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PREDICTORS OF MEXICAN AMERICAN NURSING STUDENT ACADEMIC

SUCCESS

by

Belva J. Gonzalez

A Dissertation Submitted in

Partial Fulfillment of the

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ABSTRACT

PREDICTORS OF MEXICAN AMERICAN NURSING STUDENT ACADEMIC
SUCCESS

by

Belva J. Gonzalez

The University of Wisconsin-Milwaukee, 2013

Under the Supervision of Dr. Sue Dean-Baar

The shortage of nurses in the United States has been an ongoing concern. The
need to meet the overall demand for qualified nurses is compounded by the lack of
minority representation in nursing. While there are disparities in the representation of all
racial/ethnic groups in nursing the lack of Hispanic nurses is of special concern.
Hispanic's in the United States, at 16 percent of the total population, constitutes the
nation's largest racial/ethnic minority (U.S. Census 2010). Within the Hispanic
population those of Mexican American ancestry account for 63 percent of the total
population. To address the health needs of America's increasing Hispanic/Mexican
American heritage population it is important that nurses are capable of providing
culturally and linguistically appropriate care. To meet the need for Hispanic/Mexican
American nurses, decrease potential health disparities related to culture, and wisely
utilize resources it is important that Mexican American nursing students are academically
successful.

The purpose and design of this study was an initial exploration of predictors of
Mexican American nursing student academic success. The theoretical framework used to
guide the study were Tinto's (1975) model of student integration, Bandura's (1983) self-

efficacy theory, and perceived social support (Zimet, Dahlem, Zimet, & Farley 1988, Rook & Doolye 1985, Norbeck & Tilden 1988; Malecki & Demaray 2002; Cohen & Wills 1985; Procidano & Heller 1983).

The sample consisted of Mexican American (n=188) students enrolled in the first or second semester of nursing clinical coursework at either an associate (n=2) or bachelor (n=1) degree nursing program located in south Texas. Data was collected through face to face administration of three research instruments and a demographic survey. Direct binary logistic regression was used to examine the contribution select contextual and socio-demographic attributes, student integration, academic self-efficacy, and perceived social support had on predicting academic success. The analysis of data indicated that program type, bachelor degree of nursing, contributed to predicting success (ρ=.004; Exp(B)=4.988). The results of the investigation broaden the knowledge related to predictors of Mexican American nursing student academic success. In particular the importance of baccalaureate education for primary preparation in nursing for Mexican American students was identified.

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CHAPTER I

INTRODUCTION

For many years various private, public, regulatory and governmental health care agencies have written and discussed the implications and causes of the chronic lack of qualified nurses in the United States. Nurses, according to the American Association of Colleges of Nursing (2011), comprise the largest health care profession in the U.S. and nursing expertise is required in most settings where health care is provided. A shortage of nurses has a direct impact on patient care outcomes with research indicating higher mortality, complications, and costs when there are insufficient numbers of registered nurses (R.N.) available to provide care (Aiken, Clarke, Sloan, Sochalski, & Silber 2002; Rothberg, Abraham, Lindenauer & Rose 2005; Tourangeau, Doran, McGillis Hall, O'Brien Pallas, Pringle, Tu, & Cranley, L.A. 2007; Stanton 2004). According to research by Buerhaus, Donelan, Ulrich, Norman, Williams, and Dittus, (2005) 79 percent of RNs and 68 percent of Chief Nursing Officers believe a shortage of nurses affects the overall quality of patient care in all settings. Various studies have demonstrated that when R.N. staff levels are high patients have better outcomes and lower mortality rates (Needleman, Buerhaus, Pankratz, Leibson, Stevens, & Harris 2011; Blegen, Goode, Spetz, Vaughn, & Park 2011).

Recent reports indicate the nursing shortage has somewhat lessened due to increasing graduation rates from nursing programs and retired nurses and part-time nurses returning to full time employment (Nelson 2009). According to Staiger, Auerbach and Buerhaus (2012) this is providing only a short-term solution to the shortage. Reasons cited are multifaceted and include the likely withdrawal from the workforce of retired and

re-entering nurses when the economy improves, aging and retirement of the current nursing workforce, aging and retirement of nursing educators and a growth in the demand for health care with the aging of the "baby boomers" (Staiger, Auerbach, & Buerhaus 2012; Buerhaus, Auerbach, & Stalger 2009, AACN 2010; AACN 2012; American Nurse Association 2012; Richardson 2011).

The continuing need to meet the nation's overall demand for qualified nurses is of great concern and compounded by the lack of minority representation in nursing, a factor frequently overlooked. At a time when the minority population in the nation is rising (U.S. Census 2010) the nursing workforce has stayed predominately white. According to the *National Sample Survey of Registered Nurses* (HRSA 2010), 16.8 percent of nurses identify themselves as belonging to a non-white racial or ethnic minority. In this report the distribution of nurses by race/ethnicity was 83.2 percent white, 5.4 percent African American, 5.8 percent Asian or Pacific Islander, 3.6 percent Hispanic[1], 1.7 percent multi-racial and 0.3 percent Native American/Alaskan Eskimo. While there are racial disparities in the representation of all ethnic/minority groups in nursing, the lack of Hispanic nurses is of special significance. According to the U.S. Census (2010) there are 50.5 million Hispanics, 16 percent of the total population, in the United States (U.S.). The Hispanic population in the U.S. grew 43 percent from 2000 to 2010, accounting for more than half the country's total growth in population. This makes the Hispanic population the largest ethnic/racial minority in the U.S. Individuals of Mexican ancestry account for 63 percent of the U.S.s total Hispanic population and three quarters of the

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[1] OMB Directive 15: (May 12 1977) race and Ethnic Standards for Federal Statistics and Administrative Reporting define Hispanic as: "Hispanic. A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race" available at http://wonder.cdc.gov/wonder/help/populations/bridged-race/Directive15.html

population increase. According to the U.S. Census (2010) over half the Mexican origin

population lives in two states, California (11.4 million) and Texas (8.0 million).

As noted in footnote 1, the term Hispanic is used to designate multiple subcultures

with each subculture having its own country of origin, cultural traditions, and language

Statement and Significance of Problem

In the United States research has found that racial and ethnic minorities are at risk

for disparities in both access and quality of health care received (Agency for Healthcare

Research and Quality (AHRQ) 2011 & Institute of Medicine (IOM) 2002). Health care

disparities as defined by Smedley, Stith, and Nelson (2003), are the "racial or ethnic

differences in quality of health care that are not due to access-related factors or clinical

needs, preferences and appropriateness of intervention" (p.4). According to the Centers

for Disease Control and Prevention (CDC) (2004) disparities in health care affect both

the individual and society as a whole. The individual faces a decrease in life expectancy,

quality of life, and economic status while society must bear the burden of decreased

productivity and increased need for health care and social services. A multitude of studies

have reported that even after taking into consideration racial differences in health, co-

morbidities, severity of illness, amount or type of insurance coverage and other economic

factors there are disparities in health care related to race and ethnicity (Smedly 2008;

Smedley, Stith, & Nelson 2003; AHQR 2011; Cohen 2003; Voelker 2008; Baldwin 2003;

IOM 2002; Mead, Cartwright-Smith, Jones, Ramos, Woods, & Siegel 2008).

Despite the rapidly changing ethnic and racial demographics of the nation the

proportion of minority health care providers, including nurses, does not reflect this

change (HRSA 2006). Lack of diversity in the health care professions has been

implicated as a significant factor impacting minority health care (Sullivan 2004; IOM 2004). When there are inadequate numbers of minorities in the healthcare workforce the language and cultural differences between the provider and recipient of health care have a negative impact on the quality and outcome of care provided (Sullivan 2004; HRSA 2003; Cohen, Gabriel, & Terrell 2002; IOM 2004; Grumbach & Mendoza 2008).

In the 2004 report, *In the Nation's Compelling Interest: Ensuring Diversity in the Health Professions,* the Institute of Medicine (IOM) concluded there was sufficient evidence to support the need to increase diversity of the nation's health care workforce. According to the report when the race and ethnicity of the health care providers closely corresponds to the population served that population reports greater access and satisfaction with the care received. Rationale provided in the report included: 1) racial and ethnic minority providers often practice in underserved areas, 2) racial and ethnic minority patients report higher levels of satisfaction when providers share their racial/ethnic background, 3) racial and ethnic minority providers can reduce cultural and linguistic barriers to health and 4) diversity in health professional education is associated with better educational outcomes for all students regardless of their racial/ethnic background. In a report on diversity in the health care workforce (Sullivan 2004) a correlation between health care disparities and the lack of a culturally diverse health care workforce was identified. Conclusions reached and discussed in the report included the need for: 1) a diverse health care workforce representative of all racial and ethnic groups from the community served; 2) system-wide incorporation of the diverse skills, talents, and ideas of these racial and ethnic groups; and 3) sharing of professional development opportunities, resources, responsibilities and power among all groups and at all levels.

The report also addressed the importance and impact on quality of care that having a culturally and linguistically competent health care workforce would promote.

Given the nature of the nursing profession a racially and ethnically diverse nursing workforce is especially important. When compared to all other health care professionals nursing has the most interaction with patients (California Endowment 2003). When the nurse shares and understands the patient's background, and speaks a shared language there is the probability for a higher level of patient satisfaction and less misunderstanding of health information (Sullivan 2004). Nursing leaders and national organizations including the National Advisory Council on Nursing Education and Practice (NACNEP) (2000), Pew Health Professions Commission (1995; 1998), HRSA (2003, 2004), IOM (2010) and American Association of Colleges of Nursing (AACN) (2001) have all recognized the need to increase the diversity of nursing through increased recruitment and academic success of ethnic and racial minorities into nursing education.

In nursing, as in other areas of health care, the implication is not that patients will only receive quality care if the patient and provider have a common racial/ethnic background. The assertion is rather if the minority representation in the nursing workforce matched that of the population served having a shared language and culture would improve understanding and insight between the provider and recipient of care. In addition, there would be nurses available to act as "cultural" resources and role models for other health care providers.

The need to increase diversity in nursing as a means of addressing health care disparities and meeting the health care needs of the nation is widely recognized. Issues affecting Hispanic representation in the nursing profession are of great import and were

the focus of this study. As the fastest growing minority population in the U.S. it is important that the proportion of Hispanics entering the profession of nursing keeps pace with the steadily increasing growth in this segment of the population.

Nationwide nursing program enrollment data indicates that at both the associate and baccalaureate level (National League for Nursing (NLN) 2008; 2012a; AACN 2009) the renewed interest in nursing as a career continues; however, the majority of students entering nursing continue to be White. According to the AACN (2013) the percentage of students from minority backgrounds enrolled in entry-level baccalaureate programs in 2010 was 28.3, a 12 percent increase from 2002, demonstrating an increase in students from under-represented ethnic/racial backgrounds entering nursing. Even with this increase the representation remains significantly less than the U.S. in general.

In terms of educational achievement Hispanics in the United States have historically had higher dropout rates and lower rates of degree completion in comparison to other ethnic groups (KewalRamani, Gilbertson, Fox, & Provasnik 2007). The National Center for Educational Statistics (NCES 2012a) reported that Hispanics had higher dropout rates in high school than Whites, in higher education they have lower rates of degree completion in six years, and overall lower rates of all degree completion in higher education than Whites. In 2010 (NCES) it was reported that enrollment [2] in degree granting post-secondary institutions by ethnicity/race was 60.5 percent White, 14.5 percent African American, and 13.0 percent Hispanic. In terms of educational attainment according to NCES (2012b) the percentage of those 25 to 29 years of age with a high school diploma or equivalent by race/ethnicity was 94 percent Whites, 88 percent African

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[2] Includes four-year postsecondary institution, Full-time enrollment, Nonresident alien, Part-time enrollment, Private institution, Public institution, Two-year postsecondary institution, Undergraduate student retrieved July 5 2012 from http://nces.ed.gov/pubs2012/2012045_2.pdf

Americans and 71 percent Hispanics. In 2011 the post-secondary setting attainment of a bachelor degree or higher was 39 percent Whites, 20 percent African Americans, and 13 percent Hispanics; and for a masters degree or higher 8 percent Whites, 4.0 percent African Americans and 3 percent Hispanics (NCES 2012b). In a survey administered by the Pew Hispanic Center reasons 74 percent of 16 to 25 year old respondents who had left school without diploma/degree attainment included reasons for leaving as need to help support the family, poor English language skills, dislike of school, poor parenting, cultural background differences of their teachers, and a feeling that more education would not assist them in their chosen career (Lopez 2009).

In nursing education minority students have a lower rate of degree completion than White students (AACN 2001; Sullivan 2004; Gardner 2005; Noone 2008; Peters 2005; Alicea-Planas 2009). While enrollment of Hispanic nursing students has increased in recent years according to the NLN (2012a) Hispanics are still underrepresented at all levels of nursing education. According to the NLN (2012b) in the academic year of 2011 Hispanic students accounted for 6 percent of associate degree nursing students and 6 percent of baccalaureate degree nursing (BSN) students. In graduate nursing education the percentage of Hispanic students is also low, accounting for four percent of students' enrolled in master's programs and 3 percent in doctoral programs (NLN 2012a).

Although increasing Mexican American student enrollment in nursing programs is necessary it is equally important that the students who do enroll are successful. When reviewing minority nursing student recruitment and successful program completion issues Dowell (1996), Taxis (2002), and Rodgers (1990) reported, depending on setting, the number of minority nursing students leaving school prior to degree completion varies

from 15 to 85 percent. Variables identified by Dowell (1996) included restrictive admission policies, student alienation, faculty attitude, and faculty inadequacies in meeting minority student needs. Other issues that have been implicated as influencing Hispanic student success include homogeneity of nursing curriculum, labeling and marginalizing of students, and lack of Hispanic faculty to serve as role models (Taxis 2002). According to Amaro, Abriam-Yago, and Yoder (2006) barriers to nursing school success identified and shared by nursing students of differing ethnic and racial backgrounds were lack of finances, time constraints, family responsibilities, language, study workload and ethnic issues such as lack of assertiveness and absence of ethnic role models. In a metasynthesis of qualitative research related to Hispanic nursing students academic experiences Alicea-Planas (2009) identified the following common themes 1) the need to work while attending school 2) lack of preparation for the difficulty of nursing school, 3) family commitments, 4) faculty and peer relationships, and 5) lack of Hispanic faculty, mentors and role models.

It has been well established that increasing the diversity of the nursing workforce is one means of decreasing health care disparities along lines of race and ethnicity. Due to rapid growth of the Hispanic population and the under representation of Hispanics in nursing it is important to increase the number of Hispanics entering the profession. Of special interest is the Mexican American population as it is the fastest growing segment of the Hispanic population in the U.S. and there is a deficiency in research specific to Mexican American nursing students. To develop a better understanding of factors that influence academic success of the Hispanic nursing student it is important that further research be undertaken.

Purpose of Research

To meet the increasing need for Mexican American nurses, decrease potential health disparities related to culture, and utilize limited human and material resources wisely it is important that Mexican American students entering nursing programs are successful. Nursing research on academic success in this area is limited. The majority of reported research identifies Hispanic nurses as a homogeneous population not considering the cultural and even linguistic variances that are present in the multiple subcultures that make up the population. The purpose of the investigation was to explore factors that contributed to predicting Mexican American student academic success in nursing school.

Variables and Conceptual Considerations

The determination or measurement of college academic success is most often based on quantifiable outcome criteria and as such has been defined and operationalized in a variety of ways. While many consider the ultimate outcome indicator of college academic success to be degree attainment other measures have also been used (Kuh, Kinzie, Buckley, Bridges, & Hayek 2006). The outcome criteria used to evaluate academic success differs based on individual student needs and goals. According to Kim, Newton, Downey and Benton (2010) common elements that may be included in defining academic success are "acceptable grade averages, retention toward a degree or attainment of productive life skills" (p.112). Participation patterns such as course retention rates and post-transfer performance are other considerations that have been used as indicators of success (Kuh et al 2006). In an analysis of research findings on college outcomes Robbins, Lauver, Le, Davis, Langley, and Carlstom (2004) reported success

measurement/ definitions ranged from academic outcomes (i.e. GPA), persistence or time to degree attainment. Operationalizing academic success as overall GPA and degree attainment may be problematic according to Lounsbury, Sundstrom, Loveland, and Gibson (2003). The rationale provided was that cumulative GPA incorporates possible uncontrolled inconsistencies between faculty and courses taught. In an investigation of cognitive and personality predictors of academic success Lounsbury et al (2003) asserted that a single course grade avoided variability and was a better validity criterion for identifying academic achievement. In the present study passing a specified nursing clinical course was the dependent variable used to represent academic success.

Academic success or achievement is the extent to which an individual's educational goals are being met. Academic success, as stated above, has been measured quantifiably in a multitude of ways. These methods have included, but were not limited to, course grade, persistence until degree completion, or overall GPA. Retention, the ability of an educational facility or program to keep a student from enrollment to degree completion, is often used as a means of measuring student academic growth and learning (Levitz, Noel & Richter 1999). While academic retention and success are two separate concepts they are often used and examined simultaneously as measures of student outcome. According to Levitz, Noel and Richter (1999) retention can be employed as an institutional performance indicator and is often used to gauge student satisfaction and success. In nursing education, as all in all other areas of study, students must be successful academically in order to remain in school and achieve their educational goals of degree completion.

Educationally, in comparison to their White counterparts, Hispanics have lower rates of degree attainment (Nora & Crisp 2009). In the U.S. many Hispanics begin college at two-year community colleges, take fewer hours of college course work, and have lower rates of transfer to four-year universities. Hoachlander, Sikora, Horn, and Carroll 2003 (2003) reported that only six percent of students beginning school at a community college had obtained a bachelor's degree after six years. In nursing education Hispanics comprise six percent of entry level ADN and BSN nursing students (NLN 2012b) but students enrolled in BSN programs have higher levels of degree completion (NLN 2006). In a study of Texas nursing programs (n=59) Loftin, Newman, Bond, Dumas, and Gilden (2012) found major disparities in graduation rates by program type, with associate degree programs having lower levels of graduation for all racial and ethnic groups.

Many hypotheses have been proposed and much research performed to identify and explain elements predictive of academic success in the Hispanic population. The prediction of a student's ability to succeed in higher education has most often been based on past academic performance (cumulative GPA) and scores on college entrance exams such as the Scholastic Aptitude Test (SAT) or American College Test (ACT). While these are time honored measures of intelligence, in this investigation the importance of other attributes, gender, family generation attending college, living arrangements (with or without family), were explored for their potential as predictors of academic success. Due to differences in background and culture it was theorized that these attributes would provide the investigator with more useful information concerning the prediction of Mexican American nursing students' academic success. Another rationale for not using

high school GPA, grades made on college level pre-requisite coursework and scores made on entrance exams in this investigation of Mexican American nursing student academic success was that this data had already been examined by the individual nursing programs prior to the student being accepted and enrolling in the schools of nursing.

To explain and promote a better understanding of factors that influence college academic success numerous theoretical models/frameworks have been developed. Based upon previous research and the need to explore the phenomenon of Mexican American nursing students' academic success three conceptual frameworks were utilized in this investigation. The frameworks include Tinto's Student Integration Model (SIM), Bandura's theory of Academic Self-Efficacy, and Social Support theory. The research questions asked were all related to exploring the contribution that contextual and socio-demographic/personal attributes, student integration, academic self-efficacy, and perceived social support had on predicting Mexican American nursing student academic success. With regard to student integration the investigation explored the contribution the constructs of social integration and academic integration had on predicting academic success. Two constructs, academic and social, of self-efficacy as outlined by Solberg, O'Brien, Villarreal, Kennel, and Davis, (1993), were used to explore the contribution self-efficacy had on predicting academic success. Finally, the study explored the contribution perceived social support provided by family, friends and significant other had on predicting academic success.
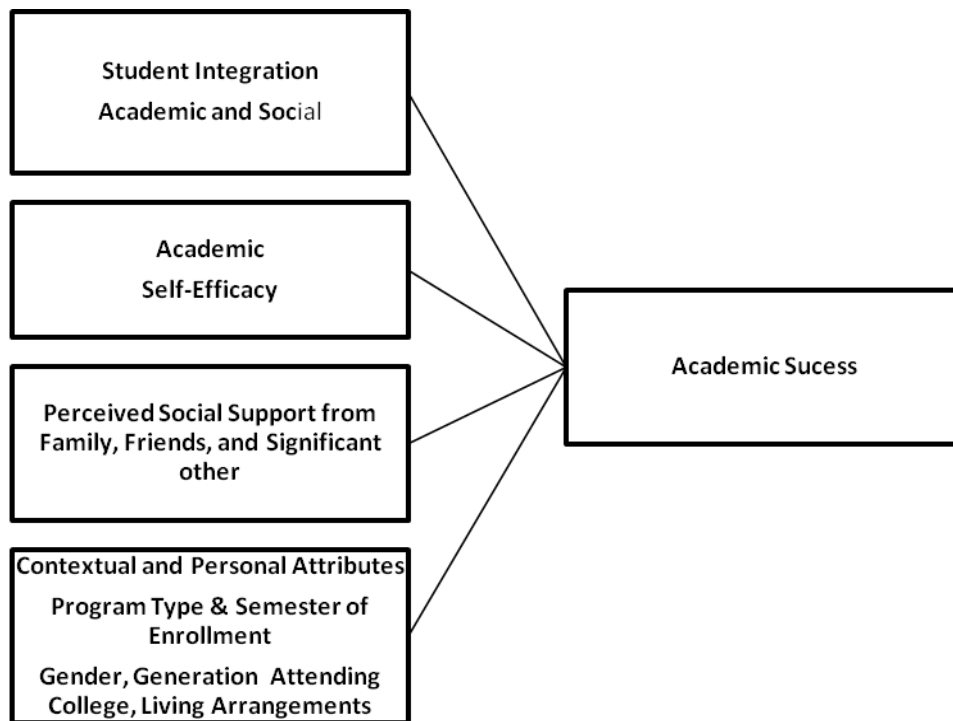
Figure 1. *Variables of Student Success*

Student Integration

The Student Integration Model (SIM), developed by Vincent Tinto (1975, 1993), has

been widely used to investigate student persistence and academic outcomes in higher

education. A major element of this model is that students enter college with two major

commitments. The first commitment is to the goal of getting a degree and the second is to

obtain the degree at a specific educational institution. The decisions students make to

commit to and achieve academic success are dependent on how well the student and

educational institution "fit" together and are reflective of the degree to which students

identify with their university/college. According to the SIM theory the quality of the

match between a student's ability and motivation in relation to the institution's academic

and social milieu is instrumental in determining student persistence in their course of study and the resultant academic success (Tinto 1975, 1993).

Integration, as related to Tinto's theory of persistence, refers to the incorporation of the student into the university/college community and the feeling that their goals, values, and beliefs are congruent with those of the community. As conceptualized by Tinto (1975) college/university integration is composed of two distinct but related constructs. Academic integration according to Tinto (1975) has structural and normative features. The structural element refers to meeting the academic standards of the institution and the normative element to the individual's identification with beliefs, values and norms of the academic setting (Tinto 1975, p. 104). Social integration is the extent that there is a match between the individual and the social system of the college/university. This process takes place through informal peer group association, semi-formal extracurricular activities and with faculty and staff of the institution (Tinto 1975 p. 107). For successful academic and social integration to take place college/university students must perceive 1) adequate interactions at the social and academic level have taken place and 2) their abilities, goals, and values correspond to others in the organization (Shelton 2012).

Tinto's theory is most often used to describe first year student persistence decisions. The theory will be utilized in this investigation due to the unique nature of nursing education. Prior to applying and entering nursing school, at associate or baccalaureate level, potential students must successfully complete pre-requisite general and science related college level course work. Course work may or may not be taken at the same institution as the nursing program. Upon acceptance into a nursing program students are immersed into the major, follow a prescribed course of study and are in class only with

other nursing students at their same level. This results in a group or "community" of students sharing a common academic goal, successful completion of nursing school. The SIM model is appropriate for use in the student nurse population as these students, despite having completed a number of college credit hours in pre-nursing coursework, are entering a new academic environment that will require academic and social integration.

