5-5-2009

An Evaluation Study of First-Year College Students' Persistence: Effectiveness of Peer Leaders Within a First-Year Seminar

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AN EVALUATION STUDY OF FIRST-YEAR COLLEGE STUDENTS PERSISTENCE: EFFECTIVENESS OF PEER LEADERS WITHIN A FIRST-YEAR SEMINAR

A Dissertation

Submitted to the School of Graduate Studies and Research

In Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

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May 2009

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Title: An Evaluation Study of First-Year College Students Persistence: Effectiveness of Peer Leaders Within a First-Year Seminar

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This case study design evaluated the program outcome effects of a peer leader program within the First-Year Seminar (FYS) on first-to-second year persistence, grade point average performance and academic and social integration levels of first-year, fulltime students. Differences in the characteristics of students on gender and race on the outcome measures were also considered.

Analysis from six-year institutional data indicated that the Peer Leader Component option had significant benefits to the FYS Program. Female, male, and Majority students in FYS Programs with the Peer Leader Component had significantly higher first-to-second year persistence and GPA levels than female, male, and Majority students in FYS Programs without the Peer Leader Component. Further, male and Majority students enrolled in FYS courses with a peer leader had significantly higher academic and social integration factor means than male and Majority students in FYS courses without a peer leader. The data provided by this study offered additional educationally significant support for the utilization of peer leaders in the FYS. Minority students in FYS Programs with the Peer Leader Component had higher first-to-second year persistence and GPA levels than Minority student counterparts in FYS Programs without the Peer

Leader Component. Further, many to most female and Minority students in FYS with a peer leader had higher retention rates, GPAs and academic and social integration levels than their counterparts in FYS without a peer leader, with some populations of statistical significance.

ACKNOWLEDGEMENTS

I would like to offer a very warm thank you to my special friends and colleagues at Slippery Rock University of Pennsylvania, for your continual encouragement, motivation, and generous support throughout this journey. A special note of appreciation goes to the Institutional Research Team for their skills and time they afforded me.

My sincere gratitude is given to the members of my committee and especially to my committee chair – Dr. Wenfan Yan – for his expertise, patience, and understanding. Thank you.

To my entire family – parents, Drs. Jovelina and Marianito Montero; my siblings, especially my lovely sisters; my beautiful and juicy nieces and nephews – Jonathan, David, Jared, Brijon, MM, Drew, Chaz, Mariko, Narisa, Jadon, Milan, Zachariah, Lakyn, Arianna, Nikolas, Siena, & Kristofer; and to my extended family of very close and dear friends – I am forever grateful and well-loved. Salamat … Mahal Kita.

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THE STATEMENT OF THE PROBLEM

Introduction to the Study

Literature of the past four decades suggests that students can have significant and positive impact on other students. Arthur Chickering, known for his extensive studies in the developmental processes of students, states, "relationships with close friends and peer groups, or sub-cultures, are primary forces influencing student development in college" (1969, p. 253). Robert D. Brown, in *Student Development in Tomorrow's Higher Education—A Return to the Academy*, concurs and states, "one of the most potent environmental influences on student development in college is the peer group" (as cited in Gardner, 2001, p. 4). Research from Pascarella and Terenzini expands on the critical role of peers, suggesting "it is also reasonable to expect that student involvement will be greatest if new students can be immediately linked with people who are already invested in the institution, whether faculty members or other students" (1991, p. 650). In *What Matters in College*, Astin further identifies the student's peer group as the "single most potent source of influence on growth and development during the undergraduate years" (1993, p. 398).

Additionally, John Gardner (1996), initiator and scholar of the American first-year reform movement and Executive Director of the Policy Center on the First Year of College, identifies one area of students helping students proving to be particularly important and effective is the use of peer leaders as co-teachers and co-facilitators of First-Year Seminar (FYS) courses. First-Year Seminar

courses are designed to enhance the academic and social integration of first-year college students into the institution (Barefoot & Fidler, 1996; Gordon, 1989). An abundance of research examining the relationship between students participating in FYS and factors such as academic achievement, social integration, and retention is prevalent (Barefoot & Fidler, 1996; Barefoot & Fidler, 1992; Crissman, 2001; Dick, 1998; Fildler & Moore, 1996; Fidler, Neurerer-Rotholz, & Richardson, 1999; Gahhagan, 2002 Hendel, 2001; Hoff, Cook & Price, 1996; Linder 2002; Maisto & Tammi, 2001; Odell, 1996; Starke, Harth, & Sirianni, 2001; Upcraft & Gardner, 1989; Williford, Chapman & Kahrig, 2001). The bulk of this research reports FYS having positive effects on grade point average, credits earned, social integration, and retention (Barefoot & Fidler, 1996; Upcraft & Gardner, 1989; Yockey & George, 1998). Given the researched effectiveness of the First-Year Seminar, it is not surprising to find over 81% of America's universities and colleges surveyed in 2003 presently offering a FYS course (Tobolowsky, 2005). What is a bit anomalous, however, is the relatively low utilization rate of peer leaders as (co)facilitators for the seminar, with only about 10% of institutions surveyed doing so (Tobolowsky, 2005).

Leading first-year experience scholars and programs, including the National Resource Center for the First-Year Experience and Students in Transition and The Policy Center for the First Year of College, advocate for peer leaders in the First-Year Seminars (Hamid, 2004; Cuseo, 2000; Swing, 2002; Barefoot, 2002). Gardner further endorses peer leaders as a means for leveraging "…an institution's chances of influencing student behaviors and

attitudes in those directions in which it would like to see students move, particularly in those ways that might be consistent with the institutional mission" (2001, p.vii). A good deal of literature suggests the use of peer leaders and FYS courses. In contrast, very few documented studies present the effectiveness of peer leaders within FYS courses. This dissertation study will explore one First-Year Seminar's peer leader program and its impact on first-year students.

Background of the Study

Importance of Retention and Persistence

Colleges and universities are invested in student persistence and retention. According to Levitz and Noel (1989), about one-third of students entering college on a full time basis will not be attending that institution one year later. Tinto (1985) states that nearly half of the students entering college leave before graduating, with incoming, first-year students being the most likely to drop out. There are varying reports on the number of students leaving during the first year prior to the start of the second year. The 1999 Consortium for Student Retention Data Exchange estimates fifty percent of all students leaving, while Tinto (1987) reports as high as seventy-five percent of students leaving during their first year of college. Students leave school for different reasons. One misconception regarding student dropouts is that students leave due to academic deficiency and/or institutional dismissal requirements. According to Tinto (1985), however, less than one quarter of student attrition is the result of involuntary dismissal based on institutional academic policies. Rather, the majority of student decisions for leaving are voluntary. The campus environment and

campus experiences of the student impact their academic success. Gardiner (1993) reports research revealing a relationship between the campus psychological climate and student "academic performance, intellectual personal growth, attitudes toward their academic programs, satisfaction with college, and voluntary persistence on campus" (p.73). Research shows that for first-year success, students need to be involved and participating in institutional programs, including extracurricular and intellectual activities (Astin, 1985; Levitz & Noel, 1989; Tinto, 1993).

Colleges and universities are also interested in student persistence and retention specific to the complexity and changing nature of the student population. Back in the 1970s and 1980s, college students were a somewhat homogeneous, academically prepared, middle-class, recent graduate from high school. Currently, the student population is quite diverse, with varying ethnicities, academic preparedness, socioeconomic backgrounds, and ages (Gordon & Grites, 1984). With this newer set of diverse students, institutions are rethinking and readjusting their processes of transitioning new, first-year students into their campus culture (Gardiner, 1993; Gordon & Grites, 1984). Intervention strategies, therefore, must aim for a diverse set of students who face a diverse set of retention issues. Levitz and Noel (1989) show that as students complete each successful college year, drop out rates tend to diminish by as much as fifty percent. Additionally, research further demonstrates that the most useful set of interventions must impact the student early in the first year of college

(Consortium for Student Retention Data Exchange, 1988; Levitz & Noel, 1989; Tinto, 1987).

Importance of the First Year Experience

An abundance of research verifies the significant importance of the students' first year of college in terms of retention and longer term persistence. Hence, student success during the first year is of great importance to university officials. Studies on the number of college students who drop out prior to the start of the second year vary; nevertheless, the numbers are significant. According to the Consortium for Student Retention Data Exchange (1999), more than fifty percent of the students who drop out do so in the first year. Tinto (1978) reports over seventy-five percent of students leaving do so at some point during the first year. In their work with over five hundred colleges and universities, Levitz and Noel (1989) reveal first-to-second year drop out rates remaining relatively constant at approximately one-third for full time, entering college students across the nation, if there are no retention intervention systems put into place by the institution. Not surprisingly, the ratio is lower for institutions with more selective admissions procedures. Tinto (1993) suggests that forces impacting student decisions to drop out during the first six months are quite different from those forces later in the college experience. Most notably, students face significant separation pressures early in college as they disassociate themselves from past communities and adapt to new cultural norms. Research shows that completion of the first college year considerably improves

the student's chances of persisting to graduation (Levitz & Noel, 1989; Upcraft and Gardner, 1989).

Importance of Student Development Models Respective to First-Year Seminar

With the frameworks of several theorists in mind – Astin's Involvement Model (1977; 1993) and Tinto's Student Departure Model (1987; 1993) – institutions must seek appropriate intervention strategies for student persistence and retention. Incoming, first-year students come into a whole new campus culture, so interventions must strive to ease their transition. There is no single strategy that guarantees improved retention; thus, many institutions use an assortment and combinations of intervention options for the first year of college. Among the most researched and successful strategy is the First-Year Seminar. Following Tinto's Student Integration Model, the content of the typical FYS course promotes student success in two areas. One, the seminar has a sound academic connection component, including study skills, test-taking, and library integration. Two, there is also a sound socialization component, including interpersonal communication skills development, group processing, and connections to student organizations (Davis, 1992). Following Astin's Student Involvement Model, the First-Year Seminar facilitates student involvement in activities, services and student organizations. These activities then contribute to both the academic and social involvement and integration into the institution.

Importance of Peer Mentoring Respective to First-Year Seminar

Cave and Quint (1990) find that students in various mentoring programs have higher levels of college enrollment and higher educational aspirations than students not in mentoring programs. Cohen (1993) reveals improved retention rates through mentoring, as mentors address some of the causes of attrition among culturally diverse students. Tinto (1987) finds mentoring programs, along with collaborative activities, extracurricular activities, and study groups, as all successful strategies for student persistence. Brown and Myers (1975) find that students receiving academic advising from other students have more positive attitudes toward their advisors and lower dropout rates than students advised solely by faculty. Further research reveals positive student outcomes for students receiving peer advisement and peer counseling (Carns, Carns, & Wright, 1993; Brenden, 1986; Frisz & Lane, 1987; Kramer & Hardy, 198; and Russell & Skinkle, 1990).

The use of upper-class students in the First-Year Seminar is proving to be beneficial (Astin, 1993; Gardner, 1996; Hamid, 2001). Peer leaders are having positive impact on the retention of first-year students as reflected in increases in first-to-second year retention rates (Hamid, 2001). Further, it is widely argued that peers are more capable than faculty of engaging first-year students in the classroom, as peers are typically closer in age, less intimidating, more comfortable (Cuseo, 1991). Barefoot (2002) argues, then, “In spite of a body of research evidence attesting to the positive influence of upper-level students on the cognitive development of first- year students, the use of upper-level

undergraduates in co-teaching roles is very infrequent across all first-year classes" (p.2). Research exposing the benefits of peer-to-peer influence, coupled with the gap in literature documenting peer leader effectiveness in FYS courses, are the impetus of this research study.

Purpose of the Study

The purpose of this evaluation study is to examine the effects of a peer leader program component within a First-Year Seminar Program on first-to-second year persistence, grade point average performance and academic and social integration of first-year, fulltime students. The effects of characteristics of students on gender and race on the outcome measures are also addressed.

Questions to be Researched

During the course of this program evaluation, two comparison groups will be examined of existing data: three year data of students in the FYS Program with the option of a Peer Leader Component (2004, 2005, 2006) will be compared to three year data of students in the FYS Program without the option of a Peer Leader Component (2001, 2002, 2003). Within the three year data of the FYS Program with the option of a Peer Leader Component (2004, 2005, 2006), students enrolled in a FYS with a peer leader will be compared to students enrolled in a FYS without a peer leader.

The following inquiries will guide the investigation:

1. Are there any significant differences in persistence rates and grade point averages, specific to gender and race, for the three year program data of FYS with the Peer Leader Component (academic cohort years 2004,

2005, and 2006 students) as compared to the three year program data without the Peer Leader Component (academic cohort years 2001, 2002, and 2003 students)?

2. Are there any significant differences in the persistence rates; grade point averages; and academic and social integration, specific to gender and race, for students enrolled in a First-Year Seminar with a peer leader, in contrast to a comparison group of students enrolled in a FYS without a peer leader (within the academic cohort years 2004, 2005, and 2006)?

Significance of the Study

The current evaluation study will contribute to the knowledge base within the profession of student engagement, academic persistence and retention in higher education. Numerous studies have addressed the value of the First-Year Seminar as a strategic retention tool (Davis, 1992; Fidler, 1991; Fidler & Moore, 1996; Gordon & Grites, 1984; Hoff et.al., 1996). Few studies, however, have addressed the impact of peer leadership within the First-Year Seminar, with only two to date (Cuseo, 1991; Gardner, 1996; Hamid, 2001). This study is intended to examine existing six year data of the SRU institution – the First-Year Seminar Program with and also without its addition of a peer leader program component – investigating areas of first-to-second year persistence rates, grade point averages, and academic and social integration factors for students. Higher education administrators, specifically enrollment management personnel, focus on the successful retention of students beyond the first year of college, as indicators for probable graduation.

First, data related to first-to-second year persistence rates and grade point averages at Slippery Rock University will supplement existing First-Year Seminar data reported by authors at other institutions. In fall 2004, peer leaders were piloted as co-teachers in the First-Year Seminar. To date, no study has been done to determine the impact of this program, which had grown from initially fifteen, to the current forty-five, faculty-peer leader teaching partnerships. Such an analysis is necessary in order to meet institutional assessment requirements as well as to begin preparation for ongoing accreditation reports. Additionally, as budgets undergo increased scrutiny, effective use of scarce resources becomes mandatory.

Second, with limited and insufficient studies reporting a longitudinal impact of peer leaders within First-Year Seminars, reporting of second year persistence rates and grade point averages – in addition to race and gender characteristics of respective students – will contribute to a body of literature not yet fully developed. Loss of qualified students prior to graduation indicates a loss of human capital and human potential. Thus, more needs to be known about what contributes to student persistence and graduation. The investigation of peer leader influence and impact will assist educators as they seek to further understand the factors that contribute to improved persistence and graduation rates.

Third, this study further investigates the academic and social integration factors of first-time, fulltime students. Comparisons will be made between the perceptions of students enrolled in First-Year Seminars with peer leaders as opposed to those in FYS courses without peer leaders.

Finally, this study will also add insight into the two major theories influencing First-Year Seminars – Vincent Tinto (1993) and Alexander Astin (1977). An understanding of the process of student persistence or withdrawal from higher education is critical to Tinto's Theory of Integration or Departure Model. This study will investigate peer leader impact of First-Year Seminar students as one element influencing student social and academic integration, as well as successful navigation of the stages of separation, transition, and incorporation into college. The learning environment of the First-Year Seminar, specifically those provided by peer leader-faculty partnerships, promotes the environment of involvement that Astin deems imperative in his Theory of Involvement. Students who successfully persist are those who are involved. Results of this study, then, will add to the literature designed to study the value of peer leadership as they impact the involvement and integration necessary for matriculation and student success.

As the knowledge base relating to peer influence as it relates to student persistence, grade point averages, and academic and social integration broadens, college and university administrators and policymakers will be better prepared to provide the elemental programming decisions necessary for the success of all students. While the goal of this study is to increase the knowledge base as it relates to practice within the SRU institution, it contributes to the current knowledge base of the academic community as a whole. Subsequently, this endeavor can be accomplished for additional, first-year (or other) courses nationwide. The present focus rests solely upon programming for the FYS

course, for which peer leadership is most clearly indicated (Astin, 1993; Gardner, 1996; Hamid, 2001; Cuseo, 1991; Barefoot, 2002).

Definition of Key Terms

Academic and Social Integration: Where students integrate themselves to the social and academic life and become committed to graduation and the institution (Tinto, 1975).

Attrition: When a student ceases to be a member of the institution, most often occurring from resignation or not meeting standards (academic or other) of the institution.

First-time, Fulltime Student: New, incoming student to a higher education institution enrolled on a full-time status, typically twelve or more credit hours.

First-Year: The term “first-year” has been formally adopted by the National Resource Center for the First-Year Experience and Students in Transition – home of the Freshman year Experience Movement – so as to appeal to the international constituents who relate to the term “first-year” versus “freshman” (Hamid, 2004).

First-Year Experience: The institutional design to “frontload” curriculum and student service resources in the first year to slow down attrition from first year to second year. Programs and services include orientation, First-Year Seminars, first-year advisement, and learning communities (Crissman, 2001; Upcraft & Gardner, 1989).

First-Year Seminar (FYS): The term “First-Year Seminar” refers to a course offered within the first year of a student’s education, designed specifically as an orientation to the college experience, both socially and academically.

First-Year Initiative (FYI) Survey: The national survey created through the partnership between the Educational Benchmarking, Inc. and The Policy Center on the First Year of College, which assesses and compares perceived student learning outcomes of First-Year Seminars.

Grade Point Averages: Synonymous to “quality point average” at the study institution. Quality points for a single course are calculated by multiplying the points assigned the letter grade by the number of credits of the course. Total quality points are calculated by adding the quality points earned in ach course. The quality point average (QPA) is computed by dividing the total quality points earned by the total number of credits attempted.

Peer Leader: The term generally given to upper-class students assisting, co-teaching, or co-facilitating in the First-Year Seminar course (National Resource Center for the First-Year Experience and Students in Transition, 1994, 2000).

Persistence: Synonymous to “retention” (see below definition)

Retention: “A common way to think of student retention in postsecondary education is completion of the first-year of college, followed by subsequent re-enrollment in the second year” (American College Test (ACT), 2004).

