

ABSTRACT

DIXON, KARRIE GIBSON. Factors Associated with Academic and Social Integration of Freshman Students in the First Year College at North Carolina State University. (Under the direction of Dr. Wynetta Lee)

Student retention continues to be a concern for two-year and four-year colleges and universities; there are a variety of factors contributing to the institutional attrition rates. The purpose of this study was to identify and examine factors associated with how freshman students enrolled in the First Year College (FYC), at North Carolina State University during the 1999 - 2000 academic year perceive their academic and social integration. The data for this research study was obtained using the College Student Experience Questionnaire (CSEQ).

The dependent variable in this research study was grade point average (GPA) of the respondents. The independent variables for this study were the academic and social factors associated with the perceptions the respondents have regarding their academic and social integration. These academic and social factors are based on the 13 activity scales on the CSEQ that measure the quality of effort known to be important to student development. They are: clubs and organizations; library; computer and information; technology; course learning; writing experiences; art, music, theater; science and quantitative experiences; experiences with faculty; campus facilities; personal experiences; student acquaintances; topic of conversation; and information in conversations.

The results revealed that there is no significant difference between male and female student involvement in organizations. Both male and female students in the FYC

Abstract (continued)

participated in campus clubs and organizations equally. A correlation analysis revealed a positive relationship, indicating that as FYC student's GPA increases the amount of academic integration increases. The quality of effort score for Course Learning, Writing Experiences, and Scientific and Quantitative Experiences had the highest correlations significant with GPA. In reference to social integration, a correlation analysis revealed that as the student's GPA increases the amount of social integration increases. The findings suggest that the quality of effort score for Experiences with Faculty and Topics of Conversation had the highest correlations significant to GPA.

A logistic regression analysis was used to predict academic and social integration from GPA. There were five independent predictor variables and one dependent variable used in the model for predicting academic success. Of the five possible independent variables used in the logistic regression model, Course Learning, from the academic integration category was the only independent variable selected in the model.

**FACTORS ASSOCIATED WITH ACADEMIC AND SOCIAL
INTEGRATION OF FRESHMAN STUDENTS IN THE FIRST YEAR COLLEGE
AT NORTH CAROLINA STATE UNIVERSITY**

by

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BIOGRAPHY

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Karrie is married to Devi Dixon of Ayden, North Carolina and they have a daughter Kamryn Denise Dixon (born 2002).

DEDICATION

I dedicate this doctoral dissertation to my husband Devi, my daughter, Kamryn, my parents, Aldine and Pamela Gibson, and my sister Korrie Gibson. Your constant prayers, encouragement, support, and love has guided me throughout this challenging process.

Devi, you are a blessing from above, and I love you. Through everything, you have been by my side. You understood when I had to study and write papers, often sacrificing time that we would otherwise spend together. Despite the time missed while we were both in graduate school, I want to thank you for your unconditional love and support.

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CHAPTER I

INTRODUCTION

The extracurricular movement in higher education became the guiding force behind the introduction to a social system on the American college campus (Rudolph, 1962, 1990). As a result, this vast development of the extracurricular helped to liberate the intellect on the American higher education campus, and it also helped in keeping the students involved on campus.

The integration of a social system brought tremendous change to the identity of the higher education institution. The institution would face the challenge of providing an academic experience, as well as a social experience for its students. Though presently, most higher education institutions are attempting to implement more programs and activities to provide both academic and social systems for students, not all institutions are concerned with the balancing of both. This new emergence of the “social institution” would provide the students with a small segment of the higher education institution to call their own. According to Tierney (1992), “social integrationists have hypothesized that success in college is contingent upon an individual’s ability to become academically and socially integrated into the life of the institution” (p. 614).

Though student attrition in American higher education institutions is an issue that many scholars have addressed since the early twentieth century, it somewhat lessened after the integration of the social component into academia. Some students chose to remain in college because they felt the academic and social experience would be beneficial to their networking and becoming prominent societal leaders.

For many years, college administrators have invested great resources into attracting students to their campuses. Although college enrollment continues to escalate, not all students are choosing to remain in college until they complete their degree. Over the last 40 years, many researchers have sought to understand why some students choose to leave college before they complete a degree (Tinto, 1987, 1993; Cohen, 1998; Youn, 1992; Levin & Levin, 1991; Roach, 2000; Braunstein & Mc Grath, 1997).

When addressing the concerns for increasing student retention, Jarmon (2000) stated that, “student retention shows that a supportive college environment can have a crucial effect on the student’s ability to maintain continuous enrollment and to meet the minimum grade point average requirements in order to fulfill the expectations and requirements for a college” (p. 1). According to Henry and Smith (1994), “the decade of the 1980s produced federal and state mandates for public colleges and universities to be more accountable by demonstrating measurable increases in student skills and knowledge attainment between college entry and exit. As suggested by Gerdes and Mallinckrodt (1994) it is relevant for administrators when attempting to increase understanding of why students decide to leave college to examine the aspects of college adjustment and the expectations students hold prior to enrolling.

Academic ability has often been described as a predictor for retention in higher education institutions. However, a growing body of research is suggesting that the student's ability to integrate socially is just as important (Tinto, 1975, 1987, 1999; Grunder & Hellmich, 1996; Graham & Donaldson, 1999; Braunstein & McGrath, 1997). According to Gerdes and Mallinckrodt (1994), “ some of the most commonly reported crises in the freshman year involve difficulties in social adjustment manifested as feelings

of homesickness and loneliness” (p. 281). The authors go on to say that some of the most important elements of social adjustment include becoming integrated into the social life of college, forming a support network, and managing new social freedoms (Gerdes & Mallinckrodt, 1994).

Research literature has revealed that student retention researchers have sought to answer the following questions: Why do students choose to drop out of college before completing their degree? What factors attribute to the decision to discontinue enrollment? Do students find their educational experience meaningful and valuable? What can higher education institutions do to retain these students?

STATEMENT OF THE PROBLEM/PURPOSE OF THE STUDY

As student retention continues to be a concern for two-year and four-year colleges and universities, there are a variety of factors contributing to the increased attrition rates. Researchers Gerdes and Mallinckrodt (1994) have identified the following areas that may have an important influence on college attrition: (a) academic adjustment, which includes academic abilities, motivational factors, and institutional commitment; (b) social adjustment; and (c) personal or emotional adjustment.

McGrath and Braunstein (1997), contend that first-year student attrition continues to be a problem even though much research has been conducted; and administrators to combat it on their higher education campuses have implemented many strategies. More specifically, extensive research has been conducted on retention of freshman students in higher education institutions using different methods and approaches; most of the

research, however, has been conducted specifically on four-year colleges (Hoyt, 1999, Tinto, 1975, 1987, 1993; Tierney, 1992).

Tinto (1987) identified six principles, which suggest successful attempts to encourage first year student success in a higher education institution. They are: (1) students enter with, or have the opportunity to acquire, the skills needed for academic success; (2) personal contact with students extends beyond academic life; (3) retention actions are systematic; (4) retention programs address students' needs early; (5) retention programs are student-centered; and (6) education is the goal of retention programs.

The purpose of this study was to identify and examine factors associated with how freshman students enrolled in the First Year College at North Carolina State University during the 1999 - 2000 academic year perceive their academic and social integration. While several research questions emerged when examining the attrition and retention literature, the following research questions will guide this study: RQ1: Is there a difference between male and female students involvement in organizations? RQ2: Is there a relationship between academic integration and college GPA? RQ3: Is there a relationship between social integration and college GPA? RQ4: To what extent is academic and social integration a predictor of GPA?

SIGNIFICANCE OF THE STUDY

The significance of this descriptive study is to provide insight into the factors that are associated with how freshman college students perceive their academic and social integration. This study will focus on freshman college students because as Chickering and Reisser (1993) state, "although entering freshmen generally perceive themselves as

being capable of attaining their desired academic goals, educators have long recognized the gap between freshman optimism and the commitment needed to be successful academically” (cited in Grunder & Hellmich, 1996, p. 21). In essence, this gap often attributes to the academic and social challenges freshman students experience in the college environment. The findings from this study may be helpful in identifying factors associated with attrition for university administrators in their effort to implement effective retention programs.

This study may also assist administrators in understanding the perceptions of the academic and social environment that freshman students have during their first-year college experience. After reading this study administrators may design more retention programs that address the factors associated with the perceptions first-year students have towards their academic and social integration in the college environment.

LIMITATIONS OF THE STUDY

There are many factors associated with attrition of freshman students in higher education institutions. While this study will be based on the responses freshman students enrolled in the First Year College (FYC) during the 1999 – 2000 academic year, at a four-year land-grant university, gave on the College Student Experience Questionnaire, its findings will not address factors that students may face after their first year on the university campus. It is important also to acknowledge that the students were enrolled in other courses throughout the university in addition to the Multidisciplinary Studies course (MDS) required by admission into the First Year College. This course is designed to assist FYC students with their transition into the university and selection of major.

Another limitation to this study centered on age. The majority of the freshmen students enrolled in the FYC are traditional aged students (19 years or younger). This study does not include nontraditional freshman students. This study is important because nearly half of all college dropouts do so during their first year of enrollment (Tinto, 1987). Therefore, a more expansive examination of attrition and retention of freshman students would be to conduct a longitudinal study of freshman students participating in the First Year College. This study would address the progression that these students make throughout their college career beyond the first year. It could also provide a means for examining factors of how motivation, learning styles, and classroom instruction relate to the retention of students.

DEFINITION OF TERMS

Academic Integration: The merging of the student into the academic environment of the college or university. Meeting the specified academic requirements to continue enrollment.

Attrition: A reduction in the number of students who enroll in the subsequent term due to reasons other than graduation.

College Environment: All the components a college contributes to the transfer of knowledge to the learner. Consists of the following interrelated components: instructional environment, student development environment, the administrative and physical

environment, the social and cultural environment, and the general impression of student focus (Jarmon, 2000).

Dropout: “Any student who leaves college for a given period of time, and consequently does not earn the degree in the same amount of time, with the class with which he/she originally started” (Youn, 1992, p. 472).

Grade Point Average (GPA): The total grade points earned during the fall or spring semester term divided by the total number of semester hours attempted for college credit during the fall or spring semester term, reported on a 4.00 scale (Grunder & Hellmich, 1996).

Involuntary Departures: Students who are not permitted to re-enroll during the subsequent term due to the lack of meeting the academic standards of the college or university.

Perception: The way in which someone sees and interprets himself or herself in an environment (Adler & Rodman, 1997).

Persistence: The continuation of enrollment at the same higher education institution without interruption until the student graduates from the degree program.

Social Integration: The merging of the student into the social environment of the college or university. Integrating into the social life of the college, forming relationships with peers and faculty, and managing new social freedoms.

Student Involvement: The amount of time, both academically and socially a college student invests both in-class and out-of-class while enrolled in the college or university.

Retention: The act of re-enrolling for subsequent college terms until the student graduates from the higher education institution.

Voluntary Departures: Students drop out completely or temporarily leave college due to academic, social, or personal issues that arise before they graduate.

CHAPTER II

THE REVIEW OF THE RELATED LITERATURE

Chapter two presents the concepts, a conceptual framework, and a review of literature relative to student retention and student attrition. The chapter will also summarize the literature and explore a variety of theories related to the dependent and independent variables that will be used in this proposed study. This chapter will conclude with the research questions formulated to guide this study.

CONCEPTS

The nine concepts identified as relevant to developing the conceptual framework for this study are the following: (1) Retention, (2) Attrition, (3) Persistence, (4) Academic Under preparedness, (5) Academic and Social Integration, (6) Student/Faculty Interaction, (7) Gender, (8) Involvement, and (9) Retention Programs. A conceptual framework for this study is explained below.