Self-Efficacy

Another concept that has been theorized to have an impact on student academic success is self-efficacy. Self-efficacy, grounded in Bandura's (1986, 1995) social cognitive theory (SCT), proposes that human achievement is dependent on an individual's behaviors, personal factors and environment. According to this theory humans have the unique ability to exercise control over their own thought processes, motivation and actions and are thus capable of changing themselves and their circumstances through their own effort (Bandura 1989). Zimmerman (1995) referred to academic self-efficacy as the student's beliefs about his or her ability successfully to complete academic tasks. Research (Bandura 1997; Pajares 1996; Schunk 1995; Lent, Brown, & Larkin 1984) has indicated that self-efficacy correlates well with academic achievement. It has been hypothesized that self-efficacy beliefs influence a learner's choice of task, amount of effort expended, perseverance in the face obstacles and level of achievement; with higher levels of self-efficacy being associated with increased levels of achievement (Bandura 1997 & Schunk 1995). In a meta-analysis of academic research Multon, Brown, and Lent (1991) found support for the hypothesized relationship of self-efficacy and academic achievement. Harvey and McMurray (1994) found that nursing students with low levels of self- efficacy were more likely to withdraw from nursing

courses than those with higher levels of self-efficacy. In another study involving nursing

students McLaughlin, Moutray, and Muldoon (2008) reported that students with higher

levels of self-efficacy achieved higher course grades.

According to Pajares (1996) self-efficacy beliefs can be assessed by asking

individuals to report the level and strength of their confidence in accomplishing a task. In

higher education this would relate to actions that are relevant and necessary to being

academically successful. Solberg, O'Brien, Villareal, Kennel, and Davis (1993)

developed and validated a research instrument, the College Self-Efficacy Inventory

(CSEI), to explore the relationship between Hispanic college student self- efficacy beliefs

and college adjustment and success. In the course of instrument development Solberg et

al (1993) identified three self-efficacy factors that affected student academic persistence

and adaptation to the university environment. The three factors identified were 1) course

self-efficacy, 2) social self-efficacy and 3) roommate self-efficacy. The self- efficacy

beliefs identified by Solberg et al (1993) are domain specific and address areas of student

confidence related to their ability to perform tasks required to adapt and be successful in

the college/university environment. In addition the components of these factors

encompass items that have both an academic and social context. As mentioned previously

the CSEI scale consists of three subscales (course, social, and roommate self-efficacy),

however; the subscale of roommate self-efficacy has been found to be non-relevant in

certain situations, primarily when the majority of the sample population live off campus

with their families rather than in dormitories. Utilizing only the subscales of course and

social self-efficacy is a practice that has been successfully utilized in previous studies

(Zajacova, Lynch, & Espenshade 2005; Gloria, Castellanos, Lopez, & Rosales. 2005;

Gloria & Robinson-Kurpius 2001; Ramos-Sanchez & Nichols 2007).

Social Support

Social support, a widely studied theory, is in the simplest terms an interaction,

person or relationship that offers physical and emotional comfort. The perception of

availability and adequacy of support influences an individual's ability to cope with

stressors and serves as a buffer against their undesirable outcomes (Malecki & Demaray,

2002). According to Hupcey (1998) social support is multifaceted. Cobb (1976) theorizes

that social support consists of three components 1) feeling loved, 2) feeling valued, and

3) belonging to a social network. Rook and Dooley (1985) contend that in all definitions

of social support it is implied that there is both a provider and recipient and between the

two a positive interaction or helpful behavior takes place. Thoits (1986) defines the actual

provision of social support as "functions performed for distressed individual by

significant others such as family members, friends, co-workers, relatives, and neighbors"

(p. 417). Barrera (1986) hypothesized that the cognitive appraisal of support has two

dimensions; support is available and support is adequate to meet the individuals' needs.

Social support can be described in terms of received support or perceived support.

Received support is the actual provision of support, whereas perceived support is the

belief that support will be available and sufficient if or when it is needed (Barrera 1986).

Social support was defined by Malecki and Demaray (2002) as "an individual's

perception that he or she is cared for, esteemed, and valued by people in his or her social

network, that enhances personal functioning, assists in coping adequately with stressors

and may buffer him or her from adverse outcomes" (p.691).

The wide variety of concepts associated with social support can make it confusing to understand and difficult to measure (Tardy 1985 and Hupcey 1998). After a review of social support measures Tardy (1985) described the concept at both a theoretical and operational level. According to Tardy (1985) five dimensions of social support frequently utilized in research include:

1. Direction of support, is it given or received?

2. Disposition of support, is it perceived to be available or has it been provided?

3. Description/evaluation, describe support given/available or evaluate satisfaction with support provided.

4. Content of support, is it emotional (caring, empathy, trust), instrumental (providing resources such as money, goods, services, time), informational (advice) or appraisal (feedback, encouragement)?

5.   Network, constitutes the source or community of individuals providing support.

In literature concerning social support and academic achievement perceived support was often identified as having a greater impact on outcomes than the actual enactment of support. Demaray, Malecki, Davidson, Hodgson and Rebus (2005) found a relationship between the school adjustment of 82 predominately Hispanic middle school students and their perception of social support from parents, friends and school. A positive correlation between African American college undergraduates perceived social support and academic motivation was reported by Young, Johnson, Hawthorne, and Pugh (2011). An association between perceived social support and GPA was reported by Malecki and Demaray (2006) in a study of 164 students from low socioeconomic backgrounds. In a

study of 418 undergraduates Cutrona, Cole, Colangelo, Assouline, and Russel (1994) reported that perceived parental social support significantly predicted GPA.

In terms of social support and students of Hispanic ethnicity support from multiple sources, including family, faculty, student peers, friends, and university staff, were all identified as being potentially meaningful (Anaya & Cole 2001; Santos & Reigadas, 2002; Zalaquett 2005). In a study examining academic non-persistence decisions of Latino undergraduates Gloria et al (2005) reported that levels of perceived social support from friends was a strong predictor of persistence decisions. The same study also reported that the perception of social support from friends was related to increased levels of self-efficacy.

Studies evaluating the impact of social support on academic achievement in the Hispanic population have identified both positive and negative aspects of family emotional and social support. The findings are supported in general educational research (Cardoza 1991; Cutrona, et al 1994; Gloria 1997; Gloria et al 2005; Schnieder & Ward 2003) and research specific to nursing education (Gardner 2005; Villarruel, Canales, & Torres 2001; Doutrich, Wros, Valdez, & Ruiz, 2005 and Taxis 2006). Many studies (Pino & Ovando 2005; Castillo & Hill 2004, Gloria, et al 2005, Hernandez 2000 and Taxis 2006) reported the positive influence perceived availability of family support had on academic persistence and success. However, because family ties hold such significance, with family needs often being prioritized over individual needs (Schwartz 2007), there are times when familial expectations were detrimental to student success (Villarruel, Canales & Torres 2001; Doutrich 2005 et al; Gloria & Castellanos 2012).

After a brief review of social support in terms of theory, educational achievement and the Hispanic student population the conceptual framework of social support utilized in this study is based on Procidano and Heller (1983) "the extent to which an individual believes that his/her needs for support, information and feedback are fulfilled" (p. 2) by family and friends. Following this definition social support is viewed from 1) direction of support being received rather than given, 2) disposition of support is the perception that support is available, 3) evaluation is the level of satisfaction with support, 4) content of support is information and feedback and 5) network is family, friends and/or significant other (such as individuals affiliated with college/university).

Research Questions

To explore the contribution on predicting academic success of selected contextual and socio-demographic/personal attributes, academic and social integration, academic self-efficacy beliefs and perceived social support the following research questions were developed:

1. What is the contribution of specified contextual (program type and semester of enrollment) and personal attributes (gender, generation attending college, living with family) in predicting Mexican American nursing student academic success?

2. What is the contribution of academic and social integration in predicting Mexican American nursing student academic success?

3. What is the contribution of self-efficacy in predicting Mexican American nursing student academic success?

4.   What is the contribution of perceived social support from family, friends, and significant other in predicting Mexican American nursing student academic success?

5.   Which variables "contextual" "personal" "integration" "self-efficacy" or "social support", has the greatest contribution in predicting Mexican American nursing student academic success?

Operational Definitions

The dependent variable of academic success is defined as passing or not passing a designated nursing clinical course in the first or second semester of nursing school. More specifically it will be not passing a clinical nursing course taken the first or second semester of active enrollment in a baccalaureate or associate degree nursing program. All participant nursing programs included in the study define passing as a grade of C or better and in all the programs a numerical grade of less than 75 is considered not passing. Thus the outcome variable will be categorical using success or non-success in a specific course.

The contextual attributes/variables used are 1) type of nursing program (ADN or BSN) and 2) semester of enrollment in nursing school (first or second). The purpose of selecting the first or second semester is 1) clinical courses have common characteristics 2) the highest level of attrition in nursing programs participating in the study is in the first and second semester. Personal/socio-demographic attributes of gender, living with family, and generation attending college were selected based on research related to the Mexican American student educational success. In the Mexican American culture it has been reported that role performance and educational expectations are often gender based.

Even though research has shown that Mexican American females have higher rates of degree completion than males (NCES 2012a) the value placed on education and career choice differ for males and females (Rodriguez, Guido-DiBrito, Torres & Talbot 2000; Bond, Gray, Baxley, Cason, Denke, & Moon 2008). Females are often expected to live at home until marriage, come home from college immediately after class and assist with family needs such as caring for younger siblings or performing household chores (Gardner 2005; Villarruel, Canales, & Torres 2001; Doutrich, Wros, Valdez, & Ruiz 2005; Nora & Crisp 2009). These role expectations often interfere with the student's ability to prepare for class or take advantage of college support services such as tutoring or going to the library. Mexican American males have different role expectations that may impact their educational success. Males often need to assist the family financially resulting in part-time college attendance or taking vocational courses, rather than seeking a bachelor's degree, that will put them in the workforce sooner (Villarruel, Canales, & Torres 2001; Saenz & Ponjuan 2009; Pew Hispanic Center 2009; Bond et al 2008). In addition, a large number of Mexican American students are the first generation in their family to attend college (Staklis, Horn & Soldner 2012) and research indicates that first generation students are at higher risk of attrition (Tinto 1993; Pascarella & Terenzini, 1980; Ting 2003).

The operational definitions used for the independent variables of academic and social integration were adapted by Nora (1993) and based on Tinto's student integration theory (1987). According to Nora (1993) academic integration is described as "The development of a strong affiliation with the college academic environment in and outside of class. It includes interactions with faculty, academic staff, and peers but of an

academic nature" (p.235). Social integration as described by Nora (1993) is "The development of a strong affiliation with the college social environment both in the classroom and outside of class. Includes interactions with faculty, academic staff, and peers but is of a social nature" (p. 237). Academic self-efficacy is adapted and operationally defined, based on research by Bandura (1986), Schunk and Pajares (2002), and Solberg et al (1993), as confidence in performing the academic (reading textbooks, preparing for exams, taking notes) and social (making friends, involvement in extracurricular activities) tasks necessary to adjust and be successful in nursing school coursework. The operational definition of perceived social support is taken from Procidano and Heller (1983, p. 2) and is "the extent to which an individual believes that his/her needs for support, information and feedback are fulfilled" by family, friends, and significant others.

Assumptions Underlying the Investigation

Assumptions underlying this investigation are:

1. Students accepted and enrolled in nursing school are academically capable of success.

2. Students have a real interest and desire to be nurses; they have freely chosen to pursue nursing as their educational and career goal.

3. Research instruments utilized measure the independent variables of student integration, academic self-efficacy and social support.

Organization

The paper includes five chapters with the first chapter providing an overview of the phenomenon of interest. Chapter One has included the introduction and significance of

the phenomenon of Mexican American nursing student success, the purpose of the research, research questions, theoretical framework, operational terms, and assumptions. Chapter Two contains a literature review that encompasses the historical, academic, policy, cultural, recruitment, and student achievement issues that have impacted Mexican American nursing student success as well as an in-depth discussion of the conceptual models guiding the research. Chapter Three explains the research methodology used in the investigation. Report of the findings of the investigation and an in-depth analysis of the findings comprises Chapter Four. Finally the conclusions drawn from the investigation including limits and possible avenues of future research are in Chapter Five.

Chapter Summary

In this chapter the issue investigated, lack of representation of Mexican Americans in the nursing profession, was introduced. This is an important issue as to meet the health care needs of the nation as well as those of ethnic/racial minorities it is imperative that the nursing workforce becomes more diversified. Of special concern was the representation of Hispanics, specifically Mexican Americans, in the profession of nursing. While Hispanics of Mexican American heritage are the largest minority in the nation Hispanics in general only represent 3.6 percent of the nation's nursing workforce. To meet the goal of increasing nursing diversity it is important that nursing schools increase enrollment and promote the academic success of Mexican American students. The primary purpose of this investigation was to explore if a group of factors, gender, living with family, generation attending college, student integration, self-efficacy beliefs, and social support contributed to the prediction of Mexican American academic success in nursing school.

CHAPTER II

REVIEW OF LITERATURE

To address the issues of a national shortage of nurses, health care disparities and lack of diversity in the profession of nursing it is important that nursing educational programs increase enrollment and promote the academic achievement of qualified ethnic/racial minority students. The purpose of this investigation is to explore factors that contribute specifically to predicting Mexican American student academic success in nursing school. Variables of interest are type of nursing program attended (associate degree (ADN) or bachelor degree (BSN), semester of enrollment (first or second), gender, family generation attending college, and living arrangements (with or without family), student integration, academic self-efficacy beliefs, and perceived social support from family, friends, and significant others. A review of literature related to issues impacting Mexican American representation in nursing and the theoretical considerations guiding this investigation have been be provided.

Mexican American Representation in Nursing

In 2010 there were 50.5 million Hispanics, 16 percent of the total population, in the U. S. From 2000 to 2010 this segment of the population grew by 43 percent, making it the fastest growing minority in the country (U.S. Census 2010). Of special concern are Hispanics of Mexican American heritage as they represent the largest and fastest growing segment of the Hispanic population. To address the health needs of America's increasing Hispanic/Mexican American heritage population it is important that there are nurses capable of providing culturally and linguistically appropriate health care. However

according to findings from the NLN (2010) Hispanics remain underrepresented in all levels of nursing education and all nursing programs reporting.

Issues identified as negatively influencing Mexican American nursing student recruitment and academic success include a high level of family commitment, English language difficulties, financial problems, a need to work, deficient college preparation, family origin that may culturally have no experience with higher education and/or understand the commitment required and isolation and discrimination from faculty, peers, and patients (Gardner 2005; Villarruel, Canales, & Torres 2001; Wilson, Andrews, & Leners 2006; Brown, Santiago, & Lopez 2003; Amaro, Abriam-Yago & Yoder 2006; Taxis 2002). With the documented inequality between White and Mexican American students in terms of pre-college preparation, and disparities in scores on standardized college admission exams, Mexican American students have often found themselves at a disadvantage when applying for admission to nursing school (Bellack 2005). With the current increased interest in nursing as a profession and the corresponding increase in the number of students applying to nursing programs schools have become more selective in determining who will be admitted (NLN 2008). The increase in selectivity, usually based on standardized testing scores and grade point average (GPA), has the potential of further adversely affecting the number of Hispanic/Mexican American being accepted into nursing programs. To increase enrollment and graduation rates of Mexican American students from the nation's schools of nursing it is important that the phenomenon and variables predictive of Mexican American nursing student academic persistence and success be explored.

Higher Education and the Hispanic Student

History of Disparity in Education

The historical roots of the Mexican American nursing shortage are like those of many other minorities with prejudice, segregation, inadequate schools, and limited access to higher education in all fields including nursing (San Miguel & Valencia 1998). Until the civil rights movement of the 1960's admission to colleges and professional schools was systematically limited by race, sex, national origin and religion (Sullivan 2004). In the southwest, where the majority of Mexican Americans still reside, from the 1930's-1960's many issues affected the quality of public education provided Mexican American children, including the segregation of schools by race and ethnicity. According to Aguirre and Martinez (1993) (as cited by Pino & Ovando, 2005) a 1971 report by the U.S. Commission on Civil Rights identified segregation in the Texas public school system as a hindrance to Mexican American students' access to public education. During this period less money was allocated for educating Mexican American students than White students, student to teacher ratios were higher, the teachers were poorly trained and often sent to Mexican American schools as a "punishment", school buildings were substandard, and the education establishment as well as the White population endorsed the false misconception that Mexican Americans lacked the intellectual ability to learn (San Miguel & Valencia 1998; Pino & Ovando 2005). Based on these conditions, even when Mexican American students wanted to attend college and could afford it they were not adequately prepared academically for the rigors of higher education (Pino & Ovando 2005; San Miguel & Valencia 1998; Valencia & Black 2002).

College Preparation

While Hispanics are underrepresented at all levels of higher education those of

Mexican heritage, the largest sub-population of Hispanics in the U.S., have the highest

risk of academic underachievement (Rodriguez 2002). College enrollment and degree

attainment are very dependent on both high school graduation and how well students are

prepared academically for college level course-work (Kazis 2006). Hispanic students face

multiple obstacles in regards to both of these factors. Historically Hispanics have had low

rates of high school graduation; however, recent enrollment data has indicated that

Hispanic high school completion rates are increasing. According to Fry and Lopez (2012)

the percentage of Hispanics 18-24 years of age with a high school diploma or General

Educational Development (GED) reached an all-time high of 76.3 percent in 2011.

Despite these improvements in high school graduation rates Hispanic students still trail

behind their White counter parts in this area (Fry & Lopez 2012).

According to the Pew Hispanic Center in all age groups and grades Hispanic

students lag behind White students in academic achievement, with the most significant

disparities being in math, reading and science (Pew 2005). In an analysis of data by the

Pew Hispanic Center (Fry 2005) it was reported that Hispanic students were more likely

than either African American or White students to attend high schools with high

enrollment levels and the highest student-teacher ratio. In the same report it was noted

that in comparison to other high school graduates Hispanics were the least qualified and

prepared to attend college. Hemphill, Vanneman, and Rahman (2010) reported that while

Hispanic students' average math and reading scores have increased over recent years on

average White students still have higher scores. Schneider, Martinez, and Owens (2006)

reported that Hispanic students were less likely than White students to take advanced

math and science classes in high school. In terms of math this is especially concerning as

there appears to be a strong relationship of taking advanced math courses and college

enrollment. Hispanics also score lower on standardized college entrance exams

(Scholastic Assessment Test or SAT); low test scores coupled with taking fewer college

preparatory courses decreases the likelihood of acceptance into selective

colleges/universities (Schneider, Martinez, & Owens 2006).

Many of the same factors that negatively influence overall preparation for college

level coursework affect nursing students. In a review of literature based on factors

affecting Mexican American nursing students' academic achievement Taxis (2002)

reported a recurring theme was how inadequate primary and secondary education was in

preparing them for college level course work. In qualitative research by both Taxis

(2002) and Villarruel, Canales, and Torres (2001), Hispanic nursing students reported

that in high school they received inadequate counseling/advisement in regard to

secondary education and were steered toward vocational training and away from more

stringent academic paths that would have prepared them for college. Loftin, Newman,

Dumas, Gilden, & Bond (2012) reported that a commonly voiced comment by Hispanic

nursing students was that they had received ineffective academic advisement. This lack

of preparation and counseling means that Hispanic students who could have succeeded in

nursing education might never be offered the opportunity.

Institutional Characteristics

Increasing rates of high school completion coupled with the overall growth in the

Hispanic population had contributed to the recent gains in college enrollment by

Hispanics (Fry & Lopez 2012). Even with improved rates of enrollment Hispanics when compared to Whites are still more underrepresented and less likely to persist in college until degree completion; this is true at both the associate and baccalaureate level (Pino & Ovando 2005; Fry & Lopez 2012). In addition to the disparity in degree completion a large number of Hispanic students begin higher education at two-year community colleges. According to Arbona and Nora (2007), Hispanic students enroll at two year community colleges at a higher percentage than either White or African American students. While it is common for Hispanic students to begin their education at a community college with the intent to transfer to a baccalaureate granting institution many never make this transition (Santiago & Brown 2004). A down side of this is that research indicates that students who enter four year universities immediately after high school and go to school full time have higher rates of degree completion than those starting at 2-year community colleges (Arbona & Nora 2007; NCES 2012b).

Selectivity of Educational Institutions

The majority of both White and Hispanic students finish high school in the second to fourth quintile and fall into the category of "less well prepared". In this group Fry (2004) reported that 66 percent of Hispanic and 45 percent of White college students initially enroll at "open door" institutions or those with the least selective criteria for entry. While this type of institution provides Hispanic students with educational opportunities Fry found that the selectivity of a school affected completion rates, with students of all backgrounds being more likely to finish a bachelor's degree in selective schools in comparison to non-selective schools. For Hispanic students attending non-selective schools 57 percent completed a bachelor's degree compared to 81 percent of White

students. With the roll-back of affirmative action plans for admission decisions at state schools, intellectually capable Hispanic students graduating from high schools that inadequately prepare them for college have limited opportunities for attending colleges and universities with very selective entry criteria based on grades, GPA, and scores on standardized tests as such as the SAT (Fry 2004). This is unfortunate as research has shown that when assessing student high school GPA and scores on standardized tests such as the SAT a lower GPA and/or test scores may not reflect student inability to be successful but rather poor high school preparation, an issue that can be addressed and corrected (Tinto 1993; Peltier, Laden, & Matranga 1999).

Role of Hispanic Serving Institutions

The majority of Hispanics of Mexican American heritage reside in two states located on the U.S. border with Mexico, Texas and California, (Benitez & DeAro 2004). Over 50 percent of all Hispanic undergraduates in 2010-11 attended ten percent of higher education institutions know as Hispanic Serving Institutions (HSIs) (Villarreal & Santiago 2012). The HSI designation came about in the 1980's to provide support to institutions that had high Hispanic student populations and very meager resources. HSIs are defined by federal law as accredited, not for profit degree granting public or private institutions of higher education with an enrollment of 25 percent or more total undergraduate Hispanic full-time equivalent students, of which 50 percent are identified as low income (Pino & Ovando 2005; Brown, Santiago, & Lopez 2003; Benitez & DeAro 2004). There are over 300 HSIs located in sixteen states and the Commonwealth of Puerto Rico; 47 percent are 4-year degree granting universities and 53 percent are 2-year community colleges; 154 of these HSIs are located in Texas or California. Much of the

federal funding for these institutions comes from the Title V program, part of the reauthorization of the 1998 federal Higher Education Act. Title V is geared toward student services, curriculum development, and infrastructure enhancement (Benitez & DeAro 2004; Santiago 2012).

These institutions, other than those located in Puerto Rico, were not created to serve only Hispanic students but rather are often located in areas such as the Texas Mexican border region where the large Hispanic population had historically been overlooked and underfunded in regard to higher education (Brown, Santiago, & Lopez 2003). Among minority serving institutions HSIs have the most diverse student population that includes Hispanic Americans (42 percent), African Americans (10 percent), Asian Americans (9 percent), White Americans (30 percent), and other (8 percent) (Benitiez & DeAro 2004).

According to Santiago (2007) most HSIs have open admission policies, are affordable, and are located within the community where the students reside. The overall goal of these schools is to offer services and programs in a quality institution close to home, that is affordable, and provides students with the assistance they need to succeed. HSIs have been very successful in providing Hispanic students the opportunity to obtain college degrees due to their affordability and open admission policies. Open admission does not mean the programs of study are easy, but rather that students whose backgrounds may have put them at an educational disadvantage are given the chance to attend college. While these schools make up only 2 percent of all 4-year institutions they have awarded almost 40 percent of a bachelor degrees earned by Hispanics (Santiago 2007). In conclusion, the overall goal of these schools is to offer services and programs in

a quality institution close to home, which is affordable, and provides students with the assistance they need to succeed.

Funding Issues in Higher Education

Many Hispanic/Mexican American students in higher education come from low income families and lack the financial resources to attend college. Research findings have indicated that Hispanic/Mexican American students who had adequate financial support and did not have to work had higher levels of successful program completion (Pino & Ovando 2005; Taxis 2006; Dowell 1996; Villarruel, Canales, & Torres 2001; Amaro, Abriam-Yago, & Yoder 2006). With family income being the primary predictor of who will attend college and what college they will attend, the ability to afford college is an issue that affects Hispanic/Mexican Americans seeking a college degree (Couturier & Scurry 2005). To address this problem need-based financial aid programs were developed at the state and national level to provide qualified but financially needy students the opportunity to seek a higher education.

