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Student Persistence in Associate Degree Nursing Programs at Mississippi Community Colleges

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STUDENT PERSISTENCE IN ASSOCIATE DEGREE NURSING PROGRAMS

AT MISSISSIPPI COMMUNITY COLLEGES

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ABSTRACT

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The purpose of this study was to examine factors of student persistence and attrition in addition to strategies that may help students persist in associate degree nursing programs at community colleges. Data were collected from nursing students enrolled in first-year associate degree nursing programs at participating Mississippi community colleges and analyzed using multiple regression and repeated measures ANOVAs. Tinto's Classic Model and Bean & Metzner's Nontraditional Model of Student Attrition were utilized in this study. This mixed methods convenience sample yielded 564 participants, and the results were as follows: environmental factors and demographic factors of student persistence were found to be significant predictors with gender being significant, and there was a statistically significant difference between academic, social integration, and environmental factors with environmental factors having a greater difference. This should be examined with a degree of caution since the Cronbach alpha of environmental factors was lower than .70. Further research should be conducted at other institutions and care should be taken to not generalize.

The University of Southern Mississippi

STUDENT PERSISTENCE IN ASSOCIATE DEGREE NURSING PROGRAMS

AT MISSISSIPPI COMMUNITY COLLEGES

by

Kathryn Lee Fleming

A Dissertation
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CHAPTER I

INTRODUCTION

History of Nursing Education

According to Moore (1981), in 1964 the community college movement was progressing and the faculty who taught the Bachelor of Science in nursing courses considered themselves above faculty who taught 2-year nursing courses. There was a move to differentiate between the two types of programs. The earliest nursing programs were one-year programs that were dependent upon clinical settings' needs. In the 1950s the general education program was a hospital-based program that was three years long. With World War II, enrollment numbers increased in nursing schools and Congress passed the Bolton Act of 1943 which funded nursing programs and also provided a stipend for students which helped to cover their cost of living. Funding ended fifteen years later for the Bolton Act.

"In 1952 the Cooperative Research Project in Junior and Community Colleges for Nursing was based at Teachers College at Columbia University" (Mahaffey, 2002, p. 3). Montag (1971) was instrumental in implementing this project and focused the nursing students on being patient centered. The shift went from hospital based to college based. One diploma school and seven community colleges participated in the project that was completed by 1957, an indication that it was possible to educate nurses in two years. ADN programs multiplied from this to over 800 programs nationally (Mahaffey, 2002).

Nursing as an occupation is 100 years old, but the 2-year programs are only 50 years old, according to Mahaffey (2002). The Nursing Education Model was developed with assistance of educational consultants and the use of audiovisual instruction which

allowed the Associate Degree in Nursing (ADN) programs to become a planned program. A recurring problem occurred with the American Nursing Association definitions of what entry level was and with the titling of positions. Montag (1971) also cited the many contributions that ADN programs have made over the years which include that these programs account for over half of nursing students, that ADN programs provide more than 17% of program graduates, and that program numbers will increase over the years. Most of the graduates work at local hospitals.

It is clear that an ADN education provides a source of registered nurses in that in 1978, 47% of all newly licensed graduates came from ADN programs. The need for an associate degree program in nursing was dictated by a nursing shortage, the growth of community colleges, and government and consumer interest, according to Mahaffey (2002). These needs were followed by a large growth of ADN programs, but controversy has existed regarding the ADN program as the entry level position in the field. In 1960, the American Nurses Association introduced the position as the baccalaureate degree in nursing being the entry level position in the field.

Almost 2.7 million nurses are currently in practice and 40.3% of those report completion of a 2-year program with 34% of those nurses holding the associate degree as the highest level of education obtained. The American Hospital Association stated there were over 125,000 vacancies for registered nurses in hospitals from 1996 to 2000. Registered nurses per 100,000 decreased by two percent (Viterito & Teich, 2002). The ADN also has a higher proportion of minorities in that 21.3% are minorities and 10.7% are male. Given the nursing shortage, the needs of society, and the interest of the public in nursing schools, there is a need to examine efforts that help students persist in

programs.

<div align="center">Student Persistence</div>

Student persistence and student attrition are two important areas to research because retaining or not retaining students affects institutions of higher learning in various ways. Reasons for withdrawal and student characteristics were examined by Zhai and Monzon (2001) and some of these reasons included work schedule conflicts, obligations with family, and finances. For students who did not persist, the percentage of females (54%) was higher than the general population (51%).

According to the Institutions of Higher Learning's (IHL) 2006 Annual Report for Nursing Degree Program Accreditation, 49.3% graduated from 2-year nursing programs from one community college with 27% being the lowest graduation rate. Some of the other persistence rates of Mississippi community college nursing programs included 30.1%, 40.2%, 55%, 31%, and 32%. Furthermore, a large percentage of the 15 community colleges in Mississippi had a persistence rate of less than 50%. For example, one community college enrolled 71 nursing students in fall 2005 and graduated 35 nursing students. Examining enrollment and graduation rates is an indirect indicator of persistence in nursing programs at community colleges. According to the Institutions of Higher Learning's 2007 Annual Report for Nursing Degree Program Accreditation, associate degree nursing programs graduated the highest number of students (1,189). There was a persistence rate of 39% in one college and 100% in another college. The Mississippi Council on Deans and Directors has a program action logic model which includes attention to student success. The priorities include increasing the graduation rate, retention rates of nursing students, and increasing success on first write of the

National Council Licensure Exam for nurses. Peer tutoring models, mentoring models, pre-nursing courses, and assessments using the Mississippi Office of Nursing Workforce, Barriers Study are being implemented (www.monw.org/pub/2004).

The Barriers to Nursing Education Program began in fall 2003 when a barriers task force was formed to establish four work groups which included financial, life demands, student preparation, and retention/attrition, according to the Mississippi Office of Nursing Workforce (2004). A nursing barriers questionnaire was administered to students in 2002 to gather demographic information, level of preparation and skills, and preparedness to enter nursing programs. A prerequisite of skills and courses were recommended before entering a nursing program. Data were also collected in fall 2004 (N=3,020) from all 21 nursing programs in Mississippi. The top three barriers identified included lack of financial resources, family issues, and inability to work and go to school. Other barriers that were identified included lack of academic preparation, lack of faculty support, health problems, lack of insurance, faculty issues and stress. Another interesting aspect of the study was grant money in that students would spend the money equally on transportation and education (24% each) with housing ranking third at 20%. Daycare (11%), miscellaneous bills (7%), and loan repayment (5%) followed in the aforementioned order (Mississippi Office of Nursing Workforce, 2004).

Student demographics from the Mississippi Office of Nursing Workforce Barriers (2004) study included gender with female students comprising 85.3% of the study and 14.6% male students. Ethnicity accounted for 80.4% Caucasians, 17.5% African American, and 2.5% Native American, Hispanic, and Asian. Student ages ranged from 17 to 69 years with 64% of students in the 20-29 year age group. Associate degree

nursing students were often married (50%) compared to others and 56% of these had

children. Sixty-one percent of students enrolled in nursing programs had a previous

occupation and 29% were seeking a nursing degree as a second degree. Fifty-five

percent of nursing students reported working full time with 67% of students working over

20 hours weekly. Most students felt prepared upon entry of nursing school and many

rated themselves above average regarding their reading skills. School attendance ranked

high while reading class assignments was a little above average.

Problem Statement

Student persistence in nursing programs has been an ongoing problem for over 40

years, according to Zhai and Monzon (2001). Persistence in 2-year nursing programs

appears to be an ongoing problem, according to IHL's Annual Reports of Nursing Degree

program Accreditation of 2006 and 2007 as stated earlier although it is unclear if this

accounts for stop outs of other interruptions. Percentages were calculated on admissions

and graduation two years later which provides an indirect measure of persistence.

Purpose and Justification

This study explores student persistence in Associate Degree Nursing programs at

Mississippi community colleges. Some of the factors that are explored include:

persistence and attrition issues in nursing programs at 2-year colleges; the effects of

persistence and attrition on various demographics, and strategies and programs used to

assist students in being successful.

Student persistence and attrition are two important areas to explore in research,

especially in the area of nursing programs. The reasons for examining the

aforementioned are to curtail a waste of resources in addition to looking at how students

from a variety of backgrounds can succeed. When resources are mentioned, these include the resources of the institution (use of facilities and labs, use of college personnel, and faculty time), the resources of the student (finances, and time invested in program), and the resources of society which include tax payer dollars spent. It can be very expensive to educate students, especially students enrolled in nursing programs, because of the technical nature of the programs and the necessity of maintaining learning labs in addition to use of faculty time. There is not only a cost to the institution and taxpayer, but also to society. Furthermore, there is a cost to the student in the form of lost time and wages due to the pursuit of what is generally a full time program-nursing.

This study examined student persistence in first-year Associate Degree nursing programs at community colleges in Mississippi to determine the relationship among the following variables: Demographic variables (socioeconomic status, gender, ethnicity/culture, age, marital status, English Language Learner, Limited English Proficient, and first generation college students), academic variables (study hours, absenteeism, and academic advising), environmental variables (finances, outside employment, and family responsibilities), and social integration variables (memberships, faculty contact, and school friends). Study findings may add to the body of knowledge that already exists regarding student persistence in community colleges; may add to policy making; and may help students, faculty, staff, and stakeholders affiliated internally and externally to the colleges in Mississippi. It is important to maximize the limited resources that community colleges already possess, especially among nursing programs. To do this, decision makers should understand factors that influence persistence. If community colleges can retain more students, this may increase Full Time Equivalent

(FTE) hours which are used to determine the amount of monetary support a college receives per student in addition to assisting a boost in the nursing workforce.

Limitations

This study was limited to one type of higher education institution, one type of academic program, and to one Southern state. The researcher also relied on others to distribute and collect the questionnaires in addition to reading the informed consents to students.

Background Information

In a review of the literature regarding student persistence and attrition, several variables were cited including, but not limited to, student characteristics (age, gender, ethnicity, and socioeconomic status), other student variables (parental education levels, employment status, and marital status), academic ability (high school grade point average, class rank, admission test scores, and first semester college grade point average), non-cognitive factors (motivation, social integration, intent to return, and career aspirations), and availability and use of student services (Summers, 2003). Derby and Smith (2004) also stated that the retention rate of an institution has an effect on the ranking or the perception of ranking.

The study of persistence has been an ongoing problem and in earlier years was attributed to problems of individual students. In the 1970s there was a shift from a focus on the individual to the focus on the classroom environment which later shifted to a focus on student affairs. Faculty has been absent but is becoming a larger part of helping students persist. According to Tinto (2006), many faculty utter lip service towards efforts to help students persist. Tinto stated, "Most institutions do not align their reward systems

to the goal of enhanced student retention. It is one thing to talk about the importance of increasing student persistence, it is another to invest scarce resources and adopt institutional faculty and staff reward systems that promote the behaviors that would reinforce that goal" (2006, p. 9).

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

Associate degree in nursing-a two year degree in nursing with a focus on being patient centered.

Attrition-is defined as "a student's departure before graduation" (Derby & Smith, 2004, p. 764).

Baccalaureate degree-a four year degree.

Diploma nurse-hospital based program where students are trained as nurses.

Drop out-refers to "a student who leaves an institution permanently" (Derby & Smith, 2004, p. 764).

Environmental factors-"factors external to the academic process that may influence students' academic performance and retention" (Jeffreys, 2007, p. 161).

Family background-refers to a three part entity which includes socioeconomic status (sum of the parents combined income level of education and income, the degree of concern about finances and the status).

First generation students-"those students whose parents did not graduate from nor attend college" (Ishitani, 2003, p. 433).

Goal commitment-defined by type of degree level (Tinto, 1975).

Individual attributes-defined as "gender, ethnicity, major and marital status" (Pascarella, Smart, & Ethington, 1986, p. 51).

Institutional commitment-defined as "academic integration which is defined by performance" (Pascarella et al., 1986, p. 52).

