 and mean difference -.1085514 to -.0300900). Although the p value signifies statistical significance, the negative direction of the mean differences and the confidence intervals indicate that the experimental group actually posted lower grades. The effect size for the associate degree cohort was calculated using Pearson's r and demonstrated a strong correlation between the associate degree nursing student nurse cohorts (correlation .53). The effect size of the experimental group was considerably larger than that of the comparison group, indicating that the grades were statistically significant for improvement after the introduction of the Twenty-Four Three Study Plan. As noted before, due to the negative

direction of the data input of this experimental cohort rendering the results as non-significant, an explanation regarding confounding variables is applicable.

Confounding Variables

A confounding variable is an extraneous variable that affects the relationship between the variables in a study, namely the independent and dependent variables. The researcher should take as many actions as possible in order to assure that these variables are controlled either through the research design or via statistical methods (Polit, 2010). In other words, a variable is considered to be confounding if it provides an alternative explanation for the results or provides an alternative explanation for the relationship or differences between the variables within the groups that are being studied. The presence of confounding variables threatens the internal validity of study results (Laerd Dissertation, 2012).

After the data analysis, the associate degree cohort was found to have lower grades than their comparison group. A post study questionnaire was submitted to the associate degree participants. Six were returned with four face to face interviews. Of these post-study follow-up questionnaires and interviews, a total of six students had admitted that they did not follow the Capstone Project guidelines. The study participants cited various explanations such as the need to work in order to support their family and education, family obligations, the intervention was too rigorous and time consuming, and health issues. These confounding variables were a major factor in the internal validity of the study results for the associate degree student cohort, which did prove to be a constraint to the study as noted on the Logic Model (Appendix I).

Discussion

The findings of this small pilot study demonstrated significant differences (p=.001) between the vocational nurse student cohorts in the experimental and comparison groups. The Twenty-

Four Three Study Plan had a positive effect on the grades of the Latino vocational students with an overall increase as compared to the comparison group who did not have access to the study plan. The effect size was calculated using Pearson's r and demonstrated a strong correlation between the two vocational student nurse cohorts (correlation .65, p=<.03). The result of effect size of the experimental group was considerably larger than that of the comparison group, indicating that the grades were significantly improved after the introduction of the Twenty-Four Three Study Plan. Therefore, the results of this statistical analysis did effectively answer the research question: Will Latino vocational nursing and associate degree nursing students using the Twenty-Four Three Study plan achieve higher course grades than students with no exposure to the study plan?

When examining factors related to student failure in nursing school, Alicea-Planas (2009) argues that the cause is largely related to cultural barriers such as poor academic preparedness which hinders success of the Latino nursing student. Additionally, Alicea-Planas (2009) argues that because of significant cultural barriers such English as a second language (ESL), lack of financial resources, cultural bias, and multi-family homes, sizable attrition rates will occur in the first semester of nursing school. Latino students are in need of support throughout their student careers in order to be successful. Without timely action toward correcting the low 3.9 percent Latino nurse representation across the United States, as noted by the Registered Nurse Population Report (2010), we will continue to experience high Latino student attrition rates that have been a contributing factor leading to their under representation in the nursing workforce (Moceri, 2010).

The disparity in numbers of the Hispanic health care workforce when compared to the general population of the United States supports the need for increasing the diversity of our

national nursing pool (Sullivan Commission, 2004). Due to the lack of minority health professionals, especially Hispanic health care workers, we continue to experience a compounding of the nation's persistent racial and ethnic health disparities (Alicea-Planas, 2009). It is well documented in the literature that our country's minority groups receive far less and lower quality health care than whites, resulting in higher mortality rates for Latino and other minority populations. The consequences of health disparities are grave and will only be remedied through sustained efforts and a national commitment towards correcting these disparities (Sullivan Commission, 2004).

In contrast, although the associate degree nursing student cohort exhibited a p=.001 which is considered statistically significant, the negative deflections of the means and CI (-.0693207 and CI: -.1085514 to -.0300900) indicated that the experimental group actually performed poorer than did their comparison group. The presence of confounding variables within this study group was validated with the use of a post-research questionnaire which was emailed to the participants of this cohort. Respondents noted that they were unable to continue the research study due to the following reasons: Work situations (2), family obligations (2), method was too rigorous (1), health issues (1). These confounding variables presented a threat to the internal validity of the study, which did result in as a study constraint as noted on the Logic Model (Appendix I).

Educational Preparedness and Success in Nursing School

It is well known that attrition from nursing school is most common in the first semester (Knauss & Wilson, 2013) and that attrition is higher in associate degree nursing programs (ADN) versus baccalaureate programs (BSN) and that this difference is largely attributed to exposure to continued college preparation. In addition to the general education requirements, associate degree nursing (ADN) programs require assessment and readiness testing for entrance

to their programs. In the study by Knauss (2013), the researchers also determined that success in nursing school was related to the use of admission testing for schools of nursing. Chen & Voyles (2013) noted that it is likely that attrition can be improved by ensuring that student applicants who are admitted to nursing programs are academically prepared to complete the curriculum. Chen (2013) also noted that the National League for Nursing reported that the one-year retention rate for ADN programs was approximately 80% in contrast to the vocational nursing attrition rates which can reach up to 80 percent (HRSA, 2010). This is strongly suggestive that in order to be successful when facing the rigors of nursing education, nursing school placements need to be filled by those who are academically prepared to successfully complete the curriculum, especially when entering the first semester of the curriculum, when most attrition occurs (Chen, 2013). Upon graduation from a community or proprietary college registered nurse course, the student will be awarded an associate or bachelor's degree. Thereafter the student may sit for their state licensing NCLEX examination.

Specific Educational Requirements for Nursing Programs

In their nurse practice act, the California Board of Registered Nursing (BRN, 2015) outlines in the Business and Professional Code, Chapter 6 Nursing, Article 4, N2786 Approval of schools outlines the minimum academic requirements as: (a) an approved school of nursing, or an approved nursing program, is one that has been approved by the board, gives the course of instruction approved by the board, covering not less than two academic years, is affiliated or conducted in connection with one or more hospitals, and is an institution of higher education. For purposes of this section, "institution of higher education" includes, but is not limited to, community colleges offering an associate of arts or associate of science degree and private postsecondary institutions offering an associate of arts, associate of science, or baccalaureate

degree or an entry-level master's degree, and is an institution that is not subject to the California Private Postsecondary Education Act of 2009 (Chapter 8 (commencing with Section 94800) of Part 59 of Division 10 of Title 3 of the Education Code); (b) A school of nursing that is affiliated with an institution that is subject to the California Private Postsecondary Education Act of 2009 (Chapter 8 (commencing with Section 94800) of Part 59 of Division 10 of Title 3 of the Education Code), may be approved by the board to grant an associate of arts or associate of science degree to individuals who graduate from the school of nursing or to grant a baccalaureate degree in nursing with successful completion of an additional course of study as approved by the board and the institution involved; (c) The board shall determine by regulation the required subjects of instruction to be completed in an approved school of nursing for licensure as a registered nurse and shall include the minimum units of theory and clinical experience necessary to achieve essential clinical competency at the entry level of the registered nurse. The board's standards shall be designed to require all schools to provide clinical instruction in all phases of the educational process; (d) The board shall perform or cause to be performed an analysis of the practice of the registered nurse no less than every five years. Results of the analysis shall be utilized to assist in the determination of the required subjects of instruction, validation of the licensing examination, and assessment of the current practice of nursing (BRN, 2015).