CONCEPTUAL FRAMEWORK

This study will identify variables associated with the perceptions students have regarding their college experience during their freshman year at a four-year university. The dependent variable in this study was the grade point average the students indicated on the College Student Experience Questionnaire (CSEQ). The variable GPA was used as a means for measuring academic integration and social integration (i.e. quality of effort) during their first year. The independent variables used in this study are (1) gender, (2) clubs and organizations, (3) library, (4) computer and information, (5) technology, (6) course learning, (7) writing experiences, (8) art, music, theater, (9) science and

quantitative experiences, (10) experiences with faculty, (10) campus facilities, (11) personal experiences, (12) student acquaintances, (13) topic of conversation, and (14) information in conversations.

The rationale for this conceptualization was based on related literature. Several theoretical models have been proposed to explain the reasons and influences of students' decision to leave college before finishing a degree program (Tinto 1975, 1987, 1999; Astin, 1984; Bean & Metzner, 1985; Stoecker, Pascarella, & Wolf, 1988). This study will attempt to identify the variables associated with the perceptions students in the First Year College have regarding their academic and social integration in the college environment.

Although studies on academic and social integration usually examine the outcomes that occur well into the college experience, McDaniel and Graham (2001), contend that future research and models might focus on the academic and social integration of the student early in their college experience. They also suggest that more information on academic and social integration during the students' first semester may assist in early identification attempts (McDaniel & Graham, 2001).

LITERATURE REVIEW

Student Retention

The retention of students continues to be a concern for college administrators in higher education institutions. Retention is defined as keeping students who entered the college or university until they graduate. Retention also refers to the *higher education institution's* ability to keep these students (Tinto 1987, 1993; Youn, 1992; Gebelt, Parilis, Kramer & Wilson, 1996). Researchers Moxley, Najor-Durack, and Dumbrigue (2001),

define retention as, “ the process of helping students to meet their needs so they will persist in their education toward the achievement of the educational aims they value. Retention can achieve this through the mustering of support that enable students to be successful, and the lowering or elimination of those factors that can disrupt the students’ education, and that can ultimately result in their failure to achieve those educational aims they want” (p. 37).

More students are choosing to leave their college or university before they complete their degree. According to Kerka (1995), “retention is linked to a number of factors; a gap between learner expectations and reality; past school and home experiences; educational and practical concerns; and social integration” (p. 1). Vincent Tinto in his book, *Leaving College*, states that “nearly 2.4 million students who in 1993 entered higher education for the first time, over 1.5 million will leave their first institution without receiving a degree” (Tinto, 1993). Therefore, the number of students leaving their higher education institution exceeds the number of students who decide to remain on campus.

Retention models developed by Tinto (1975, 1987, 1999), Bean and Metzner (1985), Stoecker, Pascarella, and Wolf (1988), and others call attention to the experiences students encounter during the length of time it takes to complete their degree and their perception of the college environment. Vincent Tinto’s model for retention of college students is influenced by a student’s pre-entry attributes, goals and commitment, and academic and social integration (Tinto, 1975, 1993).

Bean and Metzner (1985) have also developed a conceptual model explaining how student persistence is influenced by a student’s background, academic variables,

environmental variables such as employment and finances, and social integration.

Tinto's theory examines student departure as a longitudinal process of interactions that take place within a higher education institution over time.

Student Attrition

The concern for the increase in attrition rates has escalated over the years, and researchers continue to examine and identify the specific characteristics that may attribute to these rates (Brawer, 1996; Tinto, 1975, 1987; Astin, 1990). Brawer (1996) has reported that while attrition statistics remain constant, approximately 50 % of the freshman enrolled in colleges and universities drop out before completing their degree. Consolvo (2002) also contends that 30-40 % of students who enter college drop out, or fail to complete their program of study.

Braunstein and McGrath (1997) conducted a study at Iona College, located in New Rochelle, New York, which identified and examined the assumptions, beliefs, and perceptions regarding attrition and retention held by particular college administrators and faculty. The high rate of student attrition is the first factor, which usually convinces administrators that some form of retention efforts is necessary. Levin and Levin, (1991) define attrition as those students who: (a) either permanently drop out of college or transfer voluntarily to another campus or (b) drop out of college as a result of inadequate grades. Researchers have defined the college dropout as any student who voluntarily leaves college for a period of time, without earning the degree that he or she originally started (Youn, 1992; Tinto, 1975, 1987, 1993; Drew, 1990; Levin & Levin 1991).

Student attrition is usually decided on or after the arrival of new information such as academic status, grades, and satisfaction with the social life or student peer group, i.e.,

information not present in the initial enrollment decision (O'Toole & Peterson, 1999). Attrition rates in higher education institutions are ranging from 10% to 80% at a number of U.S colleges and universities (Braunstein & McGrath 1997; Tinto, 1987, 1993). A longitudinal study of potential predictors of attrition found that students drop out because of a mixture of emotional, social, and academic factors (Gerdes & Mallinckrodt, 1994).

Persistence

Not only must colleges and universities strengthen their retention efforts, they must also realize that the students of today are not like the students of the past. McDaniel and Graham (2001) view the use of persistence models in selecting students for admission as a problem. While research literature identify existing variables related to social and academic integration to be strongly correlated with success in college, they are primarily based on the behaviors or outcomes that occur well after the student matriculates in their degree program (McDaniel & Graham, 2001).

Research efforts frequently focus on the academic under-preparedness of students most clearly as it relates to the national rates of persistence (Gebelt, Parilis, Kramer, & Wilson, 1996). Research in student retention also shows that full-time status in the college or university is the most prevalent characteristic of persisters (Brawer, 1996; Moore, 1995; Windham, 1994). Kerka (1989) found that student characteristics, circumstances, and their educational environment are factors affecting participation and persistence. For that reason, Jones and Watson (1990) stated that, "at the institutional level, administrators, teachers, and counselors must engage in behaviors that facilitate persistence and completion of the program (p. 3)."

Research studies have also reported that age is a defining characteristic; persisters tend to be younger students, while non-persisters are typically older (Brawer, 1996; Windham, 1994; Price, 1993). The literature also revealed theoretical models explaining factors that influence student success and student persistence in a degree programs (Tinto, 1975, 1987, 1993; Bean & Metzner, 1985, Pascarella, 1980). MacKinnon-Slaney (1994) developed a persistence model named the Adult Persistence in Learning Model, which combines personal issues (values, goals, interpersonal competence, mastery of life transitions), academic issues (ability, learning style, study skills), and social/environmental issues (environmental compatibility), based on the assumption that adult participation is a complicated response to a series of issues (cited in Kerka, 1995).

In a research study conducted by Nora and Cabrera (1996) on minorities at a doctoral granting institution, they found that cumulative GPA was directly related to college persistence. McGrath and Braunstein (1997) conducted an empirical study that identified the best predictors of retention of freshmen college students at Iona College they found that one reason why students remained at Iona was because they were academically prepared to persist; and secondly they found that first semester grades seem to play a significant role in the persistence process.

Narretto (1995) also found that, persistence rates were lower for older adults who worked more hours and were enrolled in a degree program as a part-time student in a four-year higher education institution. According to Brawer (1996), “other attributes found to influence students’ decision to leave college before completing their degree program or degree include: full-time employment, low grade point average, being a

member of an ethnic minority other than Asian, family obligations, financial concerns, and female gender” (p. 1).

Researchers Henry and Smith (1994) altered the original Bean and Metzner model by replacing the feature “intent to leave” with the term “intent to persist.” As a result, the adapted model reveals four sets of variables that pertain to student persistence decisions: (a) Students with good academic performance are expected to persist at higher rates than students who perform poorly, and grade point average is expected to be based primarily on past (high school) performance. (b) Intent to persist is expected to be influenced primarily by psychological outcomes and by academic variables and academic outcomes. (c) Background and defining variables are expected to influence persistence, primarily performance and educational goals, which may be mediated by other exogenous variables in the model. (d) Environmental variables are expected to have substantial direct effects upon persistence decisions (Henry & Smith, 1994).

Academic Under preparedness

Another contributing factor to student attrition in higher education is the idea that many students are beginning college with a disadvantage due to inadequate secondary education. Parker (1999) suggests that society’s influence on elementary and secondary students has left many young people less than prepared for college. However, McDaniel and Graham (2001) note that it’s important to consider the quality of the high school as a means for producing academically prepared students.

Jones and Watson (1990) stated that, “academically, it appears that all students do not receive equal preparation in elementary and secondary schools” (p. 1). Lenning, Beal and Sauer (1980) agree that the quality of the high school and the more adequate study

habits the student possesses, the more likely the student is to remain in college until completion of a degree. As a result, researchers have noted that this poor preparation of incoming freshman as made it more difficult for higher education institutions to retain these under prepared students (Parker, 1999; Tinto, 1975, 1987; Pacarella, 1986; Pace, 1988).

Tierney (1992) contends that, “ post secondary institutions serve as functional vehicles for incorporating the young into society by way of their integration into the college or university” (p. 606). A growing body of literature suggests that this notion of under-preparedness offers contributing factors of family background (social status, values, emotions), individual attributes (*sex, race, academic ability*), and pre-college experiences (*GPA, academic and social attainment*) (Tinto, 1975; Sydow & Sandel, 1998; Levin & Levin, 1991; Braunstein & McGrath, 1997; Gerdes & Mallinckrodt, 1994).

More often students are entering college with the disadvantage of an inadequate prior education. As a result, administrators and faculty are discovering that the retention of this student population has become more difficult (Mooney, 1989, Tinto, 1987, 1993). According to Noel (1986), “many non-traditional students are filling the seats in the once traditional classroom. These non-traditional students are more mature, many are women, many do not have family support—either financial or emotional—many are from low socio-economic situations, many are under-prepared and undecided and many will not persist to complete a degree” (cited in Drew, 1990, p. 54).

Enrolling high percentages of academically underprepared students may also have an effect on the higher education institution. To further explain, Jones and Watson (1990)

suggest that enrolling full-time students who are academically underprepared is critical to the institution's survival. For example, with the increased numbers of students who are deciding to drop out before completing a degree, will eventually affect the institution's funding, facilities planning, and long-term planning for the curriculum.

Academic and Social Integration

Previous studies have indicated that there are many different reasons why students decide to leave college. A study was conducted at the University of Birmingham to determine the reasons behind students leaving the university. These reasons fall into three main categories: (1) feelings of being unprepared academically; (2) feelings of being unprepared emotionally; and (3) welfare problems, e.g. financial, family responsibilities (Rickinson & Rutherford, 1995).

Seidman (1989) states that, "the ability of a student to become integrated into institutional life has been shown to be the key to retention" (p. 40). More recent studies have also investigated social adjustments as a means for student attrition see: Braunstein & McGrath (1997); O'Toole & Peterson (1999); and Rummel, Acton, Costello, & Pielow (1999). Henry and Smith (1994) agree that, "social integration refers to the extent and quality of students' interaction with the social system of the college environment" (p. 29). A substantial body of literature emphasizes the integration into the social environment as a crucial element in commitment to a particular academic institution (Gerdes & Mallinckrodt, 1994; Tinto, 1975, 1987, 1993; O'Toole & Peterson, 1999; Levin & Levin 1991).

With these reasons and others like them in mind, higher education institutions are practically being forced to make student retention an institutional priority. Parker (1999),

suggests that colleges must first have campus-wide awareness of the importance of retaining its students; which means including stakeholders, such as faculty, student service providers, administrators, trustees, the college president, counselors, advisors, taxpayers, support staff and students. Seidman (1989) asserts that, “retention begins with the admissions process. Admissions materials and personal contact and the expectations they build, can play a major role in a student’s adjustment to the institution” (p. 40). Hoyt (1999) adds that, “ an effective retention program requires a campus-wide effort, and can involve several different student sub-populations” (p. 54).

Several researchers have also pointed out that the two consistent predictors of retention and success were the degree to which students become academically and socially integrated into the college environment (Strage, 1999; Tinto, 1975, 1987, 1993; Pascarella & Terenzini, 1980, 1991; Tierney, 1992). Gerdes and Mallinckrodt (1994) suggest that higher education institutions examine the aspects of college adjustment and the expectations students hold for how they will adjust.