Nontraditional nursing students-"students who meet one or more of the following: are 25 years or older, commuter, enrolled part time, male, member of ethnic/racial minority group, speaks English as a Second Language (ESL), has dependent children, has a general equivalency diploma, or requires remedial classes" (Jeffreys, 2007, p. 161).

Precollege schooling-is "measured by secondary school achievements both academically and socially" (Pascarella et al., 1986, p. 52).

Social integration-"a function of interactions" (Pascarella et al., 1986, p. 53).

Stop out-refers to "a student who stops attending one semester and returns the following semester or one who stops and then returns one year later" (Derby & Smith, 2004, p. 764).

Student persistence-completion/persistence toward a degree.

<div align="center">Theories and Models of Retention and Attrition</div>

There are many theories and models in the review of the literature including Tinto's Classic Model, and Bean and Metzner's Nontraditional Model of Student Attrition which are the two theoretical frameworks that will be used in this study. Tinto derived his theory primarily from studies conducted at four year institutions although he did conduct several studies at two-year colleges, so therefore his theory is applicable. Spady (1970) and Durkheim's (1961) work also figure into Tinto's work in that Spady stated that students stay in college if they are connected socially to others. Durkheim stated that dropping out of society is similar to people committing suicide, the extreme form of dropout.

Tinto's (1975) Classic Model based the model on best fit between an individual and the institution. He uses five variables which include background characteristics (family background, individual attributes, and precollege schooling), initial commitments (precollege commitment to the goal of college graduation and commitment to the initial institution attended), academic and social integration, subsequent goal and institutional commitments, and persistence/withdrawal behavior (Pascarella et al., 1986). Tinto's model is further divided into academic systems (which include grade performance and intellectual development) and social systems (which include peer-group interactions and faculty interactions). The academic system ties into academic integration and the social systems tie into social integration which leads to goal and institutional commitments or the decision to drop out, according to Tinto (1975). These two factors were found to have significant direct effects on persistence for men and women (Pascarella et al., 1986).

Tinto stated there are seven causes of student withdrawal which include academic difficulty, adjustment problems, uncertain goals, weak commitments, financial problems, incongruence and isolation (Tinto, 1996). Tinto (2003) also believed that administrators at institutions do not consider retention as a serious matter and that more needs to be done to change the college experience as well as the character of the institution. He believes that high expectations should be set, both academic and social support should be provided to students, and that there needs to be more student-faculty interaction. There are five conditions that further persistence and these include expectations, support, feedback, involvement, and learning (Tinto, 2005). Tinto's (1975) research is limited in that most of his research has been conducted at 4-year institutions on a short-term basis, and he has largely ignored the community colleges. Tinto's (1975) work was derived from Spady's

(1970) work which was largely based on Durkheim (1961) theories on suicide and dropping out of society.

Bean and Metzner (1985) stated that there are four primary factors that are attributed to attrition. The first factor, academic factor, is that students with poor academic performance are more likely to drop out with academic factors included as study habits, academic advising, absenteeism, major certainty, and course availability. The second factor is intent to leave which is influenced by psychological and academic variables with psychological variables including utility, satisfaction, goal commitment, and stress. Social integration is tied to the second factor. The third factor is background and defining variables (high school performance, educational goals, include age, enrollment status, residence, ethnicity and gender); and the fourth set of factors include the environmental variables (finances, hours of employment, outside encouragement, family responsibilities, and opportunity to transfer) which have a large effect on whether to stay or leave. Bean and Metzner's model was largely based on job turnover studies.

Research Questions

Research questions in this study are as follows:

1. Is there a statistically significant relationship between socioeconomic status, gender, ethnicity/culture, traditional/nontraditional students, first generation college students, and academic factors of persistence in community college student nurses?

2. Is there a statistically significant relationship between socioeconomic status, gender, ethnicity/culture, traditional/nontraditional students, first generation college students, and environmental factors of

persistence in community college student nurses?

3. Is there a statistically significant relationship between socioeconomic status, gender, ethnicity/culture, traditional/nontraditional students, first generation college students, and social integration factors of persistence in community college student nurses?

4. Is there a statistically significant difference between academic, environmental, and social integration factors of persistence in community college student nurses?

Summary

Chapter I provided and introduction into the history of nursing education along with student persistence, the purpose of the study, limitations, operationalized definitions and the two theorists and their models in this study. Tinto (1975) stressed that institutions need to assist students by offering various programs to help them socially integrate into the institution's culture, instead of just adding on programs. Bean and Metzner (1985) emphasized the environmental factor as a major factor for student attrition. Some of the key points were that community colleges provide a vital workforce for hospitals. The Associate Degree Nursing programs at colleges provide a large number of nurses in addition to offering a valuable education. Apparently the problems students encountered included a lack of financial resources which is still a common issue today.

Chapter II provides a review of the literature regarding student persistence, demographic factors, attrition, and information on best practices used at colleges.

CHAPTER II

REVIEW OF THE LITERATURE

Student Persistence

In his studies of student persistence, Tinto (2002) said that institutions need to focus more on making changes at the root of institutional culture and settings instead of just adding on services to try to address the problem of attrition. Conditions that foster persistence include advising, providing academic support, and valuing students, at colleges and universities. "Simply put, involvement matters and at no point does it matter more than during the first year when student attachments are so tenuous and the pull of the institution so weak. Finally, and more importantly, the research tells us that student learning is the root of student persistence" (Tinto, 2002, p. 2). It is very important for students to receive timely feedback on their learning. Tinto's article largely advocates for learning communities which help students learn through block scheduling where students are enrolled in co-courses across disciplines.

McArthur (2005) mentioned that faculty-student relationships are important, especially in the role of advising. Some faculty may be role models for students, and this ranks second to peer influence (Astin, 1993). Hagedorn, Maxwell, Rodriguez, Hocevar, and Fillpot (2000), stated that student activities and sports at the community college are not important to students. Faculty-student interaction is linked to student satisfaction in college.

Hossler (2006) examined student retention efforts and states that private institutions know how to retain students since institutions are dependent upon tuition. Due to a decrease in support at public universities, public policymakers have turned their

attention to first-year persistence rates. "Some states have considered using graduation rates as one measure of institutional effectiveness for determining levels of state support" (Hossler, 2006, p. 2). "In one study, Patton, Morelon, Whitehead, and Hossler (in press) discovered fewer than 20 empirical studies published in mainline higher education journals of institutional efforts to improve persistence" (as quoted in Hossler, 2006, p. 3). The 1980-2002 researchers found only 16 intervention studies with only six rated as high quality. Transition/orientation programs and programs to enhance student-faculty interaction were found to be helpful (Hossler, 2006).

A follow-up study, according to Hossler (2006) assessed which campuses were implementing targeted retention programs and evaluation efforts. The study included 47 colleges and universities in Indiana which were either public or private 4-year institutions. Thirty-four documents from 16 campuses were submitted and after analyses of institutional studies and reports, there were a small number of submissions. The Indiana Project on Academic Success (IPAS) was a collaborative effort to design retention interventions. There is a paucity of institutional research concerning student persistence. Enrollment managers seem to focus solely on admissions, marketing and the use of financial aid instead of focusing on persistence efforts.

There seems to be a shortage of data collection when it comes to getting data on community colleges because most data collected by the Consortium for Student Retention Data Exchange (CSRDE) has been done on 4-year institutions. The CSRDE has gathered data on 450 member 4-year institutions. Some of the things that are lacking include the standards used that let colleges compare their outcomes with other institutions. The United States Department of Higher Education's National Center for

Educational Statistics (NCES) tracks community college student achievements but does not offer a sufficient portrayal of community college retention (National On-Campus Report, 2005).

The rate of retention in the United States between 1880 and 1980 was around 55%. According to the CSRDE (2001), the retention rate for member institutions was 80 percent, 87% for selective institutions, and 69% for less selective institutions. Private colleges have about a 74% rate and public 4-year institutions have a 72% rate, according to ACT 2001 (Stover, 2005, p.1).

According to McClanahan (2005), less than half of the institutions that responded were able to identify a person on campus that was responsible for retention, less than half established any kind of goals to improve persistence, and only a third established goals to assist students in completing their degrees. Tinto (1975) stated that most efforts that address retention try to assist at-risk students individually instead of trying to change institutional culture. Community colleges tend to address students' shortcomings better than their 4-year counterparts.

According to Santovec (2005), there was a campus wide movement where retention efforts were increased from 66% to 75% by placing enrollment, recruitment and retention under academic affairs at one college in 2001. Some of the measures implemented included creating profiles of students who left, improving leave of absence and withdrawal procedures, appointment of a matriculation advisor, following up, and addressing attrition of high-ability students.

Dr. Laurie Schreiner, chair of doctoral studies in education at Azusa Pacific University, stated that advising and sophomore orientation are the keys to retaining

students. Sophomore students should also be encouraged to participate in freshman

seminars so that they feel appreciated (Nealy, 2005). The benefits of higher education to

individuals include public economic benefits (increased workforce flexibility), individual

economic benefits (higher earnings potential), public social benefits (reduced crime rates,

increased charitable giving), and individual social benefits (improved quality of life and

health), according to McClanahan (2004).

<div align="center">Ethnicity/Culture</div>

Ethnicity/Culture also plays a part in student persistence. There was a

comparison study conducted at a university in Mexico and Miami-Dade Community

College which maintains that students are affected by two cultures.

> The first of these, which we refer to as the culture of the student, is composed of
>
> characteristics, values, and beliefs of the communities which they live plus certain
>
> characteristics that they share that may cut across racial and ethnic lines. The
>
> second culture is the culture of the institution within higher education itself. The
>
> culture of the institution is also composed of characteristics, values, and beliefs
>
> (Bliss & Sandiford, 2004, p. 285).
>
> Researchers in the aforementioned study found a need for screening Hispanic
>
> students for their study behaviors, a need for counseling, and a need for time
>
> management. Study behavior was also found to be a function of student culture
>
> as opposed to a function of institutional culture.
>
> Evans (2008) stated that there were differences between Hispanic and Indian

nursing students' experiences compared to their Anglo counterparts. Hispanic and

American Indian nursing students were less educated and their parents were of a lower

economic status. The ALCANCE (which means "reach" in Spanish) program assisted

these students through counseling, mentoring, tutoring, and by providing financial

support through a grant. The mentoring component was especially effective in that it

provided role models for students to emulate.

According to Amaro, Abriam-Yago, and Yoder (2006), perceived barriers for

ethnically diverse students in nursing programs included personal needs (lack of finances,

insufficient time, family responsibilities, and language difficulties) and academic needs

(study workload, the need for tutoring, and the need for study groups). It appeared that

many of the participants in the study were unaware of tutoring services. Cultural needs

included the communication aspect, assertiveness issues, and lack of ethnic role models.

There were four factors that enhanced student success: self-motivation, teacher attitude,

support from peers, and ethnic student nursing associations.

Nurses from minority groups are also underrepresented in the nursing workforce

of approximately 2.9 million. Hispanic and African American nurses comprise less than

2% and 4.6%, respectively, of the nursing workforce (Carter & Xu, 2007). Students who

are ESL learners have more academic difficulties, especially in clinical settings and in

passing the National Council Licensure Examination for Registered Nurses upon

graduation. Faculty identified psychosocial concerns where students seemed isolated and

had poor social skills. Jalil-Grenier and Chase (1997) also studied ESL learners at

Vancouver Community College and found, "that the unsuccessful group of first-year

students had a significantly higher number of ESL students than did the successful

group" (p. 200). There were no resources available to help ESL students overcome their

language difficulties. Faculty also needed help working with ESL students and there was

a need to communicate between ESL students and faculty. ESL students found it especially difficult in the clinical setting where interactive communication is a needed skill.

Choi (2005) found that there was a key concern with communication issues with ESL nursing students. These students found it particularly difficult to communicate with patients and staff as well as instructors in the clinical setting. There is a large pressure on students by family and expectations to succeed are great for ESL students. Many faculty are not equipped to address the needs or culture nor are institutions prepared well to help ESL students. There were several strategies recommended to assist ESL students and those include attending note taking classes, reading instruction via computer practice, and socialization with native English speakers. Mentoring programs are also recommended to help ESL nursing students with their growth in learning as well as personally. More research needs to be conducted concerning ESL students in nursing programs.