In contrast, the vocational nursing programs in California require only a high school diploma or a general education diploma (GED). As directed by the Board of Vocational (BVNPT) Nursing Practice Act (2015), the minimum requirements for practice under article 2866, Applicant's qualifications read:

> An applicant for a licensed vocational nurse license shall comply with each of the following: (a) Be at least 17 years of age. (b) Have successfully completed at least an

> approved course of study through the 12th grade or the equivalent thereof as specified by the board. (c) Have successfully completed the prescribed course of study in an approved school of vocational nursing or have graduated from a school which, in the opinion of the board, maintains and gives a course which is equivalent to the minimum requirements for an approved school of vocational nursing in this state. (d) Not be subject to denial of licensure under Section 480. (Amended by Stats. 2011, Ch. 338, Sec. 6. Effective January 1, 2012.), (p.7).

In addition to the minimum requirements that are set forth by the BVNPT which are noted in the Nursing Practice Act, Knauss (2013) determined that nursing students who enter into the first semester of the nursing program should be academically prepared for the rigors of the nursing curriculum. Applicants' scores on standardized admission exams, can provide objective data that can be used to strengthen evidence-based admission decisions. The authors determined that the existing evidence suggests the use of pre-entrance testing in order to determine the academic preparedness of incoming nursing students (Knauss, 2013).

Recommendations

This study provided a foundation by developing a strategic study tool that demonstrated efficacy in assisting the underrepresented population of Latino at risk student population towards success in nursing school. Although the problem of low Latino nurse representation and the inability of this cultural group to affect any favorable changes in the long standing problem of health care disparities that face many of the Latino populations, it remains of prime concern (National League of Nursing, 2014; Condon et al., 2013; Harris et al., 2014; Institute of Medicine, 2011; Loftin et al., 2012a; McGinnis, 2010). The expanding Latino populations across this country are giving rise to higher levels of not only increased health care disparities,

but also the continued underrepresentation of this cultural groups nurse presence in our country which directly impacts our ability to address the health care disparities of this population group (National League of Nursing, 2014; Condon et al., 2013; Harris et al., 2014; Institute of Medicine, 2011; Loftin et al., 2012a; McGinnis, 2010).

While mentorship programs are a needed addition to our nursing programs, there needs to be focus on providing intense study strategies that focus directly on the learning process as well as addressing the multiple cultural barriers that this cultural group of students face in academia (Condon et al., Loftin et al., 2012a; Harris et al., 2014). Additionally, further research is sorely needed that investigates the area of academic unpreparedness and the multiple cultural barriers of vocational nursing schools, with the prime goal of achieving success of Latino nursing students (Chen & Voyles, 2013; Bond & Casin, 2014). The lack of academic preparatory and pre-requisite courses that can contribute to the vocational nurse student success, not only in the Latino populations but in all cultural groups must be examined (Condon et al. 2013). Utilizing Latino faculty to introduce strategic methods for addressing the cultural barriers that face these students in nursing school through mentorship programs and the hiring of faculty who are of Hispanic-Latino origin who can serve as both mentors and role models can significantly affect the success of the Latino nursing students (Alicea-Planas, 2009). The addition of an intense strategy such as the Twenty-Four Three Study Plan which provides a precise technique for student learning has demonstrated effectiveness in raising grades of the Latino nursing student and can be used most effectively in a tutoring program, or integrated as part of the school curriculum.

Implications to Practice

The evidence has demonstrated the cultural barriers that Latino nursing students face in academia, the low national Latino nurse representation, and the impact Latino nurses can have in improving the health care disparities that this general population faces. The Twenty-Four Three Study Plan has proven to be a successful study tool which can effectively help to increase the grades of the student nurse. This study strategy can be used alone as a single study strategy or can be effectively integrated as part of a school tutoring program or mentorship program in nursing schools. Integrating this study method into any school of nursing program is extremely cost effective, since it places responsibility on the student using the basic concept of human learning such as those in the VARK (visual, aural, reading and writing, and kinesthetic) system. Although this research study is aimed at increasing the success of the Latino nursing student, it is noteworthy that the Twenty-Four Three Study Plan is effective on any student of any cultural group.

Limitations

This was a very small pilot study involving ten (n=10) vocational nursing students as the experimental group and ten (n=10) comparison students. The associate degree nursing experimental group consisted of eighteen experimental participants (n=18) and ten comparison students (n=10). The statistical analysis revealed rather different results between the two groups. When using small groups, it is extremely important to have a strong study design and interpret the results or yielding a non-precise analysis, such as the presence of confounding variables. The vocational nursing experimental Pearson-*r* effect size of .63 is a strong indication for designing a larger confirmatory study.

The demographic of this small pilot study was conducted in a large metropolitan, highly Hispanic populated area of Los Angeles which may be different from other parts of the United States, especially in those areas that have a majority of non-Hispanic populations. This also affects the heterogeneity and lack of generalizability due to the fact that this pilot followed only Latino nursing students, which may not be applicable in other vocational nursing schools who have majorities of non-Hispanic nursing students.

Conclusion

Our country is undergoing a population cultural transformation. Latinos are the fastest growing minority group in the United States, but the representation of Latinos in the nurse workforce is disproportionate to the general Latino populations. Research has shown that cultural barriers such as poor educational preparedness, English as a second language, family, and financial difficulties make success in nursing school very difficult, and, often students will fall to attrition in their first semester. Mentorship programs and study programs are often very comprehensive and provide another stress to the Latino student, making success difficult and less likely. The Twenty-Four-Three Study Plan is a strategy that is concise and focused on learning at the textbook level. Through thorough and comprehensive future research, this strategy can provide an important tool by helping to decrease Latino student nurse attrition in the first semester of nursing school. Increased student retention aimed at increasing national Latino professional representation may be an important first step in addressing the health care disparities suffered by the Hispanic populations.

The Doctor of Nursing Practice (DNP) is an advanced and terminal degree specializing in various clinical practice settings, including both pre-and post-licensure nursing education. The DNP holds promise for investigating and resolving some of our most challenging problems that

are facing the current health care system and ensuring that the care that is delivered is of the highest level of nursing practice (Zaccagnini and White, 2011). Beginning steps can start through the utilization of advanced practice leadership as a DNP, combining the application of research and evidence-based practice in nursing education. One of the challenges that our health care system faces is that of increasing Latino nurse representation in the United States, which has been a slow-moving process. The Twenty-Four Three Study Plan has proven to be a successful study tool which can effectively help to increase the grades of the student nurse. Through the promotion and integration of this study strategy, preferably into the first semester of the nursing program, the DNP faculty member can help to develop successful study habits therefore leading to student success. Research brings change, in order to affect a positive impact on these highly cultural and vital issues of health care delivery, close attention to learning strategies can be a cornerstone to addressing this challenge.