Student Involvement: Student involvement “refers to the quantity and quality of the physical and psychological energy that students invest in the college experience. Such involvement takes many forms, such as absorption in

academic work, participation in extracurricular activities, and interaction with faculty and other institutional personnel…" (Astin, 1984, p.307).

Chapter 2

REVIEW OF RELATED LITERATURE

Introduction

A good deal of literature reveals First-Year Seminars (FYS) as having positive effects on grade point average (GPA), credits earned, social integration, and retention (Barefoot & Fidler, 1996; Upcraft & Gardner, 1989; Yockey & George, 1998). Thusly, over 81% of America's universities and colleges surveyed in 2003 presently offer a FYS course (Tobolowsky, 2005). Although numerous studies further purport the beneficial influences peer leadership programs have on persistence and retention rates of first-year students (Astin, 1993; Gardner, 1996; Hamid, 2001; Cuseo, 1991; Barefoot, 2002), a low rate of only 10% of institutions incorporate upper-class students as co-teachers of the First-Year Seminar (Toblowsky, 2005), with even fewer studies documenting the effectiveness of peer leaders within the FYS course.

The relevant research and literature on First-Year Seminars and peer leadership is reviewed in this chapter. First, literature regarding the historical overview of higher education's focus on retention and the First-Year Seminar is explored. Second, several student development models – which lay at the foundation of many higher educational retention strategies, including the First-Year Seminar – are examined, with emphasis on the models' implications to peer mentoring and peer leading. Third, the body of literature substantiating the benefits and influence of peer mentoring and peer leading in higher education and First-Year Seminars are provided. Lastly, the institutional study site and

overview of its FYS course is described, including the purpose of this study. The findings of this current research shall prove significant to the case study institution, as well as to higher education in general.

Retention: Definition and Historical Perspective

For purposes of this study, retention is defined as completion of the first year of college, followed by subsequent re-enrollment in the second year (ACT, 2004). The first-to-second year persistence rate is considered to be particularly important in terms of the institution's retention effort because the greatest number of students who eventually leave do so before the second year (Tinto, 1987). Institutional attitudes about retention have varied throughout history, though. During the high enrollments of the 1970s, colleges showed little concern for retention, as the supply was greater than the demand. Due to dramatic changes in the student population in the 1980s – varying degrees of academic preparedness, socioeconomic backgrounds, age, culture, and reasons for enrolling (Gordon & Grites, 1984) – attention began shifting back again to student retention. College and university administrators had to find new ways for students to persist and succeed. The combination of these retention problems, along with the low enrollment projections of the 1980s, contributed greatly to the First-Year Experience movement in American higher education, led by John Gardner and his associates at the University of South Carolina.

First-year programming – including orientation, First-Year Seminars, First-Year Advisement, and learning communities – were intentionally implemented on campuses nationwide to help counter student drop out rates from first-to-second

year (Crissman, 2001; Upcraft & Gardner, 1989). Literature substantially reveals the effectiveness of such programming, with increased rates of student retention, higher interaction levels with faculty outside of class, increased usage of campus resources, including participation in extracurricular activities, and improved academic performance (Barefoot & Fidler, 1992, 1996; Crissman, 2001; Dick 1998; Fidler & Moore, 1996; Linder, 2002; Upcraft & Gardner, 1989).

Retention is a goal researched often for the First-Year Seminar. Murphy further concurs with the declaration: "…the most practical outcome of such an intervention is increased retention" (1989, p. 94). In a time of fiscal constraints and concern with institutional vision, retaining students is a primary challenge, with the presence of a First-Year Seminar as one means of addressing that concern. While it is generally agreed that not every student who enters higher education should remain there (Boyd et al., 1982), it is suggested that retention "may be a significant indicator of institutional quality and impact" (Pascarella, 1986, p. 100), and has become a gauge of institutional effectiveness used as a measure of an institution's commitment to its students (Astin, Green & Korn, 1987).

According to Tinto (990), effective retention programs share three principles: the principles of community, commitment to students, and commitment to education. The principle of community "ensures the integration of all individuals as equal and competent members of the institution" (p. 36). There is an emphasis on frequent and rewarding contact both inside and outside the classroom and that involves contact with both faculty and other students.

The principle of commitment states that effective retention programs are marked by a commitment to the students they serve and the welfare of those students. The underlying values and commitments of the institution note a student-centered focus found in the attitudes of all those working there (Tinto, 1990).

Serving as the basis of student persistence, the final principle is the educational commitment. "Education, not retention, is the primary principle of effective retention" (Tinto, 1990, p. 38), and the primary function of the university is the education of its students. Committed faculty and peers serve as role models through which students develop their own necessary commitment and involvement in the educational process. This commitment should be evident both in and out of the classroom.

Since the first year of college is the most important in terms of attrition (Noel et al., 1985; Tinto, 1993), most retention programs focus on the first-year college student. A significant body of literature supports the benefits of First-Year Seminars as a retention tool (Gass, 1990; Glass & Garrett, 1995, Gordon & Grites, 1984; Hoff et al., 1996; Strumpf & Hunt, 1993). It is important to note, though, that not all research substantiates a significant increase in retention among students who enroll in a FYS course. Davis (1992) found no significant difference in retention rates for academically weaker seminar students when compared to a matched control group in one institutional study. Chapman and Reed (1987), in their study of another institution, also found no differences in

attrition rates between FYS students and non-FYS students in the general population.

First-Year Seminar: Definition and Historical Perspective

While there are many variations of the First-Year Seminar course (Linder, 2000), the seminar is designed to enhance the academic and/or social integration of first-year college students into the institution (Barefoot & Fidler, 1996, Gordon, 1989). One of the first FYS courses was introduced initially back in the late 1880s at Boston University (Gordon, 1989). By 1930, approximately one third of colleges and universities were offering their own First-Year Seminars (Gordon, 2002). Dwyer (1989) highlights the shift of higher education administrator's focus away from, and then back to, student retention. Dwyer reveals colleges began discontinuing programs and services, including the First-Year Seminar, in the 1960s, as they were not affected nor concerned with student retention. Three major changes in the 1980s, though, led to the rebirth of the First-Year Seminar. One, educators recognized that students were not getting sufficient help from their informal networks, such as their peers. Two, the student population was changing demographically by ethnicity, age, and academic preparedness. Three, institutions were creating more complicated policies and curriculum requirements, creating student need for assistance in understanding and adapting to the new changes (Dwyer, 1989).

In addition to these changes in American higher education, a growing body of research and literature was revealing the significance of the student's first year of college experience as a large determinant of their academic success

(Astin, 1985; Pascarella & Terenzini, 1991; Tinto, 1987; Upcraft & Gardner, 1989). By the end of the 1980s, Upcraft and Gardner (1989) acknowledges that a "grassroots movement" on the first year of college was emerging (p.xiv). John Gardner (1986), initiator and scholar of the American First-Year Experience movement, declares:

> A movement is taking place in American higher education to change the way colleges and universities treat, welcome, assimilate, support, and most importantly, inform their freshman students in this new dawning age of information. That movement is something which has come to be known as the "freshman year experience" phenomenon…(p.261).

Today, the First-Year Experience movement is nearly three decades old and well integrated into American higher education (Barefoot & Fidler, 1996; Cuseo, 1991; Upcraft, Gardner & Barefoot, 2004). The First-Year Seminar course, the backbone program and service of the movement, is offered at over 81% of America's universities and colleges (Tobolowsky, 2005). The FYS course design, as with many other institutional retention intervention strategies, essentially lays upon the foundation of several student developmental models.

Theoretical Framework

While initial First-Year Seminars were not based upon student development theory, such theory currently serves as a standard by which retention strategies and FYS courses are now measured and justified. Two researchers, Alexander Astin and Vincent Tinto, are primarily responsible for

developing the theoretical foundations of college persistence. Astin's Theory of Involvement and Tinto's Theory of Integration are widely cited in research related to FYS courses (Bedford & Durkeee, 1989; Blackhurst, 1995; Cabrera, Castaneda, Nora, & Hengstler, 1992; Murphy, 1989; Pascarella, 1986; Terenzini et al., 1994; Tinto, 1990; Wilder, 1992). In fact, the First-Year Initiative (FYI) Survey – nationally recognized and utilized as the benchmarking survey tool of first-year programs, including the study institution, Slippery Rock University – is based on Astin's assessment model (Swing, 2002).

Student Development Models

Student Involvement Model: Theoretical Perspective

Alexander Astin developed the student involvement model which states that retention is significantly tied to student involvement with the institution (Astin, 1984). This involvement, he professes, enhances all aspects of the student's development while in college and is appealing because of its simplicity and broad range of application, stating it explains knowledge in a wide variety of disciplines and can be used by researchers in designing more effective learning environments. He defines involvement by referring to "the amount of physical and psychological energy that the student devotes to the academic experience" (1984, p. 297). Astin reports three significantly critical forms of involvement which include involvement in academics, involvement with faculty, and involvement with peers.

Astin further proposes that without these three types of institutional involvement, the student becomes isolated and less invested in his/her overall

experience (Astin, 1993). Accordingly, he finds a positive relationship between student levels of involvement, personal development, and levels of learning. An effective institutional intervention strategy, then, would be one that fosters and encourages the student's involvement and engagement with the institution, as the student is best served when doing so. Astin states simply, "it is not so much what the individual thinks or feels, but what the individual does, how he or she behaves, that defines and identifies involvement" (Astin, 1984, p. 298).

The Theory of Involvement has five basic principles: 1) involvement requires an investment of physical and psychological energy, and involvement may be general or specific; 2) involvement occurs along a continuum both with individual students and among students; 3) involvement has both quantitative and qualitative features where time on academics can be measured quantitatively while the value of the time spent is subjective; 4) the amount of student learning and development associated with any program is directly proportional to the quality and quantity of student involvement; and 5) the effectiveness of any educational policy or practice is directly related to the ability to increase student involvement (Astin, 1984).

Astin's theory emphasizes active participation of the student in the learning process and encourages faculty to focus less on what they do and more on what the student does. The focus becomes student involvement, then, rather than instructional resources or techniques. Time and effort devoted to educational involvement become contributors to success, including any activity that encourages a student to spend time on campus (Astin, 1984). Henceforth,

opportunities and encouragement for involvement serve as a basis for increasing student retention and success.

A number of large studies and extensive reviews of the literature support Astin's student involvement model. One of the best known works is Pascarella and Terenzini's (1991) overview of twenty years of research of more than 2600 studies. Pascarella and Terenzini state "a student's academic involvement holds the greatest potential for fostering growth in intellectual skills…interpersonal interactions with faculty and peers may influence growth by influencing a student's level of involvement in academic or intellectual experiences" (p.149). In his study of more than 1600 undergraduates at Harvard University, Light (2001) further substantiates the student involvement model, revealing that students having difficulty transitioning to college often cite feelings of isolation from the college community. Light reports specific student involvement behaviors, such as time spent on academic work and working on academic activities with peers and faculty, are the best predictors of a student's academic success and growth.

Student Involvement Model: Implications for Peer Mentors & Leaders. In Astin's (1993) study of approximately 500,000 students from 1300 colleges and universities, institutional impact on the development of students were tracked over a twenty-five year time period. Of great significance is Astin's declaration that "the student's peer group is the single most potent source of influence on growth and development during the undergraduate years" (p. 398) and the most influential source for values, beliefs, and goals (Astin, 1993). He further proclaims that student to student interaction has the strongest effect on a

student's leadership development. In explaining the relation between peer leadership and student learning and development, Astin asserts peer leadership as having both psychological and sociological influences. First, the peer group constitutes a group of individuals from whom the student seeks acceptance and approval – the psychological perspective. Secondly, the peer group establishes and enforces norms for the group to which the student has a desire to conform – the sociological perspective.

Student Integration Model: Theoretical Perspective

Similar to Astin, Vincent Tinto promotes the necessity for student involvement. Tinto's (1975) student integration model, also referred to as the student departure model, contributes greatly to understanding the longitudinal process of student persistence or withdrawal from higher education. The theoretical model proposes that social integration – defined as students integrating themselves to the social and academic life, while becoming committed to graduation and the institution – is the key factor for student persistence and graduation. The model emphasizes that the student's preexisting, individual attributes and commitments are continuously modified once in college, through the interactions students have with members of the institution's academic and social systems. It is this student interaction with other students, faculty and staff that Tinto purports to be of critical significance. Tinto asserts that with all other factors staying constant, the stronger a student's level of social and academic integration, the greater the student's institutional and graduation commitment (Tinto, 1993). Tinto's further reports that student

integration is primarily achieved through interaction with peers and faculty, stating:

> There appears to be an important link between learning and persistence that arises from the interplay of involvement and the quality of student effort. Involvement with one's peers and with the faculty, both inside and outside the classroom, is itself positively related to the quality of student effort and, in turn, to both learning and persistence" (p.71).

Numerous studies have supported Tinto's Theory of Integration, and along with Astin's Theory of Involvement, the two theories have become the most widely cited by those investigating issues pertaining to first year seminars (Pascarella, Terenzini, & Wolfle, 1986; Milem & Berger, 1997).

Student Integration Model: Implications for Peer Mentors & Leaders. According to Tinto (1987), one of the major reasons for students dropping out of college is failing to establish a social network. Peer mentors are thusly being used to bridge this gap. The positive effects of collaborative learning on student retention is documented in Tinto's (1987) research with adult students, revealing that the most important predictor of student's persistence to graduation was whether they were members of a peer learning group.

Support for Tinto's model is validated through studies showing the academic and social integration of students as having the most consistent and positive effects on long-term persistence (Pascarella, 1980; Pascarella, Smart, & Ethington, 1986; Pascarella & Terenzini, 1979, 1980). Specifically, Pascarella

and Terenzini (1991) substantiate Tinto's model and the significance of peer influence, stating "the weight of evidence is quite clear that both the frequency and quality of students' interactions with peers and their participation in extracurricular activities are positively associated with persistence" (p. 110). Further, they reveal that peer interactions provide students opportunities to interact and develop relationships with other "achievement oriented peers," thus nurturing and supporting college and university educational goals (p. 411).

Peer Mentor/Peer Leader: Definition & Historical Perspective

Cohen (1993) asserts that the concept of mentoring is unclear as there are no real precise definitions of mentoring when promoting undergraduate academic success. Much of the literature on mentoring is within the context of the business industry. In fact, it has only been in the past two decades where research of mentoring in the context of higher education has been documented (Cullen & Luna, 1993; Harnish & Wild, 1994; Healy & Welcher, 1990; Ross-Thomas & Bryant, 1994; Sands, Parson & Duane, 1991). Review of the literature overwhelmingly supports the benefits of mentoring to the institution, to the mentor, and to the student (Boice, 1992). Through a mentoring relationship, both the student and the mentor develop intellectual growth, as the mentors, themselves, feel renewed through the sharing of power.

Anderson and Shannon (1988) further state that the mentoring relationship is an intentional, a nurturing, a supportive, and a role-modeling process. Ellis (1988) states that a mentor can be described as one who guides, counsels, supports, shares, models and welcomes the student into the academic

world. The mentor can be a peer, faculty member, administrator or staff member. Mentors may or may not receive special training or monetary compensation, and the length of mentoring may be as little as one session to several years (Jacobi, 1991).

Due to the varied definitions of mentoring, Merriam (1983) asserts that the absence of an operational definition of mentoring led to "the confusion as to just what is being measured or offered as an ingredient to success" (p. 169). Consequently, Merriam's suggestion for the need to evaluate formal mentoring programs, as a means to clarify and establish its value, provides additional rationale and support of the current research study.

Peer Mentor/Leader: American Higher Education

During the last forty years, numerous studies document the utilization of upper-level students in a variety of higher education settings (Brown & Zunker, 1966; Carhkuff, 1968; Carns, Carns, & Wright, 1993; Cuseo, 1991; Ender 1984; Hart, 1995; Rabiecki & Brabeck, 1985; Ragle & Krone, 1989; Terenzini, Pascarella & Blimling, 1996; Winston & Ender, 1988). These studies reveal the differences in terminology – peer educator, peer mentor, peer leader, peer advisor – and the differences in services these students provide – coaching, mentoring, counseling, modeling, supporting, and teaching. Ender (1984) provides the following definition of college students helping other college students:

> Paraprofessionals are students who have been selected and trained to offer educational services to their peers. These services

> are intentionally designed to assist in the adjustment, satisfaction and persistence of students toward attainment of their educational goals. Student performing in paraprofessional roles are compensated for their services and supervised by qualified professionals. (p. 324).

A number of studies reveal increases in the use of students in leadership roles (Carns, Carns, & Wright, 1993; Powell, 1959; Zunker, 1975; Zunker & Brown, 1966). Carns, Carns, and Wright (1993) explain the variety of ways students are utilized on university and college campuses, through new student orientation activities, religious centers, social centers, judiciary programs, advising programs, student activities, counseling centers, residence life, study centers, placement centers, and in academic departments.

A number of studies further document the effectiveness of students in these leadership roles (Brown & Myers, 1975; Brown & Zunker, 1966; Carkhuff, 1968, Carns, Carns, & Wright, 1993; Cuseo, 1991; Rabiecki & Brabeck 1985; Ragle & Krone, 1989; Terenzini, Pascarella, & Blimling, 1996; Winston & Ender, 1988; Zunker, 1975). Brown and Myer's (1975) findings reveal students advised by student advisors as having more positive attitudes toward their advisors and lower dropout rates as compared to students advised by faculty advisors. Further, students with student advisors viewing their advisors as sympathetic, while those with faculty advisors having less favorable views of their advisors, perceiving them as merely carrying out required job obligations. Similarly, Rabiecki and Brabeck (1985) reveal first-year students reporting that their peer

advisement group helping them in adjusting not ony to campus life, but also in reducing their need to seek other counseling services.

Cuseo (1991) asserts that peers are more capable of engaging the first-year student in classroom settings than faculty or staff, because they are less intimidating as they are closer in age. Cuseo also purports peer leadership as very cost-effective as compared to professional staff. Carns, Carns, and Wright (1993) concurs, declaring "the role of paraprofessionals is no longer experimental and has become essential to campus life" (p. 362). Given the findings that peers exert influence on each other (Astin, 1993), institutions of higher education recognize the power of peers and continuously seek ways to facilitate collaborative experiences between first-year and upper-level students, such as the use of peer leaders in First-Year Seminars.