Gardner (2005) examined barriers that influence the success of minority students who are enrolled in nursing programs. Eight themes were discovered including: loneliness and isolation; absence of teacher acknowledgment of individuality, peers' lack of understanding and knowledge about cultural differences; desiring support from teachers; coping with insensitivity and discrimination; feeling different; and determination to build a better future in addition to overcoming obstacles.

Giles-Gee (1989) discussed a multi-method approach to retaining African American students and those included establishing faculty-student relationships, advising, study-skills training, and workshops that were held for advisors and students in fall and spring. During the fourth semester, 78% of the project's students were retained

compared to 67% of students the year before.

Coleman (2008) conducted a study that examined the experiences of 14 African American nursing students in a two year community college. Findings indicated four themes, difference, coping and survival, support and institution as being influential. Ethnicity was a factor in feeling alienated by the predominant race. They described their college surroundings as non-supportive, and as far as support, there was a lack of support from faculty and their peers. Nursing programs should provide seminars about variety of cultures and ways to understand cultures.

Rhoads, Buenavista, and Maldonado (2004) state that students helping students seems to work well. Campus organizations have united to increase numbers of students who persist. Special courses, study groups, peer tutoring and supervised study halls are just some of the ways that students receive the help they need.

According to Hernandez (2000), data from colleges and universities concerning persistence of Latino students indicate that these students are least likely to persist. Hernandez (2000) explored the experiences and environments of Latino students. A qualitative study was undertaken and the themes that were uncovered included belief in oneself, possession of a positive mental attitude, the importance of family support, the importance of peer support, student-faculty relationships, involvement in organizations on campus, finding other Latinos to communicate with, the importance of obtaining financial aid, and personal responsibility for learning success. Mentoring was found to increase student involvement in academic and social college systems. Faculty cared for students and supported them (Colatillo, 2007).

Klisch (2000) examined retention strategies for ESL nursing students by looking

at the literature. The attrition rates of ESL students have been higher due to cultural and language barriers. By looking at the literature, there was a need for nursing educators to become culturally competent. Advising was begun in 1991 where ESL nursing students were assigned a specific advisor. English language enhancement was offered through various programs including an assessment of language proficiency called SPEAK (Speaking Proficiency English Assess Kit), through ongoing language tutoring, language partnerships, and assertiveness training. Other areas that were addressed included nursing exam policies, social support, transcultural nursing in the curriculum, and retention strategies that were still in the planning stages.

Nursing exam policies included decreasing test bias by eliminating slang terms and other dominant types of language. There may be a need for extended testing time for some students. As far as social support, this is an extremely important way to keep students. Four groups ESL social events were held at a private school and the ESL advisor set up the Big Sister/Brother program for entering ESL students to be paired with currently attending ESL students. Faculty development included workshops on cultural competence. The ESL advisor also distributed photos with the students' names to faculty to help them learn students' names. There is a course that is mandated called, "Culturally Congruent Health Care" that received good reviews by ESL students as well as students who are native English speakers. Results of the aforementioned study (Klisch, 2000) indicated that of the 31 ESL nursing students, 23 were retained and graduated.

According to the Health Services and Resources Administration (HRSA), Hispanics represent 14% of the population, but Hispanic registered nurses comprise only 1.7% in nursing (HRSA, 2004). According to Anders, Edmonds, Monreal & Galvan

(2007), in July 2004, the University of Texas at El Paso (UTEP) School of Nursing implemented a program to assist Hispanic student nurses who were disadvantaged. An educational outreach manager who was a highly educated Hispanic male focused on recruiting students in high school as well as from colleges who were Hispanic. There was also a summer orientation that was offered on an annual basis. Barriers that were encountered included students having to repeat certain science courses, financial problems, and cultural barriers. The program has helped 43 students to date with a   100 percent success rate. As far as retention efforts, students are involved in mentoring and academic coaching in addition to study group participation. Social activities are also encouraged. There was also a mentoring program that helped students that involved Hispanic registered nurses functioning as mentors. This provided role models for students. Finally, a cultural consultant assisted faculty with becoming more culturally competent concerning teaching Hispanic nursing students.

Social adjustment has been found to play a part in student persistence, especially during the first year of college. Enochs and Roland (2006) examined the relationship between the living environment, gender, and adjustment through use of the College Adjustment Scale which was administered to 511 freshmen living on campus where 259 students lived in Freshmen Year Experience Halls and 252 students lived in traditional residence halls. It was ascertained that students who resided in the Freshmen Year Experience Halls adjusted better than their counterparts who resided in traditional residence halls.

<center>Gender</center>

Regarding gender, females reported feeling lonely and isolated. One way to help

students is to help them make connections on campus. Residence halls are similar to families. In this study by Enochs and Roland (2006), women were also found to be pressured by families to find a husband while attending college. The living environment plays a significant role in retention. Many freshmen are new to campus and may not know anyone; therefore programs that cultivate relationships will be helpful in integrating students into a campus culture. The University of Richmond College Dean's office decided to address sophomore retention by implementing a personal approach in that development of positive relationships with faculty was encouraged in addition to addressing career planning and development of good social relationships among peers.

Chodorow (2002) examined women in a retrospective psychoanalysis and found that there was a psychological dilemma of being a woman and being professional. She explored the caring role and also looked at women's roles as mothers. Entering the role of nurse is similar to mothering in that one is caring for another much as a mother would a child. Gender identity enters at this point with female and male nursing students often questioning their reasons and abilities.

Men in nursing programs often experience difficulty with the social process in the field although both males and females leave nursing programs due to work and other responsibilities, according to Brady and Sherrod (2003). It's important to provide counseling and make students aware of this when they encounter problems in the field so that they will be retained. Keogh and O'Lynn (2007) also stated that male nursing students stood out from the crowd, were often used for heavy lifting purposes, and had awkward experiences when caring for female patients. Learning styles and ways of thinking between males and females also should be acknowledged and reflected in

pedagogy. And faculty should also realize that male nursing students may not be inclined to seek assistance when needed which usually puts them at risk for attrition.

In another study, findings of males being attracted to the highly technical nature of nursing were supported. Data was collected via interviews, and was coded thematically. Males in nursing programs felt isolated and faculty should be made aware of this and ensure that male role models are used in content and clinicals. Other themes that emerged included a perceived lack of faculty support in addition to male competitiveness for the degree. Nurse educators also need to be aware that there are gender differences in styles of learning and need to plan their lessons accordingly (Stott, 2007).

According to Bell-Scriber (2008), failure rates were higher for men than women in nursing education. Findings from 1991 to now indicate that men often feel role strain, inadequate, and stereotyped. Nurse educators seem to be unaware of the aforementioned issues male nursing students' experiences. There does not seem to be much of a history for men in nursing history nor was their much mention of mentoring male nursing students. Nontraditional nursing students report feeling pressure when it comes to balancing their schedules whether they are male or female.

A case study using a constructivist, qualitative approach was used at a university where four traditional aged males were included and interviewed using semi structured interviews. The nurse educators were all women. Five themes emerged and these included: "nurse educators' characteristics and behaviors, meaningful experiences, peer learners' characteristics and behaviors, additional education environment factors, and factors outside of the education environment" (Bell-Scriber, 2008. p. 144). Many men

felt that nurse educators reacted coolly toward them and that they did not respond to questions in the same manner as they did with female nursing students. Male nursing students described meaningful experiences that happened away from nursing instructors compared to female nursing students who described experiences that happened in front of nursing instructors. A review of nursing textbooks indicated a dearth of information when it came to men in nursing.

In a study which involved a causal model of attrition, Bean (1980) saw institutional commitment as important and regressed it on all variables. For women, nine variables were significant explaining institutional commitment and these included opportunity (-.23), satisfaction (.18), institutional quality (.16), performance (.13), goal commitment (.10), practical value (.09); campus job (.08), campus organization (.09). Thirty-four percent of the variance was explained by institutional commitment (p. 172). Four variables were significant for men and some of these included opportunity (-.24), communication (-.11). Institutional quality was not found to be significant for women.

There are three facets of student-initiated retention efforts which include developing cultural and social capital, enhancing community consciousness, and promotion of social praxis. These student groups have been shown to contribute to retention efforts. Educators need to look at attrition data that are broken down by race and ethnicity (Rhoads et al. 2004).

In the ACT Policy Report, Lotkowski, Robbins and Noeth (2004) stated that access to and participation in higher education have increased; however, in 1999-2000, 4-year Caucasian enrollment was over 30%, and for African Americans it was 40%, and for Hispanics, less than 40% (Lotkowski et al., 2004). There are many effects attributed to

low retention rates and these include a waste of talent and resources, jeopardizing this nation's economic future, and a threat to postsecondary education.

Wild and Ebbers (2002) stated that student retention provides a measure of accountability and institutional effectiveness. Retention is equivalent to revenue. The definitions that community colleges use to define retention vary, and there is a need for more consistency regarding the definitions. Student profiles also need to be examined. There are a few strategies that would help with measuring and defining retention which include, "developing indicators, creating learning communities and cohort groups, developing directed retention programs, and developing tutoring programs and supplemental instruction" (Wild & Ebbers, 2002, p. 51).

<div align="center">First Generation College Students</div>

Ishitani (2003) stated that first generation college students often stand out in that they often have low high school grade point averages in addition to scoring low on college entrance tests. First generation college students also have lower persistence rates. The retention rate in the first semester of college for first generation college students was 9% less than the group of students who had two parents with a college education. This study by Ishitani (2003) investigated longitudinal effects of first generation on attrition and found that first generation students were more apt to leave than traditional aged college students over a period of time. Ishitani (2003) also looked at persistence rates during the first year of college for first generation college students and these rates were low. Some stakeholders such as legislators are limiting the time in which first generation college students can get a degree by limiting the amount of subsidies.

Ishitani (2006) also examined other variables and found that several were

significantly tied to departure or lack of persistence. These variables included the following: "family income, lower educational expectations, lower high school class rank quintile, lower high school academic intensity, enrollment in a public institution, and non-selectivity of admission" (872).

According to Pascarella, Pierson, Wolniak, and Terenzini (2004), there are three categories of studies concerning first-generation college students and these include the comparison of first-generation to other students in terms of demography, and other things; the second category of research pertains to transition from high school to college, and the third category of research looks at persistence. One interesting point to note in this article was that after graduation, several years later, first-generation students with parents who have college degrees appear to be less likely to enroll in post-graduate work. It is interesting to note that in this study that due to their low levels of cultural capital, the researchers predicted that academic and social engagement levels would compensate for any potential shortcomings in cognitive abilities. The students were found to take fewer courses in several areas-social sciences, humanities, and art. First generation students were less involved socially due to work responsibilities and other responsibilities which were found to have negative implications.

<div align="center">Nontraditional Students</div>

According to Torres (2006), most administrators give credence to retention models that focus on full-time, traditional students who are residents and do not often recognize nontraditional students who are commuter students. One of the main criticisms of retention literature is that models need to also include non-majority students. Students at commuter colleges have other priorities besides college, and many used mentors,

academic assistance programs, and associating with people of like cultures to help stay in college. Many students resided at home and had family support; however, few had good role models academically. Some students; however, often made reference to role models, mentors, and faculty who illustrated caring behaviors which helped them to stay in school.

Jeffreys (2007) stated that nontraditional students perceive environmental factors as more important than academic factors, and environmental factors also outweighed social integration factors. It is important to gain insight into adult learners' thought processes in order to help them succeed. Employment hours and responsibilities in addition to finances were found to be restrictive, and professional integration and socialization variables were found to be less important than environmental factors. The aforementioned conclusions were derived through a study by Jeffreys (2007), where 86% were enrolled in an ADN program, and women made up 84% of the sample. Other variables included age, ethnicity, marital status, employment, and first generation college student. As far as age, over half were over 30 years old. The majority were Caucasian (32%) followed by African American (29%). Forty-nine percent of the sample was single; 40% were unemployed, and 29% were first generation college students. Nursing student attrition is a large global problem and nontraditional students usually attend college part time and take longer to obtain a degree.