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Appendix A

Registered Nurse Population

Table 1. Gender, racial/ethnic background, and age group, by employment status: 2008 Gender, racial/ethnic background and age group	Total number in sample	Total estimated number	Total estimated percent	Number in sample employed in nursing	Estimated number employed in nursing	Estimated percent employed in nursing
Total	33,179	3,063,162	100.0	28,554	2,596,599	100.0
Gender						
Male	2,332	202,491	6.6	2,123	183,719	7.1
Female	30,847	2,860,671	93.4	26,431	2,412,879	92.9
Racial/ethnic background						
White (non-Hispanic)	28,353	2,549,302	83.2	24,235	2,135,592	82.2
Black/African American (non-Hispanic)	1,688	165,352	5.4	1,510	146,459	5.6
Asian (non-Hispanic)	1,433	169,454	5.5	1,269	150,938	5.8
Native Hawaiian/Pacific Islander (non-Hispanic)	92	9,528	0.3	84	8,792	0.3
American Indian/Alaskan Native (non-Hispanic)	132	8,571	0.3	122	7,838	0.3
Hispanic/Latino (any race)	910	109,387	3.6	832	101,045	3.9
Two or more races (non-Hispanic)	571	51,568	1.7	502	45,935	1.8
Age group						
Less than 25	730	79,641	2.6	699	77,041	3.0
25-29	1,966	208,543	6.8	1,868	198,734	7.7
30-34	2,677	281,999	9.2	2,467	257,472	9.9
35-39	3,149	331,972	10.8	2,876	302,520	11.7
40-44	3,623	350,101	11.4	3,293	314,368	12.1
45-49	4,763	441,831	14.4	4,333	397,552	15.3
50-54	6,035	495,985	16.2	5,393	433,848	16.7
55-59	4,858	396,967	13.0	4,209	337,918	13.0
60-64	2,995	249,533	8.1	2,234	176,932	6.8
65-69	1,509	140,263	4.6	809	69,595	2.7
70-74	562	53,670	1.8	251	19,752	0.8
75 and over	312	32,657	1.1	122	10,867	0.4
Average age		47.0			45.5	
Median age		48			46	

Obtained from The Registered Nurse Population, U. S. Department of Health Human Services Health Resources and Services Administration, retrieved from: http://bhpr.hrsa.gov/healthworkforce/rnsurveys/rnsurveyfinal.pdf

Appendix B

Cultural Diversity Questionnaire

Because many Spanish sur-name students are not of Latino or Hispanic origin, a pre-study questionnaire will survey the "at risk" Latino students. This is an instrument to determine the ethnicity and present or perceived barriers of the group in order to guarantee that the participants are indeed of Latino origin. Those who are bi-racial will choose their cultural preference.

1. What is your gender?

   Male _____ Female _____

2. What is your ethnic background? If you are bi-cultural, please choose your primary or

   Identified culture:

   African American: _____

   Asian/Pacific Islander: _____

   Caucasian: _____

   Native American: _____

   Latino/Hispanic: _____

   Bi-racial (preferred classification): _____

3. Do you live in a single family home or a multi-family home?

   Single _____ multi-family _____

4. What is the primary language used in your home?

   English _____ Spanish _____ other (specify): _____

5. Were you raised in the United States as English speaking student or did you come to the

   United States as Spanish speaking (ESL)?

   Raised English speaking _____ ESL _____

6. What was the highest level of education completed by your mother?

   Grade school _____ Middle school _____ High school _____ some college _____

   Associate Degree _____ Master Degree or higher _____ GED _____

7. What is the highest educational level of your father?

   Grade school _____ Middle school _____ High school _____ _____Some

College_____ Associate Degree _____ Master Degree or higher _____ GED _____

8. What is the highest level of education that you have completed?

Grade school _____ Middle school _____ High school _____ some college _____

Associate Degree _____ Master Degree or higher _____ GED_____

9. Do you have to work to support your education?

Yes _____ No _____

10. Do you have to work to support your family (including children, parents, and grand-?

Parents)?