In other words, administrators and faculty should develop a better understanding of the reasons why students make the decisions to leave. In a research study conducted by Strage (1999), analyses of survey data collected from 150 college students identified relationships among five indices of academic and social integration (academic confidence, social confidence, perception of oneself as a leader among one’s peers, a positive rapport with one’s teachers, and an internal locus of control) and success and mastery orientation in that environment (as indexed by GPA, persistence and task involvement and an incremental view of intelligence).

Colleges and universities may argue that their institution does offer commitment to student success. However, the institutions must also offer commitment to student retention efforts, which is more often the key to success for many students (Sydow & Sandel 1998; Tinto 1987, 1993; Drew 1990; Gerdes & Mallinckrodt, 1994). Strage (1999) contends that, “despite the increase in the number and type of student support services available on two and four-year college campuses, an increasing segment of the college population appears to be under prepared or inappropriately motivated” (p. 198).

For example, a retention study conducted by Sydow and Sandel (1998) at Mountain Empire Community College, (MECC), in Big Stone, Virginia, found that age, work and family, varying educational goals, personal and academic obstacles and student-faculty relationships were factors affecting student persistence. After identifying and understanding how to implement effective retention strategies, MECC made retention an institutional priority. The college’s president formed a standing retention committee, which resulted in college-wide interest and enthusiasm among administrators and faculty.

On the other hand, Rummel, Acton, Costello and Pielow (1999) conducted an empirical study, which concluded that some attrition in an university could sometimes be good, if a student is not academically suited for the collegiate environment. The result from the empirical study goes on to suggest that efforts on the part of the university should be focused more towards retention programming. In turn, these efforts will enhance the retention rates of those students who can be academically and socially successful (Rummel, Acton, Costello & Pielow, 1999).

Tinto (1975, 1987, 1993) developed a theoretical model, known as the *Longitudinal Model of Departure from Institutions of Higher Education*. Tinto developed this model to focus on the environmental conditions under which students decide to leave their college or university. The model shows how the interaction between the individual and academic and social systems of the college can strengthen the students' goals and institutional commitments to maintain persistence; the lack of it can lead to various forms of attrition.

Tinto's theory suggests that institutions that provide both means to academic and social integration in the form of academic, social, and personal support services to students encourage their persistence to graduation (Tinto, 1999; Consolvo, 2002). Many researchers support the use of Tinto's model explaining student attrition and retention for the traditional student at a residential higher education institution (McDaniel & Graham, 2001; Munro, 1981; Pascarella & Terenzini, 1980; Tinto, 1975, 1999). However, Grossett (1989) notes that Tinto's model is useful in explaining early departure for traditional students, but not as effective when explaining retention for commuter and other non-traditional students.

Youn (1992) suggested that students' living on campus in residence halls also improves the possibilities of retaining students. Students who live on campus have the benefit of intellectual and social growth (Youn, 1992). The quality of the "college experience" and the opportunity to learn outside of the classroom are well noted when addressing student retention. According to O'Toole and Peterson (1999), "the match of the student's academic and social involvement with the institution's academic and social programs is referred to as the degree of academic and social integration" (p. 48).

Student Involvement

Involvement theory has been one of the major theoretical perspectives used to explain the outcomes associated with the student retention (Graham & Donaldson, 1999). Developed by Alexander Astin, the theory of involvement conveys that students learn more the more they are involved in both the academic and social aspects of the college experience. The theory also acknowledges the importance of student-student interaction and student-faculty interaction as a means for retaining students. According to Graham and Donaldson (1999), “both forms of interaction are posited to contribute to the student’s level of integration with the academic life of the institution (academic integration) and to the level or degree to which the student is involved in the social life of the campus (social integration)” (p. 148).

An important component to Astin’s involvement theory is the idea that student involvement requires cooperation among all members of the university community. This involvement includes encouraging faculty members, administrators, student personnel, counselors, and students to work together to promote involvement in the college environment. In a published interview conducted by Richmond (1986), Astin states, “the outcome goals coming directly out of the involvement concept is retention. A healthy thing happening on campuses now is the creation of retention committees that bring together the fiscal people, who want the bodies because they bring in money; the faculty, who want some continuity with the students rather than having this revolving door situation; and the student personnel people, who are interested in retention because it reflects a culmination of their efforts to an extent” (p. 65).

Student/Faculty Interaction

Faculty members in higher education institutions are expected to take on the responsibility of promoting intellectual and social development amongst their students. Kellogg (1999) contends that the gap between faculty and student affairs has widened as faculty is finding less time to focus on the social and personal development of their students. Gerdes and Mallinckrodt (1994) contend that supplying quality informal contact with faculty is an important form of support that is essential to maintaining enrollment until degree completion.

As a result, administrators have been faced with the responsibility of encouraging faculty to interact more with students in and outside the classroom in an effort to promote a balance of academic and social integration for students. Social integration usually occurs when students are involved in peer groups associations, extracurricular activities, and when interacting with faculty and administrative personnel within the college (Tinto 1975). Researchers support the notion that student-faculty interaction is an important element needed in retaining students (Sydow & Sandel, 1998; Levin & Levin, 1991; Tinto, 1975, 1987, 1993; Drew, 1990). Braunstein and McGrath (1997) found that faculty felt when students have a good relationship with them, it facilitates academic and social integration, enhancing students' commitment to their studies and the college.

Tinto (1992) supports the importance of student and faculty interaction because it is a strong predictor of student persistence. Quigley (1995) in a study conducted on "reluctant learners" found that students who drop out of college during the first few weeks of classes felt they did not receive enough teacher attention. In a study conducted by the National Institute of Education (1984), the findings revealed that the retention of

full-time students could best be strengthened through an early warning system, improved academic advisement, enhanced communication between faculty and students, and other measures designed to increase student involvement with the institution.

Moss and Young (1995) contend that interaction between students and faculty during and outside of the classroom is essential because faculty gain a realistic understanding of these students needs from the contact they have with them. Woodside, Wong and Weist (1999) focused on the interaction between faculty-student and outcome variables such as academic achievement and overall satisfaction of college students.

Gay (1994) contends that both students and faculty are key players with their contributions, experiences, and perspectives in the educational process. Tebben (1995) adds that students learn more when they form relationships with faculty members. They feel more comfortable when discussing problems about the course content or assignment with a faculty member they perceive as approachable.

Gender

In a study conducted by Garrett (1992), he questions if gender of the student plays a role in retention. He notes, as with other demographic variables the result was unclear regarding the effect of gender as a determinant for retention. However, research findings do support the notion that women leave college more often in response to social forces than to academic problems, which is the opposite for men (Garrett, 1992).

Gay (1990) suggests that the reason there is so much contradiction in the literature on the effect gender has on retention is because gender may be related to attrition at some universities and not at others. Henry and Smith (1994) noted in a recent study conducted by the Colorado Commission on Higher Education, showed that for the cohort entering in

the fall of 1991 at Colorado community college, females persisted (completed, transferred, or both) at higher rates than males (51.2% versus 46.4%).

Retention Programs

Many two and four year colleges and universities are refocusing their retention efforts by implementing retention programs. Moxley, Najor-Durack, and Dumbrigue (2001) suggests that needs assessments can help an educational institution to identify those groups of students that require outreach, support, and attention in the process of persistence and retention. The researchers also go on to say in this effort of conducting need assessments, the institution is provided with a clearer sense of who needs or requires retention, and offers the institution an understanding of the students needs so that the retention programs are sufficient (Moxley, Najor-Durack, & Dumbrigue, 2001).

Hoyt (1999) also contends, “although differences in retention rates among colleges and universities provide unique insights, educators also need to understand the needs of students enrolled on their campuses to improve retention rates” (p. 52). Parker (1999) points out that if higher education institutions want to support students who may be academically under prepared it is important for the institution to realize that it must establish a campus-wide commitment to retention while simultaneously implementing a variety of strategies to help students accomplish their educational goals.

Retention programs are usually the first step the college or university administrators take when identifying strategies. However, as Roach (1999) states, “higher education experts around the country agree that interest in student retention has reached an all-time high. Yet there is a growing frustration among retention experts in the field

that many colleges and universities either lack the will or the funds to develop truly effective programs” (p. 28).

Some retention programs are designed to help freshman adjust to the college environment. For example, Hoyt (1999) supports that use of freshman first year programs such as seminars to help students learn study skills and understand college expectations and orientation sessions to link them with the student support services that the higher education institution has to offer. Coll and VonSeggern (1991) report that “retention programs have been found to provide students with information essential to their academic socialization: (1) descriptions of college program offerings; (2) the college’s expectations for students; (3) information about assistance and services for examining interests, values, and abilities; (4) encouragement to establish working relationships with faculty; (5) information about services that help with adjustment to college; and (6) financial aid information” (cited in Brawer, 1996, p. 2).

Vincent Tinto views student retention as an issue that higher education institutions have the power to amend. Tinto (1993) offers seven principles for effective implementation of retention programs. They are the following:

- (1) Institutions should provide resources for program development and incentives for program participation to faculty and staff.
- (2) Institutions should commit themselves to a long-term process of program development.
- (3) Institutions should place ownership for institutional change in the hands of those across the campus who have to implement that change.
- (4) Institutional actions should be coordinated in a collaborative fashion to insure a systematic, campus wide approach to student retention.
- (5) Institutions should act to insure that their faculty and staff possess the skills needed to assist and educate their students.

- (6) Institutions should frontload their efforts on behalf of student retention.
- (7) Institutions and programs should continually assess their actions with an eye toward improvement.

According to Roach (2000), 71% of all higher education institutions with undergraduate populations are offering first-year programs for their students. Programs directed at increasing retention have taken the form of orientation seminars and academic skills courses. It is also important that retention programs include social adjustment strategies for college students (Rummel, Acton, Costello & Pielow, 1999; Levin & Levin, 1991; O'Toole & Peterson, 1999; Gerdes & Mallinckrodt, 1994; Tinto, 1975, 1987, 1993; and Youn 1992).

One emerging issue in the literature suggests that it is most critical for retention programs is to teach study and learning skills in the context of programs and courses (Levin & Levin, 1991; Braunstein & McGrath, 1997; Gebelt, Parilis, Kramer & Wilson, 1996). Tinto (1987, 1993) suggests that the secret to successful retention programs is one that lies in the understanding of principles and how they are applied to complex retention problems in institutional settings. To further explain, Tinto (1993) identifies three principles for institutions to consider when implementing effective retention programs.

They are the following:

- (1) Effective retention programs are committed to the students they serve. They put student welfare ahead of other institutional goals.
- (2) Effective retention programs are first and foremost committed to the education of all, not some, of their students.
- (3) Effective retention programs are committed to the development of supportive social and educational communities in which all students are integrated as competent members (p. 146-147).

When colleges and universities choose to implement retention programs on campus, these programs seem to have positive effects on students' persistence. A major objective of retention programs is to boost students' academic skills while also helping to develop important social networks (Levin & Levin, 1991). According to Consolvo (2002), "academic assistance is offered through study skills development, academic advising, virtual libraries, supplemental instruction, an early warning system, and an academic forgiveness program" (p. 285)

A recent article, Hill (2000), identified Central Michigan University's Freshmen Empowerment Program as one of the more successful retention programs. At Central Michigan University, incoming freshmen are assigned to small groups for weekly discussions about their academic goals, successes and social difficulties. According to Levin and Levin (1991), "academic assistance provided in a group setting is clearly the key to social integration, which is itself a key to the retention of all students, regardless of ethnic background" (p. 326). In the first group, 70% of the 53 students in the program are now college juniors. Therefore, Central Michigan University's overall retention rate from freshman to junior year was increased to 70 % (Hill, 2000).