Jeffreys (2006) also examined and tracked students through program entry, progression, graduation, and licensure where a retrospective evaluative study was done to include persistence trajectories and attrition trajectories. The majority of students were female (n=93, 83%), and Caucasian (n=59, 53%). Failure attrition rate was 9% during

first semester with voluntary attrition at 14%.

Smith (2006) looked at challenges facing nontraditional male students who were transitioning into nursing programs. A mixed method design was used to explore experiences at a 2-year private college in the Northeastern part of the United States. Many students stated they found difficulty in balancing the demands of life and nursing school. Twenty-nine nontraditional male nursing students were included in the sample where 85% were Caucasian and 15% were African American. Interviews were conducted with six nontraditional male nursing students. The majority of students agreed that their responsibilities in school and outside of school were the most pressing. Covering tuition and finding someone to help them along with finding time to study and have time came second as a concern. Male students need an avenue to share experiences in clinical especially when they are encountered by patients who do not want them to care for them. Textbooks should be selected that include male nurse examples.

<div align="center">Best Practices of Community Colleges</div>

Brotherton (2001) noted that there were several academic retention programs that were effective and these include: Bridgewater College in Virginia, and Central Wyoming College. Bridgewater instituted a personal development portfolio where college personnel were able to get students involved on campus and kept students in their class groups. "Freshman and sophomore retention rates at Bridgewater have improved from 65% to 79% from 1993 to 1999. Students have also been more involved in campus and community life, forming such groups as a student chapter for Habitat for Humanity" (Brotherton, 2001, p. 35). Central Wyoming College personnel developed a Student Development Task Force that was comprised of various campus personnel and funded for

computers and training. Retention climbed from 33% to 61% during the first year.

Lau (2003) stated that administrators play a large role in retention by providing funding for academic support services, availability and adequate facilities, and effective management of diversity on campuses. Students must also be motivated to participate in the learning process. There seems to be a trend where first year students drop out during first year. There are many reasons for leaving which include financial reasons, poor fit between the institution and the student, change in goals, or circumstances that are personal. Some students do not feel they are getting the education they expected, and some may lack motivation or role models. The retention rate includes transfer students to other institutions which does not yield an accurate rate of retention or attrition. There are other things that administrators can do which include providing adequate funding through financial assistance, providing support in academics through learning centers, Freshman Year Programs, and Honors programs (Lau, 2003). Physical facilities include dormitories that are well maintained, study rooms that are quiet, facilities for students who are physically or mentally challenged and career centers.

Faculty also play a part in retention by being up to date on the latest use of technology in the classroom, providing opportunities to students to gain hands-on experience through use of computer technology, and engaging students in cooperative and collaborative learning processes. Academic advising should also be part of faculty duties. Lau (2003) stated that in addition to the aforementioned, students must also be motivated and held accountable for their actions. Peer tutoring was found to be effective.

There are many more effective retention strategies used in colleges and these include: supplemental instruction, learning assistance centers, and freshman seminars.

Supplemental instruction focuses on process and content as far as academics (Lotkowski et al., 2004) and as far as nonacademic factors, these include self esteem and motivation. Students may receive academic counseling and advising as well as encouragement to participate in social support activities. Learning assistance centers help students become more successful in their learning through instructional techniques. Maxwell (1997) stated that learning assistance centers deliver a variety of services and address academic evaluation/diagnostic testing, offer programs to improve study skills, and offer peer tutoring and supplemental instruction.

Gatherings may be used as a retention strategy and are often used to maintain communication with minority and international students. Students and faculty interact at gatherings and students share their concerns (Stokes, 2003). And mentoring is another strategy used to retain students. Some of the barriers that are perceived by nursing students include the lack of cultural competence on the part of faculty, feelings of isolation from students, fear of failing, lack of professional role models, and institutional racism. Some of the relational mentoring strategies include clear and good communication, instruction in assertiveness training, confidence builders, and accessing support services on campus (Wilson, Andrews, & Leners, 2006).

There are three kinds of mentors which include professional nurse mentors, faculty mentors, and peer mentors (Wilson et al., 2006). One program that was successful was the Juntos Podemos Program that mentors nursing students in order to decrease the effects of social and educational disparities that students face in nursing programs. Goals include recruiting, retaining, and assisting at risk students. The program was founded in 2002 and has far exceeded its expectations in that 96% of its

students are successful in the nursing program and 100% have graduated and passed boards (Cantu & Rogers, 2007).

Mentoring may offer strategies to increase academic success and decrease barriers perceived by students who come from diverse backgrounds (Wilson et al., 2006). Relational mentoring was found to be effective in retaining the aforementioned kinds of students and consisted of focusing on communication, building confidence, and support strategies. Mentoring has been shown to be successful, and mentors provide assistance to their students through The Puente Project. This was initiated in 1981 and is currently in use at 38 two-year institutions. The program emphasizes relevant instructional programs and pairs students with Hispanic mentors and counselors (Szelenyi, 2001). Freshman orientation programs have been demonstrated to be successful. At Valencia Community College in Florida, an extended orientation that provided assistance to freshmen demonstrated 81% of students were retained during 1987-1992. And freshmen community college students who participated in a freshman orientation seminar at Sacramento Community College completed their courses at a rate 50% higher than those students who did not participate in a seminar (Chaves, 2003).

There are several community colleges in North Carolina that are instituting initiatives. The Beaufort County Community College has a director of retention and this college has an early alert student referral process, workshops, a college student success course, and exit surveys in place. The early alert student referral program allows faculty to send referrals on students who may be experiencing problems. These students are sent a letter informing them of services provided and are encouraged to set up an appointment with the retention director for counseling. Workshops on study skills are taught by the

retention director. The college student success courses are required for graduation and are taught by student development. In addition, exit surveys are mailed to early departure students (Student Development Services, n.d.).

The Coastal Carolina Community College has several initiatives in place regarding retention and these include information sessions, discussion of student progress, learning communities, grade warnings, test taking skills, and use of Educational Resources Testing. Counselors offer information sessions about Nursing Allied Health programs where potential problems may be viewed and addressed. Department heads and instructors communicate at the beginning of each semester and at the fourth, eighth, and twelfth weeks to discuss student progress in courses. Department heads follow up and meet with students experiencing difficulties. Learning communities meet and address time management, note taking, and test taking. Grade warnings are sent to students with 80 or below averages with faculty requesting students meet to address problems and identify strategies to solve problems. ADN and Practical Nursing (PN) programs use testing and are required to complete recommended remediation after CAP tests.

Edgecombe Community College has a Student Support Specialist to address problems such as transportation, childcare, emergency funding, and special tutoring services. This individual has been employed for six years at the college and students know who to go to for help. The person also acts as a liaison between students and faculty which helps to maintain retention.

The Lansing Community College employs several retention strategies which include test taking seminars, a peer mentoring program, math seminars, concept mapping seminars, and study skills and clinical skills courses through Nursing 101. Other

strategies include cultural health assessments, offering DVDs of lab procedures, volunteering on projects, test reviews through case studies, and supplemental instruction through paid student tutors. Lansing Community College also established LUCERO which means Latinos United with Energy Respect and Price. "In spring 2003-2004, LUCERO had an 80% retention rate" (Cunningham, Cardenas, Martinez, & Mason, 2006, p. 140).

According to Amaro et al. (2006), there are several strategies identified by study participants that address coping with barriers to nursing education, including recording lectures and studying at the library, borrowing books, applying for financial aid, using English as a Second Language services and tutoring in English, participating in study groups, discussing ethnic issues with family members and finding supportive faculty who are culturally competent.

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

Attrition at community colleges has become important. Summers (2003) stated that accountability has increased at community colleges.

> In addition, amid a fiscal environment of decreasing state funding, student retention has become a matter of economic survival for some colleges. Whether student attrition is viewed as an institutional effectiveness issue, or an enrollment management issue, it continues to be a challenge for community colleges. Many institutions' primary strategies for reducing attrition are early identification of intervention services for those students (Summers, 2003, p. 64).

Significance and scope of attrition as well as models and common variables are examined. Attrition rates at community colleges seem to garner attention from

policymakers in higher education. "Across several decades of research, community college attrition rates have been consistently reported as very high. Some studies indicated that more than 40% of community college freshmen either did not complete their educational objectives or did not return for their second year" (Summers, 2003, p. 65). Metzner's conceptual model was developed with this in mind and was based on a model originally developed by Bean in 1980. Bean's (1980) model was largely based on intent to leave at work or job turnover.

Student nursing attrition is a global problem, according to Last and Fulbrook (2003). Some of the things that are done to reduce attrition include choosing candidates that will succeed, identifying at-risk students, and developing learning strategies. Extensive research on attrition has been conducted and yet few studies target non-traditional student nursing retention. Jeffreys (2006), conducted several studies on nontraditional nursing students and used the Nursing Undergraduate Retention and Success (NURS) model to examine factors that affect retention and nursing student success. One of the assumptions of the NURS model is that students will benefit from support strategies.

As far as common variables, "researchers have examined student characteristics (age, gender, ethnicity, and socioeconomic status), other student variables (parental education level, employment status, and marital status), academic ability (high school grade point average, class rank, admission test scores, and first semester college grades), noncognitive factors (motivation, social integration, intent to return, and career aspirations), and availability and use of student services" (Summers, 2003, p. 67).

Ishitani (2006) stated that rates of educational attainment vary across racial

groups of students. "The National Center for Educational Statistics (NCES, 2001)

estimated that between 1999 and 2000, 71.8% of Asians who entered college completed

bachelor's degree programs by the age of 24, while about 61% of Hispanics did so"

(Ishitani, 2006, p. 862). Student background characteristics have been broadly discussed

to explain college attrition. Examples of these characteristics include gender (Pascarella,

Duby, & Iverson, 1983; Pascarella & Terenzini, 1978, 1980, 1983; Stage, 1988; Stage &

Hossler, 1989), race (Braxton, Duster, & Pascarella, 1988; Pascarella & Terenzini, 1978,

1983; Stage, 1988; Stage & Hossler, 1989) and high school academic achievement

(Braxton et al. 1988; Pascarella & Chapman, 1983; Pascarella & Terenzini, 1980).

Ishitani (2003) also looked at attrition for first generation students and discovered

that attrition for the aforementioned students was 71% higher than a student with college-

educated parents. These students also had low thinking abilities and were found to be

less confident.

Patrick (2001) focused on first year retention in urban universities. "The best

established and most tested theory of student attrition is Tinto's Student Integration

Model" (p. 152). Tinto's theory is "characterized by the view that student departure is a

consequence of the interaction between the individual student and the college or

university as an organization" (p. 152).

Attrition is also addressed through curriculum.

Student attrition is an issue that all HEI's must address with the aim of enhancing

student retention. This is no different for nurse education than it is for other areas

of higher education and is placed within the political context of the shortage of

qualified nurses and the anticipated changes to the demographic (Taylor, 2005, p.

367).

Attrition has long been a problem and has been attributed to many factors including poor communication with staff, homesickness on the part of students, financial concerns and low academic abilities. Student nurses and college students leave their programs for similar reasons.

Glossop (2001) believed there is a lack of common definitions of attrition. Some of the reasons students left included, academic failure (20% and 39% of discontinued students respectively) and personal or family difficulties (14% and 32% respectively). In addition disillusionment, or nursing as a wrong career choice, was identified by Richardson (1996) and White et al. (1999) amongst 15% and 24% of students respectively. Less commonly cited reasons were financial problems (9%), travel difficulties (5%), poor course organization or management (5%), and negative staff attitudes (4%) (White et al. 1999) Health problems (10%) were identified by Richardson (1996). Braithwaite et al. (1994), using exit interview data, identified a number of these factors as leaving reasons, but no statistics were reported (p. 172).

There was less attrition in students who were involved in study skills seminars before attending nursing courses and involvement in groups found that student support groups decreased attrition. It seems that there is a gap concerning the environmental aspect of attrition (Glossop, 2001).