Yes _____ No _____

11. Do you have family support (emotional) for your nursing education?

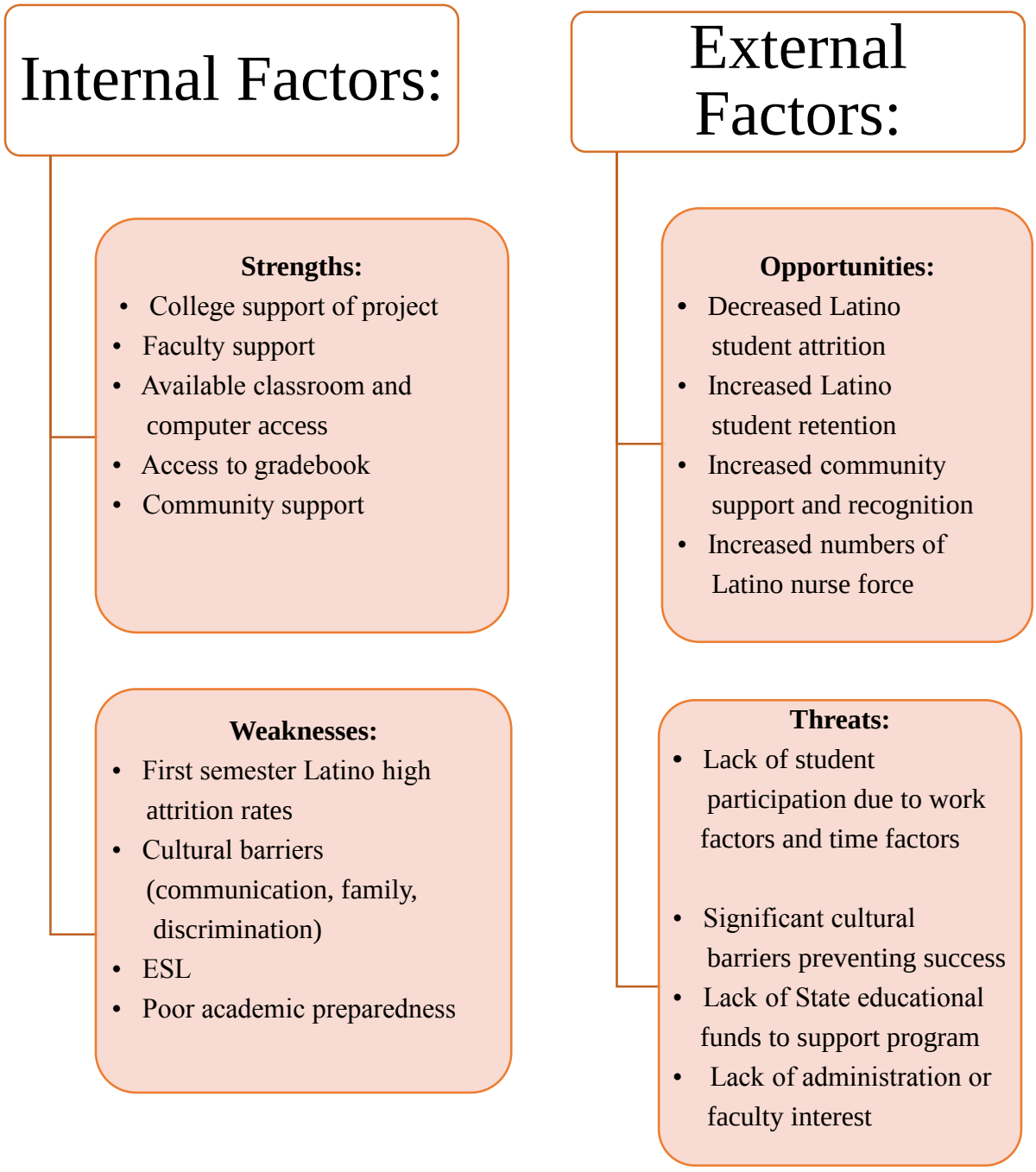
Yes _____ No _____

12. If you are married or in a relationship, do you have the support of your mate?

Yes _____ B. No _____

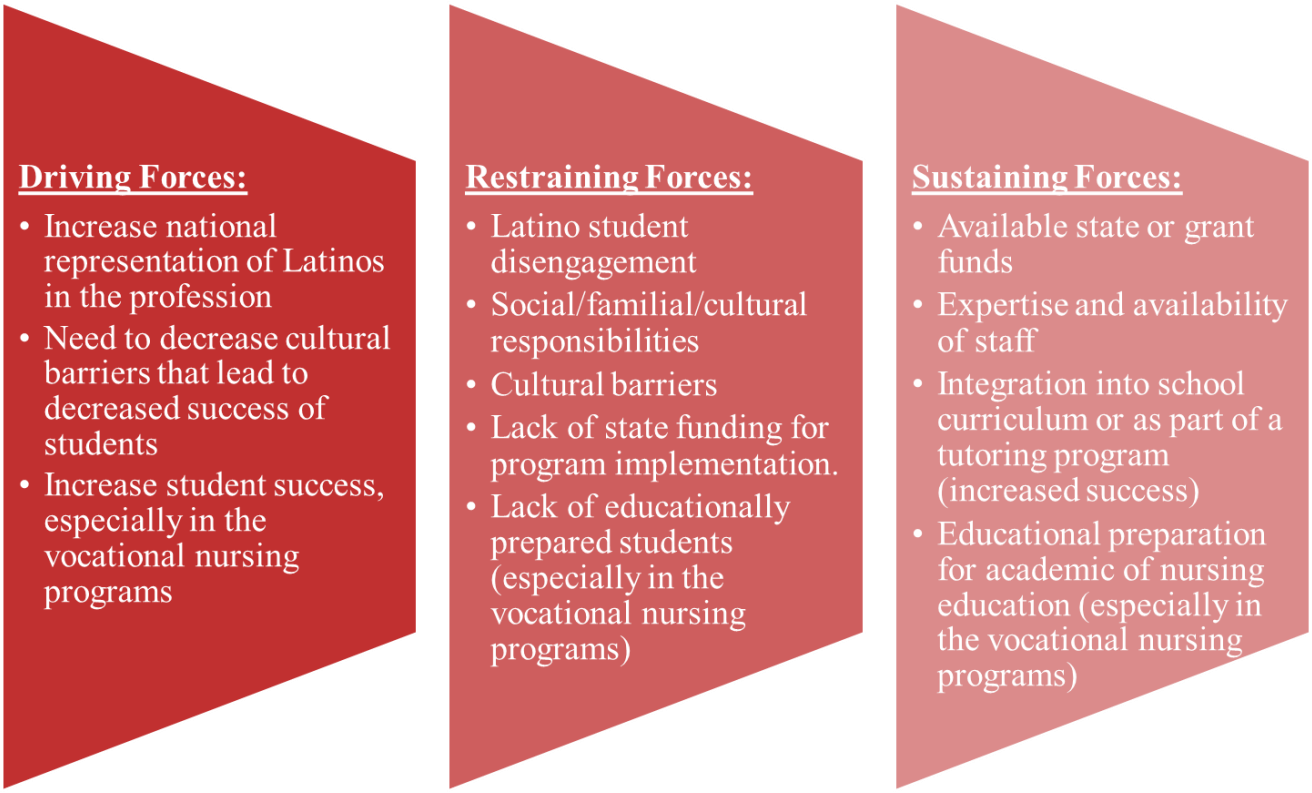
Appendix C

SWOT Analysis



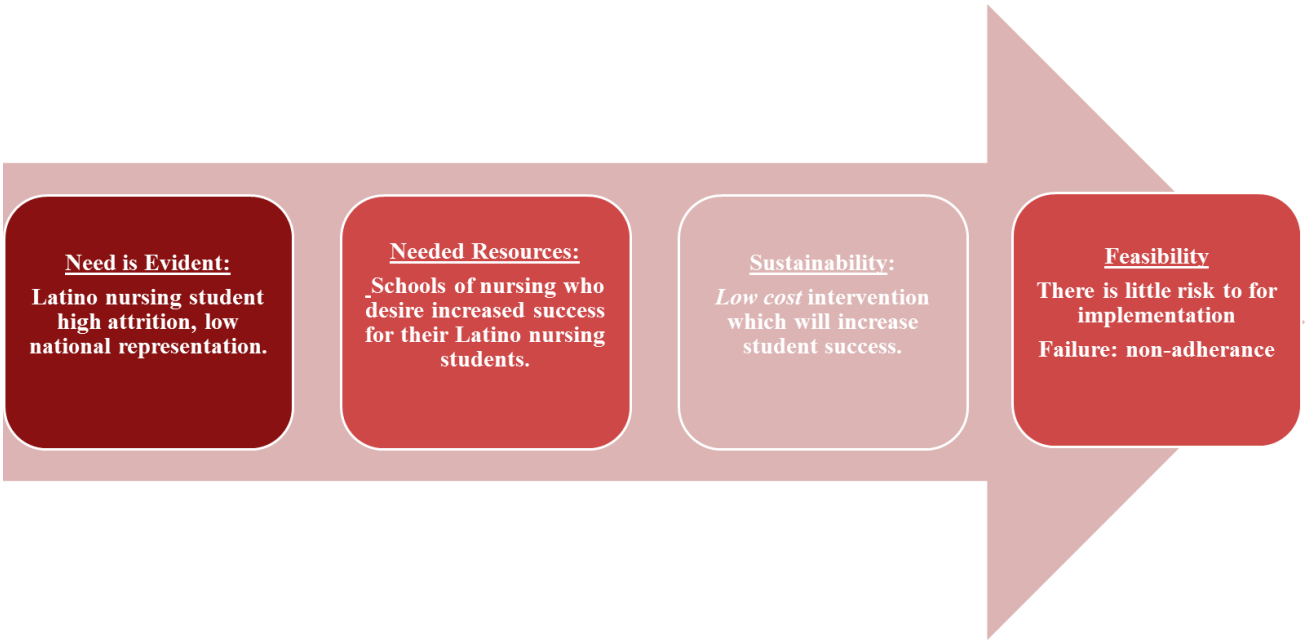
Appendix D

Driving and Restraining Forces



Appendix E

Need, Resources, Sustainability, and Feasibility



Appendix F

Cerritos College Letter of Affiliation

Cerritos College

November 25, 2014

Dr. Patricia Cullen, IRB Chair
Regis University
Denver CO.

Dear Dr. Cullen,

This is to verify that Cerritos College agrees to be the site for the research project of Virginia Montez-Ochoa. This project is scheduled to start with the Spring 2015 cohort of Associate Degree Nursing first semester students.