Other colleges and universities are instituting similar programs to increase student retention rates. For example, Gebelt, Parilis, Kramer and Wilson (1996) discuss the Gateway Program in Psychology at Rutgers, the State University of New Jersey. The Gateway Program is a retention program, which consists of an academic course implemented to improve student developmental problems in a large university. The program encourages group discussions, which offers effective collaboration among peers.

The Gateway program emphasizes active learning as a retention strategy because the more students are interested in what they learn; the more likely they are to be retained, even in a large university (Gebelt, Parilis, Kramer & Wilson, 1996; Gerdes & Mallinckrodt, 1994). Indiana University also offers a retention program named the Intensive Freshmen Seminar program. Indiana's first year students get a head start on college by spending three weeks in tiny classes taught by senior professors. The students have the advantage of forming valuable relationships with their professors and also with their peers, while learning time management and study skills (Barovick & Baron, 2001).

RESEARCH QUESTIONS

Based on the conceptual framework for this research and a review of the literature, the following research questions were formulated to guide this study:

RQ1: Is there a difference between male and female students involvement in organizations?

RQ2: Is there a relationship between academic integration and college GPA?

RQ3: Is there a relationship between social integrations and college GPA?

RQ4: To what extent is academic and social integration a predictor of college GPA?

CHAPTER III

METHODOLOGY

Chapter three describes the methods and procedures that were used in this study. This includes the research design, population sampling, instrumentation, validity and reliability, data collection, description of variables, and the data analysis. Using the College Student Experience Questionnaire (CSEQ) data set, this study will identify and examine attrition factors associated with how freshman students enrolled in the First Year College at North Carolina State University during the 1999 - 2000 academic year perceive their academic and social integration.

Research Design

Gall, Borg and Gall (1996), stated that, “the purpose of a survey is to use questionnaires to collect data from participants in a sample about their characteristics, experiences, and opinions in order to generalize the findings to a population that the sample is intended to represent” (p. 289). The research design used in this study is a quantitative (numerical data) survey questionnaire. The data were based on a cross sectional design (data collected at one point in time) using the College Student Experience Questionnaire (CSEQ).

Population and Sampling

The target population for this study was all freshman students enrolled at North Carolina State University (NCSU) during the fall of 1999. During the fall 1999 semester, the admissions office admitted 7,555 freshman students out of 12,227 applicants. Of those 7,555 freshman students granted admission, 863 declared an undecided major and enrolled in the First Year College at NCSU. The mission of the First Year College is to

guide students through a structured process from transition to the university and selection of a major. This is accomplished through one-on-one advising, teaching and experiential guided reflection, assessment and analysis (First Year College website). Therefore, these 863 freshman students admitted into the First Year College at NCSU during the fall 1999 semester were the target sample of this research study. Of the 863 freshman students, 562 (N = 562) completed the survey.

Instrumentation

Freshman students in the First Year College at North Carolina State University were given the College Student Experience Questionnaire (CSEQ) during the spring 2000 semester as a homework assignment (see Appendix). Only data obtained from the returned CSEQ was used in this research study. The CSEQ is an assessment instrument that measures the quality of effort students expend in using resources provided for their learning and aspects of the college environment. Robert Pace designed the CSEQ in 1979. Since then, it has been revised in 1983, 1986, and 1998. For the purposes of this study, the fourth edition of the CSEQ, which was revised in 1998, was administered.

The CSEQ measures student progress and the quality of students' experiences both academically and socially at their respected four-year higher education institutions.

The CSEQ provides insight into

- (1) information about students' background and their status in college;
- (2) an index of student satisfaction with the college;
- (4) a report on the extent of student reading, writing, and involvement in other learning activities;
- (5) student ratings of key characteristics of the college environment;
- (6) estimates of student gains (progress) toward important objectives;
- (7) capacity for lifelong, continuous learning; and

(8) exposure to good practices in undergraduate education.

The CSEQ has been used at more than 500 colleges and research universities across the United States. Some of them include North Carolina State University, Duke University, University of North Carolina at Chapel Hill, Stanford University, and Northwestern University. The CSEQ allows administrators to assess their retention efforts and quality of their undergraduate programs.

The CSEQ is a total of eight pages, consisting of seven major sections. They are the following:

- (1) Background information (i.e. age, sex, marital status, etc.)
- (2) College activities (i.e. library usage, use of computer to prepare reports, course learning, writing experiences, experience with faculty, arts, campus facilities, clubs and organizations, personal experiences, student acquaintances, scientific and quantitative experiences)
- (3) Conversations (i.e. topics of conversation, information in conversations)
- (4) Reading and writing (i.e. textbooks used, number of papers written)
- (5) Opinions about your college or university
- (6) College environment
- (7) Estimates of gains

Within each section, 13 activities scales measure the quality of effort students expend in activities known to be important to student development. The scales are as follows:

Library (8 activities)

Questions ranged from routine, moderate exploratory use (e.g. using library as a quiet place to read or study) to increased amount of independent and focused activity (e.g. developing a bibliography)

Computer and Information Technology (9 activities)

Questions ranged from using a computer for writing to using technology to obtain, analyze, or create information.

Course Learning (11 activities)

Questions ranged from relatively simple cognitive activities (e.g., reading texts, taking notes) to higher-level cognitive activities (e.g., explaining and organizing information)

Writing Experiences (7 activities)

Questions ranged from general concern with words, grammar, and revisions, to seeking advice from others, greater concern with clarity and style

Experiences with Faculty (10 activities)

Questions ranged from routine and casual (e.g., asking for clarification about an assignment) to more serious contacts (e.g., discussing careers, inviting criticisms, seeking advice).

Art, Music, Theater (7 activities)

Questions ranged from talking about the arts and attending art-related functions, to efforts toward greater understanding (e.g., seeking the views of experts) and personal involvement (e.g., working on a theatrical production).

Campus Facilities (8 activities)

Questions ranged from casual and informal use (e.g. relaxing, meeting friends) to programmatic use (e.g. attending events and meetings, playing games, devoting effort toward improving skills and performance).

Clubs and Organizations (5 activities)

Questions ranged from attending meetings to working in and leading organizations.

Personal Experiences (8 activities)

Questions ranged from general curiosity about understanding one's own behavior, and others (e.g., talking with friends), to more focused and expertly informed sources of self-understanding (e.g., reading, talking with an advisor).

Student Acquaintances (10 activities)

Questions ranged from making friends with people from different backgrounds and interests, to serious conversations with people who have different views.

Science and Quantitative Experiences (10 activities)

Questions ranged from memorizing, watching, reading, to explaining, experimenting, and developing skills

Topics of Conversation (10 activities)

Questions ranged from current events in the news to intellectual and cultural topics concerning values and social issues.

Information in Conversations (6 activities)

Questions ranged from casual conversations that make use of little new knowledge to conversations that require expertise, knowledge, and persuasiveness.

The questionnaire takes students between 25 – 30 minutes to complete. Most of the response choices presented are: very often, often, occasionally, or never. Since the CSEQ was designed to ask students questions about their activities during the current academic year, it was recommended by the instrument developers that college and university administrators or faculty administer the instrument during the spring semester.

The first section of the questionnaire (Background Information), was designed to collect demographic information (i.e., sex, race, grades, major, residence) of the sample.

The second section of the questionnaire (College Activities) consisted of Likert scale type questions, which were designed to measure the quality of effort or personal development and social competence (perception of how the students see themselves academically and socially involved on campus). It also had students assess their involvement in general education, literature, arts, and social sciences (i.e. attended a cultural or social event on campus).

The Likert scale allowed students to choose their level of academic and social involvement on campus by using a scale of 1 through 4, where 1 = *Never*, 2 = *Occasionally*, 3 = *Often*, and 4 = *Very Often*. For example, the academic component of this section included statements such as, “Developed a bibliography or reference list for a term paper or other report.” The social component included statements such as, “Attended a meeting of a campus club, organization, or student government group.”

The third section of the questionnaire (Conversations) was designed to have the students assess their conversations in and outside of the classroom during the academic year. This section was divided into two parts. The first part was “topics of conversation” (e.g., current issues in the news), and the second part was “information in conversations” (e.g., referred to something one of your instructors said about the topic). This section was also based on a 4-point Likert scale, where 1 = *Never*, 2 = *Occasionally*, 3 = *Often*, and 4 = *Very Often*.

The fourth section (Reading and Writing) was based on statements to assess student’s intellectual skills. The statements in this section were designed using a 5-point Likert scale where 1 = *none*, 2 = *fewer than 5*, 3 = *between 5 and 10*, 4 = *between 10 and 20*, and 5 = *more than 20*. For example, the question asked, “During the current school year, about how many textbooks or assigned books have you read?” The student’s response would follow the above Likert scale.

The fifth section (Opinions About Your College or University), was designed to have the students express their opinions about the college environment. Only two questions are asked in this section. They are: How well do you like college? Measured on a 4-point Likert scale, where 1 = *I don’t like it* and 4 = *I am enthusiastic about it*. And, if you could start over again, would you go to the same institution you are now attending? Measured on a 4-point Likert scale, where 1 = *no definitely* and 4 = *yes, definitely*.

The sixth section (College Environment) was designed to measure the extent to which the college or university emphasizes or focuses on various aspects of the students’ development. A 7-point Likert scale, where 1 = *weak emphasis* and 7 = *strong emphasis* is the response choices for this section. For example, the question asked, “What is your

emphasis on understanding and appreciation for human diversity? The second part of this section has the students to rate the relationships they have with people at their college or university (e.g., relationships with other students). The responses to this part was measured using a 7-point Likert Scale, where 1 = *competitive, uninvolved, sense of alienation* and 7 = *friendly, supportive, sense of belonging*.

The final section (Estimate of Gains) of the CSEQ questionnaire asked the students to think about their present college or university experience and assess how they feel they have gained or made progress towards their educational goals in the college environment. The responses are measured using a 4-point Likert scale, where 1 = *very little* and 4 = *very much*. The goals are organized in five major clusters:

- ❖ General Education, Literature, Arts, and Social Sciences
- ❖ Personal Development and Social Competence
- ❖ Science and Technology
- ❖ Intellectual Skills
- ❖ Vocational Competence

Validity and Reliability:

The CSEQ that was used for this research study is the fourth edition (1998). In 1979, the CSEQ was examined and tested critically and empirically for its validity and reliability at 10 colleges and universities. The CESQ was revised in 1983, 1986, and is presently on the 1998 fourth edition. The CSEQ's purpose was to measure the amount, and quality of effort students put into their college experience, and the progress students make towards their educational goals.

The CSEQ was published in 1983 and has been completed by more than 260,000 students at over 500 different colleges and universities. Jarmon (2000) confirms, “ based on the Pace CSEQ testing manual for 1987, the coefficient Alpha reliabilities for the quality of effort scales range from .82 to .92. All responses obtained using the CSEQ are based on using an item content and “ladder-like” scale measuring the degree of frequency or involvement the respondents participates in the identified activity” (p. 67). Therefore, because of its longevity and high Alpha coefficients ranging from .82 to .92, there is evidence of reliability and validity.

Data Collection:

The data for this study was obtained from the First Year College at North Carolina State University. This secondary institutional data set was based on the responses freshman students enrolled in the First Year College during the fall of 1999 through the spring of 2000 gave on their College Student Experience Questionnaire. All First Year College students are required to take MDS 102A during the spring semester of their freshman year at NCSU. The CSEQ was administered during the middle of March, during the spring of 2000 semester to the students during the MDS 102A course as a homework assignment.

Description of Variables:

When measuring outcomes, Pace (1998) offers the notion that for some outcomes, student self-reports may be the only valid source of evidence in measuring the perceptions freshman students have regarding their college experiences. The dependent variable in this research study was grade point average (GPA) of the respondents in this study. The independent variables for this study were the academic and social factors

associated with the perceptions the respondents have regarding their academic and social integration. These academic and social factors are based on the 13 activity scales on the CSEQ that measure the quality of effort known to be important to student development. They are: clubs and organizations; library; computer and information; technology; course learning; writing experiences; art, music, theater; science and quantitative experiences; experiences with faculty; campus facilities; personal experiences; student acquaintances; topic of conversation; and information in conversations.