Higgins (2005) stated that students who are successful are those who complete a nursing program in addition to passing the NCLEX (National Council Licensure Exam) test the first time. If students are retained but do not pass the NCLEX-RN test, the

nursing shortage and the nursing program's accreditation is affected (Rawlins, Riordan, Delamaide, & Kilian as cited in Higgins, 2005).

Higgins (2005) studied at-risk students (those with less than 70% average after two tests). There were 209 students that made up the sample with 26 at risk. Attrition rate went from 12% to 3% in this one class alone after peer tutoring sessions.

In another article by Tinto (1988), Van Gennep discussed the stages of student departure which include the rites of passage to adulthood which are separation, transition, and incorporation. He compared this to the student in his or her college career. "The first stage of the college career, separation, requires students to disassociate themselves, in varying degrees, from membership in the past communities, most typically those associated with the local high school and place of residence" (Tinto, 1988, p. 443). While this passage is stressful, the decision to stay at home may be more stressful in that demands may be placed on students. The second stage involves transitioning into a new environment and making connections. The third stage involves integration according to Tinto (1988) but Van Gennep referred to this as incorporation into the college.

Pascarella and Terenzini (1980) discussed Tinto's longitudinal study that was conducted at Syracuse University, a large independent university located in central New York State. The aforementioned study was conducted using a random sample of 1,905 students in 1976 where freshmen were assessed regarding their college experiences. The following year another questionnaire was mailed to 1,457 of these students. A review of student records showed that 10 of 773 were dismissed due to poor academic performance and 90 had withdrawn voluntarily for reasons unstated.

There was a study that was conducted in the United Kingdom which discovered

some reasons students leave nursing programs.

> The reasons students leave nursing programmes are many and varied, and include discontinuation on several grounds, such as academic failure, misconduct or failing clinical assessments. However, they also leave for personal reasons, because they anticipate failure or the fact that the programmes have not lived up to their expectations (Deary, Watson, & Hogston, 2003, p. 73).

A logistic regression model was used to study nursing student attrition by using the Nursing Entrance Test (NET) as a predictor of success. Associate Degree Nursing programs offer a good solution to providing a nursing education to students in a shorter amount of time than the 4-year institutions and this may help ameliorate the nursing shortage in hospitals and other settings. It is important to identify factors that impede success in school and apply interventions early.

> Glynn, Sauer, and Miller (2003) suggested, early prediction of student success (or lack of success) is important in creating effective interventions. Identifying factors that predict success is more likely to be effective if both academic and nonacademic variables are used (Schwartz & Washington, 2002) (Hopkins, 2008, p. 254).

The NET test is more predictive and is a good tool to gauge success in nursing students. If low-risk students need help, then support systems should be in place to help these students. Underachievers on the math and reading portions of the NET may be identified early and assisted.

Summary of Literature Review

A review of the literature provided information on student persistence,

demographic factors, theorists, attrition, and best practices. Some of the key points that stood out include challenges to students who persist. Nursing programs have many students who do not persist for a variety of reasons. It is interesting to note that there were not many studies conducted at community colleges and it seems that a large percentage of studies were conducted at four year institutions. As far as ethnicity, the nursing programs as well as the workforce contained mostly Caucasian individuals with few Hispanics and African Americans. The field is comprised mostly of women with few males. Tinto (2003) stated that many institutions just add on programs instead of addressing the culture of learning at institutions. Bean & Metzner (1985) stated that environmental factors are significant when it comes to attrition studies.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to examine factors related to student persistence and to help students and administrators. Several factors were examined which included academic factors, social integration factors, and environmental factors. Student attrition was also explored in addition to best practices. A pilot study was conducted the year before in order to establish reliability and validity of an instrument that was adapted with permission from Dr. Butters (see Appendix D). Permission was also granted from the principal investigator's Institutional Review Board (see Appendix A), the Mississippi Institutions of Higher Learning (see Appendix B), and Mississippi Nursing Deans Council (see Appendix C).

Participants

Participants were enrolled in first-year Associate Degree Nursing programs at Mississippi community colleges. There were a total of 13 out of 15 colleges that participated with a total of 564 participants.

Design

This study was a convenience sample of first-year Mississippi community college nursing students. A mixed methods design was employed using a quantitative component which included a 30-item, five-point Likert scale with nine appended demographic questions and a qualitative component which included one open-ended question. The qualitative component was included in order to garner more information that could otherwise not be obtained from the quantitative portion.

Instrument

The instrument (see Appendix G) used in the current study consisted of a 30-question, 5-point Likert scale questionnaire with nine appended demographic questions, and one open-ended question. Data were examined and responses were coded for themes using thematic analysis which looks for patterns. The criterion was set at 5% or greater. Themes were coded looking for patterns and tallied per theme and then divided by the total number which yielded percentages. The percentages were placed into descending order into a table (Table 8). Validity had already been established by the previous researcher from whom the instrument was adapted. Cronbach alphas were run in order to establish reliability and the following were found: academic factors .72, social integration factors .70, and environmental factors .39 with overall Cronbach at .81.

The title of the data gathering tool was, "Student Persistence in Associate Degree Nursing Programs" (see Appendix G) and there were four research questions which were based on Bean and Metzner's (1985) model of student attrition. This model addressed the following: academic factors of persistence, environmental factors of persistence, and social integration factors of persistence taking into account the demographic factors. Academic factors included study hours, absenteeism, and academic advising; environmental factors included finances, outside employment, and family responsibilities; social integration factors included memberships, faculty contact, and school friends; and demographic factors included nontraditional students, first-generation college students, ethnicity/culture, race, gender, and socioeconomic status.

Questions 1, 4, 5, 6, 8, 9, 17, 20, 21, 22, 23, 29, and 30 address academic factors with 17 and 20; questions 2, 3, 7, 15, 16, 24, 25, 26, 27, and 28 address social integration

factors; questions 10, 11, 12, 13, 14, 18, and 19 address environmental factors, and 31-39 address background/demographic information. The final, open-ended question addresses the need to add any other information participants would like to add regarding student persistence and how colleges may assist.

Research Questions

1. Is there a statistically significant relationship between socioeconomic status, gender, ethnicity/culture, traditional/nontraditional students, first generation college students, and academic factors of persistence in first year community college student nurses?

2. Is there a statistically significant relationship between socioeconomic status, gender, ethnicity/culture, traditional/nontraditional students, first generation college students, and environmental factors of persistence in first year community college student nurses?

3. Is there a statistically significant relationship between socioeconomic status, gender, ethnicity/culture, traditional/nontraditional students, first generation college students, and social integration factors of persistence in first year community college student nurses?

4. Is there a statistically significant difference between academic, environmental, and social integration factors of persistence in first year community college student nurses?

Questions 1 through 3 were analyzed using multiple regressions, and question 4 was analyzed using a repeated measure Analysis of Variance (ANOVA).

Data Collection Procedures

Permission from all appropriate parties was obtained including the Institutional

Review Board of Jones Junior College (see Appendix H). Data collection entailed the

mailing of packets during spring 2010 semester which contained cover letters (see

Appendix F) questionnaires (see Appendix G), informed consents (see Appendix E), and

post cards (see Appendix I) that were sent to nursing school deans at Mississippi

community colleges. The deans were asked to distribute the packets to faculty who

taught first-year Associate Degree Nursing students. These faculty members were asked

to distribute the questionnaires and post cards to students before or after class time at

their discretion and each faculty member read aloud the informed consent to students. It

took approximately five to ten minutes for students to complete the questionnaires and

fill out the post cards with name, address, phone number, and electronic mailing address

at which time faculty collected questionnaires and returned questionnaires to the nursing

office to be mailed in the self-addressed stamped envelope (SASE) to the principal

investigator. Post cards were mailed in a separate SASE from each college to the

principal investigator where post cards were used to qualify participants for a drawing to

win a $150 Visa gift card. Two to three weeks were allowed to lapse for data collection

and a follow up electronic mail was sent to nursing deans as well as a target date for

questionnaires to be returned.

Summary

Chapter III described the methodology and protocol of how the study was

conducted in addition to stating what the research questions were. Design and sample

were also discussed.

Chapter IV provides data in tables as well as information about the content of the tables in addition to stating the research hypotheses.

CHAPTER IV

ANALYSIS OF DATA

Introduction

This mixed methods study explored the relationships and differences between academic, social integration, environmental factors, and demographic factors related to student persistence.

Persistence is defined as staying in college until completion of degree. Tinto's (1975) Classic Model examines factors of student persistence and departure. Academic and social integration are two keys to persistence that were examined by Tinto (1975). He examined goal commitment and institutional commitment as well. "Five conditions promote persistence and these include: expectations, support, feedback, involvement, and learning" (Tinto, 2003, p. 2). Tinto's Model is somewhat derived from Durkheim's (1961) Theory of Suicide and dropping out. Bean and Metzner (1985) looked at nontraditional undergraduate student attrition and stated that nontraditional students were affected more by environmental factors outside the college. In other words, environmental factors are attributed to a larger risk for attrition of students.

This study examined persistence of students who were enrolled in Associate Degree nursing programs in a state in the Southeastern region of the United States of America. Thirteen out of fifteen community colleges participated and there were 564 participants.

Instrument

Permission was obtained to utilize and modify a questionnaire from a previous researcher (see Appendix G). The questionnaire that was implemented during the current

study was a 30-item, five-point Likert scale with nine appended demographic questions, and one open-ended question. The Cronbach alphas of academic factors was .72, of social integration factors was .70, and environmental factors was .39 which means there was a low degree of internal consistency concerning environmental factors. Although a Cronbach alpha of .70 or greater is considered acceptable for reliability, the environmental factor (.39) fell below acceptable levels. A note of caution is issued upon further analysis with this factor. The overall Cronbach alpha was .81. There were 816 questionnaires mailed and 564 returned for a return rate of 69%. Table 1 contains reliability results.

Table 1

Cronbach Alphas of Persistence Factors

Factors	Cronbach alpha
Academic	.72
Social Integration	.70
Environmental	.39
Overall	.81

Descriptive Frequencies

Table 2 contains the demographic data of the respondents. As indicated in Table 2, over half of the study's participants earned less than $20,000 annually with over 40% of the participants being traditional students. Eighty-one percent of participants were female, 81% were Caucasian, and over half of the respondents were single. Almost all spoke English as their first language although a small percentage indicated they were Limited English Proficient, over half the participants did not work, and 77% were not

first generation college students.

Table 2

Demographic Frequencies

Factor	Range	Frequency	%
Socioeconomic Status	$40,000 and >	122	21.8
	$30,000-39,999	51	9.0
	$20,000-29,999	73	12.9
	<$20,000	313	55.5
Age	37 years and >	61	10.8
	33-37	44	7.8
	28-32	82	14.5
	23-27	149	26.4
Gender	Female	469	81.9
	Male	102	18.1
Ethnicity	African American	90	16.0
	Asian	7	1.2
	Caucasian	457	81.0
	Hispanic	4	.7
	Other	3	.5
Marital Status	Single	295	52.3
	Married	188	33.3
	Divorced	37	6.6
	Living together	26	4.6
	Other	11	2.0
English First Language	Yes	556	98.6
	No	4	.7
English Proficient	LEP	8	1.4
	EP	558	97.5
Employment status	40 hours and >	43	7.6
	20 hours and >	220	39.0
	Do not work	295	52.3

Table 2 (continued).

Factor	Range	Frequency	%
First generation	Yes	124	22.0
	No	435	77.1

Note. (N=564)

Table 3 contains the means and standard deviations of student persistence factors.

The means were calculated from a five-point Likert scale (1=*Strongly Disagree* to

5=*Strongly Agree*). The participants were in higher agreement with questions pertaining

to Environmental factors, and in somewhat agreement to Academic and Social

Integration questions.