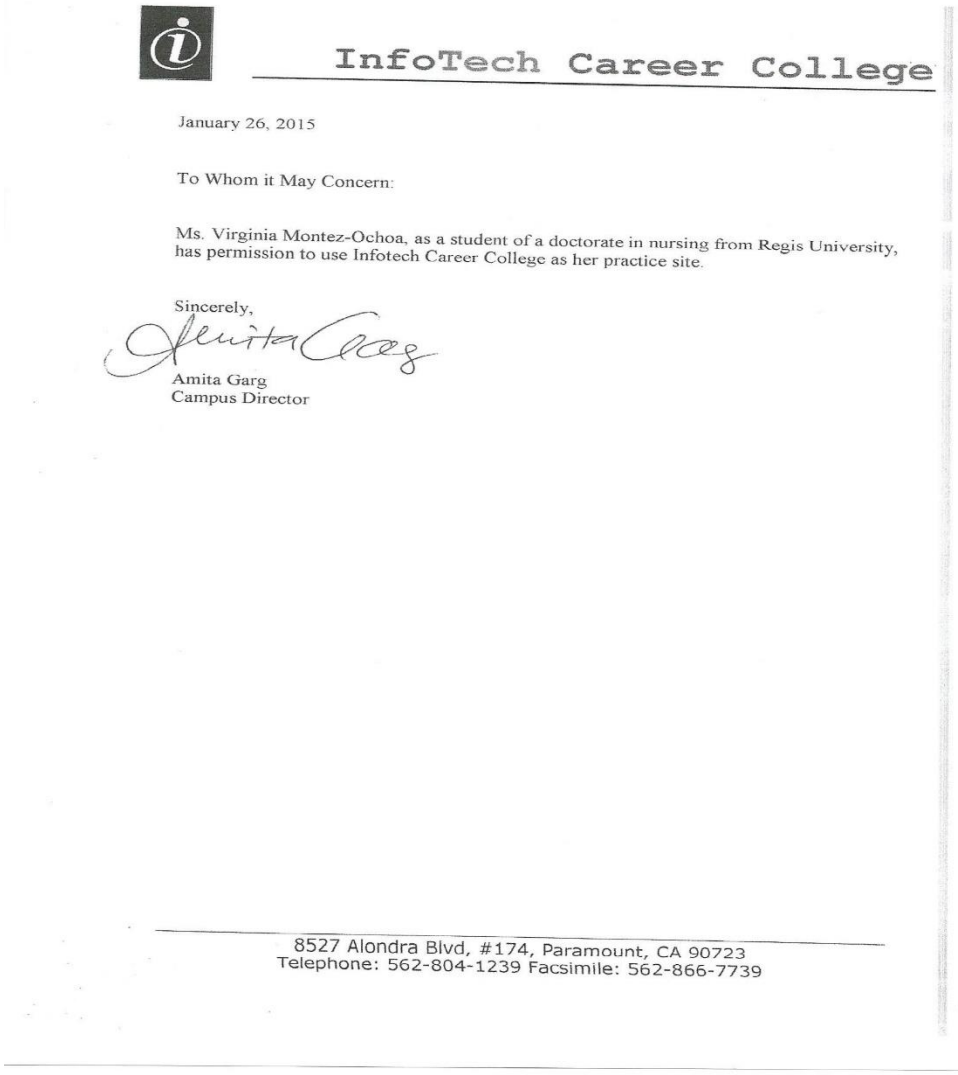
Sincerely,

Ann Voorhies

Ann Voorhies, RN, MSN
Director of Nursing
Cerritos College
11110 Alondra Blvd.
Norwalk, CA. 90650
562-860-2452 ext: 2579

Appendix G

InfoTech Letter of Affiliation



InfoTech Career College

January 26, 2015

To Whom it May Concern:

Ms. Virginia Montez-Ochoa, as a student of a doctorate in nursing from Regis University, has permission to use Infotech Career College as her practice site.