For the purposes of this research study, the 13 variables were divided between the two components, academic integration and social integration. The academic integration component was generated from the quality of effort activities that were identified by the author as activities known to be important to the academic integration of students on a college campus.

The following six activities became independent variables representative of academic integration, they were: Library, Computer and Information Technology, Course Learning, Writing Experiences, Art, Music, Theater, and Science and Quantitative Experiences. There were seven activities that became the independent variables representative of social integration, they were: Experiences with faculty, Campus Facilities, Clubs and Organizations, Personal Experiences, Student Acquaintances, Topics of Conversation, and Information in Conversations.

The variables for research question #1 were gender and organizational involvement during the freshman year. Gender was measured using a categorical response where 1 = male and 2 = female. In addition, organizational involvement was measured using the sum of the responses to five questions related to the quality of effort:

Clubs and Organizations component. Each of the five questions used a 4-point Likert scale where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*.

The variables used in research question #2 were GPA and academic integration (library; computer and information; technology; course learning; writing experiences; art, music, theater; science and quantitative experiences) during their freshman year. GPA was measured by use of a Likert scale of averages by range, where 1 = *C, C-, or lower*, 2 = *B-, C+*, 3 = *B*, 4 = *A-, B+*, and 5 = *A*. The activities associated with academic integration on the CSEQ were measured by the sum of the responses to 5-10 questions related to each individual activity scale measuring the quality of effort for: library; computer and information; technology; course learning; art, music, theater; science and quantitative experiences; and writing experiences components. Each question used a 4-point Likert scale where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*.

The variables used in research question #3 were GPA and social integration (experiences with faculty; campus facilities; clubs and organizations; personal experiences; student acquaintances; topic or conversation; information in conversations) during their freshman year. GPA was measured by use of a Likert scale of averages by range, where 1 = *C, C-, or lower*, 2 = *B-, C+*, 3 = *B*, 4 = *A-, B+*, and 5 = *A*. The activities associated with social integration on the CSEQ were measured by the sum of the responses to 5-10 questions related to each individual activity scale measuring the quality of effort for: experiences with faculty; campus facilities; clubs and organizations; personal experiences; student acquaintances; topic or conversation; information in conversations components. Each question used a 4-point Likert scale where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*.

The variables used in research question #4 were GPA and academic and social integration (library; computer and information; technology; course learning; art, music, theater; science and quantitative experiences; and writing experiences; experiences with faculty; campus facilities; clubs and organizations; personal experiences; student acquaintances; topic or conversation; information in conversations) during their freshman year. All 13 activities associated with both academic and social integration on the CSEQ were measured by the sum of the responses to 5-10 questions related to each individual activity scale measuring the quality of effort for all 13 independent variables: library; computer and information; technology; course learning; writing experiences; art, music, theater; science and quantitative experiences; experiences with faculty; campus facilities; clubs and organizations; personal experiences; student acquaintances; topic or conversation; information in conversations components. Each question used a 4-point Likert scale where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*.

Data Analysis:

There were four major research questions guiding this research study. They are:

RQ1: Is there a difference between male and female students involvement in organizations?

RQ2: Is there a relationship between academic integration and college GPA?

RQ3: Is there a relationship between social integrations and college GPA?

RQ4: To what extent is academic and social integration a predictor of college

GPA?

Question	Variables	Analysis
RQ#1: Is there a difference between male and female students involvement in organizations?	Gender Clubs and Organizations	Independent T-test
RQ#2: Is there a relationship between academic integration and college GPA?	GPA Library Computer and information Technology Course Learning Writing Experiences Art, Music, Theater Science and Quantitative Experiences	Spearman Correlation Coefficient Test
RQ#3 Is there a relationship between social integration and college GPA?	GPA Experiences with faculty Campus Facilities Clubs and Organizations Personal Experiences Student Acquaintances Topic or Conversation Information in Conversations	Spearman Correlation Coefficient Test
RQ#4 To what extent is academic and social integration a predictor of GPA?	GPA Library Computer and Information Technology Course Learning Writing Experiences Art, Music, Theater Science and Quantitative Experiences Experiences with faculty Campus Facilities Clubs and Organizations Personal Experiences Student Acquaintances Topic of Conversation Information in Conversations	Logistic Regression Analysis

The two variables used to answer the research question #1 were gender and clubs and organizations. The statistical test used for this analysis will be an independent T-test.

The independent T-test was chosen because it involves a single predictor (independent)

variable that is measured on a nominal scale and assumes only two values (male or female), and a single criterion (dependent) variable that is measured on an interval or ratio scale (involvement in campus organizations). The independent T-test is also sufficient because it identifies the difference between the mean scores of two groups.

The variables used to answer the research question #2 were GPA and academic integration (library; computer and information; technology; course learning; writing experiences; art, music, theater; science and quantitative experiences). A Spearman Correlation Test will be used to measure the relationship between the two variables. Research question #3 examined the variables GPA and social integration (experiences with faculty; campus facilities; clubs and organizations; personal experiences; student acquaintances; topic or conversation; information in conversations). A Spearman Correlation Test was used to measure the relationship between the variables.

The variables used to answer research question #4 were GPA and academic and social integration (library; computer and information; technology; course learning; writing experiences; art, music, theater; science and quantitative experiences; experiences with faculty; campus facilities; clubs and organizations; personal experiences; student acquaintances; topic or conversation; information in conversations). A logistic regression analysis was used to determine the magnitude of the relationship between the criterion variable and a combination of all thirteen predictor variables and reveal if it is statistically significant.

CHAPTER IV

RESULTS

Profile of Respondents in Study:

The majority (96%) of the respondents ($N=562$) in this study indicated they were less than 19 years of age. Of the respondents, 55% were male and 45% were female. When asked about their ethnic or racial identification, 84% were White or Caucasian, 1% American Indian or other Native American, 3% Asian or Pacific Islander, 8% Black or African American, < 1% Mexican American, < 1% Puerto Rican, <1% Hispanic, 3% other.

Demographic data also revealed that 99% were classified as second semester freshman at the time the CSEQ was administered. All respondents in the study were non-transfer students. All were admitted into the FYC as freshmen with undecided majors during the fall of 1999. Of the respondents, 99% were unmarried and 82% lived on campus in a residence hall, while 8% lived within walking distance and 7% within driving distance.

The majority of the respondents (99%) indicated they have access to a computer where they live or work that they can use for their schoolwork. When asked about the education levels of either of the respondents' parents, the data received from the study pointed out that 55% of the respondents had both parents to earn a college degree. However, 16% reported that only their father, compared to the 12% who reported that only their mother earned a college degree, and 15% indicated neither parent received a college degree.

Almost half of the respondents (49%) were registered for 15-16 credit hours during the fall term. During the time school is in session, 36% of the respondents reported that they spend 6-10 hours a week outside of class on activities related to their academic program, such as studying, writing, reading, lab work, and rehearsing. A more detailed description of the background information on the respondents in this study is shown in Table 1.

Table 1

Frequency and Percentage Distributions of Background Information for Freshmen

Respondents in the FYC during the 1999 - 2000 Academic year (N=562)

Age	Frequency	Percentage
younger than 19 years old	523	96.32
20 - 23 years old	20	3.68
Sex		
Male	297	55.31
Female	240	44.69
Marital Status		
Not married	538	99.45
Married	1	0.18
Separated	2	0.37
Living Residence during the school year		
Dormitory	450	82.87
Within walking distance	48	8.84
Within driving distance	38	7
Frat/Sorority housing	7	1.29
Access to a computer		
Yes	540	99.82
No	1	0.18
Parental Education (earned college degree)		
Neither	86	15.84
Both	299	55.06
Father	87	16.02
Mother	67	12.34
Unsure	4	0.74

Credit hours currently taking during this term		
less than 6	2	0.37
7-11	7	1.29
12-14	175	32.29
15 -16	268	49.45
more than 17	90	16.61
Hours a week you spend outside of class on activities		
less than 5	72	13.33
6 - 10	196	36.3
11 - 15	134	24.81
16 -20	94	17.41
21 - 25	22	4.07
26 - 30	13	2.41
more than 30	9	1.67
Does your current job affect your schoolwork?		
NA	338	66.27
None	89	17.45
Some	81	15.88
A lot	2	0.39
Race		
American Indian	3	0.58
Asian / Pacific Islander	14	2.69
Black / African American	43	8.27
White / Caucasian	436	83.85
Mexican American	1	0.19
Other Hispanic	1	0.19
Other	15	2.88
Multiracial	7	1.35

Research Questions:

The research questions for this study were derived from the conceptual framework and review of literature. Research question #1 focused on whether there is a difference between male and female students involvement in organizations. The research question #2 examined whether there is a relationship between academic integration and college GPA. Research question #3 explored whether there is a relationship between

social integration and college GPA. Finally, research question #4 centered on the extent to which academic and social integration is a predictor of GPA.

The scale of measurement for categorical response variables serves as a key element in determining the analysis strategy. When examining the scale of measurement for the dependent variable grades in relation to the proposed research questions it was decided to group the categories together to form a new grades dichotomous dependent variable (ngrades) to assist in the structure of the analysis.

Response values of 2 through 5 were grouped together to form the category of academic good standing (A to C+). The academic probation or dismissal category was made up of those students who their GPA with response value of (C, C-, or lower). Grouping categories is often done during analysis if the resulting dichotomous response is of interest. Table 2 shows the distribution of the grades variable before the grouping and Table 3 shows the resulting dichotomous ngrades variable from the grouping.

Table 2

Grade Distribution: Before Grouping

GPA	Frequency
C, C- or lower	29
B-, C+	111
B	172
A-, B+	164
A	65

Table 3

Grade Distribution: After Dichotomous Grouping

ngrades	Frequency
A to C+	512
C or lower	29

The quality of effort scale score is used to represent each of the independent variables selected by the author of this study for academic integration and social integration. The quality of effort scale score is the sum of each of the items in the respective category. For example qelib, an academic integration independent variable, is the sum of the responses to lib1 through lib8.

A quality of effort scale score is reported as "missing" if any of the items, which contribute to, that score is missing. In the case of qelib, if any of lib1 through lib8 is missing, then qelib is reported as missing. Because of this manner of reporting, at different stages of the analysis the sample sizes will vary depending upon what variables are being examined.

Research question #1 asked if there is a difference between male and female student involvement in organizations. Using descriptive statistics, an examination of the two variables gender and qeclubs was conducted. This data set consisted of 293 ($N = 293$) observations from male respondents. The mean qeclubs score for males was 7.83 with a standard deviation of 3.36 from the mean. There were 237 ($N = 237$) female observations in the sample. The mean qeclubs score for females was 7.56 with a standard deviation of 3.45. The means and standard deviations of the male and female students show that the males had less dispersion from the mean. Since $3.45 > 3.36$, the club

involvement of the female students have more variation in the qeclubs score than the male students. Seven students, 4 males and 3 females, had missing values for qeclubs.

The variable qeclubs was used to measure student organizational involvement on campus. The independent variable qeclubs was derived by using the sum of the responses to five questions related to the quality of effort: Clubs and Organizations component. Of the 538 ($N = 538$) observations, student involvement of the sample ranged from 5 to 20. The sum of each of the five questions was based on a 4-point Likert scale, where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often* (see Table 4).

Table 4

CSEQ Survey Items for Clubs and Organizations

Clubs and Organizations (Survey Items)
1. Attended a meeting of a campus club, organization, or student government group.
2. Worked on a campus committee, student organization, or project (publications, student government, special event, etc.
3. Worked on an off-campus committee, organization, or project (civic group, church group, community event, etc.
4. Met with a faculty member or staff advisor to discuss the activities of a group or organization.
5. Managed or provided leadership for a club or organization, on or off the campus.