Table 3

Descriptive Statistics of Factors of Student Persistence

Factor	*M*	*SD*
Academic	3.69	0.54
Social Integration	3.13	0.66
Environmental	4.31	0.40

Note. (N=564) Scale 1=*Strongly disagree* to 5=*Strongly agree*

Other Descriptive Statistics of Academic Factors of Student Persistence

In Table 4, students enrolled in ADN programs at Mississippi community colleges

indicated that they strongly agreed with questions 9, 6, 17, and 20. Their strongest

agreement was that they attended nursing classes on a regular basis followed by their

interactions with faculty inside the classroom. Questions 17 and 20. They believed that

the academic work in their nursing program was more difficult than they thought it would

be, and that teaching methods used by faculty have been a barrier to their success.

Students were in somewhat agreement when it came to questions 1 ,5, 8, 29, 30, and 21

which included interaction with faculty outside the classroom, teaching methods being

helpful, their colleges offering reading, writing, speaking, and math assistance, presence

of a retention director, their participation in study groups, and pre-nursing seminars

being effective. Students were in disagreement when it came to questions 22, and 23

which had to do with effectiveness of formal organized study groups and peer tutoring.

Table 4

Other Descriptive Statistics of Academic Factors of Student Persistence

Questions	*M*	*SD*
I attend nursing classes on regular basis	4.91	.32
My interaction with faculty inside classroom	4.23	.81
Faculty provide support and encouragement I need	4.15	.90
The academic work in the program is more difficult	4.15	.77
Teaching methods are a barrier to my success	4.04	.70
Faculty interaction outside class is helpful	3.98	1.03
Teaching methods have helped me be successful	3.88	.94
College offers reading, writing, speaking, help	3.65	1.18
There is a retention director in my program	3.27	1.43

Table 4 (continued).

Questions	M	SD
Pre-nursing orientation seminars are effective	3.01	1.23
Formal, organized study groups are effective	2.84	1.24
Peer tutoring is effective in my program	2.74	1.26

Note. (n=530) Scale 1=*Strongly disagree* to 5=*Strongly agree*

Table 5 indicated that students enrolled in ADN programs at Mississippi

community colleges strongly agreed that they received adequate support and

encouragement from nursing faculty, and that faculty valued and cared for them as

persons. Students agreed somewhat about counseling being available to them, and that

faculty/staff tutors were available to help with lab/clinical skills practice. Students

disagreed that learning communities were offered and effective, that peer mentoring was

offered and effective, that faculty/staff tutors were available to help them with their

English language skills, that they participated in peer support group activities, that they

received help from community agencies, and that they participate in campus social

activities.

Table 5

Other Descriptive Statistics of Social Integration Factors of Student Persistence

Questions	M	SD
I receive adequate support from faculty	4.20	0.90

Table 5 (continued).

Questions	*M*	*SD*
Faculty value & care for me as a person	4.18	0.91
Counseling is available in my nursing program	3.86	1.14
Faculty tutors are available for lab/clinical skills prac	3.86	1.13
Learning communities are offered/effective	2.81	1.16
Peer mentoring is offered/effective in my prog	2.65	1.26
Faculty/staff tutors are available for English help	2.63	1.35
I participate in peer support group activities	2.46	1.15
I have received help from community agencies	2.45	1.35
I participate in campus social activities	2.21	1.09

Note. (n=547) Scale 1=*Strongly disagree* to 5=*Strongly agree*

Table 6 indicates Mississippi community college nursing students who are

enrolled in ADN programs strongly agreed that they did need financial aid to pay for

their nursing education, that they received adequate support from family, that they

received adequate support, friendship, and encouragement from their classmates, that

their work time did interfere with their study time, that financial problems were the

biggest problems related to the success of their programs, that they had adequate social

support in their roles as nursing students, and that the amount of time spent taking care of

their families did interfere with their study time.

Table 6

Other Descriptive Statistics of Environmental Factors of Student Persistence

Questions	*M*	*SD*
I need financial aid to pay for my nursing education	4.60	.65
I receive adequate support from my family	4.56	.75
I receive adequate support from my classmates	4.46	.74
My work time interferes with my study time	4.22	.78
Financial problems are the biggest problem for me	4.20	.75
I have adequate social support as a nursing student	4.09	.95
The amount of time spent taking care of fam interferes	4.01	.78

Note. (n=559) Scale 1=*Strongly disagree* to 5=*Strongly agree*

Tests of Research Hypotheses

H1. There is a statistically significant relationship between socioeconomic status, gender, ethnicity/culture, traditional/nontraditional students, first generation college students and academic factors of persistence in community college student nurses.

A multiple regression analysis was conducted to evaluate how well academic factors and demographic factors predicted student persistence. The regression equation was not significant ($F_{(12,558)} = .843$, $p = .61$, $r^2 = .018$). This means that only 2% of the

variance can be explained in the model.

H2. There is a statistically significant relationship between socioeconomic status, gender, ethnicity/culture, traditional/nontraditional students, first generation college students and environmental factors of persistence in community college student nurses.

A multiple regression was conducted to evaluate how well environmental factors and demographic factors predicted student persistence. The regression equation was statistically significant ($F(12,546) = 2.339$, $p =.01$, $r^2=.049$). The linear combination of environmental factors and demographic factors was significantly related to environmental factors (finances, outside employment, and family responsibilities). The sample multiple correlation coefficient (r^2) was .049 which indicated that approximately 5% of the variance of the environmental factors and demographic factors in the sample may be accounted for by the linear combination of factors. Gender was found to be statistically significant $t= -2.09$, $p =.04$ with females responding stronger than males.

Table 7

Coefficients of Environmental Factors of Student Persistence

Factors	B	β
$40,000 and over	-.087	-.091
$30,000-39,999	-.240	-.176
$20,000-29,999	-.230	-.197
Less than $20,000	-.151	-.191
Gender	-.091	-.088
African-American	.112	.105

Table 7 (continued).

Factors	B	β
Asian	-.117	-.030
Hispanic	-.289	-.062
Other	-.326	-.060
Traditional	.045	.056
First gen	.075	.079

Note. (n=546)

H3. There is a statistically significant relationship between socioeconomic status, gender, ethnicity/culture, traditional/nontraditional students, first generation college students, and social integration factors of persistence in community college student nurses.

A multiple regression analysis was conducted to evaluate how well social integration factors and demographic factors predicted student persistence. Based on social integration factors and demographic factors. The regression equation was not statistically significant ($F (12,546) = 1.34$, $p =.19$, $r^2=.192$).

H4. There is a statistically significant difference between academic, environmental, and social integration factors of persistence in community college student nurses.

A repeated measure ANOVA (analysis of variance) was conducted with the factors of academic, environmental, and social integration and the criterion variable being student persistence rates. The repeated measures ANOVA was found to be statistically significant ($F (2,562) = 822.055$, $p<.001$). The descriptives for the three factors are contained in Table 3 above. Environmental factors were most influential with academic

factors and social integration factors following as indicated in Table 3. Environmental factors had more of a difference and a greater influence than academic factors and academic factors had more of a difference than social integration factors.

As far as the open-ended question about what colleges can do to help nursing students, there were many emergent themes from the data that were discovered. The researcher used thematic analysis which is where the researcher identifies patterns in data expressed by participants. Responses were placed into categories based on the themes, tallied, and formulated into percentages. Table 8 provides a summary of themes where there were four major themes which included: more funding and financial aid/loans (9.61%), tutoring and study groups (7.85%), faculty need to be more supportive (6.08%), and more test review (5.12%). 34% of participants declined to answer the question. While there were 564 participants in this study, more than one response was provided by some participants and therefore that led to 624 total responses being given which were coded into common themes and place into the aforementioned Table 8.

Funding and Financial Aid/loans

A large number of participants indicated the need for more financial aid/funding and loans by statements such as, "offer more financial aid programs," "more financial aid," "student loans," and "more grants and scholarships."

Tutoring and Study Groups

The need for tutoring and organized study groups was mentioned several times by participants. Some of the responses included, "and offer study groups," "I need tutoring," and "more tutorial sessions."

Faculty Support

Respondents indicated a need for more faculty support by making statements such as, "be more helpful," "continue to encourage them that they can do it," "faculty could take a little more time to explain and show they care about the students and want them to succeed."

Test Review

There was also a need for more test review as indicated by statements such as, "We need a better understanding of what the test is going to be on," and "offer more reviews before the test."   Further comments included, "offer small group reviews for tests."

Table 8

Themes in Nursing Education and Student Persistence

Themes	%
More funding & Financial Aid/loans	9.61
Tutoring and study groups	7.85
Faculty need to be more supportive	6.08
More test review	5.12

Note. (n=564)

Conclusion

The purpose of this study is to examine relationships between demographic factors and academic factors, environmental factors, and social integration factors related to student persistence as well as the differences between the aforementioned. Data analyses of the three factors on student persistence yielded a statistically significant relationship between environmental factors and demographic factors related to student

persistence. Furthermore, a statistically significant difference was found between academic, environmental, and social integration factors with environment yielding the largest mean (M=4.31) and academic and social integration following. Academic factors and social integration factors were not found to be statistically significant.

Chapter V provides a discussion of study findings in addition to limitations within the study along with other findings. Recommendations and further opportunities for research are listed regarding student persistence.

CHAPTER V

DISCUSSION

According to Bean and Metzner (1985), the environmental aspect affects students more so than academic or social integration factors. Bean and Metzner's (1985) Model of Student Attrition consists of academic factors, environmental factors, and social integration factors. Environmental factors include work time, family time, support from others, financial aid and finances. Tinto (1975) stated that programs need to be added in order to help students assimilate into the institutional culture. This chapter included a study summary, summary of findings, implications, and recommendations for future research. There are several implications and recommendations indicated below.

Study Summary

The researcher studied persistence of community college nurses in a state in the Southeastern region of the United States of America. Relationships and differences were explored which included academic, social integration, and environmental factors along with demographic factors. Statistical analyses of multiple regressions were used on Questions 1-3, and differences were analyzed using a repeated measure ANOVA.

The Cronbach alphas of student persistence was highest in academic factors with social integration the next highest, and then finally environmental factors. Based on the demographic factors, most students earned less than $20,000 annually. The next highest percentage came from those study participants who earned more than forty thousand dollars annually. Almost half were traditional college aged students, with the next largest percentage being nontraditional. According to many studies, many students are nontraditional students. Over half of the study participants were female, with a small

percentage of males which also coincides with other studies in the literature review. As far as ethnicity, the majority were Caucasian and 16% African American, which indicated there were a disproportionate number of non-white students. More than half of study participants were unemployed. Over half were single and a large percentage was married. Most spoke English as their first language with a few being Limited English proficient. More than half were not first generation with almost a quarter being first-generation college students.

The majority of study participants were in strong agreement with environmental factors of student persistence than with academic factors or social integration factors. The highest agreement was that they do need financial aid to pay for nursing education followed by receiving adequate support from faculty. Participants seem to be in strong agreement that faculty are encouraging and doing a good job to help them. Their work time does interfere with their study time, and financial problems are the biggest problem for them. In Table 4, which addresses academic factors, study participants strongly agreed with questions which were concerned with academic factors of student persistence. They were in somewhat agreement with questions concerning faculty interaction outside the classroom, teaching methods helping them, their colleges offering reading, writing, speaking and math assistance, retention directors in their programs, participation in study groups, and pre-nursing orientation seminars being effective. And they disagreed with questions concerning formal, organized study groups and peer tutoring being effective in their nursing programs. Furthermore, as far as academic factors, participants were in strong agreement concerning attendance on a regular basis followed by interaction with faculty outside the classroom, faculty being supportive,

academic work being difficult and teaching methods being a barrier to success.

Participants were in somewhat agreement when it came to interaction with faculty outside

the classroom being helpful, teaching methods contributing to participants' student

success, their college offering reading, writing, speaking and math assistance in their

programs, that there is a retention director, and participating in study groups. Participants

disagree with peer tutoring being effective, and the idea that formal organized study

groups being effective.

In regards to social integration factors, in Table 5, study participants strongly

agreed that they received adequate support from faculty and that faculty care, but

somewhat agree that counseling was available to them, and that faculty were available to

them to help them with their lab skills. Participants disagreed that mentoring and

learning communities were effective, and some colleges may not have these programs in

place. Many study participants did not participate in campus activities.