In the last decade, even as the cost of attending college has increased dramatically, funding for programs such as Pell grants, Perkins loans, and work study has remained flat (Bellack 2005). The National Center for Public Policy and Higher Education (2008) reported a decline in the affordability of higher education since the 1980s in all states, even after all sources of financial aid were taken into consideration. With the price of tuition and other fees rapidly outpacing family income the cost of a college education is rapidly becoming beyond the reach of many Americans. This decline in college affordability throughout the U.S. has contributed to the disparities in higher education. In 2005 Couturier and Scurry reported that economic barriers prevented half of the nation's

qualified low income students from attending four-year colleges. They reported that, even as tuition costs were rising and the financial burden on needy students was increasing, educational institutions were using financial assistance packages as a means of recruiting and assisting students with the highest GPA's and test scores.

The amount of financial aid a student receives is also greatly influenced by the selectivity of the university the student attends. Regardless of need, students attending schools with the most selective entry criteria receive the highest level of financial assistance. Selectivity is of special significance to the Mexican American student, as reported by Richard Fry (2004) for the Pew Hispanic Center, even for Hispanic students considered to be the "best prepared" for college 60 percent attended non-selective colleges and universities in comparison to 52 percent of the "best prepared" White students. Because most Mexican American students, including nursing students, attend community colleges and HSIs, where tuition is lower and open admission is common, they receive the least amount of any type and source of aid of all ethnic groups (Pew Hispanic Center 2004).

Another factor impacting the financing of higher education is "loan aversion", reluctance to apply for educational loans despite need. Cunningham and Santiago (2008) reported that Hispanic students were less likely to borrow than White or African American students even when they had substantial unmet financial need. In this report it was noted that Hispanic students were concerned about repayment if they did not finish school. Thirty six percent had to work full time in comparison to 29 percent of White students, and would rather "pay as they go". Students and their families specified a preference to attend less expensive community colleges close to home and enroll in the

number of courses they could afford and take course loads that allowed them to meet their family and personal responsibilities. As a result of inadequate financial support many Mexican American students attend school part-time and/or seek outside employment to help alleviate the cost of their education. This can be especially detrimental to students attending nursing school where part-time attendance and the ability to work part-time are challenged by the sequencing of classes, rigor of coursework and limitations on clinical rotations, due to faculty and clinical site availability.

Education and Faculty/Student Interaction

Faculty interaction, both formal and informal, is perceived by both the traditional and non-traditional student as the primary indicator of the university's commitment to student success in general education (Tinto 1975, 1993; Caison 2005; Zea, Reisen, Beil, & Caplan 1997; Lundquist, Spalding, & Landrum, 2002) and nursing education (Jeffreys 2004; Liegler 1997; Gardner 2005; Benda 1991; and Amaro et al 2006). Research has indicated that students perceive faculty interest and commitment to their success through actions such as returning messages promptly, showing interest and empathy during interactions, being respectful in and out of the classroom, freely offering assistance to students with poor grades, and taking time outside of class to speak to students who have difficulty participating in classroom discussions. In contrast faculty are perceived negatively when they display cold and disrespectful behavior, do not return messages, or belittle students in class. Lack of faculty interest and commitment is a negative predictor of student commitment and a positive predictor of student attrition (Tinto 1975, 1993; Liegler 1997; Gardner 2005; Benda 1991; Caison 2005; Amaro et al 2006; Lundquist et al 2002; and LeSure-Lester 2003). For all minorities attending nursing school the role of nursing faculty in promoting successful integration is of special significance. Research has often cited the lack of Hispanic faculty to serve as role models and provide understanding of cultural backgrounds as an important factor affecting Hispanic students' persistence (Taxis 2006; Doutrich, Wros, Valdez, and Ruiz

2005; Amaro et al 2006; Villarruel, Canales, & Torres 2001; Gardner 2005; Dowell 1996). With only 12 percent of nurses, 8.7 percent of faculty and 6.8 percent of nursing administrators being of minority background, Hispanic and other ethnic minority students lack role models across the spectrum of the profession (Wilson, Andrews, & Leners 2006).

Family Background: Student Outcomes

Family educational background/knowledge is reported as a powerful indicator of student success, with first generation college students being at a higher risk for dropout in both general education (Tinto 1993; Pascarella & Terenzini, 1980) and nursing education (Gardner 2005; Doutrich, et al 2005; Amaro et al 2006; and Villarruel, Canales, & Torres 2001). Minority students, including Hispanics, are often the first members of their families to attend college so there is no family "history" to guide their academic choices or expectations (Brown, Santiago, & Lopez 2003). This lack of background in higher education often makes it difficult for both students and their families to understand the often confusing application process as well as the time and effort required to be academically successful. This can be especially significant for Hispanics as according to NCES (2012a) only 16 percent of Hispanic children 6-18 years of age have parents with a bachelor's degree or higher.

In a review of literature concerning first generation college students Tym, McMillion, Barone, and Webster (2004) reported that these students, when compared to non-first generation students, were in general 1) less prepared academically 2) less knowledgeable of the application and financial aid process, 3) had difficulty adjusting, and 4) more at risk of non-degree completion. In a study by Ishitani (2006) first generation college students were found to be at higher risk of departure and took longer to attain a degree. In a comparison of determinates of first and second generation college student persistence

Lohfink and Paulsen (2005) reported that being a first generation Hispanic students of lower-socioeconomic background or female first generation student made persistence more difficult. In this study the variable of being the first generation in the family to attend college was explored in terms of predicting academic success. In a study of first generation college students, Terenzini, Springer, Yaeger, Pascarella, and Nora (1996) reported that in comparison to other students, first-generation students completed fewer hours, took fewer humanities and art courses, worked more hours, and made smaller gains in reading comprehension. It was reported by both Amaro et al (2006) and Villarruel, Canales, and Torres (2001) that even when families were supportive of educational goals there was little understanding of the time and study commitment required for success in college or university. Participants in the ethnographic study by Villarruel, Canales, and Torres et al (2001) reported that in relation to nursing education family members did not comprehend the importance of a baccalaureate degree over an associate degree, especially when the associate degree took less time and allowed them to begin working and financially assisting the family sooner.

When Hispanic students have a family member who has attended this can have a positive effect. In an investigation of Mexican American students attending a two-year college Hurtado-Ortiz and Gauvain (2007) found that both parents and older siblings influenced post-secondary educational experiences. In the study there was a positive correlation between the mothers' education level and the students' college attendance. The study also suggested that older siblings who attended college served as role models and advisors to their younger siblings. Zambrana, Dorrington, and Bell (1997) found that academic success and degree completion were related to how many generations the

Mexican American students' family had been in the United States. In the study it was reported that when the parents were from Mexico and the student was of the first generation pursuing a college degree there were lower educational expectations due to family lack of experience in higher education and lack of understanding.

Nursing Education

Preparation and Pathway to Entry

According to the National Advisory Council on Nurse Education and Practice (2010) for registered nurses there are four educational pathways for entry and preparation for initial licensure, the diploma in nursing, accelerated nursing programs, associate degree (ADN) and bachelor degree (BSN) programs. Diploma programs are hospital based, prepare nurses for direct patient care, and require two to three years to complete. ADN programs are most often associated with community colleges, take two to three years to complete, and prepare nurses for direct patient care; it is possible to bridge to a BSN from these programs. A BSN program is offered at four year colleges or universities and prepares the nurse to work in any setting. In addition a BSN degree is usually required prior to entering a master's level nursing programs. Accelerated programs are 12 to 21 month programs designed for students who already have a bachelor's degree in a field other than nursing. Since students have already completed many general education, and possibly some science courses, accelerated programs may shorten the length of time it requires to obtain a BSN. Successful completion of any of the four types of nursing programs entitles the graduate to take the national licensure exam (NCLEX-RN ©); licensure is state regulated but every state utilizes the same exam. In the U.S. 45.5 percent of nurses obtain initial educational preparation at the ADN (2-year community

college) level and 34.2 percent at the BSN (4-year college/university) level (HRSA 2010). The NLN (2012b) reported that retention and graduation rates for students enrolled in BSN programs are higher than those in ADN programs.

Nursing Education: Program Similarities and Differences

In a historical context when the ADN program was initially introduced the proposal was that all degree requirements, including pre-requisite and nursing coursework, would be completed in two years (Orsolini-Hain & Waters 2009). This evolved over time with more course work being added to ADN programs as the role of the nurse educated at the two year ADN level changed due the employment requirements. While all basic nursing programs require general education courses from accredited institutions that provide potential students with a foundation in communication, psychology and related sciences to support the nursing coursework (Texas Board of Nursing 2010) significant differences in educational preparation based on program type do exist. According to the AACN (2012) nurses prepared at the BSN level take course work that covers all information taught in diploma and ADN programs. Additionally the course of study for students enrolled in BSN programs includes an intensive background in the social sciences, humanities, management, community health nursing and research designed to prepare them for a broader scope of practice and the ability to meet the ever increasing demands of the nation's rapidly evolving health care system (IOM 2010).

Presently both ADN and BSN programs generally require students to have finished all pre-requisite course work prior to entry into nursing school. In most instances these pre-nursing courses must be completed with a specified GPA prior to acceptance into nursing programs. In addition many ADN and BSN programs use results of the same

nationally recognized nursing entrance exams to evaluate student readiness for nursing school (Newton, Smith, Moore, & Morris 2007; Murray, Merriman, & Adamson 2008). In Texas there is a similarity in length of time to complete either program type; the amount of time to receive an ADN ranges from 15-32 months with a mean of 21 months; BSN program length is 12-32 months with a mean of 22 months. It must be noted that the one 12 month BSN program is an accelerated pathway designed for students who already hold a Bachelor's degree or higher (Texas Center for Nursing Workforce Studies, 2011). Once accepted into any nursing program students are required to successfully complete basic nursing courses and master similar psychomotor nursing skills.

Theoretical Framework

For the purposes of this study the complex phenomenon of Mexican American nursing student success was explored using both educational theory and theory that examines student attributes and motivation. The educational theory used was Vincent Tinto's (1993) Student Integration Model (SIM). In this model student persistence and success is examined based on student background variables as well as the student's ability to integrate successfully into the academic and social fabric of the university. Bandura's (1986) Self Efficacy Theory was used to explore the effect of student self-beliefs and motivation on academic success. In addition, due to the significance of the family unit in the Mexican American culture the influence of perceived family social support was investigated.

Student Persistence: Academic and Social Integration

A variety of theoretical models have been proposed to explain factors associated with academic success in higher education. A widely researched and implemented educational

model is Vincent Tinto's (1975, 1993) Student Integration Model (SIM). The SIM model has been used extensively in research related to university academic persistence decisions, degree completion, and academic success in the fields of general education, nursing education, as well as to explain the persistence decisions of successful minority/ethnically diverse students. It has been used and validated (Pascarella & Terenzini 1980; Milem & Berger 1997; and Caison 2005) as a theoretical framework to explore and describe academic persistence and success in degree completion in the general university population. The SIM model has also been utilized in research related to ethnic minority student university persistence decisions and success by Zea, Reisen, Beil, and Caplan 1997 and Gardner 2005. In nursing education Tinto's model has been used as a framework to examine student integration and academic success in research by Jeffreys (2004), Benda (1991), Gardner (2005) and Liegler (1997).

As described and operationalized by Pascarella and Terenzini (1980) Tinto's model theorizes that two composite variables explain academic success. The first composite variable has two elements: student background characteristics and motivation and commitment. Student background characteristics include high school grade point average (GPA), age, gender, race/ethnicity and family educational background. The second component is the motivation and commitment to get a college degree; according to Tinto (1993) academic success is not possible unless the student has the motivation and intention of getting a college degree. The combined elements of high goal commitment and academic ability have a synergistic effect on a student's persistence decisions in terms of degree completion. In addition Tinto (1993) reported that students with high commitment and low to moderate ability are likely to persist while students with high

ability and moderate to low commitment will transfer to another college or drop out. The effect and importance of commitment to the goal of getting a college education has been supported in previous research (Milem & Berger 1997; Caberera, Nora, & Castaneda 1993, Pascarella & Terenzini 1980; and Caison 2005).

The second composite variable is institutional commitment, which has both academic and social components, and is indicative of the student's commitment to the university itself and the perception by the student that the university is committed to the student's success. For students to truly develop an institutional commitment they must become integrated into the academic and social fabric of the college/university. Integration in this context refers to the degree to which students identify with their academic institution. According to Tinto's (1987, 1993) theory there are two categories of integration, academic and social, that affect student commitment and persistence decisions. Both types of integration are dependent upon the student's ability to form relationships with university faculty, staff, and their student peers. Academic integration refers to the level of satisfaction the student has with the academic environment; which includes formal and informal academic interactions with faculty, staff, and peers, quality and availability of academic resources, institutional policies, and how well the course of study meets the student's perceived needs (Tinto 1987, 1988, 1993; Kraemer 1997, Nora, 1993).   Social integration consists of the informal interactions students have with faculty, institutional personnel and student peers that is social in context; it also includes involvement in extracurricular activities such as sports and university/student organizations (Kraemer 1997; Tinto 1987, 1993; Nora 1993). Tinto (2005) has cited five conditions, that if present in the academic setting, promote integration, persistence decisions and academic

success; 1) having high student expectations, 2) providing the student with clear explanations of institutional requirements/expectations, 3) providing sources of academic, social and personal support, 4) making the student feel valued, and 5) providing the student with active learning experiences. In conclusion according to Tinto (1993) when a student becomes integrated into university life, both socially and academically, the potential for educational success greatly increases.

While there are other theoretical models that have been used to explain college student persistence and academic success Tinto's model was utilized to guide this investigation. There were several reasons for this selection including that it has been widely examined, utilized and supported in educational research (Tinto 1993; Pascarella & Ternzini 1980; Peltier, Laden, & Matranga 1999; Liegler 1997; Milem & Berger 1997; Zea, Reisen, Beil, & Caplan 1997; Villarruel, Canales, & Torres 2001) to explain student commitment, persistence, and academic success. The model has also been used in nursing education to guide the examination of student persistence decisions, satisfaction, and academic success. In addition the model takes into consideration student background characteristics and outlines how academic and social integration influence student commitment and academic success.

Other examples of research using Tinto's (1975) model include a study of student satisfaction in baccalaureate nursing programs by Liegler (1997). In this study it was reported that student integration into the academic and social systems of nursing programs accounted for 42 percent of the variance in predicting program satisfaction. Using this model as a theoretical guide Courage and Goodbey (1992) found that nursing students who reported high levels of social and academic integration were more

academically successful. In a study by Barnett (2011), examining the extent faculty

validation predicted community college student integration and persistence decisions, it

was reported that faculty validation influenced student academic integration and

subsequently the intent to persist. In a study of 804 mid-western college students

Woosley and Shepler (2011) sought to determine if the variables identified by Tinto

adequately described first generation student integration and which variables were most

predictive of social and academic integration. Reported results indicated level of campus

involvement and environment were important variables in explaining social integration

and commitment, campus environment and basic academic behaviors were found to be

important to academic integration. In a study of first year students enrolled in a

northeastern university, ethnic minority (n=139) and White (n=507), Zea, Reisen, Beil,

and Caplan (1997) reported that academic and social integration were of equal

importance in the retention of minority students. Thomas (2000) used Tinto's student

integration model to explore first time freshman persistence. Results of the study found

that institutional commitment, academic and social integration had a direct bearing on

persistence. Research conducted by Pascarella and Ternzini (1980) supported the

predictive validity of major dimensions of Tinto's model of student persistence. In a

study of Australian business students' (n=241) departure intentions, using variables

reflective of Tinto's model, Jackling and Natoli (2011) reported that institutional efforts

to engage students helped minimize departure.

Self-Efficacy Theory

Although many barriers face Mexican American students and negatively impact

their educational attainment, other factors have the potential to positively impact their

academic achievement. Learning and motivation to learn are directly influenced by self-efficacy beliefs, according to Albert Bandura (1986, 1995). Self efficacy is the individual's self-judgment that one has the ability to initiate, successfully perform, and persevere at a task even in the face of adversity in order to reach a pre-determined goal (1986). Self efficacy as defined by Bandura is "People's judgments of their capabilities to organize and execute a course of action required to attain designated types of performances" (1986, p. 391). Self-efficacy is grounded in Bandura's (1986, 1995) social cognitive theory that postulates that human achievement is dependent on an individual's behaviors, personal factors and environment. Since humans have the unique ability to exercise control over their own thought processes, motivation and actions, they are capable of changing themselves and their circumstances through their own effort (Bandura 1989). Bandura (1986) hypothesized that specific behaviors take place when individuals believe these behaviors will produce a desired outcome (Bandura 1986). According to Bandura (1977, 1986, and 1995) in addition to affecting performance, self efficacy beliefs also help govern individual motivation and persistence decisions. Self-efficacy in terms of influencing behavior and achievement depend on the individual's actual ability to perform the required task, the expectation that the outcome will be positive and the outcome is valued by the individual (Schunk 1989). In relation to control of learning and mastering difficult subject matter it has been reported that school children and their parents' self-efficacy beliefs impacted the students' motivation, interest and academic accomplishments (Bandura, Barbaranelli, Caprara, & Pastorelli 1996).

As described in a study by Goldberg, Iwasiw, and MacMaster (1997) self efficacy is based on two types of expectations: 1) "outcome expectation, belief that a given

behavior will lead to a given outcome for the individual" (p.305) , and 2) "efficacy expectation, belief that one can successfully perform the behavior necessary to achieve an expected outcome" (p. 305). Efficacy beliefs, according to Bandura (1995) develop through four forms of influence: 1) enactive or mastery experiences, 2) vicarious experiences, 3) social persuasion, and 4) physiological and emotional states.

Sources of Self-Efficacy

Enactive Attainment

The most powerful influence on developing efficacy beliefs is enactive attainment or actually performing a behavior and displaying mastery (Bandura 1986; Bandura 1993; Bandura 1995). An individual who succeeds in a task receives positive reinforcement of the ability to succeed and with repeated success efficacy beliefs strengthen. While repeated failures lower efficacy beliefs it is also important that over time tasks become more difficult and require more effort. Occasional failures that require problem-solving and persistence to overcome barriers will strengthen efficacy beliefs. If success is always easy then when difficult tasks are confronted the individual will become frustrated and discouraged.

Vicarious Experiences

Observing social models display ability and success in reaching goals is another method of developing self-efficacy beliefs. When a social model similar to the observer has the capability and persistence to be successful in an activity the observer's self-efficacy beliefs are reinforced. However, if the model is unsuccessful the experience can negatively influence the observer's self-efficacy beliefs (Schunk 1991). For vicarious

experiences to be most meaningful the observer must perceive shared similarities with the social model (Bandura 1995).

Social Persuasion

Social persuasion refers to verbal communication that is used to direct self-efficacy beliefs. When individuals are persuaded that they have the ability to be successful in performing a task they will try harder to succeed. It is important that verbal persuasion be realistic because if the task is beyond the means of the individual then the failure to achieve the goal will undermine self-efficacy beliefs. When using verbal persuasion with very difficult tasks it may be best initially to focus on increments of improvement rather than overall success (Bandura 1986; Bandura 1995).

Physiological and Emotional States

Individuals also determine how capable they are of fulfilling a task or reaching a goal based on their interpretation of their physiological and emotional states. Perceived presence or higher levels of stress, tension, fatigue, pain, and mood disturbance can affect performance. Thus efficacy beliefs can be fostered by boosting physical well-being, lowering stress and promoting positive emotions and mood (Bandura 1986; Bandura 1995).

Self-Efficacy: Regulation of Functioning

Self-efficacy beliefs impact an individual's level of skill performance and goal achievement. Four main processes have been identified by Bandura (1995) as providing the regulation of behavior and beliefs necessary to be successful. These processes are: cognitive, motivational, affective and selection.

Cognitive Processes

Self-efficacy beliefs impact cognitive processes in a variety of ways. Most human behavior is related to goal attainment which requires adequate forethought and planning. The type of behavior an individual exhibits is greatly influenced by goals and the individual's self-perception of the ability successfully to overcome obstacles to achieve established goals. Individuals with high self-efficacy beliefs are able to visualize different scenarios and mentally rehearse problem solving thinking that will result in success. There is a difference between having the knowledge and skill to perform a task and actually being able to do so during adverse situations. When faced with difficult situations people with high self-efficacy view them as a challenge and mobilize their thoughts and cognitive abilities to deal with the situation while those with low self-efficacy become distracted and are unable to employ the critical thinking necessary for success (Bandura, 1993; Bandura, 1995).

Motivational Processes

According to Bandura (1993; 1995) self-efficacy beliefs are an important component in the self-regulation of motivation. Motivation is cognitively generated by the exercise of forethought, personal beliefs about ability, and anticipation of outcomes based on actions the individual is capable of making. Those with high levels of efficacy beliefs attribute failure to lack of effort or unfavorable circumstances while those with low levels of efficacy beliefs attribute failure to lack of ability. Self-efficacy beliefs also affect outcome expectations. A factor influencing motivation is the belief that the performance of a task will have a certain outcome. Thus those who have the self-efficacy belief that they can perform the tasks necessary to meet a specific goal are more

motivated. Challenging goals have also been shown to boost motivation (Locke & Latham 1990). Efficacy beliefs contribute to motivation by determining the goals that people set, the amount of effort they expend, length of time they will persist and how they will bounce back from failure. Individuals who perceive they have the necessary ability will exert more effort and continue to persevere even in the face of failure (Bandura 1993; 1995).

Affective Processes

The ability to cope with difficult situations affects the amount of stress and depression an individual displays. Self-efficacy beliefs affect the ability to cope and persevere during stressful situations in a variety of ways. Bandura (1993) refers to this as "the emotional mediator of self-efficacy belief" (p.132). By strengthening coping behaviors positive efficacy beliefs are helpful in managing stressful situations. Efficacy beliefs affect how a threatening situation is cognitively perceived. Individuals who believe they are unable to manage or cope with a certain situation will perceive it as fraught with danger causing anxiety levels to rise and the ability to cope to decrease. Individuals who see a potentially stressful situation as a challenge rather than a threat and believe they have the ability to deal with it can cognitively defuse the situation. Another way efficacy beliefs can keep anxiety in check is by controlling conscious thoughts. Individuals who exhibit coping self efficacy and thought control self efficacy do not dwell on disturbing thoughts and are better able to manage anxiety and prevent depression. Finally efficacy beliefs can control anxiety by supporting behavior that changes a frightening situation into a safe one. Individuals with high levels of efficacy beliefs are able to shape the situation into one in which they are more comfortable. Low

self-efficacy beliefs over the ability to control a situation, environmental or social, can lead to depression and anxiety. Depression is especially prevalent when individuals have either a lack of social support or self-imposed feelings of inability to achieve. Thus it is important that individuals have adequate social efficacy and are able to develop supportive relationships as a method of reducing the effects of stressful life situations. Socially supportive relationships supply a buffer to depression and supporters can enhance personal efficacy by being a role models of how to deal with difficult situations (Bandura 1995).

Selective Processes

Beliefs related to personal efficacy have the ability to shape an individual's life by influencing the types of activities and environments they choose. Through selection of environment individuals purposely steer clear of those environments they think will exceed their coping abilities (Bandura 1995). According to Bandura (1995) "By the choices they make, people cultivate different competencies, interests, and social networks that determine their life courses" (p.10). Since social influences, culture, and values are influenced by environment personal development is greatly affected by an individual's choice of environment.

Academic Self Efficacy

Self-efficacy beliefs are domain and task specific according to Bandura (1986). This means that self-efficacy beliefs are "multidimensional" based on an individual's judgment of their capability to perform a particular task rather than on their general perceived physical or psychological characteristics (Zimmerman 2000). Thus self-efficacy beliefs differ based on the domain and tasks being confronted. Schnuck (1991)

defined academic self-efficacy as an individual's confidence and motivation in their ability to learn and successfully perform academic specific tasks at a designated level. According to Bandura (1995 & 1997) the level of self-efficacy a student possesses affects their academic goals, level of persistence, accomplishments and career preparation.