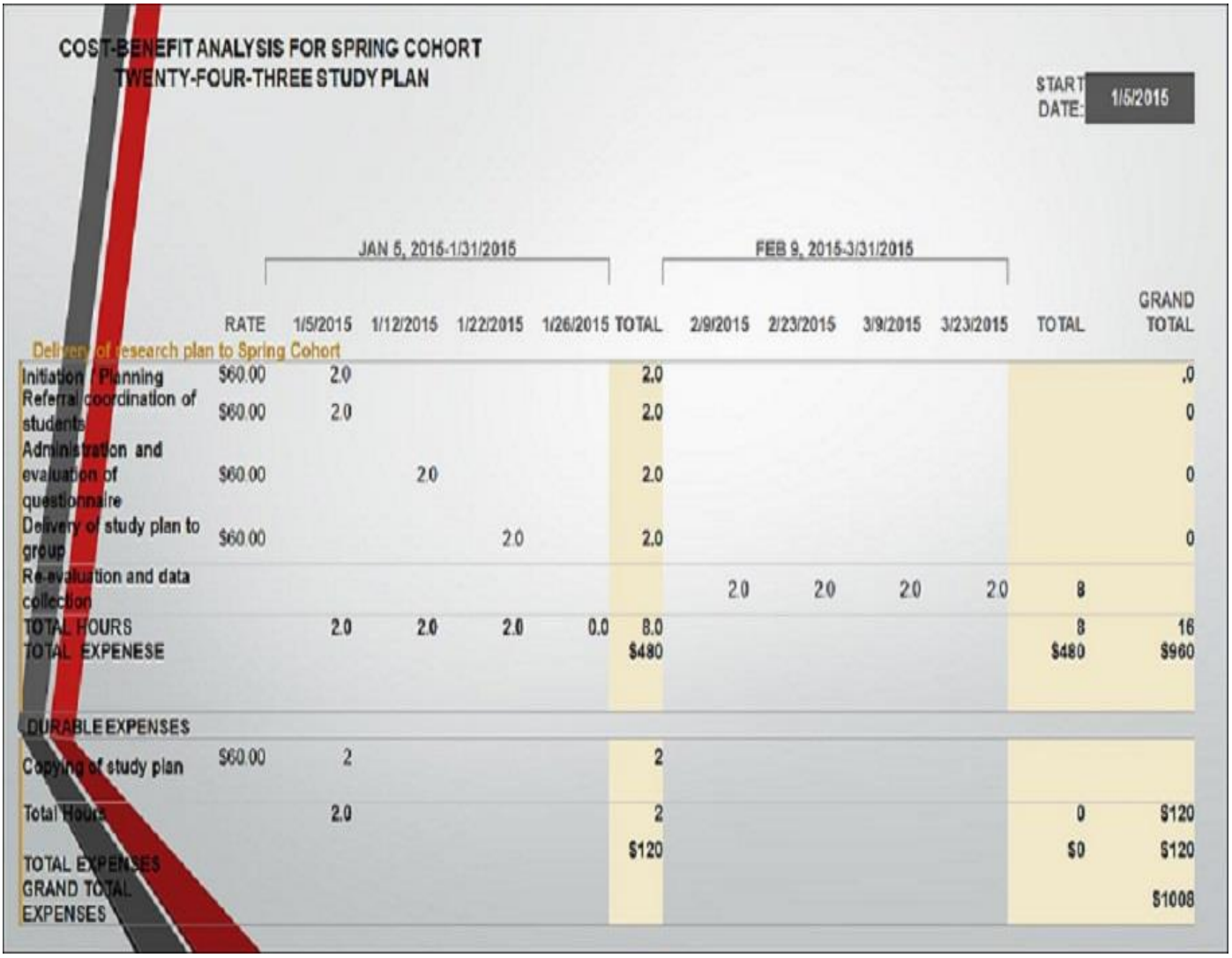
Sincerely,

Amita Garg
Campus Director

8527 Alondra Blvd, #174, Paramount, CA 90723
Telephone: 562-804-1239 Facsimile: 562-866-7739

Appendix H

Cost Benefit Analysis



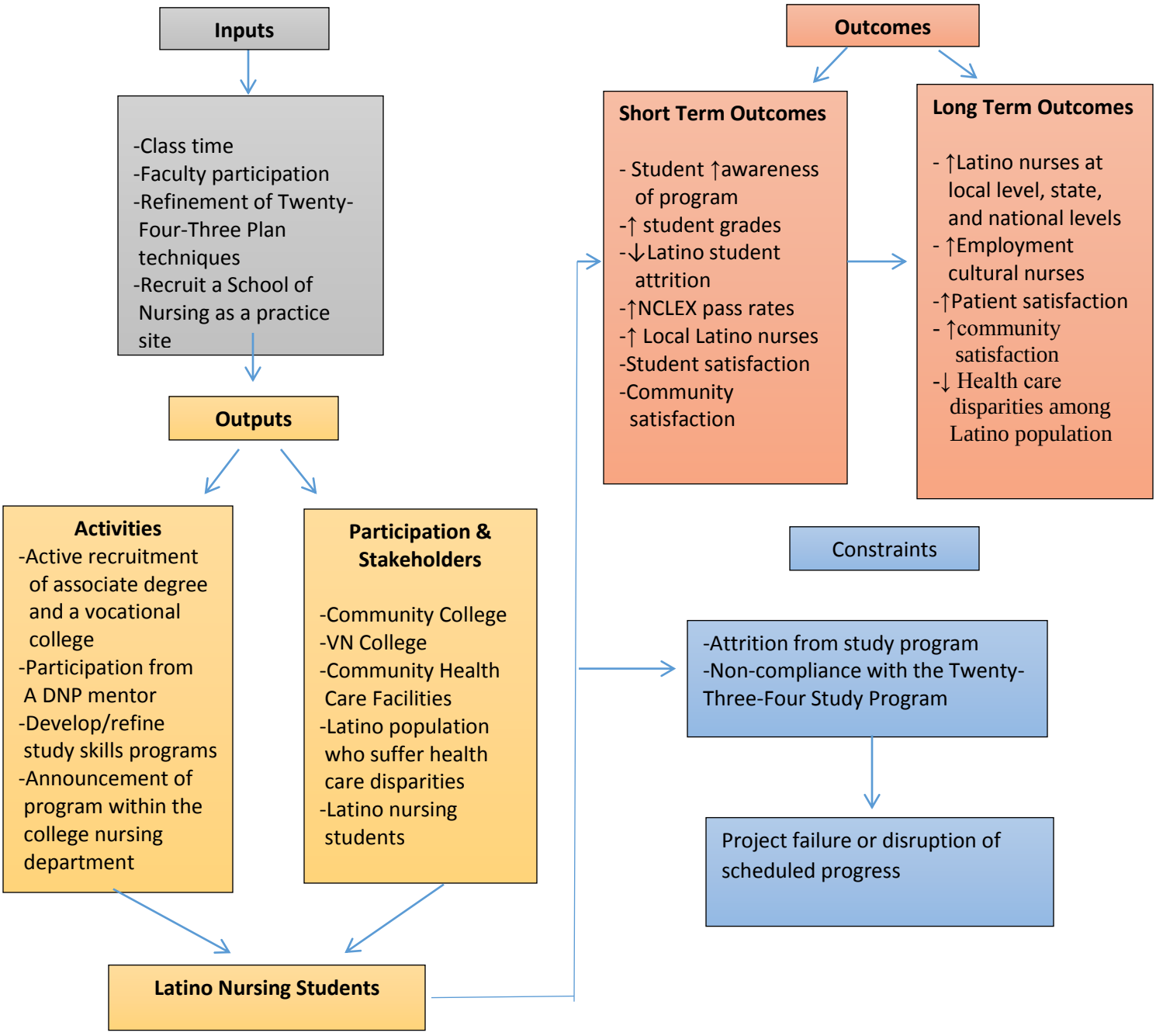
COST-BENEFIT ANALYSIS FOR SPRING COHORT
TWENTY-FOUR-THREE STUDY PLAN

START DATE: 1/5/2015

		JAN 5, 2015-1/31/2015					FEB 9, 2015-3/31/2015					
	RATE	1/5/2015	1/12/2015	1/22/2015	1/26/2015	TOTAL	2/9/2015	2/23/2015	3/9/2015	3/23/2015	TOTAL	GRAND TOTAL
Delivery of research plan to Spring Cohort												
Initiation / Planning	$60.00	2.0				2.0						.0
Referral coordination of students	$60.00	2.0				2.0						0
Administration and evaluation of questionnaire	$60.00		2.0			2.0						0
Delivery of study plan to group	$60.00			2.0		2.0						0
Re-evaluation and data collection							2.0	2.0	2.0	2.0	8	
TOTAL HOURS		2.0	2.0	2.0	0.0	8.0					8	16
TOTAL EXPENESE						$480					$480	$960
DURABLE EXPENSES												
Copying of study plan	$60.00	2				2						
Total Hours		2.0				2					0	$120
TOTAL EXPENSES						$120					$0	$120
GRAND TOTAL EXPENSES												$1008

Appendix I

Logic Model



Appendix J

Letter of Informed Consent

December 18, 2014

Loretto Heights School of Nursing
Regis University
3333 Regis Boulevard
Denver, Colorado 80221-1099

Regarding: Informed Consent for Latino Nursing Students, 1st semester course #210
Investigator: Virginia Montez-Ochoa, MS, RN
Organization: Regis University, Denver, CO
Name of Proposal: The Twenty-Four Three Study Plan: Increasing Hispanic and Latino Student Nurse Success

Part I: Information

My name is Virginia Montez-Ochoa and am a candidate of the Doctor of Nursing Practice program from Regis University, Denver, CO. This letter provides you with very important information regarding my research project in which I am extending an invitation to you to participate in this research as a Latino nursing student. Before you make a decision and if you have any questions, please feel free to talk to anyone about this very important research topic. If there is anything that you do not understand about this subject, please take the time to ask me and I will take time to explain this further.

Part II: Purpose of research

Some very important facts need to be understood about our Hispanic/Latino populations across our country.

1. Currently Latinos represent 16.7% of our national population (54 million).
2. By 2050, Latinos/Hispanics will comprise approximately 24% of the US population.
3. Yet we are not seeing the equivalent representation in our RN workforce.
4. The Registered Nurse Population Survey notes the Latino RN representation versus general population equaling 3.6% vs. 15.4% respectively.
5. According to the National League of Nursing, Latino nursing student enrollment rates are only 5.3% with even smaller percentage that graduate *due to high attrition rates*.
6. Latinos have one of the lowest educational attainment rates of all cultural groups.

The purpose of this study is to provide Latino nursing students with a study method designed to decrease early attrition and increase student retention.

Part II: Type of Research Intervention

The research tool that I have developed is a single study strategy called the Twenty-Four-Three Study Plan. This study plan is focused to work with your lecture schedule, and have proven very successful (if followed exactly as it is written).

If you choose to enter into this study, you will be given a lecture, a thorough explanation of how humans traditionally learn, a precise study plan. You will be followed up every two weeks for support and for assessment of your course grades. The study will end at the end of your course #210. Your success in passing course #210 will be assessed.

Part III: Participant

1. Students who are Latino will be invited to enter the research study.
2. Students must be over 18 years of age.

Part IV: Voluntary Participation

Please remember that your participation in this study is purely voluntary. It is your choice whether you participate or not. If you choose not to participate, you will most certainly still have access to Cerritos College's academic assistance and tutoring services.

Also remember that you may, at any time, choose to stop your participation in this study without any questions asked. This study has no influence on the grades you have achieved throughout this nursing program.

Thank you

Virginia Montez-Ochoa, DNPc, RN

Appendix K

Certificate of Consent

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Print Name of Participant_____

Signature of Participant _____

Date _____

Statement by Virginia Montez-Ochoa, MS, RN

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:

1. Delivering of questionnaires.
2. Access grades from gradebook.
3. Discuss your grades with your professor of course #210.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

Print Name of Researcher/person taking the consent___Virginia Montez-Ochoa, MS, RN_____

Signature of Researcher /person taking the consent_____

Date _____

Appendix L

Dr. Rapaport Letter of Permission

April 18, 2014

William J. Rapaport
State University of New York
Buffalo, NY 14260
rapaport@buffalo.edu

Re: How to Study: A Brief Guide

Dear William Rapaport

As part of the Regis University Rueckert-Hartman College for Health Professions, the Loretto Heights School of Nursing's Doctorate of Nursing Program, I have been involved in extensive research for a comprehensive study method which will help decrease Latino nursing student attrition. I came across your program during my internet search and found your method of study to be the most comprehensive, user friendly and sensible method that would fit the rigors of nursing education.

As you and I have communicated via email, I do not plan to reproduce any of your copyright material, but I would like permission from you to use portions of your study methods in my overall study plan, which I have coined the "24/3 Study Plan". I will of course submit my competed work to you for your review once before submitting to the IRB for approval if you wish. I plan to implement this with a first semester nursing cohort who traditionally has the highest attrition rate.