Study participants strongly agreed with all questions associated with

environmental factors of student persistence as indicated in Table 6. The questions that

addressed environmental factors included the need for financial aid, and that financial

problems are a barrier to students' success. Participants also strongly agree that they

received support from family and classmates, but that there work time takes away from

their study time and that taking care of their family interferes with their study time.

Research questions yielded the following:

1. Is there a statistically significant relationship between socioeconomic

status, gender, ethnicity/culture, traditional/nontraditional students,

and first generation college students and academic factors of

persistence in community college student nurses? There was not a

statistically significant relationship between the aforementioned which

was an unexpected finding in that less than 2% of variability was

explained. Most earned less than $20,000 annually, were female,

Caucasian, not first generation college students, and therefore, there

was not much variability.

2. Is there a statistically significant relationship between socioeconomic

status, gender, ethnicity/culture, traditional/nontraditional students,

and first generation college students and environmental factors of

persistence in community college student nurses? There was a

statistically significant relationship found between demographic

factors and environmental factors; however, this must be interpreted

with a degree of caution since the Cronbach alpha was low. Gender

was a strong factor in that females responded stronger than males.

There were a larger number of females (over half) compared to males

which is not an unusual finding for nursing programs as indicated by

other studies. In Table 7, the standardized coefficients or betas for

environmental factors indicated decreases for all demographic factors

with the exceptions of increases in African Americans, Caucasians,

traditional students, and first generation students.

3. Is there a statistically significant relationship between socioeconomic

status, gender, ethnicity/culture, traditional/nontraditional students,

and first generation college students and social integration factors of

persistence in community college student nurses? There was not a statistically significant relationship between demographic factors and social integration factors and this was not surprising given the sample studied for a variety of reasons (nursing programs are competitive programs, limited time to get involved in campus activities, or programs such as tutoring and learning communities may not be offered at all colleges).

4. Is there a statistically significant difference between academic, environmental, and social integration factors of persistence in community college student nurses? There was a statistically significant difference between the three factors with environmental factors being more influential.

Open-Ended Question Results

The researcher chose to add an open-ended question to the questionnaire in order to try to gather more information that might not have been obtained through the quantitative portion. The open-ended question was, "what are some other ways in which your college could help students stay in the nursing program?" Five hundred sixty-four questionnaires were returned, and coded into themes using thematic analysis which looks for patterns in data. The data were tallied and divided by the total (n=564) which yielded percentages that were placed into a table in descending order. A criterion was set at 5% which yielded four major themes which included: more funding and financial aid/loans, tutoring and study groups, faculty need to be more supportive, and more test review. The final question in the instrument asked if there were any other things that colleges could

do to help students remain in their nursing programs. Several themes emerged which related to finances, the need for tutoring and organized study groups, and meeting one to one between students and faculty members. More test review was indicated. The emergent themes these were included in descending order in Table 8. Themes were coded using thematic analysis which uses patterns. Then, the themes were tallied and percentages calculated.

ADN programs have a higher proportion of minorities and males, according to Viterito and Teich (2002), but this current study's results differed in that the majority were Caucasian individuals, although there were a large number of male participants. According to the Institutions of Higher Learning 2006 Annual Report for Nursing Degree Program Accreditation, persistence was a problem in that only half graduated from two-year programs. The current study the principal investigator undertook indicated that there were several barriers encountered by students (finances, and student preparation) much like the Barriers Study conducted by the Mississippi Office of Nursing Workforce (2004). Lack of faculty support was also cited in the previous Barriers Study which agreed with the current research study conducted by the principal investigator. Demographics were similar with the exception of marital status in that over half of the respondents were single in the principal investigator's study as compared to the majority of respondents being married in the aforementioned study.

According to Bean and Metzner (1985), environmental factors had the highest effect on student attrition and persistence which is also in agreement with Tinto's (1996) study for reasons of withdrawal from college. This study revealed that environmental factors of student persistence had the largest difference and yielded the strongest

agreement among study participants. More than half of participants earned less than $20,000 annually and finances and financial aid were vital to program completion. This should be observed with a degree of caution since the Cronbach alpha was low. Many also felt that their family life competed with their study time. Another observation was that one of the research studies, The Barriers Study done by the Mississippi Office of Nursing Workforce Development (2004) indicated a high percentage of Caucasian students along with a low percentage of male nursing students. This study supported this work in that over half were Caucasian, although the percentage of male students was higher than in the Barriers study. As far as nontraditional aged students, almost half the participants in the current study were traditional aged compared to the majority of students in Montag's (1971) study.

As far as faculty-student interaction, the majority of students indicated that they felt faculty was doing a good job; however, on the open-ended question, many respondents indicated a need for more faculty interaction both inside and outside the classroom. McArthur (2005) also indicated the importance of faculty-student interaction.

Regarding peer tutoring and student assistance, this study indicated a desire for peer tutoring and organized study groups. Rhoads et al. (2005) along with Higgins (2005) also stated the importance of tutorial programs and study groups in order to help students persist. Many students also indicated a need for mentoring. Teaching methods and styles were apparently a problem in that participants strongly agreed that these had been a barrier to their success in their programs.

Implications

As far as implications, the results of the analysis included some interesting

findings. Study participants were in strong agreement when it came to faculty support and

encouragement in addition to faculty interaction in the classroom being positive. They

also strongly agreed that the academic work in the nursing program was as difficult as

they anticipated and that teaching methods were a barrier to their success. They agreed

somewhat with faculty being helpful outside the classroom, so perhaps there was less

interaction with faculty outside the classroom. Respondents indicated they were in

somewhat agreement with their college offering reading, writing, speaking, and math

help and having a retention director. Perhaps some schools do not offer tutoring nor have

a retention director. Some may not participate in study groups as indicated by the

quantitative portion of the questionnaire and the open-ended question. Many indicated

they would like to see study groups formed that were formalized. Participants strongly

disagreed that formal study groups and peer tutoring were effective. Many of the

research articles in the review of the literature of this study indicate that faculty

interaction (McArthur, 2005), tutoring and study groups (Higgins, 2005; Rhoads et al.,

2004), have been shown to be effective in helping students be successful and, therefore,

persist.

As far as social integration factors, participants were in agreement that faculty

support and care for them as people which is important for administrators to know. This

is a positive attribute. Participants disagreed that faculty/staff tutors were available to

help with lab/clinical skills practice and in the open-ended question, many students

indicated they would like to have some kind of practice sessions in the lab. They also

indicated that they did not agree that peer mentoring was offered at their colleges and

several indicated they would like to have students that are in the sophomore year come

talk to their freshmen classes as mentors. Many do not participate in peer support group activities but indicated on the open-ended question that they would like to see peer groups, and mentoring.

As far as environmental factors, students indicated that they strongly agreed that they did need financial aid to pay for school and that financial problems were their biggest problem; however, the open-ended question yielded that finances were a large part of their concern in persisting in school. Most believe they have adequate support from their peers in their nursing programs.

Some of the things that college administrators may want to consider based on the findings of this study include the need for nursing faculty to become more available to their students and to increase interaction outside the classroom if at all possible. Administrators may also want to think about offering programs to enhance student persistence and success which could include peer tutoring, mentoring, and organized formal study groups to help students. Several participants mentioned a need for financial support in the form of financial aid and scholarships in the open-ended question. Perhaps these could be offered. More time between tests and better teaching methods were also mentioned, so perhaps integrating different methods and approaches to teaching students could be integrated using a variety of materials and techniques and incorporating more technology. More test preparation in the form of review sessions may also be beneficial.

Some other points include that participants stated that there was a major need for financial aid in the quantitative portion of the study, as also indicated in the open-ended question, one of the higher emergent themes included financial aid. Some other themes included the need for better teaching methods, and test review in addition to tutoring.

There may be some possible solutions to address issues regarding financial aid, tutoring and organized study groups, need for faculty support, and more test review. Some of the solutions could include the following: partnerships between nursing programs and businesses and other entities including medical supply manufacturers, pharmaceutical companies, hospitals and medical clinics along with nursing alumni. By forming partnerships, these could lead to opportunities for funding, good will, jobs for future graduates, and more. Other funding solutions could include setting up scholarships based on need, for those students who already have a degree and who are pursuing another degree, and more. Scholarships could be funded by alumni, corporations, grants, and special events (golf tournaments, dances, 5K runs, phonathons, etc.) which could raise monies designated for scholarships. Grants from nursing organizations could also be sought to address financial aid issues, namely from the National League for Nursing and other professional organizations. Low interest loans could also be offered and student employment could also be offered as a way to defray the costs to attend college.

As far as peer tutoring and organized study groups, peer tutoring programs could be set up on college campuses and run through either the nursing programs or through academic support services. Volunteer nursing students, nursing alumni, retired nurses, and the education departments on campuses could join forces and collaborate on ways to help nursing students succeed. The aforementioned personnel could also assist students by having students request online appointments and in person appointments to address questions students have about lecture, lab, clinical, their program, and any other needs. Funding for peer tutoring could come from student fees, grants, special events, and other avenues. By personnel volunteering, this would help to defray the costs associated with

operating peer tutoring programs. Guidelines on how to access the peer tutoring programs could be placed on the departmental web page along with memos sent to faculty to announce the programs to students in addition to flyers being placed around classrooms and hallways particularly in the buildings where nursing courses are held. Online chats and webinars on special topics could also be set up, recorded, and viewed in addition to online discussion boards which would allow students, faculty, staff, and others to communicate needs and get answers. Study tips and test taking strategies could also be posted online and on bulletin boards in addition to offering workshops and short seminars at various times and days in order to try to meet the needs of students and help them be successful. Faculty who work in education would be especially insightful and helpful in offering study tips and test taking strategies and could work with nursing faculty to help students by collaborating on worksheets, flyers, and online postings. Bloom's taxonomy and the nursing process could be intertwined in order to help students look at questions in different ways in order to understand the questions and how to look at answers. Organized study groups could be set up on a rotational basis with faculty, staff, and student leaders both online and in person. The schedule could be displayed on the department's web page as well as on a bulletin board in the nursing lab, outside the dean's office in the hallway, and announced in class as well as via electronic mail to students. A designated space would also be reserved.

Study participants indicated a desire for more faculty interaction and support and these issues could be addressed by offering online chat sessions, discussion boards online for questions and answers, office hours, and gatherings. Gatherings were mentioned in the literature review and were found to be successful in helping students succeed and feel

supported. Gatherings could be set up 15 to 30 minutes before class time where faculty and students could mingle over coffee and donuts or just coffee that could be provided free of charge. Furthermore, a brown bag lunch series could be offered once a semester as a way to further increase interaction outside the classroom and could be offered in a designated area on campus.

As far as test review, a sample test bank could be set up online where students could access the test bank which could randomly assign test items. Students could access this from home or on campus and tests would be timed which would be similar to actual testing. Videos and webinars could be linked to departmental web sites and cover such topics such as test anxiety, study skills, test taking strategies, and more. Faculty could also take a few minutes before or after class time to go over tests with a special focus on those questions that were answered incorrectly. Think alouds could be used in that the faculty member would read the question aloud and then look at the answers and think aloud which would entail uttering the reasoning used to derive the correct answer. By reviewing Bloom's Taxonomy and the nursing process steps, the two could be linked and this could help students understand ways of viewing questions and how to answer them correctly. Faculty members could also be trained in a variety of media and technology in order to help them expand their skills so that they may in turn help students. Some of the media may include videography, webinars, pod casting, use of Wimba voice tools, graphic organizers, pictures, and other methods. It is important to be able to reach students at whatever levels they are and to also realize that all students do not learn in the same manner.

Limitations

One of the limitations included the study being limited to one field of study in one state in addition to the researcher's dependency on others to read the informed consents to students before distribution of questionnaires. One of the other concerns included the idea that questionnaires were administered either before or after class time, so there is a concern as to whether or not students took time to read the questions and devote time to thinking about their answers. The study was also limited to first-year students.

The environmental Cronbach alpha was also low. One possible reason for the Cronbach being low is that the items were not as internally consistent as the other factors.