Note. Qeclubs variable was derived by using the sum of the responses to the five questions above on a 4-point Likert scale, where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*.

Table 5 illustrates some descriptive statistics generated from a SAS program for the variable qeclubs for the two groups of interest, male (sex=1) and female (sex=2) students.

Table 5

Descriptive Statistics: Gender and Student Involvement of Freshman students in the First Year College

Descriptive Statistics											
Variable	Sex	N	Lower CL Mean	Mean	Upper CL Mean	Lower CL Std Dev	Std Dev	Upper CL Std Dev	Std Err	Minimum	Maximum
Qeclubs	1	293	7.4525	7.8396	8.2267	3.1143	3.3666	3.6637	0.1967	5	20
Qeclubs	2	237	7.5667	8.0084	8.4502	3.1665	3.4518	3.7941	0.2242	5	20

RQ1: Is there a difference between male and female student involvement in organizations?

The data were analyzed using an independent T-test. To answer this research question, the data were first checked for equality of variance to determine if the variances of the two groups (male, female) were equal. This would then determine which T-test test statistic to examine. Based on the F statistic ($F=1.05$) with $p=0.6829$, the null hypothesis of equal variances is not rejected and thus concluded at the 0.05 significance level that the variances of the two groups are equal (see Table 6).

Table 6

Differences in Two Means: Equality of Variances

Equality of Variances					
Variable	Method	Num DF	Den DF	F Value	Pr > F
qeclubs	Folded F	236	292	1.05	0.6829

Since the variances are equal, an examination of the pooled T-test results followed. Based on the T statistic ($t = -0.57$) with $p=0.5705$ (which is greater than $\alpha=0.05$) shown in Table 7, the null hypothesis was not rejected. It was concluded at

the 0.05 significance level that the two group means are equal. Therefore, this analysis revealed that there was no significant difference between male and female student involvement in organizations.

Table 7

Differences in Two Means: Pooled T-test Results

T-tests					
Variable	Method	Variances	DF	t Value	Pr > t
qeclubs	Pooled	Equal	528	-0.57	0.5705
qeclubs	Satterthwaite	Unequal	500	-0.57	0.5716

Research question #2 asked if there is a relationship between academic integration and college GPA. Research question #2 was analyzed by use of a Spearman correlation analysis. As previously noted in the methodology of this study, the component academic integration was generated from the quality of effort activities that were identified by the author as activities known to be important to the academic integration of students on a college campus. Those activities were the six independent variables used to answer research question #2 of this study. The independent variables were: Library (qelib); Computer and information technology (qecompt); Course Learning (qecourse); Writing Experiences (qewrite); Art, Music, Theater (qeamt); and Science and Quantitative Experiences (qesci).

The independent variables qelib, qecompt, qecourse, qewrite, qeamt, and qesci were derived by using the sum of the responses to questions related to the quality of effort for the Library; Computer and information technology; Course Learning; Writing Experiences; Art, Music, Theater; and Science and Quantitative Experiences component.

The sum of each of the questions was based on a 4–point Likert scale, where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*. The dependent variable was GPA (ngrades).

Table 8 shows the results from the descriptive statistics of the six quality of effort variables: qelib, qecomput, qecourse, qewrite, qeamt, and qesci. A correlation procedure for the six academic integration variables was conducted to see which academic integration variables were highly correlated with each other.

Table 8

Descriptive Statistics: Six Academic Integration Variables

Descriptive Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
Qelib	535	17.13458	4.01083	9167	8.00000	32.00000
Qecomput	533	23.51032	4.78665	12531	9.00000	36.00000
Qecourse	527	31.49526	5.24708	16598	19.00000	44.00000
Qewrite	535	18.62804	3.95361	9966	9.00000	28.00000
Qeamt	526	15.10266	5.07139	7944	7.00000	28.00000
Qesci	524	22.76527	6.36826	11929	10.00000	40.00000

Table 9 illustrates that the correlations ranged in value from 0.13072 to 0.53407. Qewrite and qecourse had the highest correlation. Students with high qewrite scores tend to have high qecourse scores. Qeamt and qecomput had the lowest, which indicates that qeamt score does not reveal much about students qecomput score.

Table 9

Correlation Results: Measuring the Relationship Amongst the Six Quality of EffortIndependent Variables for Academic Integration

Spearman Correlation Coefficients Prob > r under H0: Rho=0 Number of Observations						
	qelib	qecomput	qecourse	qewrite	qeamt	qesci
qelib	1.00000 535	0.35740 <.0001 527	0.40655 <.0001 518	0.43112 <.0001 528	0.25477 <.0001 519	0.29979 <.0001 516
qecomput	0.35740 <.0001 527	1.00000 533	0.37503 <.0001 518	0.32475 <.0001 525	0.13072 0.0029 517	0.43883 <.0001 514
qecourse	0.40655 <.0001 518	0.37503 <.0001 518	1.00000 527	0.53407 <.0001 521	0.27403 <.0001 512	0.42560 <.0001 510
qewrite	0.43112 <.0001 528	0.32475 <.0001 525	0.53407 <.0001 521	1.00000 535	0.21016 <.0001 521	0.33664 <.0001 517
qeamt	0.25477 <.0001 519	0.13072 0.0029 517	0.27403 <.0001 512	0.21016 <.0001 521	1.00000 526	0.20276 <.0001 510
qesci	0.29979 <.0001 516	0.43883 <.0001 514	0.42560 <.0001 510	0.33664 <.0001 517	0.20276 <.0001 510	1.00000 524

A second correlation analysis procedure was conducted on the six academic integration variables to see which of the variables were highly correlated and had a significant relationship at the 0.05 significance level with the dichotomous grades variable (ngrades). This would then indicate which variables to consider for the logistic regression model (see Table 10).

Table 10

Descriptive Statistics: Six Academic Integration Variables and GPA (ngrades)

Descriptive Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
ngrades	541	1.05360	0.22544	570.00000	1.00000	2.00000
qelib	535	17.13458	4.01083	9167	8.00000	32.00000
qecomput	533	23.51032	4.78665	12531	9.00000	36.00000
qecourse	527	31.49526	5.24708	16598	19.00000	44.00000
qewrite	535	18.62804	3.95361	9966	9.00000	28.00000
qeamt	526	15.10266	5.07139	7944	7.00000	28.00000
qesci	524	22.76527	6.36826	11929	10.00000	40.00000

RQ#2: Is there a relationship between academic integration and college GPA?

Table 11 illustrates the variables qecourse, qewrite, and qesci having the highest correlations (significant at the 0.05 level) with ngrades. The p-values were 0.0010, 0.0023, and 0.0195 respectively.

Table 11

Correlation Coefficients: Academic Integration and GPA

Spearman Correlation Coefficients Prob > r under H0: Rho=0 Number of Observations						
	qelib	qecomput	qecourse	qewrite	qeamt	qesci
ngrades	0.06897 0.1121 532	0.07073 0.1038 530	0.14297 0.0010 523	0.13182 0.0023 531	0.00083 0.9848 522	0.10237 0.0195 520

The positive correlation coefficients indicate a positive relationship between the value of the re-categorized grades (ngrades) increases (2= academic good standing , 1 = academic warning or dismissal), and academic integration. Thus, showing that as students' GPA increases the amount of academic integration increases.

A third correlation analysis was run for each of the three potential predictor variables. While, as expected, all of the individual survey items making up the quality of effort score for each of the categories: Course Learning; Writing Experiences; and Science and Quantitative Experiences, were significant at the 0.05 significance level in their respective categories, some had higher correlations with the quality of effort score than others.

When examining qecourse vs. the individual items that made up the quality of effort score for Course Learning (course1-course11), the results showed that course9, “Used information or experience from other areas of your life (job, internship, interactions with others) in the class discussions or assignments,” had the highest correlation. Thus course9 is related to the overall quality of effort score for Course Learning the most. While course9 had the highest correlation, the results show that course2, “Took detailed class notes during class,” had the lowest.(see Table 12 and 13).

As for qewrite vs. write1-write7, write3, “Asked other people to read something your wrote to see if it was clear to them,” had the highest correlation and write7 the lowest, “Prepared a major report for a class (20 pages or more),” (see Table 14 and 15). And, qesci vs. sci1-sci10 indicated that sci8, “ Explained an experimental procedure to someone else,” had the highest correlation and sci1 the lowest, “Memorized formulas, definitions, technical terms, and concepts,” (see Table 16 and 17).

Table 12

Correlation Coefficients: Quality of Effort Score (Qecourse) and Individual Item Score
(Course Learning)

Spearman Correlation Coefficients Prob > r under H0: Rho=0 Number of Observations											
	course 1	course 2	course 3	course 4	course 5	course 6	course 7	course 8	course 9	course1 0	course1 1
qecours e	0.4986 7 <.0001 527	0.4479 4 <.0001 527	0.6178 4 <.0001 527	0.5140 0 <.0001 527	0.6173 7 <.0001 527	0.6734 7 <.0001 527	0.5696 9 <.0001 527	0.6474 5 <.0001 527	0.6773 6 <.0001 527	0.66775 <.0001 527	0.60170 <.0001 527

Table 13

CSEQ Survey Items for Course Learning

QECOURSE (Survey Items)
1. Completed the assigned readings for class.
2. Took detailed notes during class.
3. Developed a role-play, case study, or simulation.
4. Tried to see how different facts and ideas for together.
5. Summarized major points and information from your class notes or readings.
6. Worked on a class assignment, project, or presentation with other students.
7. Applied material learned in a class to other areas (your job or internship, other courses, relationships with friends family, co-workers, etc.).
8. Used information or experience from other areas of your life (job, internship, interactions with others) class discussions or assignments
9. Tried to explain material from a course to someone else (another student, friend, co-worker, family member).
10. Worked on a paper or project where you had to integrate ideas from various sources.

Note. Qecourse variable was derived by using the sum of the responses to the five questions above on a 4-point Likert scale, where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*.

Table 14

Correlation Coefficients: Quality of Effort Score (Qewrite) and Individual Item Score
(Writing Experiences)

Spearman Correlation Coefficients Prob > r under H0: Rho=0 Number of Observations							
	write1	write2	write3	write4	write5	write6	write7
qewrite	0.67044 <.0001 535	0.63242 <.0001 535	0.73934 <.0001 535	0.70254 <.0001 535	0.73777 <.0001 535	0.66793 <.0001 535	0.36598 <.0001 535

Table 15

CSEQ Survey Items for Writing Experiences

QEWRITE (Survey Items)
1. Used a dictionary or thesaurus to look up the proper meaning of words.
2. Thought about grammar, sentence structure, word choice, and sequence of ideas or points as you were writing.
3. Asked other people to read something you wrote to see if it was clear to them.
4. Referred to a book or manual about writing style, grammar, etc.
5. Revised a paper or composition two or more times before you were satisfied with it.
6. Asked an instructor or staff member for advice and help to improve your writing.
7. Prepared a major written report for a class (20 pages or more).

Note. Qewrite variable was derived by using the sum of the responses to the five questions above on a 4–point Likert scale, where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*.

Table 16

Correlation Coefficients: Quality of Effort Score (Qesci) and Individual Item Score
(Scientific and Quantitative Experiences)

Spearman Correlation Coefficients Prob > r under H0: Rho=0 Number of Observations										
	sci1	sci2	sci3	sci4	sci5	sci6	sci7	sci8	sci9	sci10
qesci	0.61062 <.0001 524	0.69785 <.0001 524	0.71259 <.0001 524	0.65624 <.0001 524	0.74258 <.0001 524	0.67166 <.0001 524	0.74372 <.0001 524	0.80322 <.0001 524	0.68667 <.0001 524	0.64102 <.0001 524

Table 17

CSEQ Survey Items for Scientific and Quantitative Experiences

QESCI (Survey Items)
1. Memorized formulas, definitions, technical terms and concepts.
2. Used mathematical terms to express a set of relationships.
3. Explained your understanding of some scientific or mathematical theory, principle or concept to someone else
Classmate, co-worker, etc.
4. Read articles about scientific or mathematical theories or concepts in addition to those assigned in class.
5. Completed an experiment or project using scientific methods.
6. Practiced to improve your skill in using a piece of laboratory equipment.
7. Showed someone else how to use a piece of scientific equipment.
8. Explained an experimental procedure to someone else.
9. Compared the scientific method with other methods for gaining knowledge and understanding.
10. Explained to another person the scientific basis for concerns about scientific or environmental issues (pollution, recycling, alternative sources or energy, acid rain) or similar aspects of the world around you.