Peer Mentor/Leader: First-Year Seminar

Educational institutions generally designate the term "peer leaders" to students assisting as facilitators or co-teachers in the First-Year Seminar (National Resource Center for the First-Year Experience and Students in Transition, National Survey of First-Year Seminar Programs, 1994, 2000; Hamid, 2001). Swing's (2001) national study of FYS learning outcomes finds correlations between the use of FYS peer leaders and the increase of higher scores assigned to learning outcomes and satisfaction as compared to students participating in FYS courses without peer leaders.

The use of peer leaders in First-Year Seminars appears to be having positive impact on the retention of first-year students as well. According to

Hamid (2001), there are two institutional studies, to date, that reveal the impact and correlation of FYS peer leaders and retention. Increases in first-to-second year retention are found at the University of Pacific (by more than 6%) and at Lee University (by more than 10%) following the implementation of peer leaders within their First-Year Seminar course. The current case study will contribute to the existing, albeit limited, body of literature regarding the benefits of FYS peer leader programming.

Program Evaluation Site:

Slippery Rock University of Pennsylvania

Institutional Characteristics

The institution examined in this study is Slippery Rock University of Pennsylvania (SRU), one of the 14 State System of Higher Education institutions in the Commonwealth of Pennsylvania. Located in rural western Pennsylvania, SRU is a public comprehensive institution with an undergraduate and graduate enrollment of about 8,105 students. About 1500 first-time, full-time freshmen enter the university each fall, with freshman survey results revealing first-generation students continuing to comprise the majority of the institution's new students (63 percent). Additionally, about 90 percent of SRU students receive financial aid. Institutional research shows average SAT scores ranging from 945 to 1001 over the last five years (combined Math and Verbal) and about 35% of incoming first-year students enrolling in at least one developmental course. Finally, most first year students come from 15 counties in Western Pennsylvania, many representing rural communities. Undergraduate student demographic

information shows women comprising a larger percentage of the undergraduate population (54%), most students (90%) are traditional-age students (18-24), and about 5% of the population are students of color (primarily African-American and Hispanic).

Institutional Overview of First-Year Seminar

Responding to Slippery Rock University's steady decline in enrollment and first-year retention rates reported at a low 69-70% in 1999, the First-Year Seminar was developed as an integral component of the institution's strategic plans. Through the use of a combined effort of learning community clusters and the First-Year Seminar (LCC/FYS), the institution began its focus on first-year student learning and success. The First-Year Seminar, a one-credit, graded course, is offered to incoming first-time, fulltime students, with targeted student outcomes of increasing student persistence, academic performance, and academic and social integration within the institution. Although not mandated by the university, the FYS course is strongly encouraged and substantiated through several years of research documenting its success.

Since its implementation in 2000, several types of data sources are used as assessment indicators for the FYS program. Survey methodology reveals significant findings. In its first two years, with a 51% and 70% First-Year Seminar student enrollment rate respectively, academic and social integration is found to be enhanced as a result of participating in the LCC/FYS initiative. For each of the two years, FYS students have statistically significantly greater levels of four of the five integration scales: (1) peer group interactions, (2) interactions with

faculty outside of the classroom, (3) academic and intellectual development, and (4) institutional and goal commitment. Additionally, FYS students use a significantly greater number of total campus services than students not enrolled in the program. Throughout the next several years and into the program's current 2006 enrollment of over 90% of first-year students, student involvement and participation rates have increased and/or continued at the same elevated levels.

Similarly, institutional student tracking research reveals that in the first two years of the program (2000 – 2002), FYS students are persisting to their second year at higher rates than non-participants. First-to-second year retention was increasing 8% for students overall, with notable improvement for students of color (7%). Accordingly, SRU received a national award for excellence in retention on the basis of this program in 2003. Institutional student tracking through the program's entirety and up to year 2006 reveal an overall first-to-second year retention increase of 11% since 1995, with notable improvement for African-American students (20%), and Hispanic students (31%). In review of graduation rates, increasing levels are found with six year graduation rates increasing from 47% to 52% and five year graduation rates from 43% (1995 cohort) to a current status of 47% (1999 cohort).

Another additional result of the program – although not found to be statistically significant – is noted as bearing educational significance: LCC/FYS students earn higher grade point averages than non-participants. Since 2001, the first year cohort's average grade point has risen from 2.75 to 2.90.

Beginning in 2003, the study institution began utilizing qualitative and quantitative data from the nationally-administered Educational Benchmarking (EBI) First-Year Initiative (FYI) Survey, a diagnostic tool designed to assess the seminar's impact. The FYI Survey assesses fifteen perceived student learning outcome factors of the course: 1) Improved Study Strategies, 2) Improved Academic/Cognitive Skills, 3) Improved Critical Thinking, 4) Improved Connections with Faculty, 5) Improved Connections with Peers, 6) Increased Out-of-Class Engagement, 7) Improved Knowledge of Campus Policies, 8) Improved Knowledge of Academic Services, 9) Improved Managing Time/Priorities, 10) Improve Knowledge of Wellness, 11) Sense of Belonging/Acceptance, 12) Usefulness of Course Readings, 13) Satisfaction with College/University, 14) Course Included Engaging Pedagogy, and 15) Overall Course Effectiveness. In addition, the FYI Survey's analysis of responses from other participating schools nationally provides comparative perspectives and benchmarks on perceptions of students in similar first-year courses and seminars.

Survey results reveal Slippery Rock University FYS students have statistically significant higher means on all 15 student learning outcome factors as compared to the institution's "Select 6 Benchmark Institutions" and statistically higher means on 12 of 15 student learning outcome factors as compared with their "Carnegie Class Set of Institutions." Institutionally, the 2005 FYS student cohort have higher means on 10 of 15 student learning outcome factors as compared to 2004 FYS student results. FYS student learning outcomes means

have continued to be maintained and or increased at the institution and in its sixth year, the seminar reaches nearly 95% (1500 students) of the entering first-time, fulltime student population.

Institutional Overview of Peer Leading within the First-Year Seminar

Literature of the past four decades suggests students have significant and positive impact on other students (Chickering, 1969; Brown, in Gardner, 2001; Pascarella & Terenzini, 1991; Astin, 1993). John Gardner, initiator and scholar of the American first-year reform movement and Executive Director of the Policy Center on the First Year of College, strongly advocates for peer leader programs as a means for leveraging "…an institution's chances of influencing student behaviors and attitudes in those directions in which it would like to see students move, particularly in those ways that might be consistent with the institutional mission" (2001, p.vii). Thus, Slippery Rock University began a pilot peer leader program of fifteen peer leader and voluntary-faculty partnerships within their FYS course. Peer leader program surveys are developed and implemented by the institution to assess perceptions of peer leaders in the FYS course from seminar student, peer leader, and faculty perspectives. Survey evaluations are found to be favorable, leading to the increased expansion of thirty-eight faculty and peer leader partnerships for year 2005 and a further increase to forty-five faculty and peer leader partnerships in 2006. Although survey assessments of student, peer leader, and faculty perceptions of the program are proving to be beneficial, quantitative and qualitative data (FYI survey) have not been collected nor analyzed regarding the peer leader program's impact on first-year students'

learning outcomes, persistence, grade point averages, and social and academic integration to the university. FYI results of 2004 – the same year peer leaders were integrated into the seminar – do reveal higher means overall on 11 of the 13 student learning outcome factors for 2004 seminar students compared to year 2003 seminar students. However, it is uncertain if the addition of peer leaders to the seminar has played a role in these increases.

Summary

Reviewed here is an overview of the importance of higher educational institution's focus on persistence and retention, several student developmental theories as it relates to the First-Year Seminar, and benefits of peers helping peers with the seminar – all providing the conceptual framework for institutions to incorporate peer leadership in their FYS courses. After providing an overview of American higher education dropout rates, several reasons were examined highlighting the significance of the first year of college experience. The various student development models provide a contextual perspective in establishing the value and need of peer-to-peer mentoring. Additionally, the background, concepts, and documented benefits of peer leading authenticate its importance in academic programming. Ultimately the perspectives reviewed will lend credence and identification of a specific and elemental peer leading programming component for not only the program evaluation study institution, but to higher education institutions nationally.

Chapter III

RESEARCH METHODOLOGY

In attempting to address the research questions presented in the literature review, this chapter describes the methodology utilized in my study. Elements presented include: 1) a brief background and significance of the study; 2) the hypotheses being explored; 3) the study design; 4) the data base and procedure employed in the selection of subjects; and 5) the analytical strategy utilized to test my hypotheses.

Background and Significance

This study is of great significance as it explores higher education programming and student development theory, with findings applicable for the study institution and for institutions nation-wide. Based on the reputable, standard national survey for assessing first -year seminars –the First-Year Initiative (FYI) Benchmarking survey – the study is inherently sound, as the FYI survey is highly regarded for its ability to assess grade point averages, retention, and student learning outcomes, along with its meta-analyses capabilities of cross-institutional comparisons. This particular study expands upon the FYI data, differentiating peer leading component effects specific to first-year seminars.

The university at which this program evaluation is conducted offers a one-credit First-Year Seminar (FYS) course to incoming first-time fulltime students, with targeted student outcomes of increasing student persistence, academic performance, and academic and social integration within the institution. Although

not mandated by the university, the FYS course is strongly encouraged with several years of institutional research documenting its success. The first-year seminar was developed in 1999 as an integral component of the institution's strategic plans, in response to its steady decline in enrollment and first year retention rates reported at about 69-70%. In its initial stages of years 2000 - 2001, the seminar enrolled an approximate 51% (700 students) of first-time fulltime students. Institutional student tracking research found that at the end of the first year, students who participated in the first-year seminar earned more credits (27.43 in year 2000; 27.46 in year 2001) than non-seminar students (26.57 in year 2000; 26.71 in year 2001); were retained to their second year at a higher rate (70.7 in year 2000; 74.7 in year) than non-seminar students (67.3 in year 2000; 71.2 in year 2001); and special admit students in seminars persisted at statistically significant higher rates (57.1 in year 2000; 63.7 in year 2001) than special admit students not participating in the seminar (50.4 in year 2000; 54.6 in year 2001).

Beginning in 2003, the study institution started utilizing qualitative and quantitative data from the administered Educational Benchmarking First-Year Initiative (FYI) Survey, a diagnostic tool designed to assess the seminar's impact. With the academic and social integration indicators categorized into student learning outcomes on the FYI, seminar students were found to have statistically significant higher means on all 15 student learning outcome factors as compared to the institution's "Select 6 Benchmark Institutions" and statistically higher means on 10 of 13 student learning outcome factors as compared with their

"Carnegie Class Set of Institutions." FYI student learning outcomes means have continued to be maintained and or increased at the institution and now in its sixth year, the seminar currently reaches nearly 95% (1500 students) of the entering first-time, fulltime student population.

Literature of the past four decades suggested that students can have significant and positive impact on other students (Chickering, 1969; Brown, in Gardner, 2001; Pascarella & Terenzini, 1991; Astin, 1993). John Gardner, initiator and scholar of the American first-year reform movement and Executive Director of the Policy Center on the First Year of College, strongly advocated for peer leader programs as a means for leveraging "…an institution's chances of influencing student behaviors and attitudes in those directions in which it would like to see students move, particularly in those ways that might be consistent with the institutional mission" (2001, p.vii). Thus the institution began a pilot peer leader program of fifteen peer leader and voluntary-faculty partnerships within their first-year seminar.

Slippery Rock University created the FYS peer leader program based on Ender's (1984) definition of peer mentoring:

> Paraprofessionals are students who have been selected and trained to offer educational services to their peers. These services are intentionally designed to assist in the adjustment, satisfaction and persistence of students toward attainment of their educational goals. Student performing in paraprofessional roles are

compensated for their services and supervised by qualified professionals. (p. 324).

Faculty teaching FYS courses were solicited on a voluntary basis for the program and were then asked to self-select an upper-level undergraduate student as their FYS peer leader partner. All FYS peer leaders participated, along with FYS faculty, in the mandatory two-day, First-Year Seminar Training held each spring, prior to co-teaching the fall FYS Course. Mandatory training for FYS peer leaders included an additional one day, peer leader training in the spring. Throughout the fall semester, weekly planning, supervision, and training group meetings with fellow peer leaders and peer leader coordinators were mandatory, in addition to the individual, weekly, planning and supervision meetings between peer leader and respective FYS faculty partners.

Through the interactive and holistic design of the First-Year Seminar Faculty and Peer Leader Training at Slippery Rock University, FYS faculty and peer leaders both created the variety of roles and responsibilities for FYS peer leaders. The FYS faculty and peer leader partners, then, determine how peer leaders are utilized in their respective seminars, including but not limited to: assisting in lectures, presentations, and other assignments in and out of class; modeling good decision-making; providing connections between the theoretical and the real; interacting well with first-year students; must be an efficient organizer of people and activities; planning the syllabus as well as any extracurricular activities; helping monitor students' postings on the Blackboard Discussion Board, where a peer response would be more appropriate in some

situations; having small group meetings with the first-year students on a scheduled basis to sort of “check in” to find out if there are any questions/concerns; helping lead discussions, stress management, experiential exercises and personal testimony; helping the first-year students develop a better understanding of the major in general and the curriculum in particular; help in making connections with our professional student organizations as well as other student resources on campus; being involved in all faculty lectures that are more fundamental to academics (i.e., studying, scheduling, time management, etc.); providing insight on some of the areas in which faculty are not. (i.e., residence life, student library use, etc.); being a valuable liaison for the class members who have questions they may not feel comfortable asking a faculty member (First-Year Studies Program, 2004).

Peer leader program surveys were developed and implemented by the institution to assess the perceptions of peer leaders in the first-year seminar from seminar student, peer leader, and faculty perspectives. Survey evaluations were favorable, leading to an increased expansion of thirty-eight faculty and peer leader partnerships for year 2005 and a further increase to forty-five faculty and peer leader partnerships in 2006. Although survey assessments of student, peer leader, and faculty perceptions of the program have continued to be beneficial, quantitative and qualitative data (FYI survey) have not been analyzed regarding the peer leader program’s impact on first-year students’ persistence, grade point averages, and social and academic integration to the university. The FYI results of 2004 – the same year peer leaders were integrated into the seminar – did

reveal higher means on 11 of the 15 student learning outcome factors for 2004 seminar students compared to year 2003 seminar students. What is uncertain, however, is the impact or role, if any, the addition of peer leaders to the first-year seminar have statistically made.

Research Questions

This study sought to gather and analyze existing data in investigating the outcome effects of a peer leader program component within a First-Year Seminar. Two comparison groups were examined: 1) three year data of students in the FYS Program without the Peer Leader Component (2001, 2002, 2003) as compared to three year data of students in the FYS Program with the option of the Peer Leader Component (2004, 2005, 2006); and 2) within the three year data of the FYS Program with the option of a Peer Leader Component (2004, 2005, 206), students enrolled in a FYS with a peer leader are compared to students enrolled in a FYS without a peer leader. Program outcome effects on first-to-second year persistence, grade point average performance and academic and social integration of first-year, fulltime students were examined. Differences in the characteristics of students on gender and race on the outcome measures were addressed.

Questions to be Researched

1. Are there any significant differences in persistence rates and grade point averages, specific to gender and race, for the three year program data of FYS with the Peer Leader Component (academic cohort years 2004, 2005, and 2006 students) as compared to the three year program data of

FYS without the Peer Leader Component (academic cohort years 2001, 2002, and 2003 students)?

2. Are there any significant differences in the persistence rates; grade point averages; and academic and social integration, specific to gender and race, for students enrolled in a First-Year Seminar with a peer leader, in contrast to a comparison group of students enrolled in a FYS without a peer leader (within the FYS Program-Peer Leader Component of academic cohort years 2004, 2005, and 2006)?

Design

Employing a case study-outcomes program evaluation approach, this present study utilized various existing data from the institution's Educational Benchmarking (EBI) First Year Initiative (FYI) Study of year 2004, 2005, and 2006. The data was analyzed to compare mean learning outcomes (academic and social integration indicators) of first-time, fulltime students enrolled in peer leader-FYS seminars to first-time, fulltime students enrolled in non-peer leader-FYS seminars. The study also examined institutional data and records of 2001, 2002, 2003, 2004, 2005, and 2006 first-time, fulltime students obtaining information on first-to-second year persistence and grade point averages. Gender and race characteristics were addressed within each analyses.

Case Study Evaluation Approach

Following the recommendations of Daniel Stufflebeam – regarded as the connoisseur of evaluation because of his leadership in the development of evaluation standards, in which he employed the Joint Committee on Standards

for Educational Evaluation principles – the type of program evaluation approach for this study was the case study evaluations approach, with a focus on outcomes evaluation (2001). Program evaluation had evolved as a new and applied social science, relying on many different approaches, and is essentially defined as an assessment of a program's merit and worth (Posavac & Carey, 1980; Franklin & Thrasher, 1976; Stufflebeam, 2001). In Stufflebeam's *New Directions for Evaluation: A Publication of the American Evaluation Association: Evaluations Model*, nine of the twenty-two evaluation approaches were recommended as having very different strengths and few severe weaknesses. These nine, reflecting the "survival of the fittest", included the case study evaluation approach (p.1). The main purpose of a case study program evaluation was to provide an authoritative, in-depth, well-documented explication of the program to its stakeholders and their audiences. This approach best reflected the primary purpose of the current study institution's need for program evaluation, while it also met the secondary purposes of the study of contributing to the various bodies of knowledge relating to peer mentoring, retention, and first-year seminars. In addition, the varying factors of a case study program evaluation approach provided by Stufflebeam also paralleled with this current study of existing data including: there were no controls of treatments and subjects; the evaluation looked at programs as they naturally occurred and evolved; there was a triangulation of multiple perspectives, methods, and information sources; and the program and its outcomes were looked at holistically and in depth (2001).

Outcomes Evaluation Approach

Posavac & Carey (1980) additionally classified program evaluations into four general types: need, process, outcome, and efficiency. The evaluation of need assessed varying levels of need from the subject, the community, and the stakeholders. Process evaluation, on the other hand, assessed how and to whom the program is being implemented. Outcomes evaluation assessed the outcomes achieved by the program, and the evaluation of efficiency assessed the benefit cost ratio. Given the stated primary and secondary purposes of this study, the outcomes evaluation – not the need, process or efficiency evaluation – were central in this case study evaluation approach. According to Posavac & Carey (1980) the most basic task in outcomes evaluation was determining the definition of measuring success. For purposes of this study, success was measured through first-to-second year persistence rates, grade point averages, and various academic and social integration factors, as defined by the American College Test, the First-Year Experience scholars, and by higher education standards as a whole.