I am therefore requesting your written permission, either by signing this letter or by your own written response. I will add this response to my final written defense for my Doctorate of Nursing Practice. If you would kindly email your response to my address noted at the bottom of this correspondence. Thank you so much for allowing me to use part of your copyright in my research project and of course you and your work will receive reference in my project.

Kind Regards

Virginia Montez-Ochoa, MS, RN

Virginia Montez-Ochoa, MS, RN
Candidate for Doctorate of Nursing Practice
Regis University, Loretto Heights School of Nursing
monte153@regis.edu

Date: 18 APRIL 2014

Printed Name: WILLIAM J. RAPAPORT

Signature: W Rapaport

Appendix M

Twenty-Four-Three Study Plan

Methods of study have been long researched and there are various systems in place for successful study habits. The focus of this plan is the 24-hour period that begins the night before your scheduled lecture and ends the night of your lecture day. In any nursing program, you have been provided the essential materials for lecture, which are: (1) a textbook, (2) a syllabus, outline or power point, and a lecture schedule, and (3) a notebook for taking notes. You will need to purchase an extra notebook for this project, so that you have two notebooks, one notebook will be kept in the home.

This study plan is grounded from Dr. Rapaport's How to Study Program which is based out of the State University of Buffalo, New York (2014). In addition, the VARK learning system is used as a learning reference.

Twenty-Four-Three Schedule

The principle of the Twenty-Four-Three Study Plan is based on your lecture schedule. The amount of lecture days during the week will dictate how many time The Twenty-Four-Three Study days you must complete. For example, if you have lecture on Monday and Tuesday, then you must follow this plan for all two days only. This is extremely important for success of this plan, the program works in correspondence with your lecture days.

You will find out that the lecture content of this nursing program is accelerated and very comprehensive. Theory content changes almost daily, meaning that you cannot put off studying for another day or until the weekend, as the lecture content does change on a daily basis. This plan is built to follow any lecture schedule, whether your lecture days are in a daily sequence or separated.

How Much Time to Study?

As mentioned, this nursing program is accelerated and intense. You will be overwhelmed with lectures, note taking, reading, and writing notes. With the design of this program, you will need anywhere from 3 to 4 hours per lecture day to be successful. Preferably, this time should be split with 1 ½ hours as your light reading time and the rest of the time as active reading time. If you cannot give that much time, you can split the time into increments, but remember your study time **must** be in the 24-hour window the plan is built on.

If you have to work after class, you must find time to study and prepare for your next day lecture. You may stay after class for a couple of hours to do your study, go to work, then return home and complete your study. This being said, student success is built around the ability to study and not work. If possible, consider the nursing program your current employer!

General Study Habits

There are some very important elements of good study habits, those are universal and include items such as; (1) get plenty of rest; (2) provide a quiet and undisturbed place for study; (3) no cell phone in use; (4) take 10-15 minute break every hour; (5) try not to have children, boyfriends, or family members as distractions. The beauty of this program is that your active study will be within those twenty-four hours are will be centered on your lecture schedule.

What Type of Learner Are You?

Some important facts about how we learn are related to what type of learner you are. There are different categories of learning styles that we all have. One of these learning styles will be your primary method of learning, and the others will be as secondary learning styles. Remember that we use each of the listed learning styles, just in different degrees. The learning styles are:

- **Visual** learners will learn best by seeing things in handouts, videos, power points, and learn best by seeing things that are written (VARK, 2014).

- **Auditory** learners will use their listening skills. They learn best by attending lectures, listening to recordings, participating in discussions, and reading aloud to themselves or others.
- **Read and writing** is used to set the concepts into memory.
- **Kinesthetic or tactile** learning is accomplished by touch or feel. These types of learners do best when they can perform a task to learn it, they feel the object or put something together, and they learn by writing.
- For reference, logon to varklearn.com to see which learning style is your strongest.

Twenty-Four-Three Study Plan Detail

The following plan will outline the program which must be followed in order for you to be successful. For the sake of explanation, we will say that you have lecture on Monday and Tuesday.

The Night Before Your Lecture

1. Take out your syllabus and open it to the Monday lecture content. There you will find the pages in your text you need to read.
2. Open your book to those pages, read and define the vocabulary words (how can you know what the words mean if you don't know their meanings!)
3. Open up any power points, lecture outlines, and syllabus.
4. Using your syllabus, go to the pages and **lightly** read. **Lightly** reading means you skim through, noting **bolded** or *italicized words.* Read the main heading, the introductory paragraphs. Review the shaded boxes that refer to the lecture content... Do not try to read every word verbatim as you will not understand most of this content.

5. **This is your first exposure to the lecture material.**

Lecture Day

1. Go to lecture. Listen and take a lot of notes. Write the main concepts of what your instructor is speaking about.
2. Do not try to write down everything your instructor lectures on; do not write down everything on the power point, otherwise you will fall behind in lecture.
3. Write down any questions you may have that have not been answered. Make sure you get your questions answered because these lectures build on each other day by day!
4. If your instructor allows, record the lecture if you desire.
5. During lecture, you will recall the light readings you did the night before.
6. **This is your second exposure to the lecture material.**

Lecture day evening or night

1. Find your quiet study place, and take out your lecture notes from earlier in the day.
2. Take out your textbook and open it to the assigned readings.
3. Take out your syllabus and open to the lecture content.
4. Take out your clean notebook (which always stays at home).
5. Actively re-read your notes, and re-write them in your **clean** notebook. Fill in missing data in your notebook with the information from your text book.
6. Actively reread your textbook as you rewrite the notes, this time filling in any missing areas in your notebook.
7. If you recorded lecture, play that back and follow your notes.
8. **This is your third exposure to the lecture content.**

You are not Done Yet

After you complete your Twenty-Four-Three plan, it is time to prepare for the next day lecture. This means that you have to start the process all over again! Open your syllabus to the assigned readings for tomorrow's lecture, **lightly** read, make sure you look up and understand the vocabulary words. Now you are ready for your lecture tomorrow. The lecture material from today is already filed in your memory bank. Now, it's time to move to next lecture.

Exam Time

Depending on the type of examinations your instructor gives, tests, written, quizzes—you will be ready. You will have studied and written a nice clean notebook of complete notes. No need for cramming, just review your notebook, text, and syllabus. Because—you have done the intense study already, you know this content. All you need is a review and you are ready to go!

Summary

This is an intense study program designed for those students who truly want to succeed and is based on the concepts of the human learning (visual, aural, kinesthetic, and reading/writing) and the Twenty-Four-Three method of study. It is built on the principle of repetition for retention of lecture material. The program requires strict adherence, and is highly comprehensive. It must be followed as it is designed and needs strict time management for its success. If you have good study habits and are an A or B student, keep on with what you are doing. If you have been out of school for any period of time, or if you have struggling through this course, or have poor study habits, this is the program for success.

Appendix N

Twenty-Four-Three Study Plan

The Program

- Program is centered on a twenty-four-hour period with three exposures to lecture content.
- For example, you have lecture on Monday. This is how the study plan works:
- **The evening before lecture:**

1. Take out your book, your lecture syllabus, and the power points your instructor gave to you.
2. Use your power point and syllabus as a "study guide" looking up the pages in your book that are addressed the material in the power point and syllabus.
3. **Lightly read** over each of the topics for discussion in lecture.
4. Read the shadowed boxes, highlighted or bold printed information that is related to your study content.
5. Do not try to read word for word or the entire chapter, use your power point as a guide.

*****this is your first exposure*****

- **The day of lecture:**

1. Take notes (preferably in a notebook).
2. Use a recorder.
3. Ask questions, you need to understand the material presented.