Recommendations for Further Research

This section provides recommendations for future research related to student persistence related to the three factors (academic, environmental, and social integration). Additional researchers should explore other nursing programs in other states in addition to exploring second year students enrolled in Associate Degree Nursing programs at community colleges to see what the results would yield. The questionnaire could also be modified to include other degree programs. It would also be beneficial to possibly modify the questions that pertain to the environmental factors to see if there could be a higher degree of reliability which would be indicated by a higher Cronbach alpha.

Student persistence is an important concept to explore because of its close relationship to leaving college. Tinto (2002) stated that institutions need to focus on advising, providing academic support, and student learning since it is tied very heavily to persistence. He also stated that there are seven causes linked to student withdrawal and he believes that college administrators need to help students by changing the college

experience for students. Bean and Metzner (1985) linked four variables to attrition.

These theories are important to keep in mind when planning programs to help students

persist.

APPENDIX A

INSTITUTIONAL REVIEW BOARD LETTER

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board

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TO: Kathryn Lee Fleming
       P. O. Box 19063
       Hattiesburg, MS 39404-9063

FROM: Lawrence A. Hosman, Ph.D.
       HSPRC Chair

PROTOCOL NUMBER: C29050701
PROJECT TITLE: Student Retention in Associate Degree Nursing Programs in
Mississippi Community Colleges

Enclosed is The University of Southern Mississippi Human Subjects Protection
Review Committee Notice of Committee Action taken on the above referenced
project proposal. If I can be of further assistance, contact me at (601) 266-4279,
FAX at (601) 266-4275, or you can e-mail me at Lawrence.Hosman@usm.edu.
Good luck with your research.

APPENDIX B

PERMISSION FROM IHL

From: Jim Southward (southward@sbcjc.cc.ms.us)
To: kathylee1145@yahoo.com;
Date: Tue, September 7, 2010 8:17:55 AM
Cc:
Subject: RE: need-see below

Kathy,

I have pulled the minutes from the January meeting and you were given approval to proceed with your study. The motion was made by Dr. Ronnie Nettles of Co-Lin CC and seconded by Dr. Jesse Smith of Jones JC. It was approved by all members.

Please let me know if there is anything else you need.

Jim

From: kathy fleming [mailto:kathylee1145@yahoo.com]
Sent: Saturday, September 04, 2010 12:29 PM
To: Jim Southward
Subject: Re: need-see below

Hi, Mr. Southward. I am the lady from USM who presented a PowerPoint presentation for my dissertation approval on Jan. 26th of this year. I know there was a person there taking minutes, is there any way you could send me something indicating the presidents granted approval for me to move forward? I've looked through

APPENDIX C

PERMISSION LETTER FROM NURSING DEANS COUNCIL

MISSISSIPPI COUNCIL OF ASSOCIATE DEGREE NURSING PROGRAMS

April 13, 2010

Ms. Kathy Fleming, Principle Investigator
USM Graduate Student
P.O. Box 19063
Hattiesburg, MS 39404-9063

Dear Ms. Fleming,

I am delighted to inform you that the Mississippi Council of Associate Degree Nursing Programs is in support of your research, "Student Persistence in ADN Programs at MS Community Colleges," We approve your proposal with the change in focus to "student persistence and success" and we are eager to help with your data collection.

Thank you for agreeing to send individual reports to our deans/directors for dissemination as they deem appropriate. We appreciate the confidentiality and anonymity. We look forward to reviewing the results of our individual programs. Please let me know if we can assist you in any other way.

Sincerely,

Mary Jo Kirkpatrick, Chair
MS Council of Associate Degree Nursing Programs
662-329-7312

MJK/sw

APPENDIX D

PERMISSION LETTER FROM CYNTHIA BUTTERS

Middlesex Community College

Bedford Campus · 591 Springs Road · Bedford, MA 01730-1197 · 781-280-3200
Lowell Campus · 33 Kearney Square · Lowell, MA 01852-1987 · 978-656-3200

July 15, 2008

Kathryn L. Fleming
Graduate Student at The University of Southern Mississippi
P.O. Box 19063
Hattiesburg, MS. 39404-9063

Dear Ms. Fleming,

You have my permission to use and modify the survey instrument I used in my dissertation titled *Associate Degree Nursing Students: A Study Of Retention In The Nursing Education Program.* I completed this dissertation and was awarded the doctorate in June 2003 at the University of Massachusetts Boston.

I am interested in your survey modifications and research findings, and would appreciate this information when you complete your research. Please let me know if I can assist in any manner as you work towards your doctorate.

Sincerely,

Cynthia R. Butters, RN, EdD
Associate Provost for Academic Affairs

APPENDIX E

INFORMED CONSENT

Informed Consent Letter

Dear Participant

Thank you for agreeing to participate in this study. The purpose of this study is to examine persistence rates of first-year Associate Degree Nursing Programs at Mississippi community colleges. Use of the questionnaire has been approved by the author and the questionnaire has been adapted and is a 30-question, 5-point Likert scale instrument with 9 appended demographic questions and one open-ended question.

Participation is voluntary and any and all participants are free to withdraw without penalty. Participants will also be entered into a drawing for a $150 Visa gift card upon filling out their contact information (name, address, phone number, and email address) on postcards provided by principal investigator which will be collected by nursing faculty upon completion, placed in a large self-addressed stamped envelope (SASE) provided by the principal investigator, and mailed separately from the questionnaires to the principal investigator. The questionnaires will also be completed by participating students, collected by faculty, placed in a SASE provided by the principal investigator and mailed to the principal investigator.

Please contact Kathryn L. Fleming, Principal Investigator, if you have any questions at (601) 268-2080 or electronic mail: KathyLee1145@yahoo.com.

Sincerely,

Kathryn L. Fleming
Principal Investigator

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS. 39406-0001, (601) 266-6820.

APPENDIX F

COVER LETTER

Sample Cover Letter

Date

Name of Admnistrator
Title of Admnistrator
Name of Institution/Board
Address
City, State, Zip Code

Dear (Admnistrator's Name):

The purpose of this study is to examine first-year student persistence in Associate Degree Nursing programs at Mississippi Community Colleges in order to add to the body of knowledge and to assist administrators in their decision making processes. A report of the study would be available upon request.

Please find enclosed a copy of the protocol, informed consent, and questionnaire which explains the details of this study which I would like to begin in Spring 2010 at your institution. Your cooperation would be much appreciated and if you have any questions, please do not hesitate to contact me (601) 268-2080 or electronic mail: KathyLee1145@yahoo.com.

Thank you.

Sincerely,

Kathryn Lee Fleming
Principal Investigator

APPENDIX G

QUESTIONNAIRE

Page   1

Student Persistence in Associate Degree Nursing Programs

Directions: Please circle the number that applies to you.

5-Strongly Agree 4-Agree 3-Somewhat Agree 2-Disagree 1-Strongly Disagree

1. I participate in study groups	5	4	3	2	1
2. I participate in campus social activities	5	4	3	2	1
3. I participate in peer support group activities	5	4	3	2	1
4. Faculty provide the support and encouragement I need to be successful in my program	5	4	3	2	1
5. My interaction with faculty outside the classroom has been helpful	5	4	3	2	1
6. My interaction with faculty inside the classroom has been helpful	5	4	3	2	1
7. Faculty value and care for me as a person	5	4	3	2	1
8. Teaching methods in this program have helped me to be successful academically	5	4	3	2	1
9. I attend nursing classes on a regular basis	5	4	3	2	1
10. My work time interferes with my study time	5	4	3	2	1
11. The amount of time spent taking care of my family interferes with my study time	5	4	3	2	1
12. I have adequate social support during my role as a nursing student	5	4	3	2	1
13. I receive adequate support, friendship, and encouragement from my classmates	5	4	3	2	1

14. I receive adequate support and encouragement from my family   5   4   3   2   1

15. I receive adequate support and encouragement from nursing faculty   5   4   3   2   1

16. I have received help from community agencies   5   4   3   2   1

17. The academic work in the nursing program is more difficult than I thought it would be   5   4   3   2   1

18. I need financial aid to pay for my nursing education   5   4   3   2   1

19. Financial problems are the biggest problem for me related to my success of my nursing program   5   4   3   2   1

20. Teaching methods used by faculty in the nursing program have been a barrier to my success   5   4   3   2   1

21. Pre-nursing orientation seminars are effective in my program   5   4   3   2   1

22. Formal, organized study groups are effective in my program   5   4   3   2   1

23. Peer tutoring is effective in my program   5   4   3   2   1

24. Faculty/staff tutors are available to help me with my English language skills   5   4   3   2   1

25. Peer mentoring is offered and effective in my program   5   4   3   2   1

26. Faculty/staff tutors are available to help with lab/clinical skills practice   5   4   3   2   1

27. Learning communities are offered and are effective in my program	5	4	3	2	1
28. Counseling is available to me in my nursing program	5	4	3	2	1
29. My college offers reading, writing, speaking, and math help in my program	5	4	3	2	1
30. There is a retention director in my nursing program	5	4	3	2	1

Appended Demographic Variables

Directions: Please circle the number that applies to you

31. What is your socioeconomic status range?

1. $40,000 and over
2. $30,000-39,999
3. $20,000-29,999
4. less than $20,000

32. What is your age range?

1. Over 37 years old
2. 33-37 years old
3. 28-32 years old
4. 23-27 years old
5. 18-22 years old

33. Gender

1-Female
2-Male

34. Culture/Ethnicity

1-African American
2-Asian
3-Caucasian (White)
4-Hispanic
5-Other

35. Marital Status

    1-Single
    2-Married
    3-Divorced
    4-Living together
    5-Other

36. English is my first language

    1-Yes
    2-No

37. I am considered to be

    1-Limited English Proficient
    2-Proficient in English

38. Employment status

    1-I work full time (40 hours or more weekly)
    2-I work par time (20 hours or more weekly)
    3-I do not work

39. I am the first person in my family to go to college

    1-Yes
    2-No

40. What are some other ways in which your college could help students stay in the nursing program?

APPENDIX H

INSTITUTIONAL REVIEW BOARD APPROVAL FROM JCJC

From: Laverne Ulmer (laverne.ulmer@jcjc.edu)
To: kathylee1145@yahoo.com;
Date: Mon, April 12, 2010 1:05:08 PM
Cc:
Subject: Re: faxed requested information-see below

Kathy

I received your packet of information and everything seems to be in order. I will let Dr. Scoggin know that they may administer the survey.

Laverne

On Sat, Apr 10, 2010 at 2:38 PM, kathy fleming <kathylee1145@yahoo.com> wrote:

Hi, Dr. Ulmer. Per your request, I faxed the packet of information back to you regarding my research for my dissertation. I accidentally faxed the old informed consent and old cover letter sample, so I just refaxed the aforementioned in an updated version. My apologies. Please let me know if you have any further questions or need additional information.

Thank you,

Kathryn L. Fleming, USM Graduate Student
Student Persistence in Associate Degree Nursing Programs at Mississippi Community Colleges

--
Laverne Ulmer, PhD
Director, Institutional Effectiveness and Planning
Jones County Junior College
900 S. Court Street
Ellisville, MS 39437
P: 601.477.4238
F: 601.477.5411

APPENDIX I

POSTCARD

By filling out this post card, you will qualify to be entered into a drawing to win one $150 Visa gift card as a study participant.

Name_____

Address_____

City _____ST_____Zip Code_____

Phone _____Email_____

Drawing: _____December 15th, 2010_____

By filling out this post card, you will qualify to be entered into a drawing to win one $150 Visa gift card as a study participant.

Name_____

Address_____

City_____ST_____Zip Code_____

Phone_____Email_____

Drawing:_____December 15th, 2010_____

By filling out this post card, you will qualify to be entered into a drawing to win one $150 Visa gift card as a study participant.

Name_____

Address_____

City _____ST_____Zip Code_____

Phone _____Email_____

Drawing: _____December 15th, 2010_____

By filling out this post card, you will qualify to be entered into a drawing to win one $150 Visa gift card as a study participant.

Name_____

Address_____

City_____ST_____Zip Code_____

Phone_____Email_____

Drawing:_____December 15th, 2010_____

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