Subjects and Database

Subjects

The subjects of the study were identified from existing data of the study institution's archived administrative SAS Business Intelligence Enterprise Software and its First-Year Initiative (FYI) Study data. Computerized lists were produced of students who were enrolled in the First-Year Seminar in years 2001, 2002, 2003, 2004, 2005, and 2006. Established parameters required that

students included in the study were first time, full-time students entering in the fall semester of the academic cohort year. Subjects were enrolled in the seminar based on major, liberal studies course interest, and seminar availability. Subjects were enrolled in the seminar, along with other first semester courses, during the prior spring and summer orientations by university-wide faculty advisors. Subjects did not actively choose nor were aware of seminars with or without peer leaders. The FYI study was administered annually by the institution in academic cohort years 2004, 2005, and 2006. FYI subjects enrolled in first-year seminars with peer leaders were compared to subjects enrolled in first-year seminars without peer leaders. Although all first-year seminars in years 2004, 2005, and 2006 had the option to have peer leaders, peer leaders co-taught only in seminars at individual first-year seminar faculty request.

Data Sources

Institutional Review Board approvals were obtained from both the research institution and the cooperating institution for permission to analyze the study institution's: 1) existing FYI data of 2004, 2005, and 2006 – for data about academic and social integration; and 2) database records of 2001, 2002, 2003, 2004, 2005, and 2006 first-time, fulltime students – for data about first-to-second year persistence, grade point average, gender, and race. The FYI Study – a diagnostic tool designed to assess the seminar's impact and assist in its improvement planning – surveyed the perceptions of first-year students enrolled in the first-year seminar. The FYI survey was administered at the study institution annually beginning in 2004 to all first-year seminar students in a

voluntary and confidential manner. No identifying information was solicited and analysis of the data was provided annually in aggregate form to the institution by Educational Benchmarking, Inc.

Data Source 1 - FYI Study: Reliability

The FYI Study – a diagnostic tool designed to assess the seminar's impact and assist in its improvement planning – surveyed the perceptions of first-year students enrolled in the first-year seminar. Fifteen factors are formed and identified by averaging responses from a group of questions designed to explore a single construct. In doing so, factors then provide more stable and richer information than individual questions as they are composed of multiple views of the core construct. Factors assessed in the FYI included:

1) course improved study strategies, Reliability: .90;

2) course improved academic and cognitive skills, Reliability: .89;

3) course improved critical thinking skills, Reliability: .91;

4) course improved connections with faculty, Reliability: .82;

5) course improved connections with peers, Reliability: .90;

6) course increased out-of-class engagement, Reliability: .90;

7) course improved knowledge of campus policies, Reliability: .89;

8) course improved knowledge of academic services, Reliability: .85;

9) course improved managing time and priorities, Reliability: .92;

10) course improved knowledge of wellness, Reliability: .90;

11) course improved sense of belonging and acceptance, Reliability: .90;

12) usefulness of course readings, Reliability: .90;

13) course improved satisfaction with the university, Reliability: .89;

14) course included engaging pedagogy, Reliability: .92; and

15) overall effectiveness of the course, Reliability: .92.

Reliabilities of all FYI factors are based on Cronbach's Alpha, with α = 0.5 considered acceptable; α = 0.7considered as good; and α = .8 considered as exceptional. Consistent with EBI's excellent reputation of producing studies with Cronbach's alpha above 0.80, the FYI Study had reliabilities ranging from 0.82 – 0.92 (Educational Benchmarking, 2006).

Data Source 1 - FYI Study: Validity

Educational Benchmarking (2006) utilized three main tests in determining survey validity:

1) Face Validity: During the survey development process, experts in the field of higher education and first-year seminars were consulted to develop and verify survey questions for its importance, relevance, and wording. The survey underwent a pilot study in 2001 – with sixty-two institutions and over 30,000 student respondents –substantiating that the questions were reasonable; there were no double meaning questions; no questions asked about more than once concept; and that students completing the survey would interpret questions the same within the contexts of respective institutions.
2) Convergent/Predictive Validity: Testing for construct validity, convergent or predictive validity was established to assess the

survey's ability to predict a relationship that theoretically exists based on other evidence. High correlations on the survey factors provided evidence for predictive validity, validating that the survey measures correctly predicted relationships believed to be predictable. The FYI study evaluated constructs predicting Overall Course Effectiveness. Further, the top predictor was a factor called Course Included Engaging Pedagogy which mirrored results of EBI's other academic studies.

3) Divergent/Discriminant Validity: Also testing for construct validity, divergent or discriminant validity was established to examine the degree to which a construct is dissimilar and diverges from other constructs that it should be dissimilar to theoretically. Evidence of divergent validity was present and was consistent with results of other EBI studies. For instance, there was evidence that GPAs were higher for first-year students who drink little or no alcohol.

Data Source 1 - FYI Study: Validity Respective to Current Study

Validity of the First-Year Initiative Survey was also inherent with the fact that the survey was designed based on Alexander Astin's student involvement and assessment models (Swing, 2002). For further validity measures of the FYI Survey respective to the current study's theoretical framework of Astin and Tinto's student development models, FYI questions have been identified specific to respective theories in the next sections.

Alexander Astin's Student Involvement Model stated that retention is significantly tied to student involvement with the institution (1984). Astin reported three significantly critical forms of involvement which included involvement in academics, involvement with faculty, and involvement with peers. As shown in Table 1, survey questions of the First-Year Initiative Survey related specifically to Astin's three critical forms of involvement.

Table 1

First-Year Initiative (FYI) Survey Questions as it Relates Specific to

Alexander Astin's Student Involvement Model

First-Year Initiative Survey Questions	**Alexander Astin's Three Critical Forms of Involvement**		
	Involvement with Academics	Involvement with Faculty	Involvement with Peers
Factor 1: Course Improved Study Strategies			
Q1: understanding of my academic strengths	X		
Q2: test preparation skills	X	X	
Q3: ability to find needs in library	X	X	
Q13: review class notes before next class	X		
Q14: complete homework on time	X	X	
Q15: study with other students	X		X
Q16: take effective notes in class	X	X	
Q17: cope with test anxiety	X		
Factor 2: Course Improved Academic and Cognitive Skills			
Q4: writing skills	X	X	
Q5: reading skills	X	X	
Q6: decision-making skills	X		
Q7: computer skills	X	X	
Q8: oral presentation skills	X	X	
Factor 3: Course Improved Critical Thinking			
Q18: see multiple sides of issue	X	X	X
Q19: identify solutions for complex problems	X	X	
Q20: evaluate quality of opinions and facts	X	X	X
Factor 4: Course Improved Connections with Faculty			
Q21: understand faculty expectations of students	X	X	X
Q22: sought feedback from instructors	X	X	
Q23: Communicated with instructors outside of class	X	X	
Factor 5. Course Improved Connections with Peers			
Q9: effort to get to know students in my classes	X		X
Q10: ability to meet new people with common interests			X

Q11: ability to establish close friendships with peers			X
Factor 6. Course Increased Out-of-Class Engagement			
Q53: Participation in campus-sponsored organizations		X	X
Q54: Contributing to success of campus-sponsored organizations			X
Q55: Volunteering time for worth while causes		X	X
Q56: Attending campus cultural events		X	X
Factor 7. Course Improved Knowledge of Campus Policies			
Q24: university rules regarding academic honesty	X	X	
Q25: the grading system	X	X	
Q26: academic probation policies	X	X	
Q27: registration procedures	X	X	
Q28: financial aid procedures	X	X	
Factor 8. Course Improved Knowledge of Academic Services			
Q29: role of the academic advisor	X	X	
Q30: how to obtain academic assistance	X	X	
Q31: how to obtain a tutor	X	X	
Q32: available library resources	X	X	
Factor 9. Course Improved Managing Time and Priorities			
Q37: impact of establishing personal goals	X	X	
Q49: prepared for tests well in advance	X		
Q50: established an effective study schedule	X	X	
Q51: set priorities to accomplish what is most important	X	X	
Q52: organized time to meet responsibilities	X	X	
Factor 10. Course Improved Knowledge of Wellness			
Q12: ability to deal with stress	X	X	X
Q33: college students' sexual issues	X	X	X
Q34: The impact of alcohol consumption	X	X	X
Q35: The impact of drug use	X	X	X
Q36: the impact of exercising regularly	X	X	X
Factor 11. Sense of Belonging and Acceptance			
Q57: student is accepted by students at this university			X

Q58: is easy to make new friend as this university			X
Q59: student is able to identify other students with similar interests		X	X
Factor 12. Usefulness of Course Readings			
Q45: relevant	X	X	
Q46: interesting	X	X	
Q47: helpful	X	X	
Factor 13. Satisfaction with College/University			
Q60: student wants to return to this university next fall	X	X	X
Q61: student would recommend this university to a friend	X	X	X
Q62: student's experience was a high-quality learning experience	X	X	X
Q63: student's college experience was a positive experience	X	X	X
Factor 14. Course Included Engaging Pedagogy			
Q38. a variety of teaching methods	X	X	
Q39: meaningful class discussions	X	X	X
Q40. challenging assignments	X	X	
Q41: productive use of classroom time	X	X	X
Q42: encouragement to speak in class	X	X	X
Q43: encouragement for students to work together	X	X	X
Q44: meaningful homework	X	X	
Q48: increased own participation in classroom discussions	X	X	X
Factor 15. Overall Course Effectiveness			
Q65: included interesting subject matter	X	X	X
Q66: contributed to the ability to succeed academically	X	X	
Q67: contributed to the ability to adjust to the college environment	X	X	X
Q68: covered topics important to student	X	X	X
Q69: student would recommend this course to other first-year students	X	X	X
Question not comprised in a factor			
Q70: rate the level of effort in this course	X		

Vincent Tinto promoted the necessity for student involvement with his Student Integration Model (1975). Tinto's theoretical model proposed that social integration – defined as students integrating themselves to the social and academic life, while becoming committed to graduation and the institution – was the key factor for student persistence and graduation. Tinto reported two significantly primary forms of integration which included student integration with the social and the academic life of the university institution. As shown in Table 2, survey questions of the First-Year Initiative Survey related specifically to Tinto's two primary forms of integration.

Table 2

First-Year Initiative (FYI) Survey Questions as it Relates Specific to Vincent Tinto's Student Integration Model

First-Year Initiative Survey Questions	**Vincent Tinto's Two Primary Forms of Integration**	
	Academic Integration with Faculty &/or Peers	Social Integration with Faculty &/or Peers
Factor 1: Course Improved Study Strategies		
Q1: understanding of my academic strengths	X	X
Q2: test preparation skills	X	
Q3: ability to find needs in library	X	X
Q13: review class notes before next class	X	
Q14: complete homework on time	X	X
Q15: study with other students	X	X
Q16: take effective notes in class	X	
Q17: cope with test anxiety	X	
Factor 2: Course Improved Academic and Cognitive Skills		
Q4: writing skills	X	
Q5: reading skills	X	
Q6: decision-making skills	X	
Q7: computer skills	X	
Q8: oral presentation skills	X	
Factor 3: Course Improved Critical Thinking		
Q18: see multiple sides of issue	X	X
Q19: identify solutions for complex problems	X	X
Q20: evaluate quality of opinions and facts	X	X
Factor 4: Course Improved Connections with Faculty		
Q21: understand faculty expectations of students	X	X
Q22: sought feedback from instructors	X	X
Q23: Communicated with instructors outside of class	X	X
Factor 5. Course Improved Connections with Peers		
Q9: effort to get to know students in my classes	X	X
Q10: ability to meet new people with common interests	X	X
Q11: ability to establish close friendships with peers	X	X
Factor 6. Course Increased Out-of-Class Engagement		
Q53: Participation in campus-sponsored organizations	X	X
Q54: Contributing to success of campus-sponsored organizations	X	X

Q55: Volunteering time for worth while causes	X	X
Q56: Attending campus cultural events	X	X
Factor 7. Course Improved Knowledge of Campus Policies		
Q24: university rules regarding academic honesty	X	
Q25: the grading system	X	
Q26: academic probation policies	X	
Q27: registration procedures	X	
Q28: financial aid procedures	X	
Factor 8. Course Improved Knowledge of Academic Services		
Q29: role of the academic advisor	X	X
Q30: how to obtain academic assistance	X	X
Q31: how to obtain a tutor	X	
Q32: available library resources	X	X
Factor 9. Course Improved Managing Time and Priorities		
Q37: impact of establishing personal goals	X	X
Q49: prepared for tests well in advance	X	
Q50: established an effective study schedule	X	X
Q51: set priorities to accomplish what is most important	X	X
Q52: organized time to meet responsibilities	X	X
Factor 10. Course Improved Knowledge of Wellness		
Q12: ability to deal with stress	X	X
Q33: college students' sexual issues	X	X
Q34: The impact of alcohol consumption	X	X
Q35: The impact of drug use	X	X
Q36: the impact of exercising regularly	X	X
Factor 11. Sense of Belonging and Acceptance		
Q57: student is accepted by students at this university	X	X
Q58: is easy to make new friend as this university		X
Q59: student is able to identify other students with similar interests	X	X
Factor 12. Usefulness of Course Readings		
Q45: relevant	X	
Q46: interesting	X	
Q47: helpful	X	
Factor 13. Satisfaction with College/University		
Q60: student wants to return to this university next fall	X	
Q61: student would recommend this university to a friend	X	X
Q62: student's experience was a high-quality learning experience	X	X

Q63: student's college experience was a positive experience	X	X
Factor 14. Course Included Engaging Pedagogy		
Q38. a variety of teaching methods	X	X
Q39: meaningful class discussions	X	X
Q40. challenging assignments	X	
Q41: productive use of classroom time	X	X
Q42: encouragement to speak in class	X	X
Q43: encouragement for students to work together	X	X
Q44: meaningful homework	X	X
Q48: increased own participation in classroom discussions	X	X
Factor 15. Overall Course Effectiveness		
Q65: included interesting subject matter	X	X
Q66: contributed to the ability to succeed academically	X	
Q67: contributed to the ability to adjust to the college environment	X	X
Q68: covered topics important to student	X	X
Q69: student would recommend this course to other first-year students	X	X
Question not comprised in a factor		
Q70: rate the level of effort in this course	X	

Data Source 2 – Institutional Database Records

Existing institutional records of first-time, fulltime students from cohort years 2001 – 2006 were utilized to compare significant differences in program outcome effects on first-to-second year persistence rates, grade point averages, and academic and social integration, for students enrolled in FYS courses with and without peer leaders. Additionally, institutional records also revealed significant differences in the characteristics of students on gender and race of the outcome measures. Previous institutional research of 2000-2002 revealed statistically significant higher persistence rates and levels of academic and social integration for students enrolled in FYS courses as compared to those not enrolled in FYS courses, including significant improvement on its race category.

Although not statistically significant, but bearing educational significance, were the higher grade point averages found for FYS students as compared to non-FYS students.

This current study researched the program outcome effects of FYS with and FYS without the peer leader component. All fifteen factors of the First-Year Initiative Study data source were compared to the Institutional Database data source for program outcome effects. It was hypothesized that differences may be revealed on first-to-second year persistence rates, grade point averages, and academic and social integration levels for students having been enrolled in FYS with peer leaders as compared to students enrolled in FYS without peer leaders. It was anticipated that differences may exist for varying demographical populations based on gender and race.

Data Source 2: Variables

This study used first-year seminar enrollment, gender, and race as the independent variables and first-to-second year persistence, grade point averages, and academic and social integration factors as dependent variables.

Independent variables.

1. Enrollment in the first-year seminar. At Slippery Rock University of Pennsylvania, the first-year seminar is a one-credit elective designed as an extended orientation model to provide students with the opportunities to become integrated into the university's community of learners by exploring the purpose and value of higher education, participating in the teaching/learning process, addressing academic

and social transition issues, utilizing campus programs, services, technology, and developing academic skills and learning strategies. The independent variable was enrollment in the first-year seminar in one of four groups: a) a seminar in the First-Year Seminar Program without the option of the Peer Leader Component, three-year data group 2001, 2002, and 2003; b) a seminar in the First-Year Seminar Program with the option of the Peer Leader Component, three-year data group 2004, 2005, and 2006; c) a first-year seminar with a peer leader, of years 2004, 2005, or 2006; and d) a first-year seminar without a peer leader, of years 2004, 2005 or 2006.

2. Gender. Gender was identified as male or female from self-report upon admission to the university.
3. Race. Race was identified from self-report upon admission to the university in the following categories: African-American, Asian, Caucasian, Hispanic, Native-American, and Other.

Dependent variables.

1. First-to-second year persistence. First-to-second year persistence is defined as continuous enrollment from fall-to-fall semesters.
2. Grade point average. The grade point average is synonymous to quality point average at Slippery Rock University of Pennsylvania. Quality points for a single course are calculated by multiplying the points assigned the letter grade by the number of credits of the course. Total quality points are calculated by adding the quality points

earned in each course, with the GPA computed by dividing the total quality points earned by the total number of credits attempted.

3. Academic and social integration factors. The academic and social integration factors are defined by Educational Benchmarking, Inc.'s First-Year Initiative Study. The FYI Study survey reveals first-year seminar students' perceptions regarding the seminar's effectiveness in fifteen categories, from improving study strategies to increasing out-of-class engagement to improving satisfaction with the university. The academic and social integration factors are formed and identified by averaging responses from a group of questions designed to explore a single construct. The weighted mean averages of the fifteen factors are based on a 1 to 7 scale with "1" indicating either strong disagreement or being very dissatisfied and "7" indicating either strong agreement or being very satisfied with factor-respective survey questions.

Data Analysis Procedures

All existing data from the institution was collected and analyzed using the SSPS statistical package. Two comparison groups were examined for differences in outcome effects of the peer leader program in first-to-second year persistence rates; grade point averages; and academic and social integration factors:

1) Three year data of students in the FYS Program with the option of a Peer Leader Component (2004, 2005, 2006) were compared to three

year data of student in the FYS Program without the option of a Peer Leader Component (2001, 2002, 2003).