To measure academic self-efficacy adequately it is import that the beliefs being assessed are at the level of specificity that corresponds to the specific task being assessed and in the domain of functioning being analyzed. If only "generalized academic self-efficacy" is measured then only an individual's general level of confidence that they can succeed scholastically will be assessed (Pajares 1996). Therefore when assessing academic self-efficacy beliefs the measurement instruments that ask domain specific questions such as confidence in learning to read or write or pass an exam is more predictive of academic achievement than a general question such as will they be successful in learning (Pajares, 1996; Zimmerman 1995; Lane, 2001). At the university level academic self-efficacy is related to issues such as writing papers, time management, taking notes in class, and understanding textbooks (Solberg et al 1993).

According to Bandura (1995) a student's self-efficacy beliefs contribute to academic development in three principle ways. These include 1) students' belief in their efficacy to regulate learning and master academic subjects, 2) teachers' beliefs in their personal efficacy to motivate and promote learning, and 3) the collective sense faculties have that their schools can accomplish academic progress. Teacher self-efficacy is based on the teacher's instructional efficacy. Those that have a strong sense of instructional efficacy provide instruction that creates mastery experiences for their students. Teachers with low instructional self-efficacy create a negative learning environment and weaken

their students' cognitive and educational development (Bandura 1995). According to Bandura (1995) since teachers do not function in isolation but are part of an interrelated educational institution they are impacted by the self-beliefs of the rest of the faculty. When faculty members consider themselves unable to motivate students and effectively teach, a school-wide sense of academic ineffectiveness develops. In contrast schools with a faculty who believe they can motivate and teach students have a positive atmosphere for academic achievement (Bandura 1995).

Research Findings: Academic Self-Efficacy

The results of a meta-analysis of 39 studies by Multon, Brown, and Lent (1991) revealed positive and statistically significant relationships between self-efficacy beliefs and academic performance and persistence outcomes. In a study of 76 post-graduate students Lane (2001) reported that self-efficacy toward intellectual ability predicted subsequent academic performance. Peterson and delMas (2002) reported in a study of under prepared college students that students with career decision making self-efficacy, who believed that college would provide employment and career opportunities, were more likely to persist in college. A positive relationship between grades and math self-efficacy was found by Finney and Schraw (2003) in a study of college students in a statistics course. In a study by Lent, Brown, and Larkin (1984) of college students pursuing science and engineering majors students with high self-efficacy for educational requirements got higher grades and persisted longer over the next year than those with lower levels of self-efficacy. Gore (2006) reported in two incremental validity studies of self-efficacy beliefs that academic self-efficacy beliefs predicted college outcomes but the relationship depended on when efficacy beliefs were measured, the type of efficacy

beliefs measured and the nature of the criteria used for measurement. In this study self-efficacy beliefs were much more predictive at the end of the first semester of the freshman year than at the beginning of the semester. In this study Gore hypothesized that students at the end of the semester have more experience in the college setting and therefore have more confidence in their ability to perform successfully in college. Self-efficacy as an accurate predictor of academic success only after experience in college was also supported by Kahn and Nauta (2001). Chemers, Hu, and Garcia (2001) reported that academic self-efficacy was strongly related to first year university students' performance and adjustment both directly and indirectly. A link between college course work efficacy and grade point average was reported by Elias and Loomis (2000). In a study of Hispanic university students Torres and Solberg (2001) reported that self-beliefs were directly associated with stronger persistence intentions. In an investigation of self-efficacy as a predictor of student exam performance Vrugt, Langereis, and Hoogstraten (1997) reported that academic self-efficacy and personal goals contributed to exam performance of 438 psychology freshmen. In a study to examine the predictive effectiveness of self-efficacy in the success of postgraduate university students Lane (2001) reported that even when the time gap between self-efficacy and academic performance was extended and the task complexity was high, self-efficacy of intellectual abilities was predictive of academic performance. In a comparison of traditional and non-traditional aged college students Spitzer (2000) found that in both groups academic self-efficacy was a positive predictor of GPA. Research by Lane, Lane, and Kyprianou (2004) on post-graduate management students (n=205) supported the relationship and predictive effectiveness of self-efficacy in explaining academic behaviors and actions.

In nursing research Harvey and McMurray (1994) reported that low levels of academic self-efficacy were predictive of nursing course withdrawal. Chacko and Huba (1991) reported that self-efficacy was related to academic achievement in an introductory nursing course. Andrew (1998) reported that science self-efficacy was predictive of first year nursing students' science course grades. A study by Madorin and Iwasiw (1999) reported a relationship between self-efficacy, academic performance and retention of nursing students. Students in a community nursing course reported higher levels of self-efficacy beliefs after mastering practice skills supporting the importance of enactive attainment (Ford-Gilboe, Laschinger, Laforet-Fliesser, Ward-Griffin, & Foran 1997). Further supporting the importance of enactive attainment on self-efficacy Goldberg, Iwasiw, and MacMaster (1997) reported that after nursing students completed a 12 week preceptorship their overall self-efficacy increased significantly.

Research in higher education related to Hispanic and other minority students also reported links between self-efficacy beliefs and academic success. Zajacova, Lynch, and Espenshade (2005) found that academic self-efficacy had a strong positive effect on non-traditional, largely immigrant and minority college freshman grades. Torres and Solberg (2001) reported that in a cohort of Latino college students their reported level of self-efficacy directly predicted social integration, persistence intentions and stress. In an investigation of stress and physical and psychological distress among 164 Mexican American college students Solberg and Villarreal (1997) found that self-efficacy had a positive impact on lowering distress ratings.

Social Support

Social support is a concept that has been widely studied and written about. When it was initially examined it was simply described as an interaction, person or relationship (Veiel & Baumann 1992). As research concerning social support increased its characteristics have become more abstract and complex. In an analysis of social support theory by Hupcey (1998) it was reported that many definitions and conceptualizations had developed since its original conceptualization in the 1970's. All definitions of social support imply that there is a provider and recipient and between the two a positive interaction or helpful behavior takes place that affects the coping, health and psychological well-being of the recipient (Rook & Dooley 1985; Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim 2005). Cobb (1976) defined social support "as the information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations" (p. 300). Supportive behaviors from others serve the purpose of enhancing an individual's functioning and/or buffering him or her from adverse situations (Malecki & Demaray 2002; Cohen & Wills 1985). Other common assumptions related to social support are that a) it refers to an interpersonal relationship b) the interactions provide emotional support or help with a problem c) support is provided by someone well known to the individual and d) it is a process that is both given and received by someone in need (Norbeck & Tilden 1988).

According to Cobb (1976) social support begins "in utero" and is communicated to the infant by the way it is held and cared for. As an infant grows and matures support from the family continues while at the same time further support is derived from friends, colleagues and the community at large and a network of social support develops. As the

individual matures there will be events in life that require coping and change that can be very stressful. The availability of social support moderates the effects of these changes and helps the individual cope with situations in life that can be perceived as stressful. Social support can also be affected by the factors that influence the provision and acceptance of support (Hupcey 1998). This means before support can be given and accepted both the provider and recipient must recognize that support is needed. In addition if support is necessary the recipient must be able to let the provider know the type of support needed. The reason support is being provided is another factor related to provision of support and acceptance of support. There are many reasons a person provides support; it may be for purely altruistic reasons, because of feelings of obligation or for the selfish reason of making the recipient feel in debt to the provider. Perception of support availability and delivery are complex factors to measure due to subjectivity and difficulty in determining what influenced the recipient's perceptions. Characteristics of the recipient, such as age, gender, perceived need, or ability to request support, also influence the provision of social support. Provider characteristics affect the amount of support that will be requested and offered. The providers' appraisal of the support situation in terms of level and intensity of personal or fiscal support needed affects the amount of support given (Hupcey 1998).

Based on a review of literature Barrera (1986) proposed that social support could be organized into three broad categories a) social embeddedness, b) perceived social support and c) enacted support. Social embeddedness can be described as the quantity and quality of available support systems or networks that individuals have access to in their social environment (Lopez, Ehly, & Garcia-Vasquez 2002). Perceived social

support is the appraisal or perception by the provider and recipient of support that a supportive relationship exists and that appropriate support has been provided (Lopez, Ehly, & Garcia-Vasquez 2002). Enacted support is the actual supportive behavior or actions taken by members of the social network to assist a person in need of support (Lopez, Ehly and Garcia-Vazquez 2002). Hupcey (1998) expanded the categorization of social support and grouped social support into five categories rather than three. The first category of support is based on the type of support provided, the second is based on the recipients' perception of the provided support, the third relates to the intentions or behaviors of the provider, fourth is reciprocal support or when there is a mutual exchange of support/resources between the provider and receiver and the fifth category consists of social networks which implies that support was accessed through ties to other individuals, groups or organizations.

It has been hypothesized that social support can have either a "direct" or "main" effect on an individual's ability to cope with stressful situations or have a "buffering" effect that protects the person from harmful effects of stress (Zimet, Dahlem, Zimet, & Farley 1988) . In a review of literature by Cohen and Wills (1985) it was reported that there was evidence to support aspects of both conceptualizations of social support. The buffering model was reported to be measurable and beneficial in relation to the responsiveness of interpersonal resources in times of stress. The main effect model was reported to be related to the individual's integration into a community social network and the feelings of stability, predictability and self worth associated with being well integrated. While this model was beneficial to general feelings of well being it did not prove helpful in the face of stressful situations.

Social Support and the Mexican American Family

      To understand fully issues predictive of Hispanic/ Mexican American students'

higher education persistence decisions it is important to become familiar with the

significant role and impact family relationships and expectations have on the student. The

family plays a key role in the Mexican American culture and is the primary source of

social support. Many times children live at home until marriage and even after marrying

will live very near their relatives (Galanti 2003). An important concept, often considered

the defining characteristic of the Mexican origin family, is "Familismo or Familism".

Familism is the loyalty, reciprocity and solidarity within the immediate family that makes

the extended family interdependent on each other for all sources of support and

prioritizes the needs of the family over those of the individual (Galanti 2003; Niska 1999;

Halgunseth, Ispa, & Rudy 2006; Schwartz 2007; Zinn & Pok 2001). It is a

multidimensional construct and there have been a variety of theories proposed to explain

its components. Valenzuela and Dornbusch (1994) theorized that familism had structural,

behavioral, and attitudinal dimensions. The structural dimension was related to presence

or absence of nuclear and extended family members and the availability of family

members in terms of geographic proximity (Zinn 1982). It can be measured by how close

family members live to each other, whether they live together or within walking/driving

distance, and how long it takes to get to their place of residence (Lugo-Steidel &

Contreras 2003). The behavioral dimension refers to the behaviors associated with how

the family interacts with each other; the type of mutual emotional and material assistance

family members provide to each other (Zinn 1982). The attitudinal dimension, according

to Valenzuela and Dornbursch (1994) is the individual's identification, feelings and

attachment toward the family unit. According to Lugo-Steidel and Contreras (2003) attitudinal familism pertains to issues of family name and honor, respect for family elders, family interdependence, and family needs being more important than those of the individual.

According to Zinn & Pok (2001) familism and the associated extended family networks serve a variety of purposes in the Mexican American family including the sharing and finding of resources in times of need, provision of a system of cultural, emotional and mental support, and a buffer against upheavals in life. These family networks are actively maintained through second and third generations by means of frequent visiting, special event celebrations, and the exchange of goods and services. Research has supported the importance of familism as a source of social support for the Hispanic family in times of need. In a study of 666 Mexican Americans in Southern California Keefe, Padilla, and Carlos (1979) found that Mexican Americans rely on relatives for emotional support in times of stress when dealing with both familial and non-familial problems. While this strategy proved beneficial when family members were in close proximity it was a problem for those who did not live near their families because in times of stress they were not likely to seek out other sources of support. Niska (1999) found in an ethnographic study of 23 Mexican American families that the primary source of nurturing, material support, emotional support, informational support, and socialization was the family unit. Familism and close family relationships in the form of parents and children spending time together in positive activities resulted in the children being less likely to use risky behaviors as a coping mechanism as they got older (Romero & Ruiz 2007). In a review of ongoing and completed drug abuse studies De la Rosa and

White (2001) reported that family and social support systems were important in preventing drug abuse among Hispanics. In a sample of Hispanics serving as care givers for their elderly relatives suffering from dementia Losada et al (2006) reported that increased familism and family support were significantly correlated with decreased care giver burden. In an examination of the relationship of familism and psychological adjustment of 248 adults of Mexican origin it was found that psychological well- being was positively associated with cultural identity and higher family support and psychological distress was associated with family conflict and lower family support (Rodriguez, Bingham-Mira, Paez, & Myers 2007).

Family Social Support and Educational Attainment

In the area of academics a body of research has found a relationship between social support and college student ability to cope, persist, and be successful. Family emotional support and encouragement has frequently been mentioned in research as influencing Mexican American student achievement and persistence decisions (DeBernard, Spielman, & Julka 2004; Rudel 2006; Tinto 1993; Pino & Ovando 2005; Torres & Solberg 2001). In a study of first year Mexican American college students Pino and Ovando (2005) reported that parental support, expectations, and availability were very important to retention and academic success. Students reported that being emotionally supported, wanting to please their parents, and going to a school where they could continue living at home had a positive impact on academic motivation, retention and academic achievement. Solberg and Villarreal (1997) reported that Hispanic students (n=164 Mexican/Central Americans) who perceived family social support was available had lower levels of distress. Hernandez (2000) reported that ensuring availability of

adequate family support and encouragement was one of the best predictors of Latino

college retention. Low level of social support was reported to be the strongest predictor

of academic non-persistence decisions in a study of 99 second generation Mexican

heritage undergraduates by Gloria, Castellanos, Lopez and Rosales (2005). For Latino

middle and high school students DeGarmo and Martinez (2006) reported that parental

social support was associated with higher levels of perceived academic well being. In a

longitudinal study examining the effects of formal and informal parent support LeFevre

and Shaw (2011) reported that both types of support were significant predictors of Latino

student academic achievement. Plunkett and Bamaca-Gomez (2003), in a study of 237

adolescent students whose parents were born in Mexico, reported a positive relationship

between mothers' and fathers' help, monitoring, and support and academic achievement.

Schneider and Ward (2003) reported perceived social support from family, institutions,

faculty and peers significantly predicted overall, social, and institutional adjustment for a

group of 35 Latino freshman and sophomore college students attending a northeastern

liberal arts college. Castillo and Hill (2004), in a study of 247 female college students of

Mexican American heritage referred to in the study as Chicanas, reported that higher

levels of social support were related to lower levels of college distress.

In a review of literature the presence and level of family support and

encouragement has been shown to be instrumental in Hispanic/ Mexican American

nursing student decisions to attend college and the perseverance to succeed once there

(Villarruel, Canales, & Torres 2001; Doutrich, Wros, Valdez, and Ruiz 2005; Taxis

2006). In a study by Taxis (2006) it was reported that maintaining strong family social

support and adequate financial support were the strongest factors influencing Mexican

American nursing student persistence toward degree completion and graduation.

Cutrona, Cole, Colangelo, Assouline, and Russel (1994) reported that parental social support was predictive of college GPA. Family social support was reported by Schneider and Ward (2003) to be predictive of Latino students' emotional and academic adjustment to college.

While it has been reported that a close family relationship and living at home offers Mexican American nursing students needed support and the motivation to succeed, at other times research findings have indicated family expectations and responsibilities; the belief that family should take precedence over education can interfere with college aspirations and success (Villarruel, Canales, & Torres 2001; Arbona & Nora 2007; Doutrich et al 2005). The need to stay close to home often leads Mexican American students to attend local community colleges rather than four year institutions and many students never articulate to universities (Hoachlander et al 2003). Research findings indicated that the attitude that family needs take precedence over individual needs meant that many Mexican American/Hispanic nursing students, especially females, had high levels of family commitments that potentially interfered with school (Gardner 2005; Villarruel, Canales, & Torres 2001; Doutrich et al 2005). When Hispanic students live at home while attending college it has been reported that there is often an expectation that immediately after class they should return home to assist with family commitments rather than spend time in the library studying or attending activities such as tutoring. In addition when students live with their families they may be asked to miss a class or delay an assignment if it interferes with a perceived family need (Villarruel, Canales, & Torres 2001). As one Hispanic student stated in a qualitative study by Doutrich et al (2005) "I

thought it would be easier for me if I went away from my family. Not that they weren't supportive, but you know there were just a lot of obligations in the family that I felt bad about not being able to be involved with" (p 165).

Expected gender roles for both male and female students have been reported to interfere with the ability meet the academic demands necessary to be successful in college (Hoachlander et al 2003; Arbona & Nora 2007; Villarreal, Canales, & Torres 2001; Dourtirch et al 2005). Women may face gender role conflicts in terms of the lack of value the family places on higher education for females (Rodriguez, Guido-DiBrito, Torres & Talbot 2000; Bond et al 2008). Hispanic females are often expected to live close to home and stay in close contact with the family physically and socially even when attending school; often being made to feel guilty for getting an education if it interferes with the perceived needs of the family (Rodriguez et al 2000; Amaro, Abriam-Yago, & Yoder 2006). This may result in women feeling a sense of obligation to assist in the performance of household tasks, care for children, and assist members of the extended family in times of need rather than adequately prepare for class (Villarruel, Canales, & Torres 2001). For male Mexican American/Hispanic nursing students the role of "family protector" and the need to provide for the family financially has been reported to have an adverse effect on academic decisions (Villarruel, Canales, & Torres 2001; Saenz & Ponjuan 2009; Pew Hispanic Center 2009). While education for males may be viewed as preparation for the role of "bread winner" the family need for financial assistance may result in the male student working part-time while going to school, taking fewer hours a semester, or attending vocational type programs that will facilitate more rapid entry into the workplace (Villarruel, Canales, & Torres 2001). In nursing education "gender bias"

may influence a Hispanic male's choice of nursing as a career; as family and friends may hold the view that nursing is a "female" profession (Bond et al 2008).

Friends and Significant Other Social Support and Educational Attainment

While the perception of family social support is important research has indicated that support received from significant other such as friends, student peer, and/or faculty plays a vital role in Hispanic college student success. In an investigation by Hurtado, Carter, and Spuler (1996) Hispanic college students reported that in their freshman year support from student peers was the most significant source of support. In a study comparing the contribution of perceived family and friend support as a moderator of stress on student (n:=28 Mexican American n=110 Central American) psychological adjustment it was reported that while both were important peer support made a greater contribution to student well being (Rodriguez, Mira, Myers, Morris, & Cardoza 2003). Lack of peer support has also been implicated as a predictor of lower levels of academic success. Dennis, Phinney, and Chuateco (2005) reported that in a study of minority college students (n=84 Mexican or Central Americans; n=16 Asians) a perceived lack of peer support was a negative predictor of college adjustment and GPA. In a study of Latina/o students, Anaya and Cole (2001) reported a positive relationship between GPA and increased frequency and quality of academic and personal interactions between students and faculty. In a qualitative study of 12 successful Hispanic college students 30 percent of the students reported being positively influenced by support from their teachers and other school personnel (Zalaquett 2005). In an investigation on the impact of faculty support through mentoring Santos and Reigadas (2002) reported that Latino/a students' (n=32) personal and social adjustment to college was positively related to

faculty mentoring. In a study to determine the role of social capital in educational decision making by Hispanic students Cejda, Casparis, Rhodes, and Seal-Nyman (2008) reported that the individuals having the most influence on educational decisions varied and included family members, faculty, peers, and role models.

Chapter Summary

The purpose of this study was to explore factors predictive of Mexican American student academic success in nursing school. In this chapter a review of literature relevant to variables impacting academic success of Mexican American nursing students was presented. These variables included the five contextual and personal student attributes of type of nursing program attended, semester of enrollment, gender, family generation attending college, and student living arrangements. In addition the conceptual frameworks of student integration, college self-efficacy beliefs, and social support were reviewed.

In terms of post-secondary educational achievement research indicated that in the U.S. Hispanics in comparison to their White counterparts were less prepared in high school for the rigors of college (Pew Hispanic Center 2005; Taxis 2002; Villarruel, Canales, & Torres 2001; Tinto 1993), had lower rates of degree completion (Pino & Ovando 2005; Pidcock, Fischer & Munsch 2001; Fry 2004), and were more likely to begin post-secondary education at community colleges (Arbona & Nora 2007). While it was noted that many Hispanic students begin college at two-year institutions with the aim of transferring to a bachelor degree granting institution at a later date (Santiago & Brown 2004; Fry 2004) research has shown that degree completion is higher for those entering four year universities immediately after high school graduation (Arbona & Nora 2007;

Fry 2002). From the perspective of nursing education according to the NLN (2012) approximately six percent of students enrolled in either BSN or ADN programs are Hispanic; however students that attend BSN programs have higher rates of program retention and graduation (NLN 2006). Loftin et al (2012) reported that ethnic and minority students attending ADN nursing programs had lower levels of degree completion.

Another factor that was found to be important to Hispanics in higher education were colleges and universities designated as HSIs. While only ten percent of the nation's two and four year colleges and universities are categorized as HSIs these institutions account for over 40 percent of all bachelor degrees received by Hispanics in the U.S. (Santiago 2007).

Family background/familiarity with higher education has been found to influence student success. If an individual is a first generation college student, defined as a student whose parents did not attend college (Ting 2003; Nora & Crisp 2009), they and their family have less familiarity with the often complicated processes associated with admission and financial assistance. In addition once accepted into college the student and their family may not understand the time commitment and demands of college level coursework. These students have been reported to be at higher risk of attrition than other students (Tinto 1993; Pascarella & Terenzini, 1980; Ting 2003; Tym, McMillion, Barone, & Webster 2004; Ishitani 2006; Terenzini et al 1996). This finding has special significance for the Hispanic student as many are the first members of their family to attend college (Brown, Santiago, & Lopez 2003; NCES 2012a).

Family/student interactions have been reported to have both a positive and negative influence on academic success according to the literature. Previous research has indicated that the primary source of social support in the Mexican American population derives from immediate and extended family members (Zinn & Pok 2001; Keefe, Padilla, & Carlos 1979; Niska 1999; Rodriquez et al 2007). While this source of support has been shown to be beneficial in buffering and providing comfort in times of stress (DeGarmo & Martinez 2006; LeFevre & Shaw 2011; Schneider & Ward 2003) there were drawbacks. Family expectations such as living at home until married (Galanti 2003), choosing a college based on location to family (Hoachlander et al 2003), and that the needs and obligations to family outweighed the educational commitments of the individual (Villarruel, Canales, & Torres 2001; Arbona & Nora 2007; Dourtrich et al 2005) all had the potential of adversely affecting Mexican American student academic achievement. In addition differences in family expectations based on gender were shown to have an impact on both female and male Mexican American students' actions, goals, and outcomes (Hoachlander et al 2003; Arbona & Nora 2007; Villarreal, Canales, & Torres 2001; Dourtirch et al 2005; Rodriguez et al; Bond et al 2008).

The theoretical models and variables used to guide this study were student integration, self-efficacy, and social support. Student integration is based on Tinto's (1975, 1983) theory which was developed to examine issues related to student persistence and attrition. Two of the constructs included in this theory are academic and social integration. Tinto hypothesized that student attrition is associated with how congruent the students' academic and social goals, abilities, and values are with those of the educational institution. Based on Tinto's theory it is important that students "fit" into the academic

and social environment of the academic institution. This would include student satisfaction with 1) formal/informal interactions with faculty, staff, and peers, 2) intellectual development, and 3) values and purpose of the academic institution. This conceptual model has been used extensively in research as guide to study college student persistence (Pascarella & Ternzini 1980; Zea et al 1997; Thomas 2000; Woosley & Shepler 2010; Barnett 2011)

Bandura's (1986, 1995) model of self-efficacy is based on an individual's self-judgment that they have the ability to perform the tasks needed to meet a specific goal. Academic self-efficacy according to Ferla, Valcke, and Cai (2009) is an individual's self-perceived level of competence at a specific academic task. At the university level self-efficacy beliefs have been associated with activities such as writing a paper, understanding text books, and managing time (Solberg et al 1993). Previous research demonstrated a positive relationship between self-efficacy beliefs and academic performance (Multon, Brown, & Lent 1991; Lane 2001; Finney & Schraw 2003; Gore 2006; Harvey & McMurray 1994).