Note. Qesci variable was derived by using the sum of the responses to the five questions above on a 4–point Likert scale, where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*.

Research question #3 asked if there is a relationship between social integration and college GPA. Research question #3 was analyzed by use of a Spearman correlation analysis. The social integration variable was determined by the author of this study in the same format mentioned previously for academic integration in research question #2 (see p. 58).

To further explain, the variable social integration was generated from the quality of effort activities that were determined, for this research study as activities known to be important to the social integration of students on a college campus. Those activities were the six independent variables used in research question #3 of this study. They are as follows: Experiences with faculty (qefac); Campus Facilities (qefacil); Clubs and Organizations (qeclubs); Personal Experiences (qepers); Student Acquaintances

(qestacq); Topics of Conversation (qecontps); and Information in Conversations (qeconinf). The dependent variable was GPA (ngrades).

Table 18 shows the results from the descriptive statistics of the seven quality of effort variables: qefac, qefacil, qeclubs, qepers, qestacq, qecontps, and qeconinf.

Table 18

Descriptive Statistics: Seven Social Integration Variables

Descriptive Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
qefac	528	22.41098	5.72981	11833	12.00000	40.00000
qefacil	534	18.73970	4.35111	10007	9.00000	32.00000
qeclubs	538	7.91078	3.41148	4256	5.00000	20.00000
qepers	533	21.15947	5.08711	11278	8.00000	32.00000
qestacq	532	25.87594	6.67116	13766	10.00000	40.00000
qecontps	527	23.82732	5.63485	12557	11.00000	40.00000
Qeconinf	511	14.68297	3.47107	7503	6.00000	24.00000

A correlation procedure for the seven social integration variables was conducted to see which of the social integration variables were highly correlated with each other. The seven variables were qefac, qefacil, qeclubs, qepers, qestacq, qecontps, and qeconinf. Table 19 illustrates that the correlations ranged in value from 0.15958 to 0.61667. Qecontps and qeconinf had the highest correlation. Students with high qecontps scores tend to have high qeconinf scores. Qeclubs and qepers had the lowest, which indicates that qeclubs score does not reveal much about students qepers score.

Table 19

Correlation Results: Measuring the Relationship Amongst the Seven Quality of EffortIndependent Variables for Social Integration

Spearman Correlation Coefficients Prob > r under H0: Rho=0 Number of Observations							
	qefac	qefacil	qeclubs	qepers	qestacq	qecontps	qeconinf
qefac	1.00000 528	0.50910 <.0001 519	0.19013 <.0001 524	0.47583 <.0001 521	0.45216 <.0001 519	0.37790 <.0001 515	0.40753 <.0001 501
qefacil	0.50910 <.0001 519	1.00000 534	0.32429 <.0001 529	0.32990 <.0001 525	0.45837 <.0001 523	0.35913 <.0001 519	0.38038 <.0001 502
qeclubs	0.19013 <.0001 524	0.32429 <.0001 529	1.00000 538	0.15958 0.0002 529	0.24507 <.0001 528	0.22511 <.0001 523	0.22121 <.0001 508
qepers	0.47583 <.0001 521	0.32990 <.0001 525	0.15958 0.0002 529	1.00000 533	0.48733 <.0001 525	0.38334 <.0001 521	0.41413 <.0001 505
qestacq	0.45216 <.0001 519	0.45837 <.0001 523	0.24507 <.0001 528	0.48733 <.0001 525	1.00000 532	0.50962 <.0001 519	0.52497 <.0001 504
qecontps	0.37790 <.0001 515	0.35913 <.0001 519	0.22511 <.0001 523	0.38334 <.0001 521	0.50962 <.0001 519	1.00000 527	0.61667 <.0001 503
qeconinf	0.40753 <.0001 501	0.38038 <.0001 502	0.22121 <.0001 508	0.41413 <.0001 505	0.52497 <.0001 504	0.61667 <.0001 503	1.00000 511

A second correlation analysis procedure was conducted on the seven social integration variables to see which of the variables were highly correlated and had a significant relationship at the 0.05 level with the dichotomous grades variable (ngrades). This would then indicate which variables to consider for the logistic regression model (see Table 20).

Table 20

Correlation Coefficients: Seven Social Integration Variables and GPA (ngrades)

Spearman Correlation Coefficients Prob > r under H0: Rho=0 Number of Observations							
	qefac	qefacil	qeclubs	qepers	qestacq	qecontps	qeconinf
ngrades	0.10060	0.05845	0.04164	0.07280	0.04383	0.08448	0.04032
	0.0213	0.1787	0.3369	0.0944	0.3148	0.0535	0.3650
	524	531	534	529	528	523	507

Table 20 illustrates that the variables qefac and qecontps have the highest correlations (significant at the 0.05 level) with ngrades. The p-values were 0.0213 and 0.0535 respectively. Qecontps was borderline with the p-value equal to 0.0535 so it was decided to include it for consideration as a predictor variable in the logistic regression model.

RQ#3: Is there a relationship between social integration and college GPA?

The positive correlation coefficients indicate a positive relationship between ngrades (2= academic good standing, 1= academic warning or dismissal) and social integration. Thus, showing that as students' GPA increases the amount of social integration increases.

A third correlation analysis was run for each of the two potential predictor variables. The results suggest that fac1, “Talked to your instructor about information related to a course you were taking (grades, make-up work, assignments, etc.),” had the highest correlation and fac10, “Worked with a faculty member on a research project,” had the lowest correlation with the quality of effort score (qefac) for Experiences with Faculty (fac1 –fac10) (see Tables 21 and 22).

As for qecontps vs. the quality of effort score for Topics of Conversation

(contps1 – contps10), contps2, “Social issues such as peace, justice, human rights, equality, race relations,” had the highest correlation and contps1, “Current events in the news,” had the lowest (see Tables 23 and 24). These results suggest that fac10 and contps2 have the strongest relationship on the quality of effort scores for their respective categories.

Table 21

Correlation Coefficients: Quality of Effort Score (Qefac) and Individual Item Score (Experiences with Faculty)

Spearman Correlation Coefficients										
Prob > r under H0: Rho=0										
Number of Observations										
	fac1	fac2	fac3	fac4	fac5	fac6	fac7	fac8	fac9	fac10
qefac	0.72112	0.68946	0.71451	0.69765	0.72036	0.53830	0.60853	0.69000	0.69768	0.44669
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	528	528	528	528	528	528	528	528	528	528

Table 22

CSEQ Survey Items for Experiences with Faculty

QEFAC (Survey Items)
1. Talked to your instructor about information related to a course you were taking (grades, make-up work, assignments, etc.).
2. Discussed your academic program or course selection with a faculty member.
3. Discussed ideas for a term paper or other class project with a faculty member.
4. Discussed your career plans and ambitions with a faculty member.
5. Worked harder as a result of feedback from an instructor.
6. Socialized with a faculty member outside of class (had a snack or soft drink, etc.).
7. Participated with other students in a discussion with one or more faculty members outside of class.
8. Asked your instructor for comments and criticisms about your academic performance.
9. Worked harder than you thought you could to meet an instructor's expectations and standards.
10. Worked with a faculty member on a research project.

Note. Qefac variable was derived by using the sum of the responses to the five questions above on a 4–point Likert scale, where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*.

Table 23

Correlation Coefficients: Quality of Effort Score (Qecontps) and Individual Item Score (Topics of Conversation)

Spearman Correlation Coefficients Prob > r under H0: Rho=0 Number of Observations										
	contps1	contps2	contps3	contps4	contps5	contps6	contps7	contps8	contps9	contps10
qecontps	0.53372	0.75210	0.69872	0.73064	0.55001	0.59944	0.58267	0.73044	0.68504	0.72908
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	527	527	527	527	527	527	527	527	527	527

Table 24

CSEQ Survey Items for Topics of Conversation

QECONTPS (Survey Items)
1. Current events in the news.
2. Social issues such as peace, justice, human rights, equality, race relations.
3. Different lifestyles, customs, and religions.
4. The ideas and views of other people such as writers, philosophers, historians.
5. The arts (painting, poetry, dance, theatrical, productions, symphony, movies, etc.).
6. Science (theories, experiments, methods, etc.).
7. Computers and other technologies.
8. Social and ethical issues related to science and technology such as energy, pollution, chemicals, genetics, military use.
9. The economy (employment, wealth, poverty, debt, trade, etc.).
10. International relations (human rights, free trade, military activities, political differences, etc.).

Note. Qecontps variable was derived by using the sum of the responses to the five questions above on a 4–point Likert scale, where 1 = *never*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*.

Research question #4 asked to what extent is academic and social integration a predictor of college GPA. In order to answer this research question a logistic regression analysis was conducted. Logistic regression is a form of statistical modeling that is often used in categorical data analysis. The variables identified as significantly correlated with the dichotomous dependent variable GPA (ngrades) for academic integration (qecourse,

qewrite, and qesci) and social integration (qefac and qecontps) were the independent variables under consideration for answering this research question.

Logistic regression analysis was performed to predict academic and social integration from the dichotomous variable GPA. Table 25 illustrates the response profile for the logistic model using the dichotomous variable GPA as follows, 2 = Academic Good Standing (A to C+), 1 = Academic Warning or Dismissal (C, C- or lower). In the response profile a frequency count for each value of the dependent variable is given as well as the number of observations in the input dataset that have been excluded from the analysis due to missing values.

The ordered values in the response profile determine the form of the logit predicted by the logistic regression equation. The PROC LOGISTIC procedure used in SAS generally forms the logit for predicting the lower-ordered value of the dependent variable. For this study, the logistic regression equation compares the probability of academic good standing (receiving an A to C+) to the probability of academic warning or dismissal (receiving a C, C- or lower).

Table 25

Response Profile: Dichotomous Variable GPA (ngrades)

Response Profile		
Ordered Value	ngrades	Total Frequency
1	A to C+	458
2	C or lower	27

This procedure was included to model the probability of academic good standing using the logit function. Logit is another name for the logistic transformation. It is the

log of the odds. Therefore, the model equation is for the log odds of Academic Good Standing versus Academic Warning or Dismissal. Academic good standing in this study is defined as receipt of grades ranging between (A to C+).

The logistic transformation (logit) is written as $\log(\pi/1-\pi)$. The logistic regression model is $\log(\pi/1-\pi) = \alpha + \beta X$. Maximum likelihood methods are generally used to estimate the parameters for α and β (see Table 26). The positive parameter estimate for qecourse (0.1453) indicates that as qecourse increases the probability of academic good standing increases.

Table 26

Logistic Regression Model: Maximum Likelihood Parameter Estimates

Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-1.5038	1.2406	1.4692	0.2255
Qecourse	1	0.1453	0.0432	11.3151	0.0008

Note. The intercept is not significant at the 0.05 significance level.

Table 27 illustrates the Goodness of Fit test, which determines how close the model-predicted values are to the corresponding observed value. Based on the output the model is a good fit at the 0.05 significance level. Table 28 also illustrates all of the independent variables under consideration for the model whether selected or not, their respective Chi-square statistic and p-values.