2) Within the three year data of the FYS Program with the option of a Peer Leader Component (2004, 2005, 2006), students enrolled in a FYS with a peer leader were compared to students enrolled in a FYS without a peer leader.

The effects of characteristics of students on gender and race on the outcome measures were examined.

The institution's FYI Study of 2004, 2005, and 2006 are best described as a classic experiment model which allows this to study to account for possible threats to internal validity. The higher level of internal validity, therefore, contributed to the institution's FYI data in actually differentiating between the intended outcome effects for this current study – peer leader vs. non-peer leaders in the FYS course (Posavac & Carey, 1980; Franklin & Thrasher, 1976):

1) *Random Assignment*: Experimental and control groups were established through a nonbiased method of assignment. Subjects, first-year fulltime students at SRU, did not actively choose nor were aware of seminars with or without peer leaders. Subjects were enrolled in the seminar based on major, liberal studies course interest, and seminar availability. Subjects were enrolled in the seminar by university-wide faculty advisors, along with other first semester courses, during the prior spring and summer orientations.

2) *Equivalent experimental and control groups*: Both experimental and control groups were established from the entering academic cohorts of first-year fulltime students, thus, there was no reason to believe subjects differed from one another in maturation, health, adjustment, achievement, etc. The equivalent levels of both groups, therefore, lent itself to the study's ability to distinguish between the effects of the FYS Program with, as compared to the FYS Program without, a peer leader.

Data Analysis Strategy

The methods of data analysis for this study were conducted in the following two stages in accord with the two primary comparison groups and research questions. The first stage involved analysis of data related to first-to-second year persistence and GPA, respective to gender and race characteristics, for students enrolled in the FYS Program without the Peer Leader component option of 2001- 2003 and the comparison group for students enrolled in the FYS Program with the Peer Leader component option of 2004- 2006. First-to-second year persistence was defined as continuous enrollment from fall-to-fall semesters and retention data were gathered for each cohort at the end of academic years 2001, 2002, 2003, 2004, 2005, and 2006. Chi-square analysis was performed to determine gender and race differences in percent of students retained when comparing students in the FYS Program without the Peer Leader component, years 2001-2003, with those students in the FYS Program with the Peer Leader component option, years 2004-2006.

Average term GPAs were collected for the end of the fall-spring term for students enrolled in FYS Program with Peer Leader component of 2001-2003 as compared to students enrolled in FYS Program without the Peer Leader component of 2004-2006. To determine whether gender and race differences existed between the two groups, the *t*-test analysis was utilized.

Accordingly, the second stage involved analysis of data related to first-to-second year persistence, GPA, and EBI's fifteen academic and social integration factors, respective to gender and race characteristics, for the second primary comparison group of students enrolled in a first-year seminar with a peer leader and its comparison group of students enrolled in a first-year seminar without a peer leader in academic years 2004, 2005, or 2006. First-to-second year persistence was defined as continuous enrollment from fall-to-fall semesters and retention data were gathered for each cohort at the end of academic years 2004, 2005, and 2006. Chi-square analysis was performed to determine gender and race differences in percent of students retained when comparing students in a FYS with a peer leader with those students in a non-peer leader FYS for years 2004, 2005, and 2006.

Average term GPAs were collected for the end of the fall-spring term for students enrolled in FYS with a peer leader as compared to students enrolled in FYS without a peer leader for years 2004, 2005 and 2006. Utilizing the *t*-test analysis, the existence of gender and race differences between the two groups was determined.

The means of the fifteen academic and social integration factors from EBI's First-Year Initiative Study were collected for each academic cohort year of 2004, 2005, and 2006. Comparisons between students enrolled in first-year seminars with and without peer leaders were analyzed using *t*-tests to determine gender and race differences.

Statistical Significance

Differences were considered statistically significant at the .05 level.

Summary

This chapter presented an overview on the background of the study as well as a description of the subjects and methodology. Three categorical variables were presented to examine gender and race differences between the two primary study groups of first-year, fulltime students enrolled in: 1) the 2001-2003 FYS Program without the Peer Leader Component compared to students enrolled in the 2004-2006 FYS Program with the Peer Leader Component and 2) a first-year seminar with a peer leader and those enrolled in a first-year seminar without a peer leader, of years 2004, 2005, or 2006. The independent variables of FYS Programs with or without peer leader components, FYS with or without peer leaders, gender, and race were presented along with three dependent measures: first-to-second year persistence, grade point average performance, and academic and social integration. Data collection resources were specifically delineated and statistical tests were identified to determine whether a relationship existed between the independent variables and each of the dependent variables.

Chapter IV

FINDINGS

In this chapter, results are organized into two sections in accord with the original primary comparison groups and research questions examined. Extensive analyses were undertaken to determine the program outcome effects of the addition of a peer leader component within the First-Year Seminar. Significant differences in gender and race were explored in the areas of (1) student persistence rates, (2) student grade point averages, and (3) academic and social integration factors.

Comparisons of Three Year-FYS Program Cohort Groups

Research Question 1

Research question 1 asked if there are significant gender and racial differences in persistence rates and grade point averages for students in the three year data group of FYS without the Peer Leader Component as compared to students in FYS with the Peer Leader Component. Multiple cohorts from academic years 2001-2003 as compared to multiple cohorts from years 2004-2006 were selected on the basis of the established parameters required: first-year, fulltime students enrolled in the first-year seminar. Data were retrieved by an Institutional Research Analyst of the study institution from the archived university administrative SAS Business Intelligence Enterprise Software.

The first primary data group examined was the existing three year data of students in the First-Year Seminar (FYS) Program without the Peer Leader Component (2001, 2002, 2003) as compared to the three year data of students in

the FYS Program with the option of the Peer Leader Component (2004, 2005, 2006). Cohort years for group 1 consisted of 919 students in 2001; 1056 in 2002; and 1195 in 2003. Cohort years for group 2 consisted of 1231students in 2004, 1362 in 2005, and 1303 students in 2006. The number of individuals in each three year-comparison group evaluated is indicated in Table 3.

Table 3

Comparison Data Groups of Three –Year FYS Program Cohorts

Group	Years	N
FYS Without Peer Leader Component	2001, 2002, 2003	3170
FYS With Peer Leader Component	2004, 2005, 2006	3896

Results of Persistence Rate Comparisons in FYS With and Without Peer Leader Component

In order to test the persistence rates for research question 1, first-to-second year retention rates for each three year data group were extracted. First-to-second year persistence was defined as continuous enrollment from fall-to-fall semesters and retention data were gathered for each cohort at the end of academic years 2001, 2002, 2003, 2004, 2005, and 2006. The results in Tables 4 and 5 report gender and racial differences in percent of students retained when comparing first-year, fulltime students enrolled in the First-Year Seminar without the Peer Leader Component from years 2001-2003 compared with the students enrolled in the First-Year Seminar with the Peer Leader Component from years

2004-2006. Comparisons between and within the three year data groups were analyzed using the Chi-Square statistic.

Results of Persistence Rate by Gender

Results in Table 4 revealed both female and male students enrolled in the FYS Program with the Peer Leader Component option of 2004-2006 have statistically significantly higher retention rates as compared to female and male students enrolled in FYS Program without the Peer Leader Component option of years 2001-2003, female (84% vs. 78%), male(80% vs. 76%). Results further indicated that regardless of FYS with or without the Peer Leader Component option, female students overall tend to be retained at higher rates than male students, with peer leader (84% vs. 80%), without peer leader (78% vs. 76%).

Table 4

Comparison of First-to-Second Year Persistence Rates for Students in First-Year Seminar With and Without Peer Leader Component by Gender

	Without Peer Leader (2001, 2002, 2003)			With Peer Leader (2004, 2005, 2006)				
Gender	n	# retained	% retained	n	# retained	% retained	Chi Square	p-value
Female	1762	1372	78	2241	1876	84	22.0329	<.0001*
Male	1407	1069	76	1657	1328	80	7.7603	.0053*

*p<.05

Results of Persistence Rate by Race

Results in Table 5 showed racial differences on first-to-second year persistence rates of first-year, fulltime students enrolled in the First-Year Seminar without the Peer Leader Component from years 2001-2003 compared with the students enrolled in the First-Year Seminar with the Peer Leader Component from years 2004-2006. After the initial *t*-test analysis revealed such little variability in race, a better statistical analysis was ran after re-categorizing race characteristics into two classifications: Majority (Caucasian) and Minority (African-American, Asian, Hispanic, Native-American, and Other).

Study results in Table 5 reflected Majority students in 2004-2006 FYS with the Peer Leader Component having statistically significant higher retention rates than their Majority counterparts in 2001-2003 FYS without the Peer Leader Component (83% vs. 77%). Although not statistically significant, Minority students in 2004-2006 FYS with the Peer Leader Component also tended to have higher retention rates than their Minority counterparts in 2001-2003 FYS without the Peer Leader Component (74% vs. 71%). Additionally, results revealed that regardless of FYS with or without the Peer Leader Component option, Majority students tend to be retained at higher rates than Minority students, Majority (83% and 77%) and Minority (74% and 71%).

Table 5

Comparison of First-to-Second Year Persistence Rate for Students in First-Year Seminar With and Without Peer Leader Component by Race

	Without Peer Leader (2001, 2002, 2003)			With Peer Leader (2004, 2005, 2006)				
Race	n	# retained	% retained	n	# retained	% retained	Chi Square	p-value
Majority	2914	2256	77	3476	2885	83	31.3668	<.0001*
Minority	235	168	71	353	260	74	.3339	.5634

*p<.05

Summary results of persistence rate comparisons of FYS with and without peer leader component by gender and by race. Study results showed higher retention rates for both male and female students (statistically significant) and higher retention rates for both Majority students (statistically significant) and Minority students enrolled in FYS Programs with the Peer Leader Component as compared to students in FYS Programs without the Peer Leader Component. These results supported previous research documenting the effectiveness of students in leadership roles (Brown & Myers, 1975; Brown & Zunker, 1966; Carkhuff, 1968, Carns, Carns, & Wright, 1993; Cuseo, 1991; Rabiecki & Brabeck 1985; Ragle & Krone, 1989; Terenzini, Pascarella, & Blimling, 1996; Winston & Ender, 1988; Zunker, 1975).

Additional findings of analyses revealed that regardless of FYS with or without the Peer Leader Component option, female students overall tended to be

retained at higher rates than male students and Majority students overall tend to be retained at higher rates than Minority students. These findings aligned with the US Department of Education National Center for Education Statistics (2008) report showing that from 1995-96 to 2005-06, the number of degrees earned by females grew at a faster rate than for males, with over 65 percent of the increase in the total bachelor's and master's degrees awarded. Furthermore, NCES reported Majority students earning 1.1 million bachelor's degrees in 2005-06 as compared to 363, 300 bachelor's degrees earned by Minority students. Despite the racial disparity of degrees earned, however, it should be noted that bachelor's degrees earned by Minority students grew at a faster rate (44% vs.19 %) than for Majority students between 1995-96 and 2005-06, Minority (from 221, 300 to 363, 300) and Majority (from 905, 800 to 1.1 million).

Results of Grade Point Average Comparisons in FYS With and Without Peer Leader Component

In order to test gender and racial differences in grade point averages for research question 1, grade point averages for each three year data group were extracted at the end of the fall-spring term for student enrolled in 2001-2003 FYS Program without the Peer Leader Component and 2004-2006 FYS Program with the Peer Leader Component. Comparisons between students in the two data groups were analyzed using *t*-tests. The results in Tables 6 & 7 reported the average GPA for first-year, fulltime students enrolled in the First-Year Seminar without the Peer Leader Component from years 2001-2003 compared with the

students enrolled in the FYS with the Peer Leader Component from years 2004-2006.

Results of Grade Point Average by Gender

Results in Table 6 revealed both female and male students in 2004-2006 FYS with the Peer Leader Component option had statistically significant higher mean GPAs than their female and male counterparts in 2001-2003 FYS without the Peer Leader Component option, female (3.03 vs. 2.83), male (2.66 vs. 2.57). Results further revealed that regardless of FYS with or without the Peer Leader Component option, female students tend to have higher mean GPAs than male students, with peer leader (3.03 vs. 2.66), without peer leader (2.83 vs. 2.57).

Table 6

Comparison of Average GPA for Students in First-Year Seminar With and Without Peer Leader Component by Gender

	Without Peer Leader (2001, 2002, 2003)			With Peer Leader (2004, 2005, 2006)				
Gender	n	mean GPA	S.D.	n	mean GPA	S.D.	*t*	p
Female	1762	2.83	.90	2241	3.03	.80	-7.49	<.0001*
Male	1408	2.57	.91	1657	2.66	.89	-2.69	.0071*

*p<.05

Results of Grade Point Average by Race

Table 7 reflected racial differences in grade point averages of first-year, fulltime students enrolled in the First-Year Seminar without the Peer Leader Component from years 2001-2003 compared with the students enrolled in the

First-Year Seminar with the Peer Leader Component from years 2004-2006. After the initial *t*-test analysis revealed such little variability in race, a better statistical analysis was ran after re-categorizing race characteristics into two classifications: Majority (Caucasian) and Minority (African-American, Asian, Hispanic, Native-American, and Other).

Results in Table 7 revealed that Majority students in 2004-2006 FYS with the Peer Leader Component have statistically significant higher mean GPAs than their Majority counterparts in 2001-2003 FYS without the Peer Leader Component (2.92 vs. 2.74). Although not statistically significant, Minority students in 2004-2006 FYS with the Peer Leader Component, however, tended to have slightly lower mean GPAs than their Minority counterparts in 2001-2003 FYS without the Peer Leader Component (2.39 vs. 2.41). Results further revealed that regardless of FYS with or without the Peer Leader Component option, Majority students tend to have higher mean GPAs than Minority students, with peer leader (2.92 vs. 2.39), without peer leader (2.74 vs. 2.41).

Table 7

Comparison of Average GPA for Students in First-Year Seminar With and Without Peer Leader Component by Race

	Without Peer Leader (2001, 2002, 2003)			With Peer Leader (2004, 2005, 2006)				
Race	n	mean GPA	S.D.	n	mean GPA	S.D.	*t*	p
Majority	2916	2.74	.91	3476	2.92	.84	-8.38	<.0001*
Minority	235	2.41	.96	353	2.39	.95	.22	.8284

*p<.05

Summary results of grade point average comparisons of FYS with and without peer leader component by gender and by race. Study results showed statistical significantly higher grade point averages for both female and male students and higher grade point averages for Majority students enrolled in FYS Programs with the Peer Leader Component as compared to their respective counterparts in FYS Programs without the Peer Leader Component. Although not statistically significant, Minority students however, tended to have slightly lower mean GPAs than their counterparts. Results further revealed that regardless of FYS Programs with or without the Peer Leader Component option, female and Majority students tend to have higher mean GPAs than their male and Minority counterparts.

Minority students in 2004-2006 FYS with the Peer Leader Component, although not statistically significant, tended to have lower mean GPAs than their counterparts. Results were consistent with research linking first-year student academic success (grade point average and persistence) with the need for academic and social support, such as mentoring experiences (Tinto, 1987; Pascarella, Bohr, Nora, & Terenzini, 1995a, 1995b; Pascarella, Edison, Hagedorn, Nora, &Terenzini, 1996a, 1996b; Terenzini, Springer, Yeager, Pascarella, & Nora, 1996).

Comparisons of FYS Program Cohort Groups With and Without Peer Leaders

Research Question 2

Research question 2 asked if there are significant gender and racial differences in persistence rates, grade point averages and academic and social integration factors for students enrolled in First-Year Seminars with a peer leader as compared to students enrolled in First-Year Seminars without a peer leader. Multiple cohorts from academic years 2004, 2005, and 2006 were selected on the basis of the established parameters required: first-year, fulltime students enrolled in the first-year seminar. Data were retrieved by an Institutional Research Analyst of the study institution from the archived university administrative SAS Business Intelligence Enterprise Software and from the institution's existing EBI First Year Initiative Study results.

The second primary data group examined was the existing three year data of students in the First-Year Seminar Program with the option of the Peer Leader Component (2004, 2005, 2006), comparing students enrolled in a FYS with a peer leader to students enrolled in a FYS without a peer leader. Cohort years for group 2 consisted of a total of 3896 students, 1231 in 2004, 1362 in 2005, and 1303 in 2006. The number of individuals in each comparison group for cohort year evaluated is indicated in Table 8.

Table 8

Second Comparison Groups of FYS Program Cohorts With and Without Peer Leaders

Year	Group	N
2004	FYS with a Peer Leader	328
	FYS without a Peer Leader	903
2005	FYS with a Peer Leader	943
	FYS without a Peer Leader	419
2006	FYS with a Peer Leader	1018
	FYS without a Peer Leader	285

Results of Persistence Rate Comparisons of FYS Program Cohorts With and Without Peer Leaders

In order to test gender and racial differences in persistence rates for research question 2, first-to-second year retention rates were extracted for each cohort year. First-to-second year persistence was defined as continuous enrollment from fall-to-fall semesters and retention data were gathered for each academic cohort year of 2004, 2005, and 2006. Using the Chi-Square statistical analysis, Tables 9 & 10 revealed the result gender and racial comparisons in percent of students retained when comparing students enrolled in a seminar with a peer leader as opposed to students enrolled in a seminar without a peer leader.

Results of Persistence Rate by Gender

Results for first-to-second year persistence rates of students in FYS with and without a peer leader on gender are presented in Table 9. For academic cohort year 2005, both female and male students in FYS with a peer leader were retained at higher rates than their female and male counterparts in FYS without a

peer leader, female (79% vs. 78%), male (78% vs. 77%). However, for academic cohort years 2004 and 2006, female and male students in FYS with a peer leader were retained at lower rates than their female and male counterparts in FYS without a peer leader, 2004 female (86% vs. 94%) and male (84% vs. 88%), 2006 female (80% vs. 82%) and male (76% vs. 78%). Further, the 2004 lower retention rate for female students in FYS with a peer leader compared to female students in FYS without a peer leader were found to be of statistical significance (86% vs. 94%). Results further revealed female students in all three years and enrolled in both FYS with and without a peer leader tended to have higher retention rates than male students in all three years in both FYS with and without a peer leader, with a peer leader 2004 (86% vs. 84%), 2005 (79% vs. 78%), and 2006 (80% vs. 76%), without a peer leader 2004 (94% vs. 88%), 2005 (78% vs. 77%), and 2006 (82% vs. 78%).