Social support can generally be described as the belief or perception by the individual that there is a person or network of persons available in times of need to provide them with care and support (Cobb 1976; Rook & Dooley 1985; Ryan et al 2005). For the Mexican American college student research has demonstrated that social support may derive from family, friends or significant other. In addition friends and significant others have also been cited as important sources of support for Hispanic and other minority college students (Hurtado, Carter, and Spuler 1996; Rodriguez et al 2003; Anaya & Cole 2001; Zalaquett 2005).

CHAPTER III

RESEARCH METHODS

This study was undertaken to address the gap in knowledge concerning variables that contribute to predicting Mexican American nursing student academic success. Using binary logistic regression the relative contribution of selected contextual and socio-demographic attributes, student integration, academic self-efficacy and perceived social support on predicting academic success as defined by passing a specified nursing clinical course were investigated.

The following research questions were developed and used to guide the exploration:

1. What is the contribution of specified contextual (program type and semester of enrollment) and personal attributes (gender, generation attending college, living with family) in predicting Mexican American nursing student academic success?

2. What is the contribution of academic and social integration in predicting Mexican American nursing student academic success?

3. What is the contribution of self-efficacy in predicting Mexican American nursing student academic success?

4. What is the contribution of perceived social support from family, friends, and significant other in predicting Mexican American nursing student academic success?

5. Which variables "contextual" "personal" "integration" "self-efficacy" or "social support", has the greatest contribution in predicting Mexican American nursing student academic success?

Research Methodology

Design

The current investigation was designed as an initial exploration of the probability of Mexican American nursing student success or non-success using selected contextual and socio-demographic attributes, student integration, self-efficacy, and social support. The theoretical framework of student integration (Tinto 1975), academic self efficacy (Bandura 1983; Schunk & Pajares 2002) and perceived social support (Zimet, Dahlem, Zimet, & Farley 1988, Rook & Doolye 1985, Cobb 1976, Norbeck & Tilden 1988; Malecki & Demaray 2002; Cohen & Wills 1985; Procidano & Heller 1983), as described in Chapter One, were used to guide the study.

The dependent variable of student success is defined categorically as passing or not passing a designated nursing clinical course. The contextual attributes used in the study are 1) type of nursing program (associate or bachelor degree), 2) semester of enrollment specified clinical course was taken (first or second). The socio-demographic or personal attributes used are 1) gender, 3) generation attending college, and 3) living with family (yes or no). Participant information for these attributes was collected using a researcher designed self-survey. The independent variable of student integration, operationally defined based on Tinto's (1975) SIM theory and adapted from Nora's (1993) description, is the connection and affiliation students have with the university's academic and social environment. The Persistence/Voluntary Dropout Decisions Scale (P/VDDS) (Pascarella and Terenzini 1980), developed specifically for Tinto's SIM model, was utilized to measure student academic and social integration. Academic self efficacy is operationalized as the level of confidence students have in performing academic and

social tasks, such as taking notes, time management, associated with college success (Bandura 1995; Schnuck 1991; Pajares 1996). The instrument used to measure this variable is the College Self-Efficacy Instrument (CSEI) developed by Solberg and associates (1993). Social support, based on Procidano and Heller (1983) definition, is operationalized as the student's perception of the adequacy of support received from family, friends and significant other. The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley 1988) was used to measure perceived social support.

Sample

Participants

Inclusion criteria for study participation included 1) active enrollment in a Texas State Board of Nursing accredited associate (ADN) or baccalaureate (BSN) degree nursing program, 2) current enrollment in the first or second semester of nursing clinical coursework, 3) self-identification of Mexican American heritage, and 4) age 18 years of age or older. Participants must be at least 18 years of age to give informed consent to participate and give permission for release of course grades. The investigation focused only on students enrolled in either ADN or BSN programs; students attending diploma or accelerated nursing programs were not included in the study. Reasons for this criteria include 1) diploma school curriculum does not lend itself to comparison with either ADN or BSN programs, 2) nationwide the number of hospital based diploma programs are decreasing and 3) in terms of practicality the only diploma program in the state of Texas is geographically distant. Students from accelerated programs were not included in the study due to their previous experience in higher education and degree attainment that

could have potentially influenced study results. Active enrollment in the first or second

clinical course was included to ensure that study participants were accepted into nursing

school and taking actual nursing coursework. This criterion assisted in controlling for the

following factors common to nursing education: 1) pre-requisite requirements such as

sciences and humanities are usually taken before admission to a nursing program, 2) pre-

requisite courses are not always taken at the institution where the nursing program is

located 3) entering freshman with a declared nursing major may change majors in the

first few semesters of college 4) not all applicants to nursing school are accepted and 5)

students often; as many as 44 percent according to Roberts and Ward Smith (2010),

choose nursing as a major after beginning college. Students enrolled in the first and

second semester of nursing clinical course work (CCW) were specifically selected based

on attrition data obtained by surveying six Texas nursing programs. Results of the survey

are as follows: 1) one associate degree (ADN) program reported the highest rate of

attrition was in the second semester of CCW; 2) one ADN program reported the highest

attrition was in the first semester of CCW; 3) one bachelor program (BSN) reported a

constant attrition rate throughout the program; 4) one BSN program reported an attrition

rate highest in the second semester of CCW and 5) two BSN programs reported that the

first two semesters of CCW had similarly high average attrition rates. The Texas

Department of State Health Services (2005) reported that ADN program attrition rates are

highest in the first and second semesters while BSN attrition rates are consistent across

all semesters. Peterson (2009) reported an attrition rate of 30 percent for students entering

BSN; with approximately 82 percent leaving in the first semester. Specifying the

semester of enrollment in CCW rather than designating a specific course (i.e. pediatrics,

adult health, mental health) is to factor in the issue of program to program differences in sequencing of nursing course work. Selection of the grade in a clinical nursing course takes into consideration a common thread these classes share. In clinical courses, regardless of program type, subject matter, or location of clinical site, a shared learning objective is the development of cognitive and psychomotor skills required to provide nursing care.

Sample Size

Determining sample size depends on the method of statistical analysis used. In this study direct binary logistic regression was used to predict the categorical outcome of student success or non-success given categorical and continuous variables related to contextual (program type, semester of enrollment) and personal/socio-demographic attributes (gender, generation attending college, live with or without family), student integration, academic self-efficacy, and social support. When using this type of analysis sample size depends on the number of IVs (8) and the type of logistic regression used. Direct binary logistic regression, entering all predictors into the equation simultaneously, was used because the investigation is exploratory and no hypothesis is being examined concerning the order or importance of the predictor variables (Tabachnick & Fidell 2007). According to Hosmer and Lemeshow (2000) when using logistic regression there should be a minimum of 10 cases for every independent variable and 20 case are preferred if predictors are entered simultaneously. In this study there are eight predictor variables indicating the sample size should be at least 160.

Research Instruments

In addition to the researcher developed demographic data survey three research instruments, all with proven validity and reliability, were used for measuring academic and social integration, college self-efficacy beliefs and perceived social support.

Contextual and Personal/Socio-demographic Data

The selected contextual and personal socio-demographic data was provided through use of a researcher developed self-report. Information derived was used to address the question "What is the contribution of specified contextual (program type and semester of enrollment) and personal attributes (gender, generation attending college, living with family) in predicting Mexican American nursing student academic success?"

The data included the contextual attributes of type of educational program (ADN or BSN) and semester (first or second); and personal attributes of gender, living with or without family, and generation attending college. These variables were selected based on previous research on factors affecting student success (Tinto 1975; Solberg et al 1993; Gloria et al 2005; Taxis 2006; Villarruel, Canales, & Torres 2001).

Student Integration

As stated previously three research instruments were used to measure the independent variables (IV) of student integration, academic self efficacy and social support; all had previously been used in academic research and shown to have psychometrically sound properties. To guide the inquiry related to the research question "What is the contribution of academic and social integration on

predicting Mexican American nursing student academic success?" Vincent

Tinto's (1975) model of student integration (SIM) was used. The research

instrument used was designed specifically by Pascarella and Terenzini (1980) to

examine the properties of student integration according to Tinto's (1975) theory

of student persistence. This instrument, the Persistence/Voluntary Dropout

Decisions Scale (P/VDDS), assesses student academic and social integration

based on answers to a series of 30 items using a five response Likert scale ranging

from 1 (strongly disagree) to 5 (strongly agree). Participant scores are determined

by averaging scores across all items with higher scores reflecting more positive

persistence decisions (Pascarella & Terenzini 1980; Kurpius, Payakkokom, Rayle,

Chee, & Arredondo 2008).

　　According to the instrument developers, Pascarella and Terenzini (1980), a thirty

item, five factor solution captures the various dimensions of social and academic

integration and goal and institutional commitment. The five subscales address 1) peer

group interactions (n=7, alpha .84), 2) interaction with faculty (n=5, alpha .83), 3) faculty

concern for student (n=5, alpha .82), 4) academic and intellectual development (n=7,

alpha .74) and 5) institutional and goal commitment (n=6, alpha .71). Both the simple and

partial correlations of all scales with the criterion variable were significant at $\rho < .01$.

With intercorrelations among the five scales ranging from .01 to .33, with a median

correlation of .23, it was determined that the scales assessed dimensions of institutional

integration that were independent of one another. Subscale one, peer interactions,

measures social integration and assesses various aspects of relationships and friendships

among students.　The second subscale, interactions with faculty, relates to both social and

academic integration and measures student perception of their formal and informal contact with faculty. The faculty concern subscale measures student perception of faculty interest and teaching ability. Satisfaction with learning opportunities is measured in the academic development subscale. Commitment to the university and the goal of degree attainment is measured in the final subscale of institutional commitment.

The P/VDDS was used by Gloria, Robinson-Kurpius, Hamilton, and Wilson(1999) and a coefficient alpha of .86 was reported. Gloria and Ho (2003) reported a Cronbach's alpha of .71 in a study of the persistence decisions of 160 Asian American undergraduates. When used to assess Latino(a) student integration and persistence decisions Gloria et al (2005) reported a reliability coefficient of .86. Gloria and Robinson-Kurpius (2001) reported an internal consistency of .86 when using the P/VDD to investigate persistence decisions of American Indian undergraduates. Nicpon, Huser, Blanks, Sollenberger, Befort and Robinson-Kurpis (2006) reported a Cronbach's alpha of .93 when the P/VDD was used in an investigation of 401 freshman college students. In a study of Native American, Latino, and European American college freshmen Kurpius, Payakkakom, Rayle, Chee, and Arredondo (2008) reported Cronbach's alphas of .69 for Native Americans, .75 for Latinos, and .79 for European Americans. LeSure-Lester (2003), in an investigation of coping and persistence decisions, reported that the instrument proved effective when used to identify persistence decisions of Latino college students.

As stated previously the P/VDDS is comprised of five subscales with scores determined by averaging scores across all items with higher scores reflecting more positive persistence decision was used to measure student integration for this study. A

Cronbach's alpha was calculated as a measure of reliability. The Cronbach's alpha for the overall 30 item instrument in this investigation was .843; subscale of peer group interaction was.756, subscale of faculty interaction .827, subscale of faculty concern .716, subscale of academic development .671, and subscale of institutional/goal .447.

College Self Efficacy

Self-efficacy theory refers to an individual's belief that they have the skills and capability to produce a given behavior (Bandura 1986). In this investigation self-efficacy is the self-belief by Mexican American students that they have the ability to successfully perform the tasks necessary to be academically successful in nursing coursework. In relation to the research question "What is the contribution of self-efficacy on predicting Mexican American nursing student academic success?" the measurement instrument selected was the College Self Efficacy Inventory (CSEI) (Solberg et al. 1993). The CSEI was originally developed to assess the college self-efficacy expectations of Mexican American and Latino-American college students. According to Solberg et al (1993) construct validity was established by performing a principal components analysis followed by a Harris-Kaiser rotation of the 20 self-efficacy items, resulting in a three factor solution accounting for 63.5 percent of variance. Convergent and discriminant validity were established using the Brief Symptom Inventory (Derogatis & Melisaratos, 1983), a multicultural stress instrument (Solberg, Valdez, Villareal, & Falk, 1991), two measures of social support (Russell & Cutrona, 1984), and a measure of acculturation (Cuellar, Harris, & Jasso, 1980). Reliability was established for internal consistency using coefficient alpha

estimates and the reported coefficient to be .93 for the total scale and .88 for each subscale.

The CSEI consists of 20 items and three subscales of self-efficacy (academic/course n=7, roommate n=4, and social n=9), designed to address issues specific to college adjustment and success that are common to all college/university students. All items are phrased as follows: "How confident are you that you could successfully complete the following tasks…" (Solberg et al 1993, p. 86), to be rated on a 10-point scale from 0 (not at all confident) to 9 (extremely confident). The academic/course subscale is related to tasks specific to class/course performance such as writing papers or understanding textbooks. The roommate self-efficacy subscale addresses features related to living with others such as chores and space needs. This subscale has not been used in previous research when the student population attended commuter colleges/universities and lived at home rather than in dormitories. The social efficacy subscale addresses how students adapt to social and interpersonal tasks such as talking to professors, getting a date, or making friends that take place in the social milieu of college. Total scores and subscale scores are computed by averaging item responses to create total scores with higher scores reflecting a greater sense of college self-efficacy.

The CSEI has demonstrated adequate reliability and validity when used in research related to academic self-efficacy beliefs. In a study to explore psychometric properties of the CSEI Gore, Leuwerke, and Turley (2006) found the instrument to have adequate internal consistency reliability as indicated by Cronbach's alphas of .92 for the total instrument and .88 course subscale, .83 roommate subscale, and .86 social subscale. In a study to explore psychometric properties of the CSEI Gore, Leuwerke, and Turley (2006)

found the instrument to have adequate internal consistency reliability as indicated by

Cronbach's alphas of .92 for the total instrument and .88 course subscale, .83 roommate

subscale, and .86 social subscale. Gloria et al (2005) reported a Cronbach's alpha .93

when assessing the self-efficacy beliefs of 99 Latino(a) undergraduates. The overall CSEI

was reported to have an alpha of .93 when investigating the self-efficacy beliefs of

African American undergraduates (Gloria et al, 1999). In an exploration of self-efficacy

beliefs of 344 undergraduate students De Witz, Woolsey and Walsh (2009) reported an

internal consistency reliability alpha of .91. Coffman and Gillgan (2003) reported a

coefficient alpha of .92 for the total scale, .86 for the social and academic subscale, .71

for the roommate subscale, and .68 for the social integration subscale when used with 94

first year college students. When the CSEI was used to investigate the self-efficacy

beliefs of American Indian undergraduates Gloria and Robinson-Kurpius (2001) reported

an alpha of .73.

As stated previously the CSEI, comprised of three subscales, was selected to

measure Mexican American nursing student self-efficacy in this study. However in the

current investigation only two subscales, academic self-efficacy and social self-efficacy,

were used as 139 of the 188 participants lived with their family. A Cronbach's alpha was

calculated to measure reliability for the 16 items used in this investigation and the alpha

was .867, the subscale of academic self-efficacy .816 and social self-efficacy .850.

Social Support

In the Hispanic/Mexican American culture research has upheld the importance of

family provided social support when coping with life stresses and adjustment to the

college/university experience (DeBernard, Spielman, & Julka 2004; Rudel 2006; Tinto

1993; Pino & Ovando 2005; Torres & Solberg 2001; Keefe, Padilla, & Carlos 1979; Niska 1999; Romero & Ruiz 2007; Rodriquez et al 2007). To explore the research question "What is the contribution of perceived social support from family, friends, and significant other on predicting Mexican American nursing student academic success?" the Multidimensional Scale of Perceived Social Support (MSPSS) was used. The MSPSS was specifically selected because in addition to measuring perceived levels of family social support it also measures social support provided by friends and significant other.

The MSPSS, developed by Zimet, Dahlem, Zimet, and Farley (1988), is a self-report measure of subjectively assessed social support. The stated purpose behind development of the MPSS was to design a psychometrically sound instrument that was self-explanatory, easy to use, time conserving, and capable of subjectively assessing the perceived adequacy of social support provided by family, friends, and significant other (Zimet et al 1988). The instrument consists of three subscales, 12 total items and utilizes a seven-point Likert-type response format; ranging from 1= very strongly disagree to 7 = very strongly agree. The three subscales, with four items each, are scored by adding the sums of each item and then dividing by four with higher scores indicating higher levels of perceived social support. Items on the subscale measuring family social support focus on the emotional, communication, and decision making support that family members provide. The subscale measuring social support provided by friends addresses the perception that there is a group of friends that can be counted on to offer help in times of trouble and share in happiness when things are going well. The significant other subscale assesses the individual's perception that there is a special caring "significant other" available to offer support and comfort as necessary.

A study to determine the perceived social support of undergraduate students (n=275) was conducted by Zimet el al (1988) to establish initial psychometric reliability and validity. When first constructed the MSPSS consisted of 24 items, rated on a five point Likert type scale ranging from strongly disagree (1) to strongly agree (5), that addressed relationships with family, friends and a significant other. A Kaiser Normalization test was performed and three factors, related to 1) family, 2) friends, 3) significant other, were extracted with loading values ranging from .74 to .92 on 12 items of the three factor solution. Cronbach's coefficient alpha showed an adequate internal reliability for the scale as a whole (.88) and each subscale (.91, .87, and .85). The test-retest reliability for the whole scale was .85 and .72 (family), .85 (friends) and .75 (significant other) for the subscales. Construct validity was demonstrated through negative correlations between scales measuring depression and anxiety.

The MSPPS has been used successfully in a variety of research situations. Duru (2007) investigated the effectiveness of the MSPPS with a sample of 340 Turkish university students and reported an alpha of .879 for the friends subscale, .896 on the significant other subscale, .854 on the family subscale, and .867 on the overall scale of social support. Clara, Cox, Enns, Murray, and Torgrudc, (2003) used the MSPPS to study the perception of social support by college students and depressed outpatients. The Cronbach's alpha for the two groups were reported by the researchers as friends alpha = .94 (depressed) and .93 (students); family alpha=.92 (depressed) and .92 (students); significant other alpha= .94 (depressed) and .93 (student). The MSPPS was used by Dahlem, Zimet and Walker (1991) in an investigation of 154 college students; Cronbach's alphas of .91 for the total scale, .90 for the family subscale, .94 friends, and

.95 for significant others were reported. When the instrument was utilized with 144 psychiatric out-patients Cecil, Stanley, Carrion, and Swann (1995) reported Cronbach's alphas of .92 for the total scale, .93 family subscale, .91 friend subscale, and .88 significant other subscale. When used to assess the perception of adequacy of social support available to a group of predominately African American adolescents Canty-Mitchell and Zimet (2000) reported a coefficient alpha for the entire scale of .93; for the subscales the coefficient alpha was .91 family, .89 friends, and .91 significant other. In a study of 290 Mexican American adolescents Edwards (2004) reported a Cronbach's alpha of .86 on the MSPPS total scale; for the individual subscales the alpha was .88 family, .90 friends, and .61 significant other.

As stated previously the MSPSS, a 12 item instrument comprised of three subscales, was used in this study to measure perceived social support. A Cronbach's alpha was calculated as a measure of reliability for the MSPSS in this study. The Cronbach's alpha's for the combined 12 items in the instrument was .923, subscale of family .919, subscale friends .909, and significant other .929.

Instrument Pre-testing

To pre-test the research instruments twelve senior nursing students attending a baccalaureate nursing program located on the border of Texas and Mexico completed the demographic form and three survey instruments. All students were given verbal instructions on the purpose of the pre-test and how to complete each research instrument. After completing the instruments students were asked to evaluate the instruments using a 5 point Likert scale 1) the average time needed to complete the survey instruments, 2) likelihood of completing the survey at the end of a class, 3) ease of instrument

completion, 4) question readability and understandability, and 5) how well the instruments captured the university experience. In addition to the Likert scale for ranking the instruments students were provided a space for comments. Upon instrument completion participants turned them in to the researcher. No names or any other identifying information were on the instruments or evaluation forms, the completed instruments were immediately destroyed without being read and only the anonymous evaluation form was retained for analysis.

The average time to complete the three instruments and demographic sheet was 18 minutes. When asked how likely they would be to complete the instruments if given at the end of a class period nine indicated they would definitely complete it, two would probably complete it and one student indicated it would depend on what they had previously planned. Using a Likert scale students were asked to rank the survey instruments on how well the questions captured the most important or influential aspects of their university experience. With one indicating almost all questions did not capture and five indicating that almost all questions did capture the most important aspects of the university experience the mean scores were 1) PVDDS 4.42, 2) CSEI 4.58 and 3) MSPSS 4.25. When asked to rank the instruments and demographic sheet in terms of ease or difficulty in reading, completing and understanding; with one indicating very difficult to five indicating very easy, mean scores ranged from 4.0 to 4.83 (Table 1). In the space provided for comments none were provided.

Table 1

Descriptive Data Rating of Research Instruments

Instrument	Minimum	Maximum	Mean
Demographic Was University experience captured	1	5	n/a
Readability	1	5	4.0
Understandability	1	5	4.5
Ease of Completion	1	5	4.6
PVDDS Was University experience captured	1	5	4.42
Readability	1	5	4.25
Understandability	1	5	4.42
Ease of Completion	1	5	4.3
CSEI Was University experience captured	1	5	4.58
Readability	1	5	4.5
Understandability	1	5	4.75
Ease of Completion	1	5	4.75
MSPSS Was University experience captured	1	5	4.25
Readability	1	5	4.66
Understandability	1	5	4.83
Ease of Completion	1	5	4.66

Data Collection Procedures

Three nursing education programs, two associate (ADN) and one baccalaureate (BSN) degree, with a high Mexican American student populations participated in the research. The BSN program is affiliated with a public state school and both ADN programs are affiliated with community colleges. The basis for selecting these schools were 1) researcher access, 2) Texas has the second highest population of Mexican Americans in the United States (Ennis, Rios-Vargas, & Albert 2011) and 3) 23.1 percent of nursing students in Texas are Hispanic (Texas Center for Nursing Workforce Studies 2011). In addition the nursing programs included in the investigation are located in counties where Mexican Americans comprise from 60 to 98 percent of the total population and the percentage of Mexican American heritage nursing students is high. Together these factors helped ensure there was access to an adequate pool of potential participants.

Sampling and data collection was facilitated by liaisons that had been established within each program; the researcher worked with these liaisons to facilitate contact and recruitment of study participants. University/college specific procedures for IRB and permission to proceed with the investigation were followed. To ensure that both the university/colleges and participants were aware that end of course grades would be requested special procedures were put into place. In the IRB application and the informed consent the need to provide permission for release of end of semester grades was clearly explained. In addition students were asked to sign two separate informed consents, one agreeing to participate in the investigation and another that specifically gave permission for release of course grades as identified by course number.

Originally seven schools of nursing, two ADN programs and five BSN programs, affiliated with HSIs and located within a 150 miles of the Texas border with Mexico were approached to participate in the investigation. An initial verbal agreement was obtained from six of these schools and the researcher was provided a contact at each school to act as a liaison and facilitate the process. After IRB approval from the University of Wisconsin-Milwaukee was obtained and it was time to collect data each of the six schools were contacted. Each program provided the researcher with information on how to proceed, the educational institutions the four BSN programs and one ADN program were affiliated with required an expedited IRB process be followed. After fulfilling these requirements the researcher re-contacted the programs to arrange for recruitment of participants and data collection. At this time three of the four baccalaureate programs declined to participate in the research with no reason provided; both associate degree programs agreed to participate. At this time arrangements were made for the researcher to visit the three schools of nursing.

Sampling Method

A sample of Mexican American heritage nursing students attending three Texas nursing schools, two associate (ADN) and one baccalaureate (BSN) degree, located at Hispanic serving institutions (HSIs) were recruited for the investigation. After receiving IRB approval nursing students enrolled in a first or second semester clinical course were approached by the primary investigator at the end of class after the second week of school and prior to the first course exam about participating in the research. The purpose of selecting this time frame was to allow students time to become familiar with the course

faculty and objectives but prior to receiving objective feedback, in the form of exam scores and/or final check off on the performance of clinical skill.

The time and place for recruitment was arranged with each school's liaison. All three programs allowed the researcher to speak with the students in a classroom located in the building where the nursing schools are located. Students in two programs were spoken to at the beginning of class and in the remaining program at the end of the class. After explaining the purpose of the research and answering questions students who wished to participate were provided the informed consent to read and sign. Two consents were obtained, one for the research participation and a second clearly outlining that end of course grades would be provided to the researcher. A total 213 students initially agreed to participate in the research. Research instruments were distributed and participants were provided time to complete them. The data collection took place in the same location and followed the researcher provided description of the research and the signing of the informed consent. After completion the consent form and the research instrument all were returned separately to the primary investigator.