*****This is your second exposure*****

- **The evening of the lecture:**

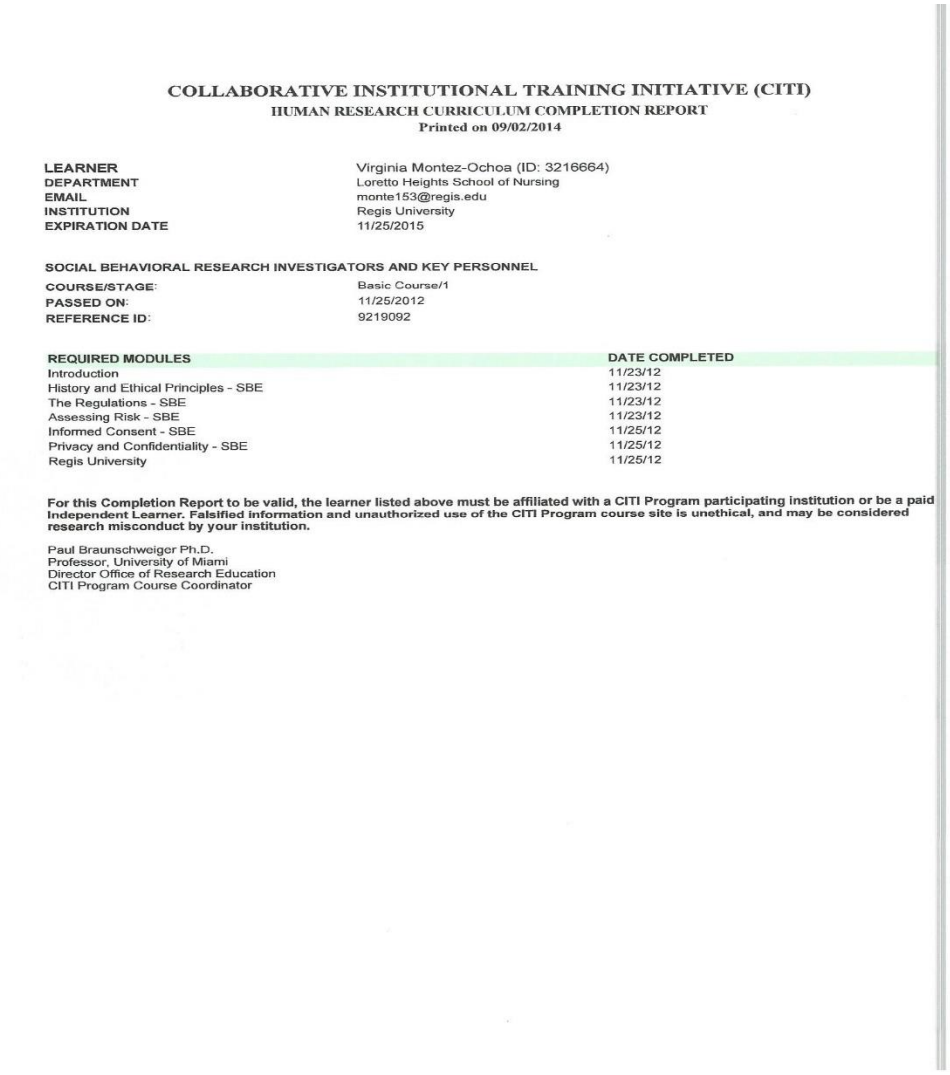
1. Take out your book, your notes from class, your recorder, syllabus, and power point.
2. Take out a clean, new notebook (which stays home).

3. Open your notes from class, and find the readings in your book.
4. Now, **actively read** the paragraphs that you took notes on during class.
5. As you actively read the textbook…
6. **Re-write the notes** from class and add notes from your readings from the book in the clean Notebook. **this step is essential to complete the memorizing of the material**

*****This is your third exposure*****

Appendix O

CITI Certificate of Completion



COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI)
HUMAN RESEARCH CURRICULUM COMPLETION REPORT
Printed on 09/02/2014

LEARNER	Virginia Montez-Ochoa (ID: 3216664)
DEPARTMENT	Loretto Heights School of Nursing
EMAIL	monte153@regis.edu
INSTITUTION	Regis University
EXPIRATION DATE	11/25/2015

SOCIAL BEHAVIORAL RESEARCH INVESTIGATORS AND KEY PERSONNEL

COURSE/STAGE:	Basic Course/1
PASSED ON:	11/25/2012
REFERENCE ID:	9219092

REQUIRED MODULES	DATE COMPLETED
Introduction	11/23/12
History and Ethical Principles - SBE	11/23/12
The Regulations - SBE	11/23/12
Assessing Risk - SBE	11/23/12
Informed Consent - SBE	11/25/12
Privacy and Confidentiality - SBE	11/25/12
Regis University	11/25/12

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI Program participating institution or be a paid Independent Learner. Falsified information and unauthorized use of the CITI Program course site is unethical, and may be considered research misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Program Course Coordinator

Appendix P

Regis University IRB Letter of Acceptance

REGIS UNIVERSITY

Academic Grants

3330 Regis Boulevard, H-4
Denver, CO 80221-1099

303-458-4206
303-364-5526 fax
www.regis.edu

IRB – REGIS UNIVERSITY

December 31, 2014

Ms. Virginia Montez-Ochoa
14014 Lausanne Court
Whittier, CA 90604

RE: IRB #: 14-365

Dear Ms. Montez-Ochoa:

Your application to the Regis IRB for your project, "The Twenty-Four-Three Study Plan: Decreasing Latino Student Nurse Attrition by Midterm", was approved as an exempt study on December 31, 2014. This study was approved per exempt study category of research 45CFR46.101.b(#1 and #2).

The designation of "exempt" means no further IRB review of this project, as it is currently designed, is needed.

If changes are made in the research plan that significantly alter the involvement of human subjects from that which was approved in the named application, the new research plan must be resubmitted to the Regis IRB for approval.

Sincerely,

Patsy Cullen

Patsy McGuire Cullen, PhD, PNP-BC
Chair, Institutional Review Board
Professor & Director
Doctor of Nursing Practice & Nurse Practitioner Programs
Loretto Heights School of Nursing
Regis University

A JESUIT UNIVERSITY

Appendix Q

Capstone Project Timeline

Date	Project	Data Analysis-Dissemination
Fall Semester-November, 2014	Preparation, Written and Oral Proposal Presentation to Capstone Chairs, and IRB Submission.	
Fall Semester-October through December, 2014	Recruitment of Practice Site for Spring Cohort research project.	Meetings with administration from schools of nursing.
Spring Semester-January 2015	Begin preparation for research, identification of Latino nursing students.	Announcement of study to both classes.
Spring Semester-January (second week), 2015	Introduce Twenty-Four-Three Study Plan to study group.	Implementation of research study.
Spring Semester-January through August, 2015 (end research study)	Continue research, with data collection, analysis, group interaction every two weeks.	Second phase of study added for increase of participants.
August through September, 2015	Data analysis	Completed.
Fall Semester, 2015		Presentation and defense of research findings.

Appendix R

Capstone Project Team

Stakeholders	• **Latino nursing students (successful)** • **Schools of nursing (↑ retention and success)** • **Community health care systems (↑cultural nurse pool)** • **Latino patient populations (↓health care disparities)** • **Overall United States (↑Latino RN pool)**
Project Team	• **DNP student, Clinical Mentor Dr. McHugh, college faculty and administration, Capstone Chair Dr. Cullen**
Cost-Benefit Analysis	• **Cost is minimal as the Twenty-Four Three Study Plan can be integrated as part of the curriculum or offered as tutoring services.** • **Average amount of time to present the study plan is one and a half hours to two hours (including hand-outs).** • **Minimal cost of printing handout with the Twenty-Four-Three Study Plan** • **Benefit is increased student success, retention, NCLEX rates, and community recognition.**