Table 9

Comparison of First-to-Second Year Persistence Rate for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

	Without Peer Leader			With Peer Leader				
Cohort Year	n	# retained	% retained	n	# retained	% retained	Chi Square	p-value
2004 Female	553	520	94	180	155	86	11.69	.0006*
Male	350	307	88	148	127	84	0.34	.5619
2005 Female	203	158	78	546	432	79	0.15	.7015
Male	216	166	77	397	311	78	0.18	.6724
2006 Female	160	131	82	599	480	80	0.24	.6214
Male	125	98	78	419	317	76	0.40	.5268

*p<.05

Results of Persistence Rate by Race

Results in Table 10 revealed racial differences on first-to second year persistence rates of first-year, fulltime students enrolled in FYS with and without a peer leader. Due to the small number of subjects of individual ethnic categories, stronger statistical analyses were ran after re-categorizing race characteristics into two classifications: Majority (Caucasian) and Minority (African-American, Asian, Hispanic, Native-American, and Other).

FYS students with a peer leader were retained at higher rates than FYS students without a peer leader for 2004 Minority (84% vs. 80%), and for 2005 Majority (79% vs. 78%) and Minority (74% vs. 69%). However, FYS students with a peer leader were retained at lower percentages than FYS students without

a peer leader for 2004 Majority (86% vs. 92%), and 2006 Majority (80% vs. 81%) and Minority (68% vs. 71%). Statistical significance was found for year 2004 Majority students in FYS with a peer leader as having lower persistence rates as compared to Majority (86% vs. 92%) students enrolled in FYS without a peer leader.

Table 10

Comparison of First-to-Second Year Persistence Rate for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Cohort	Without Peer Leader			With Peer Leader				
Year	n	# retained	% retained	n	# retained	% retained	Chi Square	p-value
2004 Majority	835	772	92	289	249	86	10.2237	.0014*
Minority	56	45	80	38	32	84	.2269	.6338
2005 Majority	392	305	78	831	658	79	.3011	.5832
Minority	16	11	69	91	67	74	.1638	.6857
2006 Majority	254	205	81	874	695	80	.1726	.6778
Minority	21	15	71	116	79	68	.0913	.7625

*p<.05

Summary results of persistence rate comparisons of FYS program cohorts with and without peer leaders by gender and by race. FYS students with a peer leader were retained at higher rates than FYS students without a peer leader for 2004 Minority and 2005 female, male, Majority, and Minority. However, FYS

students with a peer leader were retained at lower percentages than FYS students without a peer leader for 2004 female, male, and Majority and for 2006 Majority and Minority students. Statistical significance was found for year 2004 female and Majority students in FYS with a peer leader as having lower persistence rates as compared to their female and Majority counterparts enrolled in FYS without a peer leader. The study findings appear to contradict the body of literature supporting the positive influences of peer mentoring upon persistence rates of students (Barefoot & Fidler, 1996; Barefoot & Fidler, 1992; Crissman, 2001; Dick, 1998; Fildler & Moore, 1996; Fidler, Neurerer-Rotholz, & Richardson, 1999; Gahhagan, 2002 Hendel, 2001; Hoff, Cook & Price, 1996; Linder 2002; Maisto & Tammi, 2001; Odell, 1996; Starke, Harth, & Sirianni, 2001; Upcraft & Gardner, 1989; Williford, Chapman & Kahrig, 2001). Additional results of higher female persistence levels for all three cohort years, regardless of with or without a peer leader, continue to support national higher education statistics.

Results of Grade Point Average Comparisons of FYS Program Cohorts With and Without Peer Leaders

In order to test gender and racial differences in grade point averages for research question 2, grade point averages were gathered for each cohort year of 2004, 2005, and 2006. Comparisons between students enrolled in seminars with and without peer leaders were analyzed using *t*-tests. The results in Tables 11 & 12 report the average mean GPAs for first-year, fulltime students enrolled in the First-Year Seminar without a peer leader compared with students enrolled in the FYS with a peer leader.

Results of Grade Point Averages by Gender

Results for gender differences on GPA comparisons of students in FYS with and without a peer leader are presented in Table 11. Cohort 2006 females in FYS with a peer leader had higher mean GPAs than females in FYS without a peer leader (3.03 vs. 2.97). However, for both female and male students in all years of 2004, 2005, and 2006, students enrolled in FYS with a peer leader had lower mean GPAs than students enrolled in FYS without a peer leader, 2004 female (2.96 vs. 3.15) and male (2.68 vs. 2.76), 2005 female (2.94 vs. 3.02) and male (2.65 vs. 2.69), and 2006 female (3.03 vs. 2.97) and male (2.59 vs. 2.60). In addition, 2004 female students in FYS with a peer leader had statistically significant lower mean GPAs than female students in FYS without a peer leader (2.96 vs. 3.15). Further findings reveal female students in all three years and enrolled in both FYS with and without peer leader tended to have higher mean GPAs than male students in all three years in both FYS with and without a peer leader, with a peer leader 2004 (2.96 vs. 2.68), 2005 (2.94 vs. 2.65) and 2006 (3.03 vs. 2.59), without a peer leader 2004 (3.15 vs. 2.76), 2005 (3.02 vs. 2.69), and 2006 (2.97 vs. 2.60).

Table 11

Comparison of Average GPA for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

	Without Peer Leader			With Peer Leader				
Cohort Year	n	mean GPA	S.D.	n	mean GPA	S.D.	*t*	p
2004								
Female	553	3.15	.6639	179	2.96	.7848	3.15	.0017*
Male	350	2.76	.8306	148	2.68	.8268	0.86	.3878
2005								
Female	203	3.02	.8183	547	2.94	.8763	1.02	.3064
Male	216	2.69	.9222	397	2.65	.9345	0.52	.6020
2006								
Female	160	2.97	.7366	599	3.03	.8392	-0.78	.4370
Male	125	2.60	.8866	419	2.59	.9031	0.15	.8773

*p<.05

Results of Grade Point Averages by Race

Results for racial differences in grade point averages of first-year, fulltime students enrolled in FYS with and without a peer leader are presented in Table 12. Students enrolled in a FYS with a peer leader had equal or higher mean GPAs than their ethnic counterparts enrolled in FYS without a peer leader, 2005 Majority (2.85 vs. 2.85) and Minority (2.49vs. 2.35) and 2006 Majority (2.93 vs. 2.86) and Minority (2.25 vs. 2.19). On the other hand, students enrolled in a FYS with a peer leader had lower mean GPAs than their ethnic counterparts enrolled in FYS without a peer leader, 2004 Majority (2.91 vs. 3.04) and Minority (2.28 vs. 2.36). Of statistical significance is 2004 Majority students enrolled in

FYS with a peer leader having lower mean GPAs than their counterparts enrolled in FYS without a peer leader (2.91 vs. 3.04).

Table 12

Comparison of Average GPA for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

	Without Peer Leader			With Peer Leader				
Cohort Year	n	mean GPA	S.D.	n	mean GPA	S.D.	*t*	p
2004 Majority	835	3.04	.7275	289	2.91	.779	2.55	.0108*
Minority	56	2.36	.9296	38	2.28	.8819	0.41	.6810
2005 Majority	392	2.85	.8815	831	2.85	.9126	0.03	.9794
Minority	16	2.35	1.0647	91	2.49	.9047	0.02	.9823
2006 Majority	254	2.86	.7921	874	2.93	.8526	-1.20	.2285
Minority	21	2.19	1.0048	116	2.25	.9677	-0.27	.7856

*p<.05

Summary results of grade point average comparisons of FYS program cohorts with and without peer leaders by gender and by race. Cohort 2005 Majority and Minority and 2006 female, Majority, and Minority students in FYS with a peer leader had equal or higher mean GPAs than their counterparts in FYS without a peer leader. However, 2004 and 2005 female and male, 2006 male, and 2004 Majority and Minority students enrolled in FYS with a peer leader had lower mean GPAs than their counterparts enrolled in FYS without a peer leader. In addition, 2004 female and Majority students in FYS with a peer leader

had statistically significant lower mean GPAs than female and Majority students in FYS without a peer leader. Further findings reveal female and Majority students in all three years, regardless of with or without a peer leader, tended to have higher mean GPAs than male and Minority students in all three years in both FYS with and without a peer leader.

Results of Academic and Social Integration Factor Comparisons of FYS Program Cohorts With and Without Peer Leaders

In order to test the academic and social integration factors for research question 2, means for the fifteen academic and social integration factors from the institution's EBI First Year Initiative Study results were gathered for each cohort year of 2004, 2005 and 2006. The FYI Study survey reveals first-year seminar students' perceptions regarding the seminar's effectiveness in fifteen categories, from improving study strategies to increasing out-of-class engagement to improving satisfaction with the university. The academic and social integration factors are statistical groupings of questions that explore a single construct. The weighted mean averages of the fifteen factors are based on a 1 to 7 scale with "1" indicating either strong disagreement or being very dissatisfied and "7" indicating either strong agreement or being very satisfied with factor-respective survey questions.

Gender and racial comparisons of the academic and social integration factors between students enrolled in seminars with and without peer leaders were analyzed using *t*-tests. The results in Tables 13-42 report these comparisons, by factor, for first-year, fulltime students enrolled in the First-Year

Seminar with a peer leader compared to students enrolled in the FYS without a peer leader for years 2004-2006.

Results of Factor 1: Course Improved Study Strategies by Gender

Table 13 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 1: Course Improved Study Strategies. With the exception for females in year 2004, both female and male students in 2004, 2005, and 2006 FYS with a peer leader perceived the seminar course as improving their study strategies at higher levels than students in FYS without peer leaders, female 2005 (4.66 vs. 4.65) and 2006 (4.74 vs. 4.31), male 2004 (4.48 vs. 4.43), 2005 (4.74 vs. 4.39), and 2006 (4.67 vs. 4.02). Additionally, males in 2006 FYS with a peer leader rated statistically significant higher levels of improved study strategies than 2006 males in FYS without a peer leader (4.67 vs. 4.02). Further findings reveal that in all years 2004, 2005, and 2006, females rated the first-year seminar in both with and without a peer leader as improving their study strategies at higher levels than males with and without a peer leader, with a peer leader 2004 (4.58 vs. 4.48), 2005 (4.66 vs. 4.47), and 2006 (4.74 vs. 4.67), without a peer leader 2004 (4.60 vs. 4.43), 2005 (4.65 vs. 4.39), and 2006 (4.31 vs. 4.02).

Table 13

Comparison of Academic and Social Integration Factor 1 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 1: Course Improved Study Strategies

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004								
Female	250	4.60	1.231	181	4.58	1.2443	0.16	.8725
Male	195	4.43	1.2355	133	4.48	1.2478	-1.08	.2818
2005								
Female	212	4.65	1.2466	405	4.66	1.1437	-0.10	.9171
Male	126	4.39	1.2334	245	4.47	1.1676	-0.61	.5397
2006								
Female	118	4.31	1.3413	362	4.74	1.1754	-0.09	.9321
Male	96	4.02	1.1953	252	4.67	1.2196	-4.43	<.0001*

*p<.05

Results of Factor 1: Course Improved Study Strategies by Race

Table 14 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 1: Course Improved Study Strategies. Results in Table 12 reveal that all Majority and Minority students enrolled in a FYS with a peer leader for all years perceived the seminar course as improving their study strategies at equal or higher levels than their counterparts in FYS without peer leaders, 2004 Majority (4.57 vs. 4.53) and Minority (4.66 vs. 4.65), 2005 Majority (4.61 vs. 4.61) and Minority (4.49 vs. 3.72) and 2006 Majority (4.73 vs. 4.19) and Minority (4.69 vs. 3.76). Additionally, 2005 Minority and 2006 Majority and

Minority students enrolled in FYS with a peer leader perceived the seminar as improving their study strategies at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader, 2005 Minority (4.49 vs. 3.72) and 2006 Majority (4.73 vs. 4.19) and Minority (4.69 vs. 3.76).

Table 14

Comparison of Academic and Social Integration Factor 1 of Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 1: Course Improved Study Strategies

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	407	4.53	1.2296	272	4.57	1.2579	-0.45	.6550
Minority	27	4.65	1.1468	33	4.6625	1.141	-0.04	.9722
2005 Majority	312	4.61	1.2163	595	4.61	1.1442	0.01	.9902
Minority	22	3.72	1.44833	47	4.49	1.25	-2.24	.0286*
2006 Majority	209	4.19	1.2597	597	4.73	1.1869	-5.57	<.0001*
Minority	15	3.75	1.3739	63	4.69	1.24	-2.56	.0124*

*p<.05

Summary results of academic and social integration factor 1 comparisons of FYS program cohorts with and without peer leaders by gender and by race. All female, male, Majority and Minority students in 2004, 2005, and 2006 FYS with a peer leader – with the exception for 2004 females – perceived the seminar course as improving their study strategies at equal or higher levels than students in FYS without peer leaders. Additionally, 2004 Minority and 2006 male, Majority, and Minority students in FYS with a peer leader rated statistically significant higher levels of improved study strategies than their counterparts in FYS without a peer leader. Further findings reveal that regardless of FYS with or without a peer leader, females in all years 2004, 2005, and 2006 rated the first-year seminar as improving their study strategies at higher levels than males with and without a peer leader.

Results of Factor 2: Course Improved Academic and Cognitive Skills by Gender

Table 15 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 2: Course Improved Academic and Cognitive Skills. Students in FYS with a peer leader for 2005 females and 2006 females and males perceived the seminar as improving their academic and cognitive skills at higher levels than their counterparts in FYS without a peer leader, 2005 female (3.98 vs. 3.90), 2006 female (4.23 vs. 3.62) and male (4.34 vs. 3.62). Consequently, students in FYS with a peer leader for 2004 females and males, and 2005 males rated the seminar lower in improving their academic and cognitive skills than their counterparts in FYS without a peer leader, 2004

females (3.84 vs. 3.93) and males (3.99 vs. 4.13) and 2005 males (4.09 vs. 4.15). Additionally, males in 2006 FYS with a peer leader rated statistically significant higher levels of improved academic and cognitive skills than 2006 males in FYS without a peer leader (4.34 vs. 3.70). Further findings reveal that in all years 2004, 2005, and 2006, males rated the first-year seminar in both with and without a peer leader as improving their academic and cognitive skills at higher levels than females, with a peer leader 2004 (3.99 vs. 3.84), 2005 (4.09 vs. 3.98) and 2006 (4.34 vs. 4.23), without a peer leader 2004 (4.13 vs. 3.93), 2005 (4.13 vs. 3.90), and 2006 (3.70 vs. 3.62).

Table 15

Comparison of Academic and Social Integration Factor 2 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 2: Course Improved Academic and Cognitive Skills

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004								
Female	249	3.93	1.4322	180	3.84	1.3782	0.66	.5116
Male	194	4.13	1.4204	133	3.99	1.3678	0.84	.4004
2005								
Female	205	3.90	1.4952	405	3.98	1.388	-0.63	.5286
Male	121	4.15	1.3578	244	4.09	1.307	0.34	.7308
2006								
Female	118	3.62	1.5578	362	4.23	1.4158	-0.59	.5828
Male	96	3.70	1.4194	251	4.34	1.4268	-3.77	.0002*

*p<.05

Results of Factor 2: Course Improved Academic and Cognitive Skills by Race

Table 16 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 2: Course Improved Academic and Cognitive Skills. Results in Table 16 reveal that with the exception of 2004 Majority students, both Majority and Minority students enrolled in FYS with a peer leader in all years tended to perceive the seminar course as improving their academic and cognitive skills at equal or higher levels than their counterparts in FYS without peer leaders, 2004 Minority (4.41 vs. 4.29), 2005 Majority (4.61 vs.4.61) and Minority (4.07 vs. 3.76), and 2006 Majority (4.29 vs. 3.65) and Minority (4.42 vs. 3.40). On the other hand, 2004 Majority students in FYS with a peer leader rated the seminar as improving their academic and cognitive skills at lower levels than their counterparts (3.86 vs. 4.02). Additionally, 2006 Majority and Minority students enrolled in FYS with a peer leader perceived the seminar as improving their academic and cognitive skills at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader, Majority (4.29 vs. 3.65) and Minority (4.42 vs. 3.40)

Table 16

Comparison of Academic and Social Integration Factor 2 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 2: Course Improved Academic and Cognitive Skills

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	405	4.02	1.4085	271	3.86	1.3334	1.46	.1442
Minority	27	4.29	1.6184	33	4.4121	1.5611	-0.29	.7727
2005 Majority	312	4.61	1.2163	595	4.61	1.1442	-0.30	.7667
Minority	21	3.7619	1.5121	47	4.07	1.4974	-0.79	.4344
2006 Majority	209	3.6484	1.4861	596	4.2892	1.3989	-5.61	<.0001*
Minority	15	3.4	1.2717	63	4.4225	1.4913	-2.45	.0166*

*p<.05

Summary results of academic and social integration factor 2 comparisons of FYS program cohorts with and without peer leaders by gender and by race. Students in FYS with a peer leader for 2004 Minority, 2005 female, Majority, and Minority and 2006 female, male, Majority, and Minority perceived the seminar as improving their academic and cognitive skills at equal or higher levels than their counterparts in FYS without a peer leader. Consequently, students in FYS with a peer leader for 2004 female, male, and Majority, and 2005 males rated the seminar lower in improving their academic and cognitive skills than their counterparts in FYS without a peer leader. Additionally, male, Majority, and

Minority students in 2006 FYS with a peer leader rated statistically significant higher levels of improved academic and cognitive skills than their counterparts in FYS without a peer leader. Further findings reveal that regardless of FYS with or without a peer leader, for all years 2004, 2005, and 2006, males rated the first-year seminar as improving their academic and cognitive skills at higher levels than females with and without a peer leader.

Results of Factor 3: Course Improved Critical Thinking Skills by Gender

Table 17 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 3: Course Improved Critical Thinking Skills. Results in Table 17reveal that in all years 2004, 2005, and 2006, both females and males in FYS with a peer leader rated the first-year seminar as improving their critical thinking skills at same or higher levels as compared to their counterparts in FYS without a peer leader, female 2004 (4.59 vs. 4.31), 2005 (4.45 vs. 4.35), and 2006 (4.57 vs. 3.40), male 2004 (4.59 vs. 4.31), 2005 (4.34 vs. 4.34), and 2006 (4.63 vs. 3.94). Additionally, males in 2006 FYS with a peer leader rated statistically significant higher levels of improved critical thinking skills than 2006 males in FYS without a peer leader (4.63 vs. 3.94).