Collection of Grade Data

At the end of the semester the three nursing schools participating in the study provided the course letter grades to the investigator for all student participants who signed the informed consent. The schools involved had different methods of assigning grades, with some schools using letter grades with pluses and minuses (i.e. A+, A, A-) and numerical grade conversion to letter grade also varied widely. However, it should be noted that in all participant nursing programs course failure was below the letter grade

"C". For purposes of this research any letter grade of "C" or better was considered passing and indicated academic/course success and letter grade below "C" course failure.

Originally the statistical method planned for use in the analysis of data was multiple regression. To this met this objective the researcher planned to obtain and use end of semester grades to assess the degree to which the independent variables predicted grades. However, when the final data set was analyzed using multiple regression the independent variables demonstrated no significance in predicting grades. To address this problem binary logistic regression was used to analyze the contribution the study's independent variables had on predicting academic success. However, in logistic regression the dependent variable must be categorical in nature. For this reason academic success was operationalized as the categorical variable of passing a specified clinical course with a letter grade of "C", which was the minimum passing grade for all programs in the study. The analysis of data using binary logistic regression provided the researcher with more robust data that could be used to examine the contribution the independent variables had on predicting academic success.

Ethical Treatment of Subjects

Prior to any contact with potential study participants the University of Wisconsin-Milwaukee Institutional Review Board (IRB) requirements were completed and permission to proceed obtained. In addition, individual university/college requirements for research with students was submitted and written authorization to proceed was obtained before any research was undertaken. All information regarding student grades is protected by the Family Education Rights and Privacy Act (FERPA) of 1974 and requires that students must give permission for the release of this information. For this reason only

students over 18 years of age and legally able to provide informed consent were approached to participate in the research.

Since the data was collected by self-report there are no physical risks to participants. The investigator had no relationship with any students participating in the research. In the one program where the researcher does have ties the group of students participating had no faculty student relationship with the investigator. A possible risk when using self-reports is the possibility of response bias. These include the tendency of some respondents to distort their responses to present a positive image of themselves, while others may have "extreme" responses where they always select the most extreme (strongly disagree or agree) options, and others may agree or disagree to statements independently of question content (Polit & Beck, 2004).

The only portion of the survey packet that contained participant names is the signed informed consent form. All pages of the survey, including the consent form, had a unique identifier number randomly assigned by the investigator. Upon completion the participants detached the consent form from the survey questions and turned them in separately.

The investigator compiled a list of participant names and corresponding identifier numbers that was used for requesting end of course grade, the list is being kept in a locked filing cabinet accessible only by the investigator. To further ensure confidentiality the list of participant names, consent forms and survey forms will be saved on Panther File which is a secure web-based server at the University of Wisconsin-Milwaukee after completion of the research. After receiving the grades only the investigator correlated the grade information, using the list containing identifier numbers to participant names, to the

appropriate survey response. Upon completion of this task the information containing student names and grades were destroyed. To further protect privacy during the data input process all information was given a unique numeric identifier that was separate from the identifier used on the research instrument or informed consent. The list of the identifier number and data input numbers will be kept in a separate and locked filing cabinet drawers only accessible by the primary investigator. Finally all data will be reported as an aggregate and will not be linked to any individual responder or specific nursing program. All information will be kept for a period of five years after which time it will be destroyed by the investigator.

Recruitment and Administration Procedure

To recruit and administer the survey instruments the researcher first contacted each nursing program and completed required IRB process. In addition at each program a course liaison was provided to assist the investigator and serve as contact. The investigator arranged to meet with students in a location provided by the participant institutions, at this time information was provided about the purpose of the research and the data collection and management process. In addition to providing information verbally the investigator gave potential participants printed information with the consent outlining the purpose, procedure, and risk benefits of the investigation. After the explanation interested students signed the informed consent and the survey instruments were distributed and completed. All surveys were completed at this time. Both before and after the survey completion participants were given the opportunity to ask questions and withdraw from the study with their responses discarded. No student withdrew after signing the consent form. All participation was voluntary and had no effect on grades;

however, as an incentive to participate students completing the survey were given the opportunity to qualify for a $25 gift card. At each school a $25 gift card was allotted for every 10 participants. The timing of data collection was between weeks three and four weeks of the start of the semester and before any major exam.

Data Analysis

The purpose of the research was to explore the contribution specified personal/socio-demographic and contextual attributes, student integration, self-efficacy, and perceived social support had on predicting the categorical variable of Mexican American nursing student academic/course success. An investigator developed survey was used to capture contextual and personal socio-demographic data that included self-report of type of nursing program (ADN or BSN), semester of enrollment (first or second), gender, living arrangements (family or with roommates), and generation attending college. The standard deviation, mean, and median were determined for the student age as well as for the total scores for PVDDS, CSEI, and MSPSS. In addition Cronbach's Alpha, a measure of how well individual scale items correlates with the sum of the remaining items, was used to calculate internal consistency/reliability of the research instruments. Descriptive statistics were used to describe and summarize the data.

Direct binary logistic regression was used to predict the outcome of student success or non-success based on a set of independent variables (IVs). For purposes of data entry type of educational program, gender, if living with family or without family, and if first generation in college were dummy coded; information concerning age was collected and entered at the ratio level. All data was analyzed using IBM SPSS version 20.

Research Questions

Research Question One

Direct binary logistic regression was used to investigate the research question "What is the contribution of specified contextual (program type and semester of enrollment) and personal attributes (gender, generation attending college, living with family) in predicting Mexican American nursing student academic success?". The purpose of using direct binary logistic regression was to explore how well the selected contextual and personal attributes were in predicting the categorical variable of academic success as defined as achieving a letter grade of "C" or better in a specified nursing clinical course. Direct binary logistic regression, at times referred to as standard rather than direct, is a type of logistic regression where all predictor variables are simultaneously entered into the equation. It is being used in this investigation as there in no specific hypotheses about the order or importance of predictor variables (Tabachnick & Fidell 2007, p. 454-55).

Research Question Two

To investigate the second research question "What is the contribution of academic and social integration on predicting Mexican American nursing student academic success?" direct binary logistic regression was used. Direct binary logistic regression was used, simultaneously entering all predictor variables into the equation, as there was no proposed hypothesis about the order or importance any of these variables had on predicting academic success (Tabachnick & Fidell 2007, p. 454-55).

Research Question Three

To address the research question "What is the contribution of self-efficacy on predicting Mexican American nursing student academic success?" direct binary logistic regression was used. In this study the subscale of roommate self efficacy was not used as all participants attended commuter institutions and the majority (n=139) lived with their families. When there is no hypothesis about the order of importance variables have on predicting an outcome, in this instance passing a specified nursing clinical course, direct binary logistic regression, entering all variables into the equation simultaneously, is indicated (Tabachnick & Fidell 2007, p. 454-55).

Research Question Four

The question of   "What is the contribution of perceived social support from family, friends, and significant other on predicting Mexican American nursing student academic success?" was examined using direct binary logistic regression. This method of data analysis was used in this study because no hypothesis regarding the order or importance of the IVs on predicting academic success had been proposed (Tabachnick & Fidell 2007, p. 454-55).

Research Question Five

To answer the question "Which variables "contextual" "personal" "integration" "self-efficacy" or "social support", has the greatest contribution in predicting Mexican American nursing student academic success?" direct binary logistic regression was utilized. When examining multiple IVs without a hypothesis that suggests the order of

the variables is important direct logistic regression can be used (Tabachnick & Fidell 2007, p. 454-55).

Limitations and Assumptions

Limitations of the study include that not all Mexican American students applying to nursing school are admitted, perhaps due to not meeting admission criteria or inadequate resources to accept all qualified applicants. In addition while both ADN and BSN programs were included in the study the BSN students had completed at least two years of general academic courses before applying and being accepted into nursing school. This pre-nursing college level coursework provided BSN programs with more information about student scholastic ability when ranking students for admission as well as providing the student more time to become acclimated to higher education. Each nursing program in the study had varying methods for assigning letter grades based on numeric scores but all considered a numeric grade of below 75 failing and a letter grade of "C" or higher as passing; this was the reason for operationalizing academic success as a letter grade of "C" or better. A limitation was that only the grade received in a specified clinical course was used to measure the outcome of success rather than more comprehensive measurement such as overall GPA or program completion.

The first assumption of this investigation was that binary logistic regression would predict which of two categories (academic success or non-success) Mexican American nursing students belong to given certain other information which in this case were the independent variables of 1) type of nursing program, 2) semester of enrollment, 3) gender, 4) living with or without family, 5) generation attending college, 6) student integration, 7) academic self-efficacy, and 8) perceived social support. In addition it was

assumed that participants would truthfully answer all questions and that nursing programs located within HSIs would have an active interest in participating in the research. Assumption three was that the level of grade attainment and persistence decisions in the specified clinical courses is an accurate indication of student success. Finally it is assumed that while the sample was derived from HSI's located in a close geographic location the sample is reflective and generalizable to the Mexican American nursing student population.

Chapter Summary

This investigation was designed to explore the contribution of selected contextual and personal attributes, student integration, academic self-efficacy and social support on predicting the categorical variable of Mexican American student success or non-success in nursing school. Three nursing programs (one BSN and two ADN) were selected as study sites due to their high percentage of Mexican American Heritage students. Student participants were either in the first or second semester of nursing school and all were enrolled in clinical course with a medical surgical focus. Three research instruments and an investigator developed demographic survey were used to measure the variables in the study. Pre-testing using a group of Mexican American heritage nursing students was performed. After IRB approval was obtained, the investigator visited the three campuses over a two semester time frame to explain the purpose of the study, answer questions, obtain informed consent and administer the survey. A total of 213 students agreed to participate in the research, however only 191 students met all inclusion criteria and completed the consents to participate in the study and only 188 completed all survey instruments and had final grades submitted to the investigator.

Direct binary logistic regression was used to measure the contribution of the independent variables used in the study to predict academic success. This method of analysis was selected as binary logistic regression allows the prediction of a discrete outcome, in this case academic success, from a set of variables. In direct logistic regression all predictor variables were entered into the equation simultaneously, this method was used as the investigation was exploratory in nature with no hypothesis testing concerning order or importance of the predictor variables being tested (Tabachnick & Fidell 2007). All data was analyzed used IBM SPSS version 20. Results of the data analysis will be discussed in the following chapter.

CHAPTER IV

RESULTS OF THE INVESTIGATION

This chapter provides a summary of the study exploring the contribution of selected variables on predicting Mexican American undergraduate nursing students' academic success. Included in the chapter is a, restatement of the problem and research questions, description of the sample, results of the statistical analysis and discussion of the findings.

Problem Restatement and Research Questions

The purpose of this study was to explore the contribution of factors predictive of Mexican American nursing student academic success. The categorical independent variable of academic success was operationally defined as passing a specified clinical nursing course with a letter grade of C or better. The five research questions for the study were:

1. What is the contribution of specified contextual (program type and semester of enrollment) and personal attributes (gender, generation attending college, living with family) in predicting Mexican American nursing student academic success?

2. What is the contribution of academic and social integration in predicting Mexican American nursing student academic success?

3. What is the contribution of self-efficacy in predicting Mexican American nursing student academic success?

4. What is the contribution of perceived social support from family, friends, and significant other in predicting Mexican American nursing student academic success?

5.   Which variables "contextual" "personal" "integration" "self-efficacy" or

"social support", has the greatest contribution in predicting Mexican

American nursing student academic success?

Sample Characteristics

Of the 213 students that initially agreed to participate in the study 191 met all

inclusion criteria and signed the informed consent; of these students one only partially

completed the research instruments and two withdrew from the specified clinical course

prior to receiving a course grade; resulting in a total sample size of 188. A summary of

contextual and personal attributes can be found in Table 2. The sample consisted of 136

female and 52 males; years of age ranged from 18 to 52, with a mean age of 23.9. Forty-

three students attended ADN programs and 145 attended a BSN program; all ADN

students were enrolled in the second semester of nursing school and 82 of the BSN were

enrolled in the first semester and 63 in the second semester. In the ADN programs 32

were female and 11 were males. In the BSN program there were 57 females and 25 males

enrolled in the first semester and 47 females and 16 males enrolled in the second

semester. In terms of living arrangements, did the student live with family, 32 of the

ADN students lived with family and 11 did not; in the BSN program 107 students lived

with their family and 38 did not live with their family. In the ADN program 16 students

were the first generation in their family to attend college and 27 were not the first

generation. In the BSN program 52 students were the first generation in their family to

attend college and 93 were not the first generation. A total of 146 students, ADN n=29

and BSN n=123, successfully passed the specified clinical course with a "C" or better

and 36 students, ADN=14 and BSN n=22, did not successfully pass the specified course.

Table 2

Descriptive Contextual and Personal Attributes

Variable		Frequency	Percent	Min	Max	Mean
Program	BSN	145	77.1			
	ADN	43	22.9			
Semester	**First**	82	43.6			
	BSN	82	56.6			
	ADN	0	0			
	Second	106	56.4			
	BSN	63	43.4			
	ADN	43	100.0			
Gender	**Male**	52	27.7			
	BSN	41	28.3			
	ADN	11	25.6			
	Female	136	72.3			
	BSN	104	71.7			
	ADN	32	74.4			
Age				18	52	23.9
Not 1st Generation	Total	120	63.8			
	BSN	93	64.1			
	ADN	27	62.8			
Lives Family	BSN	107	73.9			
	ADN	32	74.4			

Research Instruments

Survey instruments were researcher administered at each participating school after a standard introduction to the background and purpose of the study was provided and informed consents signed. The personal/socio-demographic survey was investigator developed and included variables of type of program attended (ADN or BSN), semester of nursing school enrollment (first or second), gender, living with family (yes or no), and if first generation attending college (yes or no). Nursing school integration was measured using the P/VDDS, a 30 item Likert scale instrument with scores ranging from 1 to 5, developed by Pascarella and Terenzini (1980) specifically to measure academic and social integration based on elements of Tinto's model. Higher scores on the instrument denote higher levels of integration. The CSEI (Solberg et al 1993) was used to measure college self-efficacy beliefs. The instrument originally had a 20 item Likert scale with possible scores ranging from 1 to 9. The scale contained three subscales that addressed specific components of college self-efficacy related tasks, academic, social, roommate, however in this study the four questions used to measure roommate self-efficacy were not used as 139 out of 188 sample participants lived with their families. Student scores, higher scores indicating higher levels of self-efficacy, on the overall CSEI instrument were used in the analysis of data. Perceived social support by family, friends and significant other was measured using the MSPSS, a twelve-item Likert scale developed by Zimet, Dahlem, Zimet, and Farley (1988). Student scores on the twelve-item Likert style overall instrument were used in the analysis of data. Descriptive analysis of data was presented and Cronbach's alpha to determine reliability was performed on all research instruments.

Data Analysis

Descriptive statistics and direct binary logistic regression were used for analysis of data. For purposes of statistical data analysis and interpretation a predetermined .05 alpha level of significance was used, with greater values being considered statistically insignificant. The computer software, Statistical Package for Social Sciences (IBM SPSS version 20) was used for data analysis.

Reliability and Descriptive Data

To determine the reliability of the research instruments a Cronbach's alpha was performed on each instrument. All instruments demonstrated values that were consistent with good reliability (P/VDDS=α .843; CSEI=α .867; MSPSS=α .923). The mean scores for student integration (P/VDDS) (n=188) averaged 4.0189 (SD=.38784). The mean score for self-efficacy (CSEI) (n=188) averaged 7.1250 (SD=1.06475). The mean score for social support (MSPSS) (n=188) averaged 6.1053 (SD=.98495). The standard deviation for all instruments used in the investigation was very small which indicated there was very little variability in the data sets and the participant responses were very similar (Table 3).

Table 3

Descriptive Analysis of Integration, Self-efficacy, and Social Support

Variable	N	Min	Max	Mean	Std Dev.	Cronbach's Alpha
Student Integration P/VDDS	188	3.07	4.90	4.0189	.38784	.843
Self-Efficacy CSEI	188	2.69	9.0	7.1250	1.06475	.867
Social Support MSPSS	188	1.75	7.0	6.1053	.98495	.923

Research Question Results

Research Question One

In order to explore the first research question "What is the contribution of specified contextual (program type and semester of enrollment) and personal attributes (gender, generation attending college, living with family) in predicting Mexican American nursing student academic success?"direct bivariate logistic regression analysis was performed on academic success as an outcome and five contextual and personal attributes 1) type of nursing program, 2) semester of school, 3) gender, 4) family generation attending college, 5) living with or without family. The categorical outcome variable of course pass or fail was based on making a letter grade of C or better in a specified nursing clinical course offered the first or second semester of nursing school, this was coded 1.00 pass and .00 for failure. The dichotomous predictor variables of 1) type of nursing program were coded 1.00 for BSN and .00 for ADN, 2) gender 1.00 male and .00 female, 3) live with family 1.00 yes and .00 no, 4) first generation attending college 1.00 yes and .00 no. The dichotomous outcome variable of semester attending nursing school was coded .00 for first semester and 1.00 for second semester. Using direct logistic regression the data was analyzed using IBM SPSS Statistics (version 20). The Wald criterion (Wald=8.075, df =1, p=.004) and bivariate logistic regression (p=.004; Exp(B) =4.988) indicated that program type, attending a BSN rather than an ADN program, was the only attribute that significantly contributed to predicting academic success. In terms of the contribution of the other variables on contributing to the prediction of course

success results were 1) semester of enrollment (p=.105; Exp(B)= 2.361); 2)

gender (p=.482 Exp(B)= .744); 3) generation attending college (p=.106; Exp(B)=

2.029); or 4) living with family (p=.219; Exp(B)= 1.691), an indication that these

variables did not contribute significantly to the prediction of academic success. In

conclusion results of the data analysis, Exp(B) value of 4.988, implies that a

Mexican American nursing student attending a BSN program was five times more

likely to pass the specified clinical course with a letter grade of "C" or better.

Research Question Two

To address the second research question "What is the contribution of academic

and social integration on predicting Mexican American nursing student academic

success?" direct bivariate logistic regression analysis was performed on the predictor

variables of student academic and social integration. The P/VDDS instrument, a 30

question Likert scale consisting of five subscales, the overall instrument score, rather than

each subscale score, was used to measure the predictability of student integration in this

study. The overall instrument score, with higher scores indicating more positive levels of

persistence, was used because it was reflective of all aspects of student integration. Direct

bivariate logistic regression was used to calculate the contribution of student integration

on predicting nursing course success (p=.776; Exp(B)= .840); these results indicated that

student integration did not significantly contribute to predicting course success.

Research Question Three

Direct bivariate logistic regression was used to examine "What is the contribution

of self-efficacy in predicting Mexican American nursing student academic success?".

The CSEI, a 16 item Likert scale that consisted of two subscales (academic and social

self-efficacy), the overall instrument score was used to measure the predictability of the independent variable of academic self-efficacy. The overall scale, rather than the subscales, was used as it encompasses common issues specific to college adjustment and success. With this instrument a higher score on the overall scale indicated higher levels of self-efficacy. The question was analyzed using direct bivariate logistic regression. In this investigation results of the analysis indicated the variable of academic self-efficacy (p=.697, Exp(B)= .920) did not significantly contribute to predicting course success. Total scores and subscale scores are computed by averaging item responses to create total scores with higher scores reflecting a greater sense of college self-efficacy.

Research Question Four

Direct bivariate logistic regression was also used to explore "What is the contribution of perceived social support from family, friends, and significant other on predicting Mexican American nursing student academic success?" In this investigation the MSPSS, a 12 item Likert scale that contained three subscales (perceived social support from family, friends, and significant other), was used to measure the contribution of perceived social support on predicting course success. The score on the overall scale, rather than the subscales, was used in the analysis of data as this provided information on the student's overall level of perceived social support. With this instrument higher scores on the overall scale indicated higher levels of perceived social support. The question was analyzed using direct bivariate logistic regression. In this investigation results of the analysis indicated the variable of perceived social support (p=.520, Exp(B)= 1.142) did not significantly contribute to predicting course success.

Research Question Five

To investigate "Which variables "contextual" "personal" "integration" "self-efficacy" or "social support", had the greatest contribution in predicting Mexican American nursing student academic success?"direct bivariate logistic regression was once again utilized. Evaluation of the Wald criterion for all variables demonstrated that only attending a BSN program of study significantly contributed to predicting Mexican American nursing students' academic success as defined as passing a specified nursing course. As stated previously the Wald=8.075, df=1, p=.004 and Exp(B) =4.988 predicted that students attending a BSN program are five times more likely to pass the specified nursing course with a letter grade of "C" or better. In this investigation none of the other variables contributed significantly to predicting academic success (Table 4).

Direct binary logistic regression was used to analyze the data and examine how well the overall model's eight independent variables (program type, semester of enrollment, gender, living with family, generation in college, integration, self-efficacy, social support) predicted the dependent variable of academic success (passing a specified course). The Omnibus Test of the model demonstrated the overall model did not significantly (p=.069) contribute to predicting academic success. A model chi square was analyzed to determine model significance, with a χ^2= 14.539, df= 8, p= .069, it was concluded that the full model was not statistically significant in predicting academic success (Table 5). The Nagelkerke R2=.119 indicated that the model and the associated eight predictor variables was able to explain 11.9 percent of the variance of academic success as defined by passing a specified clinical course with a letter grade of "C" or better (Table 6).

Table 4

Variables Logistic Regression

	B	S.E	Wald	df	Sig	Exp(B)
Program Type BSN	1.607	.566	8.075	1	.004	4.988
Semester of Enrollment	.859	.530	2.632	1	.105	2.361
Gender	-.295	.420	.495	1	.482	.744
Live with Family	.525	.427	1.512	1	.219	1.691
1st Generation to attend college	.708	.438	2.607	1	.106	2.029
Student Integration	-.175	.615	.081	1	.776	.840
Academic Self Efficacy	-.083	.214	.152	1	.697	.920
Perceived Social support	.133	.207	.414	1	.520	1.142

Table 5

Omnibus Test of Model Coefficiencts

	Chi-Square	df	Sig
Step 1	14.539	8	.069
Block	14.539	8	.069
Model	14.539	8	.069

Table 6

Evaluation of Model Ability to Explain Academic Success

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	169.091[a]	.074	.119

Summary of Findings

In this investigation predictors of Mexican American nursing student academic success were explored. The predictor variables included in the study were the contextual attributes of nursing program type (ADN or BSN) and semester of enrollment in nursing school (first or second); socio-demographic/personal attributes of gender, family generation to attend college, and living arrangements (with or without family); and student integration (academic and social), college self-efficacy, and perceived social support. The categorical independent variable in the study was Mexican American nursing student academic success as defined by passing a specified nursing clinical course with a letter grade of "C" or better. Direct binary logistic regression was utilized for analysis of data. Analysis of findings indicated attending a BSN program rather than an ADN program was a factor in predicting Mexican American student success in nursing. Nursing program type has often been associated with academic success and retention. The NLN (2012b) reported that nationwide BSN programs have higher rates of retention one year after initial enrollment than both ADN and diploma nursing programs.

In this study the model, living with family, family generation attending college, gender, and semester of enrollment, student integration, self-efficacy and social support did not contribute significantly to predicting academic success. It must be noted that in this investigation participants' mean scores on the P/VDDS (integration), CSEI (self-efficacy), and MSPSS (social support) were high, indicating high levels of each variable. These high mean scores resulted in a lack of variance in population. The lack of variance contributed to the lack of predictability the variables of student integration, self-efficacy, and social support had on academic success.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This descriptive exploratory study was designed to explore the predictability of select contextual (program type and semester of enrollment), personal socio-demographic attributes (gender, live with family, and generation attending college), student integration, academic self-efficacy, and perceived social support on Mexican American nursing student academic success, as defined by the categorical variable of passing or not passing a specified clinical nursing course. Currently in the U.S. there is a lack of diversity in all health professions, including nursing. One mechanism of addressing this issue is to improve the nursing educational pipeline through the increased enrollment of ethnic and racial minorities into nursing programs. The rationale for focusing on Mexican American heritage nursing students is that in the U.S. 16 percent of the population is Hispanic, within this population 63 percent are of Mexican American heritage, while 3.6 percent of nurses are Hispanic (HRSA 2010).