Table 27

Logistic Regression : Goodness of Fit Test Statistics

Goodness-of-Fit Statistics				
Criterion	DF	Value	Value/DF	Pr > ChiSq
Deviance	481	193.0485	0.4013	1.0000
Spearman	481	490.1720	1.0191	0.3763

Table 28

Logistic Regression: Analysis of Independent Variables

Analysis of Effects in Model			
Effect	DF	Wald Chi-Square	Pr > ChiSq
Qecourse	1	11.3151	0.0008
Analysis of Effects Not in the Model			
Effect	DF	Score Chi-Square	Pr > ChiSq
Qewrite	1	1.7174	0.1900
Qesci	1	0.3811	0.5370
Qefac	1	0.3849	0.5350
Qecontps	1	0.2154	0.6426

Note. No additional effects met the 0.05 significance level for entry into the model. As a result of the findings from a SAS stepwise

procedure, the following model was derived:

Let $\hat{\pi} = \Pr(Y=1|x)$ be the probability to be modeled where $x = \text{qecourse}$ and $Y=1$ represents academic good standing (A to C+). The linear logistic predictor model has the form

$$\text{logit}(\hat{\pi}) = \log(\hat{\pi}/(1-\hat{\pi})) = -1.5038 + 0.1453\text{qecourse}$$

where $\hat{\pi}$ is the predicted probability. Solving the logistic regression prediction equation for $\hat{\pi}$, the model in terms of $\hat{\pi}$ becomes

$$\hat{\pi} = e^{(1.5038 + 0.1453 \text{qecourse})} / [1 + e^{(1.5038 + 0.1453 \text{qecourse})}]$$

For example, if $\text{qecourse} = 20$ then

$$\begin{aligned} \text{logit}(\hat{\pi}) &= -1.5038 + 0.1453 * 20 \\ &= 1.402 \end{aligned}$$

$$\text{So } \hat{\pi} = e^{1.402} / 1 + e^{1.402}$$

$$\hat{\pi} = 0.803$$

The ratio $\pi/1-\pi$ that is in the logistic transformation is known as the odds. Therefore, the odds of academic good standing to academic warning or dismissal can be written as

$$e^{(1.5038 + 0.1453 \text{qecourse})}$$

Table 29 shows the odds ratios from the SAS output.

Table 29

Odds Ratios Estimate: The Odds of Academic Good Standing to Academic Warning or Dismissal

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
qecourse	1.156	1.063	1.259

RQ#4: To what extent is academic and social integration a predictor of college GPA?

The probability of success is 0.803 if qecourse is 20. The odds ratio printed out in the output of 1.156 for qecourse is the extent to which the odds of success increase per unit increase in qecourse. Table 30 shows the outputted classification table identifying the percentages of correct classifications, sensitivity (proportion of academic good standing responses predicted as such), and specificity (proportion of academic warning or dismissal responses predicted as such) of the model for the set critical probability values of 0.05, 0.5, and 0.95. The percentages are 94.4, 94.4 and 56.5 percent respectively.

Table 30

Logistic Regression: Classification Table Set Probability Levels

Classification Table									
Prob Level	Correct		Incorrect		Percentages				
	Event	Non-Event	Event	Non-Event	Correct	Sensitivity	Specificity	False POS	False NEG
0.050	458	0	27	0	94.4	100.0	0.0	5.6	.
0.500	458	0	27	0	94.4	100.0	0.0	5.6	.
0.950	255	19	8	203	56.5	55.7	70.4	3.0	91.4

Thus, out of the five possible predictor variables considered for inclusion in the logistic regression model, qecourse was the only independent variable selected. Social integration independent variables were not a component of the logistic regression model. Social integration does not factor into a student's success rate as determined by the GPA. When predicting the probability of success in respect to GPA for students enrolled in the FYC, the students' academic integration, and more particularly, course learning experiences will predict their success rate.

CHAPTER V

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Purpose

The emphasis on student attrition and retention has caused college and university administrators to implement strategies for improving academic and social integration of students into the college environment. According to Hoyt (1999), “ although differences in retention rates among colleges and universities provide unique insights, educators also need to understand the needs of students enrolled on their campuses to improve retention rates” (p. 53). This study reviewed the literature that has drawn attention to the importance of embracing students by establishing a campus-wide commitment to their academic and social integration.

A student’s first year experience in college fosters an understanding of how they perceive themselves persisting until they complete a degree program (Tinto, 1975; Hirsch, 1997; Henry & Smith, 1994; Grunder & Hellmich, 1996; Graham & Donaldson, 1999). More often, the higher the level of academic preparedness, involvement, student /faculty interaction, the greater the chance that the student may integrate socially and academically, and have positive college experiences.

The purpose of this study was to identify factors associated with how freshman students enrolled in the First Year College at North Carolina State University during the 1999 - 2000 academic year perceive their academic and social integration. The independent variables selected for this study were taken from the 13 activity scales on the CSEQ that measure the quality of effort known to be important to student development.

The 13 variables were divided between the two components, academic integration and social integration.

The academic integration component was generated from the quality of effort activities that were identified by the author as activities known to be important to the academic integration of students on a college campus. The following six activities became independent variables representative of academic integration, they were: Library, Computer and Information Technology, Course Learning, Writing Experiences, Art, Music, Theater, and Science and Quantitative Experiences. There were seven activities that became the independent variables representative of social integration, they were: Experiences with faculty, Campus Facilities, Clubs and Organizations, Personal Experiences, Student Acquaintances, Topics of Conversation, and Information in Conversations. The dependent variable in this study was the GPA of the respondents.

Many factors have been related to the academic and social integration of freshman students on a college campus. Therefore, derived from an in-depth review of the literature, this study identified factors associated with the academic and social integration of freshman students in the FYC.

Conclusions

In order to determine if there was a difference between male and female involvement in organizations, an independent T-test was used in this analysis. The results revealed that there is no significant difference between male and female student involvement in organizations. In the examination of the results, both male and female students participated in campus clubs and organizations equally.

Research in the area of gender differences in organizational involvement is scarce. There appears to be little research conducted directly addressing freshmen student gender and their involvement in clubs and organizations on campus. In a study conducted by Kim and Sedlacek (1996), they found that African American male and female students differed regarding social expectations including involvement in extracurricular activities on campus. For example, more females expressed an interest in joining a campus club or group (Kim & Sedlacek, 1996). On the contrary, this study suggests that male students in the FYC are not involved significantly more in clubs and organizations than female students in FYC on campus.

In examining whether there is a relationship between academic integration and college GPA, the correlation analysis revealed that as the student's GPA increases the amount of academic integration increases. More specifically, findings show the quality of effort score for Course Learning, Writing Experiences, and Scientific and Quantitative Experiences had the highest correlations significant with GPA.

In other words, the students' perception of what they learned in their courses, how they sought advice from others in revising papers and compositions, and their ability to explain their scientific experiences to others, all were identified as having a significant predictive relationship with GPA. The more students learned in their courses, sought advice in developing good writing skills, and could explain their scientific experiments with others, the more they integrated academically into the college environment.

When examining whether there is a relationship between social integration and college GPA, the correlation analysis revealed that as the student's GPA increases the amount of social integration increases. The findings show the quality of effort score for

Experiences with Faculty and Topics of Conversation had the highest correlations significant to GPA.

Forming student relationships with faculty and developing peer relationships through conversation were identified as factors associated with social integration on a college campus. In a study conducted by Hanley and Olson (1996), students stated that class discussions and the instructor were critical to the accomplishment of course goals. As found in this study, the more the students discussed ideas for a term paper with a faculty member, and engaged in conversations with their peers, the more their GPA increased.

In order to determine the extent to which academic and social integration is a predictor of college GPA, a logistic regression analysis was conducted using the variables with significant correlations with GPA identified in research question #2 and research question #3. Therefore, the independent predictor variables for academic integration were Course Learning, Writing Experiences and Scientific and Quantitative Experiences.

The independent predictor variables for social integration were Experiences with Faculty and Topics of Conversation. In all, there were five independent predictor variables and one dependent variable, which was college GPA. The logistic regression analysis was used to predict academic and social integration from GPA.

The findings suggest that out of the five possible independent variables used in the logistic regression model, Course Learning was the only independent variable selected because it was the only variable that met the criteria set for the model, which was a significance level of $p < .05$. Thus, social integration was not a predictor of GPA because it did not meet the specifications of the significance level. How well the student

integrates socially into the college environment does not predict a good standing GPA. However, the finding does suggest that making students feel academically integrated, and more specifically, Course learning experiences will predict a good standing GPA.

Implications

For a college or university, the retention process should start from the time that the student is offered admission (McGrath & Braunstein, 1997; Hanley & Olson, 1996; Tinto, 1993). It is during this time, when the university is “selling” itself to the prospective student that the student gets a feel for the spirit of the college environment. Many colleges and universities have chosen to use the CSEQ as a means for understanding the perceptions freshman students have of their college experiences.

The responses from this research instrument gives administrators insight into the needs they must address and the strategies they must take to increase freshman retention on their campuses. Previous research studies have concluded that academically successful students are more satisfied with their overall college experience. In a research study conducted by Pitkethly and Prosser (2001), they found that, “by enhancing the learning experience of all first-year students, some issues that lead to withdrawal will be alleviated, and more students will achieve greater success” (p. 187).

Using the CSEQ, the findings of this study has provided several implications for freshman students, faculty, staff, and administrators. The literature suggests that there is a gap between freshmen optimism and the commitment to be successful academically (Grunder & Hellmich, 1996). Inherently, this gap often attributes to the academic and social challenges freshman students experience on their college campuses. The findings

from this study helped to condense this gap by identifying factors associated with the academic and social integration of freshman students in the FYC.

Administrators often want to understand how these factors affect high attrition rates. Research on student attrition frequently indicates that some administrators loose focus on the persistence of freshman students after they are admitted to the college or university. In a longitudinal study conducted by Gerdes and Mallinckrodt (1994), they found that when administrators offer assistance with improving academic and social integration, retention may increase regardless of the student's academic standing.

Though high freshmen attrition rates have often been address in the literature, very few have explored the perception the student has towards their academic and social experiences during their freshmen year. The main focus of this study was to identify those key factors associated with the academic and social integration of freshman students in the FYC. The results from this study show that freshman students value their academic and social experiences as it pertains to what they learn in their courses, writing skills, scientific knowledge, experiences with faculty, and the topic of conversations they have with their peers.

With this in mind, two-year and four-year administrators must re-evaluate the objectives for retaining their freshman students and implement a plan that reflects the college's commitment to enhancing the freshmen experience. In doing so, there are three initial objectives to consider for this policy and implementation. They are as follows:

1. To promote and enhance student learning by familiarizing students with the academic and social resources that the college or university offers.

2. To help students develop educational goals and objectives in the form of a plan during the freshmen year and have then re-visit this plan every term until graduation.
3. To promote students' interaction and discussions with faculty and peers in and outside of class.

The findings of this study should contribute to the body of knowledge regarding academic and social integration of freshman students in the college environment. Identifying these factors will also assist college administrators in developing strategies to implement freshmen retention programs on their respected campuses.

Recommendations

The respondents in this study consisted of students admitted into the FYC during their freshmen year at a four-year university. It is suggested that a comparison study be conducted with freshman students admitted to the university (non-FYC) during the same term. In reference to the factors associated with the academic and social integration of freshman students in the FYC, recommendations for future research are as follows:

1. Further investigation should be made into findings regarding gender and whether there is a difference in the experiences that males and females have with integrating academically and socially into the college environment.
2. It is suggested that a longitudinal research study be conducted to examine whether the academic and social integration of students in the FYC admitted during the 1999 - 2000 academic year changes do to the experiences they encounter up until they graduate.

3. Further study should be done using the CSEQ to examine which of the academic and social factors contribute to persistence.
4. Attempts should be made to examine the predictors of academic and social integration with gender of students in the FYC and a comparison group.
5. Further investigation should be made into findings regarding the factors that are associated with the academic and social integration of nontraditional freshman students.
6. Future research should investigate the extent to which there is a gap between faculty members perspective compared to students perspective regarding students' quality of effort in their educational experiences.

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