Table 17

Comparison of Academic and Social Integration Factor 3 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 3: Course Improved Critical Thinking Skills

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004								
Female	249	4.32	1.5456	181	4.44	1.4705	-0.83	.4050
Male	192	4.31	1.3824	133	4.59	1.428	-1.78	.0768
2005								
Female	206	4.35	1.539	401	4.45	1.4686	-0.80	.4258
Male	126	4.34	1.3857	245	4.34	1.3601	0.02	.9841
2006								
Female	116	3.40	1.7267	362	4.57	1.5142	-0.50	.6353
Male	95	3.94	1.539	251	4.63	1.3811	-3.99	<.001*

*p<.05

Results of Factor 3: Course Improved Critical Thinking Skills by Race

Table 18 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 3: Course Improved Critical Thinking Skills. Results in Table 18 reveal that all students enrolled in FYS with a peer leader in both Majority and Minority groups in all years tended to perceive the seminar course as improving their critical thinking skills at higher levels than their counterparts in FYS without peer leaders, 2004 Majority (4.49 vs. 4.30) and Minority (4.80 vs.4.68), 2005 Majority (4.41 vs. 4.37) and Minority (4..49 vs. 3.94) and 2006 Majority (4.59 vs. 3.96) and Minority (4.66 vs. 3.85). Additionally, 2006 Majority students enrolled in FYS with a peer leader perceived the seminar

as improving their critical thinking skills at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader (4.59 vs. 3.96).

Table 18

Comparison of Academic and Social Integration Factor 3 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 3: Course Improved Critical Thinking Skills

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	403	4.30	1.4687	272	4.49	1.4505	-1.64	.1022
Minority	27	4.68	1.4921	33	4.798	1.3461	-0.32	.7468
2005 Majority	306	4.37	1.4737	592	4.41	1.41	-0.35	.7254
Minority	22	3.94	1.6189	46	4.493	1.6585	-1.30	.1987
2006 Majority	206	3.96	1.6029	596	4.59	1.4297	-5.21	<.0001*
Minority	15	3.8453	1.9511	63	4.663	1.5954	-1.71	.0916

*p<.05

Summary results of academic and social integration factor 3 comparisons of FYS program cohorts with and without peer leaders by gender and by race. All female, male, Majority, and Minority students in FYS with a peer leader, in all years 2004, 2005, and 2006, rated the first-year seminar as improving their critical thinking skills at the same or higher levels as compared to their counterparts in FYS without a peer leader. Additionally, male and Majority students in 2006 FYS with a peer leader rated statistically significant higher

levels of improved critical thinking skills than 2006 male and Majority counterparts in FYS without a peer leader.

Results of Factor 4: Course Improved Connections with Faculty by Gender

Table 19 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 4: Course Improved Connections with Faculty. Students in FYS with a peer leader for 2004 males, 2005 females and males and 2006 females and males perceived the seminar as improving their connections with faculty at higher levels than their counterparts in FYS without a peer leader, 2004 males (4.76 vs. 4.51), 2005 females (4.89 vs. 4.85) and males (4.68 vs. 4.32), and 2006 females (4.95 vs. 4.65) and males (4.81 vs. 4.37). Consequently, students in FYS with a peer leader for 2004 females rated the seminar lower in improving their connections with faculty than their counterparts in FYS without a peer leader (4.58 vs. 4.84). Additionally, males in 2006 FYS with a peer leader rated statistically significant higher levels of improved connections with faculty than 2006 males in FYS without a peer leader (4.81 vs. 4.37). Further findings reveal that with the exception of year 2004 females in FYS with a peer leader, in all other years 2004, 2005, and 2006, females rated the first-year seminar in both with and without a peer leader as improving their connections with faculty at higher levels than males, with a peer leader 2005 (4.89 vs. 4.68) and 2006 (4.95 vs. 4.81), without a peer leader 2004 (4.84 vs. 4.51), 2005 (4.85 vs. 4.32), and 2006 (4.65 vs. 4.37).

Table 19

Comparison of Academic and Social Integration Factor 4 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 4: Course Improved Connections with Faculty

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004								
Female	250	4.84	1.5256	181	4.58	1.4465	1.79	.0749
Male	195	4.51	1.312	133	4.76	1.3241	-1.68	.0939
2005								
Female	211	4.85	1.37	405	4.89	1.2492	-0.40	.6867
Male	125	4.32	1.3308	245	4.68	1.2602	-0.88	.3813
2006								
Female	118	4.65	1.5174	362	4.95	1.2643	0.13	.9028
Male	96	4.37	1.4335	251	4.81	1.2208	-2.84	.0048*

*p<.05

Results of Factor 4: Course Improved Connections with Faculty by Race

Table 20 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 4: Course Improved Connections with Faculty. With the exception of 2004 Majority students, both Majority and Minority students enrolled in FYS with a peer leader in all years tended to perceive the seminar course as improving their connections with faculty at higher levels than their counterparts in FYS without peer leaders, 2004 Minority (4.91 vs. 4.81), 2005 Majority (4.83 vs. 4.77) and Minority (4.80 vs. 4.20), and, 2006 Majority (4.91 vs. 4.56) and Minority ((4.74 vs. 4.18). On the other hand, Majority (4.62 vs. 4.70) students in FYS with a peer leader rated the seminar as improving their critical

thinking skills at lower levels than their counterparts. Additionally, 2006 Majority students enrolled in FYS with a peer leader perceived the seminar as improving their critical thinking skills at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader, 2006 Majority (4.91 vs. 4.56).

Table 20

Comparison of Academic and Social Integration Factor 4 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 4: Course Improved Connections with Faculty

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	407	4.70	1.4429	272	4.62	1.4117	0.74	.4568
Minority	27	4.81	1.2309	33	4.91	1.3183	-0.32	.7493
2005 Majority	310	4.77	1.3433	595	4.83	1.2332	-0.71	.4751
Minority	22	4.20	1.5517	47	4.80	1.4117	-1.59	.1166
2006 Majority	209	4.56	1.4473	596	4.91	1.2408	-3.30	.0010*
Minority	15	4.178	1.2908	63	4.7363	1.3049	-1.49	.1398

*p<.05

Summary results of academic and social integration factor 4 comparisons of FYS program cohorts with and without peer leaders by gender and by race. With the exception of 2004 female and Majority students, all female, male, Majority, and Minority students in FYS with a peer leader perceived the seminar as improving their connections with faculty at higher levels than their counterparts in FYS without a peer leader. Consequently, students in FYS with a peer leader for 2004 female and Majority groups rated the seminar lower in improving their connections with faculty than their counterparts in FYS without a peer leader. Additionally, male and Majority students in 2006 FYS with a peer leader rated statistically significant higher levels of improved connections with faculty than their 2006 counterparts in FYS without a peer leader. Further findings reveal that with the exception of year 2004 females in FYS with a peer leader, in all other years 2004, 2005, and 2006, females rated the first-year seminar as improving their connections with faculty at higher levels than males regardless if with or without a peer leader.

Results of Factor 5: Course Improved Connections with Peers by Gender

Table 21 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 5: Course Improved Connections with Peers. Students in FYS with a peer leader for 2004 males, 2005 females, and 2006 females and males perceived the seminar as improving their connections with peers at higher levels than their counterparts in FYS without a peer leader, 2004 males (5.23 vs. 5.21), 2005 females (5.37 vs. 5.31) and 2006 females (5.49 vs. 5.11) and males (5.22 vs. 4.83). However, students in FYS with a peer leader for

2004 females and 2005 males rated the seminar lower in improving their connections with peers than their counterparts in FYS without a peer leader, 2004 females (5.17 vs. 5.51) and 2005 males (5.08 vs. 5.16). Additionally, males in 2006 FYS with a peer leader rated statistically significant higher levels of improved connections with peers than 2006 males in FYS without a peer leader (5.22 vs. 4.83). . Further findings reveal that with the exception of year 2004 females in FYS with a peer leader, in all other years 2004, 2005, and 2006, females rated the first-year seminar in both with and without a peer as improving their connections with peers at higher levels than males, with a peer leader 2005 (5.37 vs. 5.08) and 2006 (5.49 vs. 5.22), without a peer leader 2004 (5.51 vs. 5.21), 2005 (5.31 vs. 5.16), and 2006 (5.11 vs. 4.83).

Table 21

Comparison of Academic and Social Integration Factor 5 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 5: Course Improved Connections with Peers

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004								
Female	250	5.51	1.3221	180	5.17	1.5344	2.44	.0151*
Male	195	5.21	1.4869	133	5.23	1.4306	-0.11	.9161
2005								
Female	205	5.31	1.4954	405	5.37	1.3591	-0.47	.6370
Male	122	5.16	1.4062	244	5.08	1.4324	0.46	.6422
2006								
Female	118	5.11	1.5501	362	5.49	1.4062	-1.11	.3185
Male	96	4.83	1.4145	252	5.22	1.35	-2.41	.0163*

*p<.05

Results of Factor 5: Course Improved Connections with Peers by Race

Table 22 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 5: Course Improved Connections with Peers. Results in Table 22 reveal that with the exception of year 2004, students enrolled in FYS with a peer leader perceived the seminar course as improving their connections with peers at higher levels than their counterparts in FYS without peer leaders, 2005 Majority (5.31 vs. 5.30) and Minority (4.83 vs. 4.62), 2006 Majority (5.42 vs. 5.04) and Minority (5.15 vs. 4.58).. However 2004 Majority (5.23 vs. 5.39) and Minority (5.10 vs. 5.37) students in FYS with a peer leader rated the seminar as improving their connections with peers at lower levels than

their counterparts. Additionally, 2006 Majority students enrolled in FYS with a peer leader perceived the seminar as improving their connections with peers at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader (5.42 vs. 5.04).

Table 22

Comparison of Academic and Social Integration Factor 5 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 5: Course Improved Connections with Peers

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	407	5.39	1.3977	272	5.23	1.4602	1.49	.1367
Minority	27	5.37	1.3629	32	5.10	1.709	0.65	.5166
2005 Majority	302	5.30	1.4422	594	5.31	1.3575	-0.10	.9240
Minority	20	4.62	1.6011	47	4.83	1.6958	-0.49	.6243
2006 Majority	209	5.04	1.4521	597	5.42	1.3797	-3.35	.0009*
Minority	15	4.58	1.7112	63	5.1484	1.5103	-1.28	.2034

*p<.05

Summary results of academic and social integration factor 5 comparisons of FYS program cohorts with and without peer leaders by gender and by race. Students in FYS with a peer leader for 2004 male, 2005 female, Majority and Minority, and 2006 female, male, Majority and Minority groups perceived the seminar as improving their connections with peers at higher levels than their counterparts in FYS without a peer leader. However, students in FYS with a peer leader for 2004 female, Majority, and Minority and 2005 male students rated the seminar lower in improving their connections with peers than their counterparts in FYS without a peer leader. Additionally, male and Majority students in 2006 FYS with a peer leader rated statistically significant higher levels of improved connections with peers than 2006 male and Majority counterparts in FYS without a peer leader. Further findings reveal that with the exception of year 2004 females in FYS with a peer leader, in all other years 2004, 2005, and 2006, females rated the first-year seminar as improving their connections with peers at higher levels than males, regardless if with or without a peer leader.

Results of Factor 6: Course Increased Out-of-Class Engagement by Gender

Table 23 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 6: Course Increased Out-of-Class Engagement. Results in Table 23 reveal that students in FYS with a peer leader for 2005 females and 2006 females and males perceived the seminar as increasing their out-of-class engagement at higher levels than their counterparts in FYS without a

peer leader, 2005 females (4.15 vs. 3.95) and 2006 females (4.29 vs. 4.11) and males (4.02 vs. 3.47). Conversely, students in FYS with a peer leader for 2004 females and males and 2005 males rated the seminar lower in increasing out-of-class engagement than their counterparts in FYS without a peer leader, 2004 females (3.78 vs. 4.09) and males (3.79 vs. 4.01) and 2005 males (3.88 vs. 4.05). In addition, males in 2006 FYS with a peer leader rated statistically significant higher levels of increased out-of-class engagement than 2006 males in FYS without a peer leader (4.02 vs. 3.47).

Table 23

Comparison of Academic and Social Integration Factor 6 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 6: Course Increased Out-of-Class Engagement

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Female	249	4.09	1.6461	180	3.78	1.617	1.95	.0513
Male	193	4.01	1.8167	131	3.79	1.5947	1.17	.2418
2005 Female	210	3.95	1.686	401	4.15	1.5452	-1.47	.1430
Male	126	4.05	1.5291	241	3.88	1.5602	1.00	.3177
20006 Female	117	4.11	1.7209	359	4.29	1.572	-0.01	.9946
Male	94	3.47	1.416	251	4.02	1.5611	-2.98	.0031*

*p<.05

Results of Factor 6: Course Increased Out-of-Class Engagement by Race

Table 24 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 6: Course Increased Out-of-Class Engagement. Results in Table 24 reveal that students enrolled in FYS with a peer leader tended to perceive the seminar course as increasing out-of-class engagement at higher levels than their counterparts in FYS without peer leaders, 2005 Majority (4.06 vs. 3.96) and 2006 Majority (4.18 vs. 3.85) and Minority (4.18 vs. 3.83). However 2004 Majority (3.72 vs. 4.01) and Minority (4.16 vs. 4.76) and 2005 Minority (3.88 vs. 4.32) students in FYS with a peer leader rated the seminar in increasing their out-of-class engagement at lower levels than their counterparts. Additionally, 2004 Majority students enrolled in FYS with a peer leader perceived the seminar in increasing their out-of-class engagement at significantly lower levels than their counterparts enrolled in FYS without a peer leader (3.72 vs. 4.01). In contrast, 2006 Majority students enrolled in FYS with a peer leader perceived the seminar in increasing their out-of-class engagement at significantly higher levels than their non-peer leader counterparts (4.18 vs. 3.85).

Table 24

Comparison of Academic and Social Integration Factor 6 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 6: Course Increased Out-of-Class Engagement

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	405	4.01	1.7159	269	3.72	1.5839	2.17	.0306*
Minority	27	4.76	1.5508	33	4.16	1.6277	1.43	.1576
2005 Majority	310	3.96	1.6177	588	4.06	1.5263	-0.98	.3289
Minority	22	4.32	1.8018	46	3.88	1.8424	0.96	.3413
2006 Majority	206	3.85	1.6203	593	4.18	1.5626	-2.58	.0101*
Minority	15	3.83	1.6439	63	4.18	1.7462	-0.70	.4889

*p<.05

Summary results of academic and social integration factor 6 comparisons of FYS program cohorts with and without peer leaders by gender and by race. Students in FYS with a peer leader for 2005 female and Majority, and 2006 female, male, Majority and Minority groups perceived the seminar as increasing their out-of-class engagement at higher levels than their counterparts in FYS without a peer leader. Conversely, students in FYS with a peer leader for 2004 female, male, Majority and Minority and 2005 male and Minority students rated the seminar lower in increasing out-of-class engagement than their counterparts in FYS without a peer leader. Further, 2004 Majority students in FYS with a peer leader rated significantly lower levels of out-of-class engagement than their

counterparts. In contrast, 2006 male and Majority students enrolled in FYS with a peer leader rated s significantly higher levels of increased out-of-class engagement than 2006 male and Majority counterparts in FYS without a peer leader.

Results of Factor 7: Course Improved Knowledge of Campus Policies by Gender

Table 25 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 7: Course Improved Knowledge of Campus Policies. Results in Table 25 reveal that students in FYS with a peer leader for 2005 females and 2006 females and males perceived the seminar as improving their knowledge of campus policies at higher levels than their counterparts in FYS without a peer leader, 2005 females (5.35 vs. 5.01) and 2006 females (5.35 vs. 4.72) and males (5.26 vs. 4.67). However, students in FYS with a peer leader for 2004 females and males and 2005 males rated the seminar lower in improving their knowledge of campus policies than their counterparts in FYS without a peer leader, 2004 females (4.85 vs. 4.86) and males (4.87 vs. 4.88) and 2005 males (5.01 vs. 5.05). Furthermore, males in 2006 FYS with a peer leader rated statistically significant higher levels of improved knowledge of campus policies than 2006 males in FYS without a peer leader (5.26 vs. 4.67).

Table 25

Comparison of Academic and Social Integration Factor 7 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 7 Course Improved Knowledge of Campus Policies

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Female	250	4.86	1.414	180	4.85	1.3698	.05	.9617
Male	195	4.88	1.3306	133	4.87	1.2607	.10	.9244
2005 Female	211	5.01	1.5731	405	5.20	1.276	-1.54	.1232
Male	126	5.05	1.2713	245	5.01	1.2485	.30	.7634
2006 Female	118	4.72	1.5617	362	5.35	1.2225	-0.82	.4504
Male	95	4.67	1.26	252	5.26	1.2004	-4.0	<.0001*

*p<.05

Results of Factor 7: Course Improved Knowledge of Campus Policies by Race

Table 26 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 7: Course Improved Knowledge of Campus Policies. Results in Table 26 reveal that students enrolled in FYS with a peer leader tended to perceive the seminar course as improving their knowledge of campus policies at higher levels than their counterparts in FYS without peer leaders, 2005 Majority (5.15 vs. 5.02) and 2006 Majority (5.33 vs. 4.72) and Minority (5.19 vs. 4.48). However 2004 Majority (4.83 vs. 4.85) and Minority (4.99 vs. 5.10) and 2005 Minority (4.95 vs. 5.09) students in FYS with a peer leader rated the seminar in increasing their knowledge of campus policies at

lower levels than their counterparts. Additionally, 2006 Majority students enrolled in FYS with a peer leader perceived the seminar in increasing their knowledge of campus policies at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader (5.33 vs. 4.72).