While interest in nursing has remained high the scarcity of resources such as faculty, clinical spaces, and financial assistance is affecting the number of applicants nursing education programs can admit (AACN 2011). It is therefore of critical importance that when Mexican American students are accepted into nursing programs they be successful. An initial step and the purpose of this investigation in this process was the need to develop a better understanding of variables predictive of nursing student academic success.

The investigation took place at three nursing programs, (BSN n=1; ADN n= 2), affiliated with Hispanic Serving Institutions (HSIs) located in south Texas. Data was

collected using three research instruments and a researcher developed survey that was used to capture information on the contextual and personal/socio-demographic attributes. The investigator went to the various nursing programs and met face to face with interested participants, provided information on the study, obtained consent, distributed the research instruments and after completion collected them. At the end of the semester the educational programs provided final grade information to the investigator.

Sample Characteristics

The sample population for this study was Mexican American nursing students enrolled in the first or second semester of nursing school and taking a specified nursing clinical course. Study participants included 188 (ADN n=43; BSN n=145) male and female (female n=136; male n =52) self-identified Mexican American nursing students 18 years of age or older. All students (n=82) enrolled in the first semester of nursing school attended the BSN program and all 43 ADN students and 63 BSN students were enrolled in the second semester of nursing school. A total of 152 participants (BSN n=123; ADN n=29) successfully passed the specified clinical course with a letter grade of "C" or better and 36 (BSN n=22; ADN n=14) were not successful in achieving a course letter grade of "C" or better.

Study Findings

In this investigation the role of selected contextual and personal/socio-demographic variables were examined in terms of contribution in predicting academic success. Based on these attributes and variables a model to explain predictors of academic success was proposed in Chapter I. The analysis of the data using direct binary logistic regression did not support this model and the only factor found to contribute

significantly (ρ=.004) Exp(B) 4.988 to the predicting academic success was attending a BSN program of study. The other attributes in the investigation included semester of enrollment (ρ=.105), gender (ρ=.482), generation attending college (ρ=.160), and living arrangements (ρ=.219); these variables were found to be non-significant in predicting Mexican American student academic success in nursing school. The standard deviation for all research instruments was very small, 1 or less, for all variables except age; indicating very little variance in the data.

A variety of theories and concepts have been used to guide the examination of student success in higher education. Previous research has indicated that the variables of student integration, academic self-efficacy and perceived social support have all been associated with student academic achievement. In this investigation participants were found to have high levels of these variables, student integration (ρ=.776) college self-efficacy (ρ= .697), perceived social support (ρ=.520), as indicated by the overall high median scores they had on the research instruments used to measure these variables.

Research Question Discussion of Findings

As stated previously in this investigation the only contextual or personal attribute that contributed significantly to student success was attending a BSN program of study. The attributes of semester of enrollment, gender, generation attending school and living arrangements (with or without family) were not found to be predictive of academic success. Possible explanations for these unexpected findings follow.

Research Question One

To explore the contribution of student contextual and personal/socio-demographic attributes on predicting academic success the first research question developed was

"What is the contribution of specified contextual (program type and semester of enrollment) and personal attributes (gender, generation attending college, living with family) in predicting Mexican American nursing student academic success?" An investigator developed demographic survey was used to collect these data. Of these attributes only program type, attending a BSN nursing program, was found to be predictive of academics success.

The association of academic success and attending a BSN program is consistent with data from the NLN (2006) that students in BSN programs have lower rates of attrition than students attending either ADN or diploma programs. There are several possible explanations as to why program type (BSN) contributed to predicting Mexican American nursing student academic success. Many Mexican American students begin post-secondary education at two-year community colleges rather than four-year degree granting institutions due to attending high schools that inadequately prepared them for college (Fry 2005) and the lower GPA requirements associated with these schools (Arbona & Nora 2007; Fry 2002; Fry 2004). This is important in terms of degree attainment as students attending four-year bachelor degree granting universities have higher overall graduation rates than those attending two-year community colleges (Liu 2011, Fry 2002).

While there is more coursework in a BSN program that prepares the student for a broader scope of practice, both types of programs prepare students to take the same national licensure exam. It is therefore important to examine other factors that may contribute to the study results. Since students attending BSN programs take more pre-requisite course work in the humanities and sciences that must be completed prior to

nursing school admission the foundation these courses offer the students may better prepare them for the rigors of nursing school. In addition grades students make in these courses offers BSN programs more information related to academic performance that can be used to judge student academic readiness for nursing school. Research has also shown that students enrolled in BSN programs recognize that the degree is a stepping stone, enhancing career opportunities and being necessary for entrance into graduate nursing education (Zuzelo 2001). This potential for future advancement in nursing may provide students enrolled in BSN programs with an additional incentive to succeed. In terms of institutional factors there are differences in funding and resource availability that exist between community colleges and four year universities. According to Kahlenberg (2012) in 2009 the average community college spent $5,000 per student compared to the $10,000 per student a public four year degree granting research universities spent per student. The differences in expenditures potentially affect the resources available to assist students such as academic advisors, tutors, mentors, quality of the library, and technology.

Previous research has indicated that the personal attributes of being the first member of the family (referred to as first generation) to attend college is associated with higher rates of attrition (Lohfink & Paulsen 2005; Brown, Santiago, & Lopez 2003; Ting 2003). Traditionally and in the mind of the investigator Mexican American students were thought to come from a family background that lacked experience with higher education and that this would contribute to predicting academic success. In this investigation, being a first generation college student did not affect academic success. A finding that was unanticipated in this investigation and could have influenced the results was that the

majority of students were not the first generation to attend college (n=69 first generation; n=122 not first generation). This trend was common to both program types ADN (n= 17 first generation; n= 28 not first generation) and BSN (n= 52 first generation; n= 94 not first generation). In addition previous research found living at home influenced academic success (Villarruel, Canales, & Torres 2001; Arbona & Nora 2007; Dourtrich et al 2005, Nora & Crisp 2009) however in this investigation, even though the majority of students did live with their family (n=139), this attribute was not found to be a contributing factor in predicting academic success. Even though previous research had shown that gender differences impacted college academic achievement in this investigation it was not predictive of academic success in either BSN or ADN student populations (female n=136; male n=52).

Research Question Two

Student integration is based on the widely researched theory of student integration developed by Vincent Tinto (1975). According to this theory students come to college with certain background characteristics and the goal of degree attainment. Upon entering school they encounter the unique formal and informal characteristics and structures of the institution's academic and social systems. According to Tinto (1993) persistence decisions or the decision to stay at a certain school until completion of degree is influenced by how well the student "integrates" or "fits" into the academic and social fabric of the college/university. The theory postulates that students with higher levels of academic and social integration have an increased likelihood of staying in school. This model has been used in higher education, including nursing, to explain and predict

student persistence toward degree completion (Lundquist, Spalding, & Landrum 2002; Gloria et al 2005; Benda 1991; Liegler 1997).

In this investigation, the variable of student integration was explored in terms of predicting academic success as defined by the categorical dependent variable of passing a specified nursing clinical course. The research question developed was "What is the contribution of academic and social integration in predicting Mexican American nursing student academic success?" The research instrument used to measure student integration was the P/VDDS. Direct bivariate logistic regression was used to analyze the variable of student integration (ρ=.786; Exp(B)= .000). Although previous research demonstrated the importance of student integration into the university's academic and social environment in this study student integration was not found to be significantly predictive of academic success.

When analyzing these results, characteristics of the population, the majority lived at home with their families, should be taken into consideration. The continued closeness to family and friends rather than going away to college could have had an impact on the traditional thoughts related to integration, that to successfully integrate into the academic and social fabric of the institution the student must "break" away from their family and make new relationships at the university (Tinto 1975, 1993). For these students living at home, in the same town where they lived prior to attending college, suggests they could go to college with little change in their home environment. This continued closeness allowed students easy access to known sources of support, referred to by Guiffrida (2006) as the home social system, and as a result their persistence decisions may not have been dependent on being integrated into the college/university. In conclusion it must be

considered that Mexican American students attending schools as commuters and living at home in a community where their friends and family reside may have a less recognized need to "fit" into the academic and social environment of the institution in order to persist and obtain a college degree. That a majority of the students were non-first generation may have also affected this result as research by Prospero and Vohra-Gupta 2007) reported that student integration was more important for first generation students than for second-generation students.

Research Question Three

Academic self-efficacy is conceptualized as how well the student perceives they can undertake and complete tasks/behaviors needed to successfully achieve a specific goal (Bandura 1995; Schnuck 1991). This has been postulated as being important to student persistence and success as it provides students with the self-belief that they have the ability to succeed academically which provides them the motivation to initiate behaviors that will lead to success (Bandura 1995). In addition, when students believe that success will result from their actions this belief is thought to provide students with a sense of control over their academic environment (Bandura 1995; Schnuck 1991).

Direct bivariate logistic regression was used to examine the third research question "What is the contribution of self-efficacy in predicting Mexican American nursing student academic success?" The combined scores on two subscales of the CSEI, academic and social self-efficacy, were used to measure the predictability of the independent variable of academic self-efficacy. The question was analyzed using direct bivariate logistic regression. In this investigation results of the analysis indicate the variable of academic self-efficacy

(ρ=.697, Exp(B)= .920) was not a significant predictor of passing a specified

clinical nursing course.

When analyzing these results consideration should be given to the processes

associated with acquiring realistic self-efficacy beliefs. The development of self-efficacy

takes place over time and requires that the individual be given opportunities to attain new

information and skills (Bandura 1997). According to Bandura (1995) development of

self-efficacy beliefs takes place through four forms of influence: 1) enactive or mastery

experiences, 2) vicarious experiences, 3) social persuasion, and 4) physiological and

emotional states. Enactive attainment is being allowed time to actually master a required

behavior, vicarious experiences are observing others successfully perform the task, social

persuasion is being given positive/realistic feedback on the ability to perform the task,

and physiological/emotional influence involves providing an environment that lowers the

stress level associated with task performance.

Academic self-efficacy in nursing education comprises not only tasks/behaviors

such as the ability to read the textbook, write papers, interact with faculty, or take exams;

it also includes the ability to perform psychomotor skills required to provide nursing care

(Harvey & McMurray 1994). In this investigation academic self-efficacy was explored in

relation to the self-belief that students had the ability to perform the academic and

psychomotor skills/behaviors needed to successfully pass a specified nursing clinical

course with a letter grade of "C" or better. Research has shown that developing realistic

self-efficacy beliefs takes time to achieve (Gore 2006), thus when measuring this variable

the time line used is important. In this investigation the CSEI was administered after the

second week of school and prior to the first course exam. The rationale for this was to

allow students time to become familiar with course expectations and the associated

psychomotor skills/behaviors required to be successful. Measuring self-efficacy prior to

the first exam was to control for the possibility that test scores would bias student

responses. As stated previously in the investigation an analysis of data indicated that self-

efficacy was not predictive of passing a specified nursing clinical course. When

evaluating these results there are several factors that must be considered. First since

developing and making a realistic appraisal of self-efficacy takes time (Bandura 1995)

perhaps the time frame used for measuring the variable was not sufficient enough for

students to develop an accurate assessment of their abilities. In addition the CSEI

instrument, though developed specifically to measure Hispanic college student self-

efficacy, may not have been sensitive enough to capture behaviors and skills required to

be successful in a nursing clinical course.

Research Question Four

Perceived social support in this investigation was the perception that in a time of

need or when confronting a stressful situation others are available to offer support,

information and feedback. In terms of the Mexican American population, close and

extended family members often serve as the primary source of social support (Zinn 1982;

Zinn & Pok 2001; Keefe, Padilla, & Carlos 1979; Niska 1999). It has been reported that

Mexican American college students are often in need of social support when facing

challenges of higher education (Gloria, Castellanos, Lopez, & Rosales 2005). Research

has demonstrated that support and encouragement from family affects Mexican American

college students' academic persistence and success (Torres & Solberg 2001; Hernandez

2000; Cutrona et al 1994). In other research it has been reported that maintenance of a

strong family social support system and encouragement from family members is instrumental in Hispanic/Mexican American nursing students' decisions to attend college and once there to succeed (Villarruel, Canales & Torres 2001; Taxis 2006; Doutrich et al 2005). While the family has been an acknowledged source of support there is a body of research that found social support from others, such as peers, faculty and role models, also influences Hispanic college students' educational decisions (Cejda, Casparis, Rhodes, & Seal-Nyman 2008). The variable of academic perceived social support was explored in this investigation in terms of predicting academic success as defined by the dependent categorical variable of passing or failing a specified clinical nursing course; with passing operationalized as making a letter grade of "C" or better. The fourth research question developed was "What is the contribution of perceived social support from family, friends, and significant other in predicting Mexican American nursing student academic success?" The question was analyzed using direct bivariate logistic regression. The research instrument used to measure perceived social support was the MSPSS. In this investigation the variable of perceived social support from family, friends, and significant other (ρ=.520, Exp(B) 1.142) was not a significant predictor of academic success.

The importance of social support, especially from family and friends, in the Mexican American culture has been widely described in past research. It was therefore anticipated that perceived levels of social support would contribute to the prediction of academic success. The finding that it was non-predictive was therefore unexpected. It must be noted that the majority of students in the study were not the first generation to attend college and continued to live at home while attending school. Upon reflection this aspect of the sample population may have affected the study's findings. That a majority

of students were able to live with their family in a familiar environment may have diminished the stress often associated with college attendance and decreased student's perceived need for and importance of social support. Another possible explanation that should be contemplated is that when non-first generation Mexican American students become more proficient in English and acculturated to the educational process the level of stress will diminish and as a consequence social support may be perceived to be less crucial.

Research Question Five

To explore the possibility that one variable was more predictive of academic success than the others a fifth and final research question was developed; "Which variables "contextual" "personal" "integration" "self-efficacy" or "social support", has the greatest contribution in predicting Mexican American nursing student academic success?" The analysis of data using direct bivariate logistic regression indicated that only program type (ρ=.004; Exp(B) =4.988), attending a BSN nursing program, was predictive of passing a specified clinical course with a letter grade of "C" or better.

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Study Limitations

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In analyzing the results one of the issues that should be taken into consideration are characteristics of the sample population used. The study sample size (n=188), was limited to three nursing programs all within a close geographical location in south Texas near the border with Mexico. In addition all schools were designated as HSIs, had a large percentage of Mexican American students, in two schools greater than 90 percent of the nursing students were Mexican American, who continued to live at home while attending school. While the focus of this investigation was to explore variables predictive of

Mexican American nursing student success and these nursing programs afforded the researcher with an adequate pool of potential participants, the similarity of student characteristics resulted in a population sample that was very homogenous. Thus, limitations to the study include: 1) a lack of variance in contextual and personal attributes of the sample population, 2) including only three nursing programs all within close geographic location, 3) all schools were HSIs, and 4) majority of all students enrolled in the nursing programs as well as the colleges as a whole were Mexican American. In addition the sample size, n=188, was small; a larger data set may have provided more information.

Aspects of the inclusion criteria were also limitations of this investigation. The stipulation that only students enrolled in the first or second semester of nursing school could participate in the study limited the scope and amount of information that was used to measure the predictive contribution of the independent variables had on academic success. In addition the variable used to measure success, the grade in one course that was clinical in nature, was another limitation of the study.

Discussion of Results and Implications

As mentioned previously after examining the data it was found that the only variable predictive of academic success in the sample studied was attending a BSN program rather than an ADN program. In this investigation it was also noted that the of percentage ADN students who did not achieve academic success, course failure, was 32 percent compared to 15 percent of the BSN students. In addition all the ADN students were in the second semester of nursing school while the sample of BSN students included both those enrolled in both the first and second semester of nursing school.

This finding has been supported in other research related to student persistence and degree attainment (NLN 2006; NLN 2012b; Arbona & Nora 2007). Students who attend four-year degree granting institutions in comparison to beginning at two-year community colleges have higher rates of degree attainment (NCES 2012b). This is also true in nursing education where students attending BSN programs have higher rates of retention students attending ADN programs. Even though previous research indicated being the first generation to attend college, living at home, and gender impacted Mexican American college student academic achievement (Gardner 2005; Villarruel, Canales, & Torres 2001; Doutrich et al 2005; Bond et al 2008; Arbona & Nora 2007; Nora & Crisp 2009) these findings were not supported in this in this study. In addition the variables of student integration, academic self-efficacy, and perceived social support were not supported by the analysis of the data in this investigation. However this finding does help support the importance of the bachelor's degree in nursing as an important preparation for entry into practice.

A factor in this investigation that was not a variable but may have influenced the results was that while there were differences in nursing program type (ADN or BSN) and semester of enrollment (first or second) all programs were associated with HSI's. This was not surprising or unexpected given the geographical location in Texas where the study took place as a majority of all two and four-year colleges/universities are designated HSIs (Santiago 2006). The very characteristics of HSIs that make them popular with students: 1) a location that allows them to continue living at home, 2) emphasis on the learning needs of the Hispanic student, 3) commitment to meet the cultural, linguistic and financial needs of Hispanic students, and 4) increased number of

Hispanic faculty members (Taxis2002; Santiago, Andrade, & Brown 2004; Benitez & DeAro 2004; Pino & Ovando 2005; Santiago 2006; Perrakis & Hagedorn 2010) may have accounted for the lack of variance in the study and impacted the results. The inclusion of HSI institutional characteristics shown to influence academic success should be considered when conducting future research on this subject.

Hispanic serving institutions are known to tailor student services and curriculum development around the needs and obligations associated with Hispanic students (Benitez & DeAro 2004). In a twelve month research project Santiago, Andrade, and Brown (2004) explored how six HSIs, located in Texas, New York, and California, facilitated student success. In the study institutional practices and student outcomes were compared. Some commonalities were that the mission and goals of the institutions were clear. There was a responsibility to assist all students, not just Hispanics, achieve academically through helping them learn. The schools were committed and had the expertise to help meet the unique cultural, linguistic, and economic needs of the student body. The majority of HSIs tend to be commuter institutions, allowing Hispanic students to attend school while still being close enough to home to meet family obligations. The close proximity to home not only helps students financially but it also helps with issues such as reluctance of the family and student to be separated from each other. In terms of first generation students these schools tend to have easier campus access as well as processes aimed at assisting students and families with issues that frequently face those with limited experience in higher education (Santiago 2007). However, in this study it must be noted that the majority of the students were non-first generation.

The racial and cultural composition of the faculty, staff, and other students should also be taken into account when examining the results of this investigation. In two of the programs over 90 percent of the students were of Mexican American heritage and there was Mexican American representation by the nursing faculty. Previous research has identified the importance students place on having Hispanics in the classroom and in administration (Perrakis & Hagedorn 2010). Castellanos and Jones (2003) reported that having Latino faculty and administrators had a positive impact on Latino student retention. In a metasynthesis of qualitative research performed to identify facilitators and barriers to Hispanic nursing student success Alicea-Planas (2009) reported that lack of Hispanic faculty was often cited as a barrier to achievement. Wilson, Andrews, and Leners (2006) found that a lack of diversity in nursing faculty made recruiting and retaining minority students more difficult.

The majority of the students in this study were not the first generation in their family to attend college, this prior exposure to higher education could explain the lack of significance this variable had on predicting student success. This was an unexpected finding as the traditional profile of the Hispanic/Mexican American student has been they were the first member of their family to attend college. This lack of experience with the processes and commitments required to be academically successful in higher education had been shown to negatively impact student achievement (Ting 2003). However, with the reported increases in Hispanic/Mexican American high school completion and college enrollment (Fry & Lopez 2012) this may become more common. In the U.S. the demographics of the Mexican American population has evolved over time. The majority have been born in the U.S. (Pew Hispanic Center 2011), have increased proficiency in

English (Gonzalez-Barrera & Lopez 2013), and in terms of education have higher rates of high school completion, college enrollment and graduation (Fry & Lopez 2012). The implication of this study's finding as well as the changing demographics of the Mexican American student is that research, which is often the basis of policy decisions, should explore the influence these changes may have on student educational needs and outcomes.

The theoretical framework guiding this study included the variables of student integration, self-efficacy, and social support. Upon analysis of the data it was found that participants average mean scores on student integration (M=4.02), self-efficacy (M=7.12) and social support (M=6.1) were high. The strength of these factors in this population was an unforeseen finding. The analysis of data also showed a lack of variance in students' mean scores on the instruments used to measure these variable; student integration (SD=.387), self-efficacy (SD=1.06) and social support (SD= .98). Overall the study's sample demonstrated a high degree of homogeneity with a small degree of variability in terms of integration, self-efficacy and social support. In this study of n=188 Mexican American students, all currently accepted and enrolled in nursing school, there were high levels of student integration, self-efficacy and social support present. Since these students have already completed pre-nursing course work in the sciences and humanities and met the grade requirements for acceptance into nursing school the implication may be that these variables have contributed to the students' current academic standing.

Policy Implications

In the present study attending a BSN program was predictive of academic success. There are policy implications related to this finding as it relates to nursing education, nursing practice and research. A major public policy issue in nursing is the educational preparation for entry into practice. With an aging population, health care conditions that require more complex management, advances in technology and the economics of U.S. health care nurses entering the workforce must be well-prepared with a broad base of knowledge and skills (Smith 2009). National organizations (AACN 2012, IOM 2010) have recognized the need for the BSN being the minimal level of entry based on the belief that the baccalaureate prepares the nurse for a broader scope of practice. In terms of educational policy with the limits on classroom and clinical facilities, the rapidly rising cost of higher education, as well as the need to address the nursing shortage it is important that limited human and financial resources be utilized in nursing programs where students have the best opportunity for success. Research examining variables of BSN education that are predictive of academic success and using this information to formulate nursing program policies would also be beneficial to nurse educators.

In this study alls nursing programs were affiliated with HSIs. The mission of HSIs according to Benitez and DeAro (2004) is to serve their local area and address the educational needs of the ever growing Hispanic/Mexican American population. These institutions seek to increase student success and persistence until degree completion by aligning student services and programs around the unique needs of Hispanics (Benitez & DeAro 2004). In terms of policy implications the practices HSIs have instituted to promote Hispanic/Mexican American student success should be evaluated through use of

outcome data (i.e. degree completion, GPA, retention, and in the case of community

colleges transfer information). If the data is found to be useful the information could have

important implications to the higher education community as a whole. The information

could offer valuable insight into student needs and strategies that have proved effective in

promoting academic success. Federal Title V funding was significant in providing HSIs

the resources needed to address Hispanic students' academic needs. In this era of cost

cuts, funding slashes, and an increased emphasis on meeting student learning needs

keeping the various stakeholders (students, public, legislators) aware of the impact HSIs

have on student performance is important.

Implications for Future Research

Research directed toward developing a better understanding of factors that impact

achievement in nursing education with an emphasis on the needs of the Mexican

American student is important to help meet the nation's need for a diverse nursing

workforce. In this investigation exploratory quantitative research methodology was used

to measure the ability of selected variables to predict academic success in terms of

passing a specified clinical course. The results of the study were unexpected as only

program type was identified as being a predictor of academic success. In addition the

research, expanded on what was known about factors influencing Mexican American

student nurse academic success and underlined the need for more research in this area.

Since this research was limited to only one semester and one course grade,

implications for future research include using this same methodology to examine how

predictive these variables would be in: 1) passing a semester of coursework, 2) degree

attainment, and 3) passing the national licensure exam on the first attempt. Qualitative

research is another research methodology that could be used to explore and understand the phenomenon of Mexican American nursing students' academic success. Many times an individual's perceptions of what is important and meaningful are related to values or beliefs, difficult issues to measure with traditional quantitative research methods, qualitative research is one way insight into the nuances of a phenomenon could be examined.

In this study a noted limitation was sample size and lack of variance in the sample that included socio-demographic, contextual attributes as well as the variables of integration, self-efficacy, and social support. To explore the phenomenon of predictors of Mexican American nursing student success more extensively, suggestions are: larger sample size, expand geographic location of nursing programs in the study, include students from non-HSI affiliated nursing programs, and if using HSIs include characteristics of these institutions as variables in the study. In the present study students had high levels of integration, self-efficacy and social support. In the future a study comparing students with high levels of these variables with students with low levels could provide more insight into the predictability integration, self-efficacy and social support have on academic achievement.

While research has indicated that students attending a four-year university have higher levels of degree completion than those attending two-year institutions (Fry 2002) no research has been undertaken that would explain why attending a BSN program is predictive of success in the Mexican American nursing student population. Exploring topics that impact students prior to acceptance into nursing school such as differences in

recruitment, advising, admission processes, pre-requisite course work, pre-nursing curriculum, and utility of nursing entrance exams.

Exploring reasons students choose nursing as a course of study could also be an important area of future research related to predicting Mexican American nursing student achievement. Issues such as determining if students have accurate and realistic expectations of the profession and the academic demands of nursing school could offer useful information to nursing advisors and educators. In addition as more Mexican American men enter nursing, a traditionally female profession, examining gender differences in motivation and personal characteristics that affect student success could also provide valuable insight to nursing educators. In this same vein research directed toward looking at values and personal traits such as caring and compassion to explore how these influence choosing nursing as a career and the subsequent impact on predicting student persistence and academic outcome could help nursing programs with their selection processes. To further examine the impact of HSI affiliation on academic success a qualitative study exploring Mexican American nursing student perceptions of institutional qualities that promote success could be undertaken. The evolving demographics of the Mexican American population in the U.S., birth rather than immigration driving population increases, improved rates of high school graduation and college enrollment, should also be studied in terms of academic success. This data would be helpful in determining if the traditional profile of the Hispanic student has changed and if so does that impact factors predictive of nursing school academic success.

A closer examination of the instruments used to measure the variables of Mexican American nursing student integration, self-efficacy, and perceived social support is also

needed. Even though all instruments used in this investigation had previously been employed in the Hispanic and/or nursing educational setting, studies aimed at developing research instruments that more specifically and accurately measured these variables in the Mexican American nursing student population would be beneficial. In particular research directed toward developing an instrument specific to self-efficacy related theoretical and psychomotor skills associated with nursing should be considered.

In terms of Mexican American nursing students' educational success, areas of interest could be how student success is impacted by adaptation strategies, value placed on education or conflicting commitments. The effectiveness of support systems, both personal and institutional, in assisting the student to succeed academically lends itself well to research related to academic success.

Expanding research beyond the entry level Mexican American nursing student to the nurse who is in active practice is an additional area of future research. With the increasing demands and opportunities available to nurses in the nation's health care system nurses prepared at the diploma or ADN level may be considering going back to school for their BSN while nurses with a BSN may be considering the advance practice role. As these nurses return to the student role their needs and priorities may be vastly different than those of the entry level nursing student. It is hoped that research could be expanded to develop an understanding of factors that are predictive of success for this population of nursing students.

Conclusion

Promoting student success should be the goal of all nurses; and is especially important to the nurse educator. Adding to the knowledge base of nursing related to

predictors of academic success is an essential component in reaching this goal. Identifying and measuring traits or characteristics that support success can be very difficult. Due to the importance of addressing both the shortage of nurses and the need to increase the diversity of the profession, understanding variables that affect Mexican American nursing student success has been the focus of this investigation. It is hoped that the increased understanding of variables predictive of academic success can be useful in helping nursing students reach their educational goals and enable them to enter the profession of nursing.

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APPENDIX A

Research Instruments

Demographic Information

The responses you provide on this assessment will help us gain a better understanding of

the types of activities or experiences that promote academic success for nursing students.

All answers will be confidential, will not be reported on an individual basis, and reported

as a group only. Please answer each question by circling the response that reflects your

experiences as a nursing student.

1.   What institution are you currently attending?

    A. University of the Incarnate Word
    B. Texas A&M Corpus Christi
    C. University of Texas El Paso
    D. Texas A&M International
    E. Laredo Community College
    F. Coastal Bend Community College

2,   Which semester of **nursing school** are you attending?

    A. First   B. Second   C. Other please specify

3.   Gender

    A. Male   B. Female

4.   Age :_____

5.   Do you live with your family?

    A. Yes   B. No

6.   Do you have a roommate(s)?

    A. Yes   B. No

7. Are you the first in your family to attend college?

   A. Yes   B. No

8. Please complete the following sentence:

   I anticipate my grade for this class will be (Please circle)

   A   B   C   D   F

9. Please complete the following sentence:

   I anticipate my overall semester GPA will be: _____

10. Ethnic Heritage/Identity

    A.   African American

    B.   Asian/Pacific Islander

    C.   White/Euro-American

    D.   Hispanic Mexican-American/Chicano

    E.   Hispanic Puerto Rican-American

    F.   Hispanic South-America

    G.   Hispanic Central-American

    H.   Hispanic Cuban American

    I.   Native American

    J.   Multi-ethnic

    K.   Other (please specify)

Please use the following 5-point Scale and Circle the most Accurate Response	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Since coming to this university/college I have developed close personal relationships with other students	1	2	3	4	5
The student friendships I have developed at this school have been personally satisfying	1	2	3	4	5
My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes, and values	1	2	3	4	5
My interpersonal relationships with other students have had a positive influence on my intellectual growth and interest in ideas	1	2	3	4	5
It has been difficult for me to meet and make friends with other students	1	2	3	4	5
Few (less than 3) of the students I know would be willing to listen to me and help me if I had a personal problem	1	2	3	4	5
Most students at this university/college have values and attitudes different from my own	1	2	3	4	5
My non-classroom interactions with faculty have had a positive influence on my personal growth, values and attitudes	1	2	3	4	5
My non-classroom interactions with faculty have had a positive influence on my intellectual growth and interest in ideas.	1	2	3	4	5
My non-classroom interactions with faculty have had a positive influence on my career goals and aspirations	1	2	3	4	5
Since coming to this school I have developed a close, personal relationship with at least one faculty members	1	2	3	4	5
I am satisfied with the opportunities to meet and interact informally with faculty members	1	2	3	4	5
Few (less than 3) of the faculty members I have had contact with are generally interested in students	1	2	3	4	5
Few (less than 3) of the faculty members I have had contact with are generally outstanding or superior teachers.	1	2	3	4	5

Few (less than 3) of the faculty members I have had contact with are willing to spend time outside of class to discuss issues of interest and importance to students	1	2	3	4	5
Most of the faculty I have had contact with are interested in helping students grow in more than just academic areas	1	2	3	4	5
Most faculty members I have had contact with are genuinely interested in teaching	1	2	3	4	5
I am satisfied with the extent of my intellectual development since enrolling in this university/college	1	2	3	4	5
My academic experience has had a positive influence on my intellectual growth and interest in ideas	1	2	3	4	5
I am satisfied with my academic experience at this university/college	1	2	3	4	5
Few of my courses this semester have been intellectually stimulating	1	2	3	4	5
My interest in ideas and intellectual matters has increased since coming to this school	1	2	3	4	5
I am more likely to attend a cultural event (for example a concert, lecture, or art show) now than I was before coming to this university/college	1	2	3	4	5
I have performed academically as well as I anticipated I would	1	2	3	4	5
It is important for me to graduate from college	1	2	3	4	5
I am confident that I made the right decision in choosing to attend this university/college	1	2	3	4	5
It is likely that I will register at this school next semester	1	2	3	4	5
It is not important to me to graduate from this university	1	2	3	4	5
I have no idea at all if I want to continue in this major	1	2	3	4	5
Getting good grades is not important to me.	1	2	3	4	5
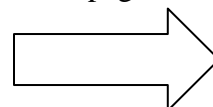
Not Confident   **Extremely**
**Confident**
0----------1----------2----------4----------5----------6--------7----------8--------9

How confident are you that you could successfully complete the following tasks: Please circle the appropriate number.	0	1	2	3	4	5	6	7	8	9	N / A
Research a term paper	0	1	2	3	4	5	6	7	8	9	N/A
Write a course paper	0	1	2	3	4	5	6	7	8	9	N/A
Do well on your exam	0	1	2	3	4	5	6	7	8	9	N/A
Take good class notes	0	1	2	3	4	5	6	7	8	9	N/A
Keep up to date with your schoolwork	0	1	2	3	4	5	6	7	8	9	N/A
Manage time effectively	0	1	2	3	4	5	6	7	8	9	N/A
Understand your text books	0	1	2	3	4	5	6	7	8	9	N/A
Get along with roommate(s)	0	1	2	3	4	5	6	7	8	9	N/A
Socialize with your roommate(s)	0	1	2	3	4	5	6	7	8	9	N/A
Divide space in your apartment/room	0	1	2	3	4	5	6	7	8	9	N/A
Divide chores with your roommate(s)	0	1	2	3	4	5	6	7	8	9	N/A
Participate in class discussion	0	1	2	3	4	5	6	7	8	9	N/A
Ask a question in class	0	1	2	3	4	5	6	7	8	9	N/A
Get a date when you want one	0	1	2	3	4	5	6	7	8	9	N/A
Talk to your professors	0	1	2	3	4	5	6	7	8	9	N/A

Talk to university/college staff	0	1	2	3	4	5	6	7	8	9	N/A
Ask a professor a question	0	1	2	3	4	5	6	7	8	9	N/A
Make new friends at college	0	1	2	3	4	5	6	7	8	9	N/A
Join a student organization	0	1	2	3	4	5	6	7	8	9	N/A
Be Involved with campus sports team	0	1	2	3	4	5	6	7	8	9	N/A
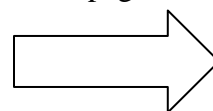
Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement by circling the most accurate response.

Please use the following 7-point Scale and Circle the most Accurate Response	Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutra1	Mildly Agree	Strongly Agree	Very Strongly Agree
There is a special person who is around when I am in need.	1	2	3	4	5	6	7
There is a special person with whom I can share joys and sorrows.	1	2	3	4	5	6	7
My family really tries to help me.	1	2	3	4	5	6	7
I get the emotional help & support I need from my family.	1	2	3	4	5	6	7
I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7
My friends really try to help me.	1	2	3	4	5	6	7
I can count on my friends when things go wrong.	1	2	3	4	5	6	7
I can talk about my problems with my family.	1	2	3	4	5	6	7
I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7
My family is willing to help me make decisions	1	2	3	4	5	6	7
I can talk about my problems with my friends	1	2	3	4	5	6	7

APPENDIX B

Informed Consent

UNIVERSITY OF WISCONSIN – MILWAUKEE
CONSENT TO PARTICIPATE IN RESEARCH
Student Consent

THIS CONSENT FORM HAS BEEN APPROVED BY THE IRB FOR A ONE
YEAR PERIOD

General Information

Study title: Predictors of Mexican American Nursing Student Academic Success

Person in Charge of Study (Principal Investigator):
I am Belva Gonzalez, a doctoral student in the College of Nursing at the University of Wisconsin-Milwaukee.

Study Description

You are being asked to participate in a research study. Your participation is completely voluntary. You do not have to participate if you do not want to.

Study description:

With the rapidly changing ethnic and racial demographics of the United States it is important that there are nurses capable of providing culturally appropriate health care. This may be difficult if there are not enough nurses available who share the same culture as the patients under their care. This is especially important in the Mexican American population because of the lack of Mexican American nurses at the same time the number of Mexican Americans in the United States is increasing.

To meet the increasing need for Mexican American nurses it is important that Mexican American nursing students successfully complete nursing school. The purpose of this study is to gain knowledge about factors that influence Mexican American Nursing students' ability to be successful in nursing school.

This study will be conducted at various nursing schools in Texas. Approximately 160 student nurses will participate in the study. If you agree to be in this study you will be asked to complete a demographic form and three survey instruments that should take approximately 20 minutes of your time. In addition you will also be asked to give permission for your college/university to release your of end of semester grades to me.

Study Procedures

If you agree to participate you will be asked to meet with me, sign a consent form and complete a demographic form and three survey instruments that should take approximately 20 minutes of your time.

You will also be asked to give your college/university permission to give me your end of semester course grades.

Risks and Minimizing Risks

All information will be treated as confidential and you will not be identifiable directly or indirectly by any information. When analyzing data your name will not be used. All information will be reported as a whole and no information will be reported at the individual level.

Benefits

There are no direct benefits to you other than to further the understanding of factors that influence Mexican American student success in nursing school.

Study Costs and Compensation

You will not be responsible for any cost of taking part in this research study.

As an incentive to participate those completing the survey will be given the opportunity to qualify for a $25 gift card. At each school a $25 gift card will be allotted for every 10 participants.

Confidentiality

All information collected about you during the course of this study will be kept confidential to the extent permitted by law. I will use the results in my dissertation and may decide to present what we find to others, or publish our results in scientific journals or at scientific conferences. There will be no way of linking your responses to the results of the research. All results and data obtained from the surveys will be reported as a group and no individual data will be reported.   Only I and my faculty advisor will have access to the information. However, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review your records.

The only portion of the survey that will contain your name is the signed informed consent form. All pages of the survey, including the consent form, will have a unique identifier number randomly assigned by the investigator. Only I will have access to the list of names and identifier numbers, this list will be kept separate from the surveys in a locked filing cabinet. After receiving the grades only the investigator will attach grade information, using the list containing identifier numbers to participant names, to the appropriate survey response. For purpose of data analysis each participant will be given a specific code that is unrelated to the survey identifier. The list containing the code and corresponding identifier will be compiled by me and kept in a locked cabinet separate from all other research data. After I have entered the responses from the survey and the grades into a data file the list will be destroyed. Only your signed informed consent will be saved.

Alternatives

If you are unable to complete the survey instrument at this time but are still interested in participating you will be asked to sign an informed consent and then be given an online link where you may complete the survey information.

Voluntary Participation and Withdrawal

What happens if I decide not to be in this study?
You do not have to be in the study. Your participation is completely voluntary. You are free to not answer any of the questions or withdraw from the study at any time including during or after completing the questionnaires. There is no penalty for withdrawing. Your status as a nursing student or your grade will not be affected.

Questions

Who do I contact for questions about this study?
For more information about the study or the study procedures or treatments, or to withdraw from the study, contact:
> Belva Gonzalez
> 200 Martingale #142
> Laredo, Texas 78041
> 956-206-4492
> belva@uwm.edu

Who do I contact for questions about my rights or complaints towards my treatment as a research subject?
The Institutional Review Board may ask your name, but all complaints are kept in confidence.

Institutional Review Board
Human Research Protection Program
Department of University Safety and Assurances
University of Wisconsin – Milwaukee
P.O. Box 413
Milwaukee, WI 53201
(414) 229-3173

Signatures

Research Subject's Consent to Participate in Research:
To voluntarily agree to take part in this study, you must sign on the line below. If you choose to take part in this study, you may withdraw at any time. You are not giving up any of your legal rights by signing this form. Your signature below indicates that you have read or had read to you this entire consent form, including the risks and benefits, and have had all of your questions answered, and that you are 18 years of age or older.

_____
Printed Name of Subject/ Legally Authorized Representative

_____   _____
Signature of Subject/Legally Authorized Representative   Date

Principal Investigator (or Designee)
I have given this research subject information on the study that is accurate and sufficient for the subject to fully understand the nature, risks and benefits of the study.

_____   _____
Printed Name of Person Obtaining Consent   Study Role

_____   _____
Signature of Person Obtaining Consent   Date

APPENDIX C

Consent for Release of Grades

Consent for Release of Grades

I am giving consent for my college/university _____ (name of school) to have my end of semester grades for course _____ (please provide course prefix and number) and semester grade point average submitted to Belva Gonzalez.

Research Subject's Consent to Participate in Research:
To voluntarily agree to take part in this study, you must sign on the line below. You are giving consent to have your end of semester course grades and semester grade point average provided to Belva Gonzalez. If you choose to take part in this study, you may withdraw at any time. You are not giving up any of your legal rights by signing this form. Your signature below indicates that you have read or had read to you this entire consent form, including the risks and benefits, and have had all of your questions answered, and that you are 18 years of age or older.

_____
Printed Name of Subject/ Legally Authorized Representative

_____   _____
Signature of Subject/Legally Authorized Representative   Date

Principal Investigator (or Designee)
I have given this research subject information on the study that is accurate and sufficient for the subject to fully understand the nature, risks and benefits of the study.

_____   _____
Printed Name of Person Obtaining Consent   Study Role

_____   _____
Signature of Person Obtaining Consent   Date

APPENDIX D

Permission to use College Self Efficacy Inventory (CSEI)

From: Scott Solberg [ssolberg@education.wisc.edu]
Sent: Friday, February 13, 2009 2:34 PM
To: Gonzalez, Belva J.
Subject: Re: Request
Attachments: College Self-Efficacy 9.29.05.pdf

Belva:

Here you go. good luck with your research

scott

Gonzalez, Belva J. wrote:
>
>
>
> Dr. Solberg,
>
> I would like to take this opportunity to introduce myself. My name is
> Belva Gonzalez and I am working on my doctorate in nursing at UWM. I
> am interested in using the College Self Efficacy Inventory in my
> dissertation research. I am not sure how to get permission to use this
> instrument and was hoping you could direct me.
>
> Thank you,
>
> Belva Gonzalez
>
>
>
>
>
> ---
> --
>
>
> Belva J Gonzalez
> Assistant Professor
> Canseco School of Nursing
> CH 111B
> Tel. (956) 326-2452
> Fax (956) 326-2449

>

APPENDIX E

Permission to use the Multidimensional Scale of Perceived Social Support (MSPSS)

Dear Belva,

I am happy to give you permission to use my scale, the Multidimensional Scale of Perceived Social Support (MSPSS), in your dissertation research. I have attached a copy of the scale and a document listing several articles that report on the psychometric properties of the MSPSS. Please let me know if you have any additional questions.

I hope your doctoral research goes well.

Sincerely,
Greg Zimet

--
Gregory D. Zimet, PhD
Professor of Pediatrics & Clinical Psychology
Section of Adolescent Medicine
Indiana University School of Medicine
Health Information & Translational Sciences

APPENDIX F

**Permission to use the Persistence/Voluntary Dropout Decisions Scale (PVDDS)**

From:	Pascarella, Ernest T [ernest-pascarella@uiowa.edu]
Sent:	Friday, February 13, 2009 12:06 PM
To:	Gonzalez, Belva J.
Subject:	RE: Information

Belva: sure you have our permission to use the scales. Best, ernie

From: Gonzalez, Belva J. [mailto:belva.gonzalez@tamiu.edu]
Sent: Friday, February 13, 2009 10:53 AM
To: Pascarella, Ernest T
Subject: Information
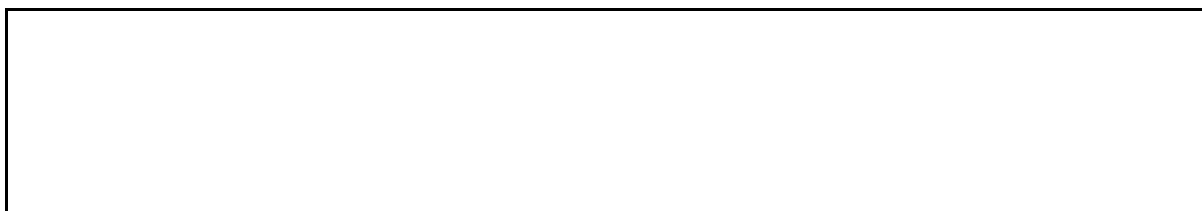
Dr. Pascarella,
I would like to take this opportunity to introduce myself. My name is Belva
Gonzalez and I am in doctoral student in nursing at the University of Wisconsin
Milwaukee. I am interested in using the Persistence/Voluntary Dropout Decisions
Scale in my dissertation research. I was hoping you could provide me information
on how I could get permission to use this instrument in my research.
Thank you,
Belva Gonzalez
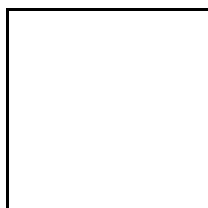
Belva J Gonzalez
Assistant Professor
Canseco School of Nursing
CH 111B
Tel. (956) 326-2452
Fax (956) 326-2449

APPENDIX G

IRB Approval

UNIVERSITY of WISCONSIN

UWMILWAUKEE

Department of University Safety & Assurances

Melissa Spadanuda
IRB Administrator
Institutional Review Board
Engelmann 270
P. O. Box 413
Milwaukee, WI 53201-0413
(414) 229-3173 *phone*
(414) 229-6729 *fax*

http://www.irb.uwm.edu
spadanud@uwm.edu

New Study - Notice of IRB Expedited Approval

Date: September 9, 2011

To: Susan Dean Baar, PhD, RN, FAAN
Dept: Nursing

Cc: Belva Gonzalez

IRB#: 12.063
Title: Predictors of Mexican American Nursing Student Academic Success

After review of your research protocol by the University of Wisconsin – Milwaukee Institutional Review Board, your protocol has been approved as minimal risk Expedited under Category 5 and 7 as governed by 45 CFR 46.110.

This protocol has been approved on September 9, 2011 for one year. IRB approval will expire on September 8, 2012. If you plan to continue any research related activities (e.g., enrollment of subjects, study interventions, data analysis, etc.) past the date of IRB expiration, a continuation for IRB approval must be filed by the submission deadline. If the study is closed or completed before the IRB expiration date, please notify the IRB by completing and submitting the Continuing Review form found on the IRB website.

Unless specifically where the change is necessary to eliminate apparent immediate hazards to the subjects, any proposed changes to the protocol must be reviewed by the IRB before implementation. It is the principal investigator's responsibility to adhere to the policies and guidelines set forth by the UWM IRB and maintain proper documentation of its records and promptly report to the IRB any adverse events which require reporting.

It is the principal investigator's responsibility to adhere to UWM and UW System Policies, and any applicable state and federal laws governing activities the principal investigator may seek to employ (e.g., FERPA, Radiation Safety, UWM Data Security, UW System policy on Prizes, Awards and Gifts, state gambling laws, etc.) which are independent of IRB review/approval.

Contact the IRB office if you have any further questions. Thank you for your cooperation and best wishes for a successful project

Respectfully,

Melissa C Spadanuda

Melissa C. Spadanuda
IRB Administrator

CURRICULUM VITAE

Belva J. Gonzalez

Place of Birth: Alice, Texas

Education:
> A.D.N., Laredo Community College, Texas May 1982
> Major: Nursing
>
> B.S.N., Texas A&M-Corpus Christi, Texas May 1996
> Major: Nursing
>
> M.S.N., Texas A&M-Corpus Christi, Texas May, 2002
> Major: Family Practice Nursing
>
> PhD, University of Wisconsin-Milwaukee May 2013
> Doctor of Philosophy in Nursing
> Dissertation Title: Predictors of Mexican American Nursing Student Academic
> Success

Certifications:

> Registered Nurse/Family Nurse Practitioner, State of Texas
> Board Certified by ANCC Family Nurse Practitioner
> Instructor Advanced Cardiac Life Support

Professional Organizations:

> Sigma Theta Tau International Eta Omicron Chapter
> Texas Nurse Practitioners Association
> Laredo Advanced Practice Nurses Association
> American Nurses Association

Professional Experience

> 9/2002-2012
> Family Nurse Practitioner, Part-time
> Private Office Dr. M.A. Click
> Laredo, Texas
>
> 5/2002/Present
> Assistant Professor of Nursing
> Canseco School of Nursing
> Texas A&M International University; Laredo, Texas

10/99-5/2002
Laboratory Supervisor and Teaching Assistant
Canseco School of Nursing
Texas A&M International University Laredo, Texas

10/99-10/2003
Administrative Nursing Supervisor Part-time
Mercy Health Center Laredo Texas

,
1/97-10/99
Mercy Health Center; Laredo Texas
Unit Manager

10/94-12/96
Mercy Health Center; Laredo Texas
Nurse and Professional Staff Recruiter/Employee Health Nurse

10/91-10/94
Mercy Health Center; Laredo Texas
Assistant Director of Nurses

10/90-10/91
Mercy Health Center; Laredo Texas
Patient Educator

1988-90
Brownsville Medical Center; Brownsville Texas
Part-time Staff R.N. ICU

1988-90
Texas Southmost College; Brownsville, Texas
Part-time lab and clinical instructor for vocational nursing students.

1985-87
Valley Regional Medical Center; Brownsville, Texas
Staff and Charge RN Part-time

1982-85
Mercy Regional Medical Center; Laredo, Texas
1983-85 Unit manager
1982-83 Staff and Charge R.N.