Table 26

Comparison of Academic and Social Integration Factor 7 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 7: Course Improved Knowledge of Campus Policies

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004								
Majority	407	4.85	1.381	271	4.83	1.3226	0.20	.8454
Minority	27	5.10	1.2519	33	4.99	1.4143	0.32	.7475
2005								
Majority	311	5.02	1.4757	595	5.15	1.2213	-1.44	.1516
Minority	22	5.1091	1.3784	47	4.9426	1.6672	0.41	.6850
2006								
Majority	208	4.72	1.4246	597	5.33	1.1826	-6.05	<.0001*
Minority	15	4.48	1.5096	63	5.19	1.3235	-1.82	.0719

*p<.05

Summary results of academic and social integration factor 7 comparisons of FYS program cohorts with and without peer leaders by gender and by race. Students in FYS with a peer leader for 2005 female and Majority, and 2006 female, male, Majority, and Minority groups perceived the seminar as improving

their knowledge of campus policies at higher levels than their counterparts in FYS without a peer leader. However, students in FYS with a peer leader for 2004 female, male, Majority, and Minority and 2005 male and Minority groups rated the seminar lower in improving their knowledge of campus policies than their counterparts in FYS without a peer leader. Furthermore, male and Majority students in 2006 FYS with a peer leader rated statistically significant higher levels of improved knowledge of campus policies than 2006 male and Majority counterparts in FYS without a peer leader.

Results of Factor 8: Course Improved Knowledge of Academic Services by Gender

Table 27 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 8: Course Improved Knowledge of Academic Services. For years 2005 and 2006 both female and male students in FYS with a peer leader perceived the seminar as improving their knowledge of academic services at higher levels than their 2005 and 2006 counterparts in FYS without a peer leader, 2005 female (5.56 vs. 5.23) and male (5.25 vs. 5.18), and 2006 female (5.60 vs. 5.12) and male (5.46 vs. 4.69). However, for year 2004 both females and males in FYS with a peer leader rated the seminar lower in improving their knowledge of academic services than their counterparts in FYS without a peer leader, females (5.38 vs. 5.39) and males (5.22 vs. 5.34). Additionally, males in 2006 FYS with a peer leader rated statistically significant higher levels of improved knowledge of academic services than 2006 males in FYS without a peer leader (5.46 vs. 4.69). Further findings reveal that in all

years 2004, 2005, and 2006, females rated the first-year seminar in both with and without a peer leader as improving their knowledge of academic services at higher levels than males, with a peer leader 2004 (5.38 vs. 5.22), 2005 (5.56 vs. 5.25), and 2006 (5.60 vs.5.46), without a peer leader 2004 (5.39 vs. 5.34), 2005 (5.20 vs. 5.18) and 2006 (5.12 vs. 4.69).

Table 27

Comparison of Academic and Social Integration Factor 8 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 8: Course Improved Knowledge of Academic Services

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Female	250	5.39	1.3108	181	5.38	1.3362	0.12	.9046
Male	195	5.34	1.1357	133	5.22	1.3019	0.89	.3736
2005 Female	212	5.23	1.4104	405	5.56	1.165	-3.12	.0019
Male	126	5.18	1.29	245	5.25	1.3267	-0.42	.6757
2006 Female	118	5.12	1.4511	362	5.60	1.2431	-1.24	.2696
Male	96	4.69	1.4202	252	5.46	1.133	-5.29	<.0001*

*p<.05

Results of Factor 8: Course Improved Knowledge of Academic Services by Race

Table 28 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 8: Course Improved Knowledge of Academic Services. With the exception of 2004 Majority students, all students in all years enrolled in FYS with a peer leader tended to perceive the seminar course in improving their knowledge of academic services at higher levels than their counterparts in FYS without peer leaders, 2004 Minority (5.58 vs. 5.39), 2005 Majority (5.46 vs. 5.23) and Minority (5..42 vs. 4.98), and 2006 Majority (5.57 vs. 5.0) and Minority (vs. 4.45). However 2004 Majority (5.28 vs. 5.38) students in FYS with a peer leader rated the seminar in improving their knowledge of academic services at lower levels than their counterparts. Additionally, 2005 Majority and 2006 Majority and Minority students enrolled in FYS with a peer leader perceived the seminar in improving their knowledge of academic services at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader, 2005 Majority (5.46 vs. 5.23) and 2006 Majority(5.46 vs. 5.00) and Minority (5.45 vs. 4.45).

Table 28

Comparison of Academic and Social Integration Factor 8 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 8: Course Improved Knowledge of Academic Services

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	407	5.38	1.2366	272	5.28	1.3392	0.98	.3268
Minority	27	5.39	1.0056	33	5.58	1.2306	-0.66	.5118
2005 Majority	312	5.23	1.369	595	5.46	1.2096	-2.65	.0083*
Minority	22	4.9773	1.3547	47	5.42	1.4073	-1.24	.2202
2006 Majority	209	5.00	1.465	597	5.57	1.1852	-5.59	<.0001*
Minority	15	4.45	1.3436	63	5.45	1.2662	-2.71	.0082*

*p<.05

Summary results of academic and social integration factor 8 comparisons of FYS program cohorts with and without peer leaders by gender and by race. For 2004 Minority, 2005 female, male, Majority, and Minority, and 2006 female, male, Majority and Minority students in FYS with a peer leader perceived the seminar as improving their knowledge of academic services at higher levels than their counterparts in FYS without a peer leader. However, for year 2004, female, male, and Majority students in FYS with a peer leader rated the seminar lower in improving their knowledge of academic services than their counterparts in FYS without a peer leader. Additionally, 2005 Majority and Minority and 2006 male,

Majority and Minority students in FYS with a peer leader rated statistically significant higher levels of improved knowledge of academic services than their counterparts in FYS without a peer leader. Further findings reveal that in all years 2004, 2005, and 2006, females rated the first-year seminar as improving their knowledge of academic services at higher levels than males, regardless if with or without a peer leader.

Results of Factor 9: Course Improved Managing Time and Priorities by Gender

Table 29 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 9: Course Improved Managing Time and Priorities. Students of year 2004 males, 2005 females and males, and 2006 females and males in FYS with a peer leader perceived the seminar as improving their management of time and priorities at higher levels than their counterparts, 2004 males (4.76 vs. 4.62) and 2005 females (4.98 vs. 4.97) and males (4.79 vs. 4.77) and 2006 females (5.01 vs. 4.55) and males (4.92 vs. 4.28). However, for year 2004 females in FYS with a peer leader rated the seminar lower in improving their management of time and priorities than their counterparts in FYS without a peer leader, females (4.79 vs. 4.98). Also, males in 2006 FYS with a peer leader rated statistically significant higher levels of improved management of time and priorities than 2006 males in FYS without a peer leader (4.92 vs. 4.28). Further findings reveal that in all years 2004, 2005, and 2006, females rated the first-year seminar in both with and without a peer leader as improving their management of time and priorities at higher levels than males, with a peer

leader 2004 (4.79 vs. 4.76), 2005 (4.98 vs. 4.79), and 2006 (5.01 vs. 4.92), without a peer leader 2004 (4.98 vs. 4.62), 2005 (4.97 vs. 4.77), and 2006 (4.55 vs. 4.28).

Table 29

Comparison of Academic and Social Integration Factor 9 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 9: Course Improved Managing Time and Priorities

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004								
Female	251	4.98	1.3492	181	4.79	1.4397	1.34	.1800
Male	194	4.62	1.4035	133	4.76	1.4274	-1.36	.1739
2005								
Female	212	4.97	1.3474	404	4.98	1.2621	-0.09	.9271
Male	126	4.77	1.3196	245	4.79	1.3067	-0.14	.8867
2006								
Female	118	4.55	1.7051	362	5.01	1.3737	-0.27	.7985
Male	96	4.28	1.4935	252	4.92	1.3303	-3.86	.0001*

*p<.05

Results of Factor 9: Course Improved Managing Time and Priorities by Race

Table 30 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 9: Course Improved Managing Time and Priorities. Results in Table 30 reveal that with the exception of year 2004, all students enrolled in FYS with a peer leader tended to perceive the seminar course in improving their management of time and priorities at higher levels than

their counterparts in FYS without peer leaders, 2005 Majority (4.93 vs. 4.92) and Minority (4.86 vs. 4.29), and 2006 Majority (5.02 vs. 4.45) and Minority (4.73 vs. 4.07).. However 2004 Majority (4.81 vs. 4.82) and Minority (4.83 vs. 5.01) students in FYS with a peer leader rated the seminar in improving their management of time and priorities at lower levels than their counterparts. Additionally, 2006 Majority students enrolled in FYS with a peer leader perceived the seminar in improving their management of time and priorities at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader (5.02 vs. 4.45).

Table 30

Comparison of Academic and Social Integration Factor 9 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 9: Course Improved Managing Time and Priorities

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	407	4.82	1.3828	272	4.81	1.4375	0.10	.9222
Minority	27	5.01	1.1872	33	4.83	1.3722	0.54	.5919
2005 Majority	312	4.92	1.3155	594	4.93	1.2683	-0.05	.9571
Minority	22	4.29	1.5928	47	4.86	1.3634	-1.53	.1313
2006 Majority	209	4.45	1.5968	597	5.02	1.3294	-5.07	<.0001*
Minority	15	4.07	1.6965	63	4.73	1.4781	-1.53	.1310

*p<.05

Summary results of academic and social integration factor 9 comparisons of FYS program cohorts with and without peer leaders by gender and by race. Students of year 2004 male, 2005 female, male, Majority, and Minority and 2006 female, male, Majority, and Minority students in FYS with a peer leader perceived the seminar as improving their management of time and priorities at higher levels than their counterparts. However, for year 2004 female, Majority, and Minority students in FYS with a peer leader rated the seminar lower in improving their management of time and priorities than their counterparts in FYS without a peer leader. Also, male and Majority students in 2006 FYS with a peer leader rated statistically significant higher levels of improved management of time and priorities than 2006 male and Majority students in FYS without a peer leader. Further findings reveal that in all years 2004, 2005, and 2006, regardless if with or without a peer leader, females rated the first-year seminar as improving their management of time and priorities at higher levels than males.

Factor 10: Course Improved Knowledge of Wellness by Gender

Table 31 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 10: Course Improved Knowledge of Wellness. For years 2004 and 2006 both female and male students and 2005 females in FYS with a peer leader perceived the seminar as improving their knowledge of wellness at higher levels than their counterparts in FYS without a peer leader, 2004 female (4.27 vs. 4.21) and male (4.26 vs. 3.99), 2005 female (4.57 vs. 4.56) and 2006 female (4.56 vs. 4.07) and male (4.60 vs. 3.87). However, for year 2005, males in FYS with a peer leader rated the seminar lower in improving their

knowledge of wellness than their counterparts in FYS without a peer leader (4.38 vs. 4.55). Additionally, males in 2006 FYS with a peer leader rated statistically significant higher levels of improved knowledge of wellness than 2006 males in FYS without a peer leader (4.60 vs. 3.87). Further findings reveal that in all years 2004, 2005, and 2006, females rated the first-year seminar in both with and without a peer leader as improving their knowledge of wellness at higher levels than males, with a peer leader 2005 (4.57 vs. 4.38), without a peer leader 2004 (4.21 vs. 3.99), 2005 (4.56 vs. 4.55), and 2006 (4.07 vs. 3.87).

Table 31

Comparison of Academic and Social Integration Factor 10 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 10: Course Improved Knowledge of Wellness

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Female	251	4.21	1.6669	181	4.27	1.5059	-0.38	.7067
Male	192	3.99	1.6535	133	4.36	1.5188	-2.07	.0389*
2005 Female	208	4.56	1.5449	404	4.57	1.5184	-0.09	.9281
Male	125	4.55	1.4944	244	4.38	1.5164	1.08	.2805
2006 Female	118	4.07	1.56	362	4.56	1.6219	-0.15	.8876
Male	96	3.87	1.5731	252	4.60	1.5419	-3.93	.0001*

*p<.05

Results of Factor 10: Course Improved Knowledge of Wellness by Race

Table 32 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 10: Course Improved Knowledge of Wellness. With the exception of 2005 Majority cohort, students enrolled in FYS with a peer leader tended to perceive the seminar course in improving their knowledge of wellness at higher levels than their counterparts in FYS without peer leaders, 2004 Majority (4.31 vs. 4.13) and Minority (4.46 vs. 4.28), 2005 Minority (4.47 vs. 4.20) and 2006 Majority (4.58 vs. 4.03). Minority (4.79 vs. 3.48). On the other hand, 2005 Majority students (4.51 vs. 4.58) in FYS with a peer leader rated the seminar in improving their knowledge of wellness at lower levels than their counterparts. Additionally, 2006 Majority and Minority students enrolled in FYS with a peer leader perceived the seminar in improving their knowledge of wellness at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader, Majority (4.58 vs. 4.03) and Minority (4.79 vs. 3.48).

Table 32

Comparison of Academic and Social Integration Factor 10 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 10: Course Improved Knowledge of Wellness

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	405	4.13	1.6487	272	4.31	1.4946	-1.44	.1510
Minority	27	4.28	1.7587	33	4.46	1.496	-0.42	.6767
2005 Majority	308	4.58	1.5196	595	4.51	1.4778	0.72	.4729
Minority	21	4.20	1.62	45	4.47	1.9446	-0.55	.5830
2006 Majority	209	4.03	1.5538	597	4.58	1.5852	-4.38	<.0001*
Minority	15	3.48	1.7981	63	4.79	1.5645	-2.83	.0059*

*p<.05

Summary results of academic and social integration factor 10 comparisons of FYS program cohorts with and without peer leaders by gender and by race. With the exception of 2005 male and Majority cohorts, all female, male, Majority and Minority students in FYS with a peer leader perceived the seminar as improving their knowledge of wellness at higher levels than their counterparts in FYS without a peer leader. However, for year 2005, male and Majority students in FYS with a peer leader rated the seminar lower in improving their knowledge of wellness than their counterparts in FYS without a peer leader. Additionally, 2004 male and 2006 male, Majority, and Minority students in FYS with a peer leader rated statistically significant higher levels of improved

knowledge of wellness than their counterparts in FYS without a peer leader. Further findings reveal that in all years 2004, 2005, and 2006, females rated the first-year seminar as improving their knowledge of wellness at higher levels than males regardless if with or without a peer leader.

Factor 11: Course Improved Sense of Belonging and Acceptance by Gender

Table 33 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 11: Course Improved Sense of Belonging and Acceptance. Students in years 2004 males and 2006 females and males enrolled in FYS with a peer leader perceived the seminar as improving their sense of belonging and acceptance at higher levels than their 2004 males (5.71 vs. 5.52) and 2006 female (5.74 vs. 5.61) and male (5.61 vs. 5.28) counterparts in FYS without a peer leader. However, for year 2004 female and 2005 female and male students in FYS with a peer leader rated the seminar lower in improving their sense of belonging and acceptance than their counterparts in FYS without a peer leader, 2004 females (5.47 vs. 5.74) and 2005 females (5.70 vs. 5.73) and males (5.61 vs. 5.64). Additionally males in 2006 FYS with a peer leader rated statistically significant higher levels of improved sense of belonging and acceptance than 2006 males in FYS without a peer leader (5.61 vs. 5.28). Further findings reveal that females tend to rate the seminar as improving their sense of belonging and acceptance in higher levels as compared to males, with or without a peer leader, with a peer leader 2005 (5.70 vs. 5.61) and 2006 (5.74 vs. 5.61), without a peer leader 2004 (5.74 vs. 5.52), 2005 (5.73 vs. 5.64), and 2006 (5.61 vs. 5.28).

Table 33

Comparison of Academic and Social Integration Factor 11 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 11: Course Improved Sense of Belonging and Acceptance

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004								
Female	251	5.74	1.1582	181	5.47	1.3495	2.22	.0268
Male	195	5.52	1.2934	133	5.71	1.2198	-1.37	.1718
2005								
Female	211	5.73	1.1697	405	5.70	1.1772	.24	.8094
Male	126	5.64	1.1198	244	5.61	1.1538	.26	.7986
2006								
Female	117	5.61	1.3032	362	5.74	1.2266	-0.71	.5109
Male	95	5.28	1.2286	251	5.61	1.1587	-2.32	.0208*

*p<.05

Results of Factor 11: Course Improved Sense of Belonging and Acceptance by Race

Table 34 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 10: Course Improved Sense of Belonging and Acceptance. Results in Table 34 reveal that students enrolled in FYS with a peer leader tended to perceive the seminar course in improving their sense of belonging and acceptance at higher levels than their counterparts in FYS without peer leaders, 2004 Minority (5.43 vs. 5.42), 2005 Minority (5.55 vs. 5.51) and 2006 Majority (5.72 vs. 5.46) and Minority (5.48 vs. 5.29). However, 2004

Majority (5.59 vs. 5.69) and 2005 Majority (5.68 vs. 5.71) students in FYS with a peer leader rated the seminar in improving their sense of belonging and acceptance at lower levels than their counterparts. Additionally, 2006 Majority students enrolled in FYS with a peer leader perceived the seminar in improving their sense of belonging and acceptance at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader (5.72 vs. 5.46).

Table 34

Comparison of Academic and Social Integration Factor 11 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 11: Course Improved Sense of Belonging and Acceptance

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	408	5.69	1.1581	272	5.59	1.262	1.04	.2973
Minority	27	5.42	1.5624	33	5.43	1.43	-0.04	.9700
2005 Majority	311	5.71	1.1402	594	5.68	1.1549	0.41	.6800
Minority	22	5.51	1.2772	47	5.55	1.2953	-0.14	.8908
2006 Majority	207	5.46	1.2604	596	5.72	1.1811	-2.67	.0078*
Minority	15	5.29	1.6802	63	5.48	1.4734	-0.43	.6695

*p<.05

Summary results of academic and social integration factor 11 comparisons of FYS program cohorts with and without peer leaders by gender and by race. Students in year 2004 male and Minority and 2006 female, male, and Majority enrolled in FYS with a peer leader perceived the seminar as improving their sense of belonging and acceptance at higher levels than their counterparts in FYS without a peer leader. However, for year 2004 female and Majority, 2005 female, male, Majority, and Minority, and 2006 Minority students in FYS with a peer leader rated the seminar lower in improving their sense of belonging and acceptance than their counterparts in FYS without a peer leader. Additionally male and Majority students in 2006 FYS with a peer leader rated statistically significant higher levels of improved sense of belonging and acceptance than their counterparts in FYS without a peer leader.

Factor 12: Usefulness of Course Readings by Gender

Table 35 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 12: Usefulness of Course Readings. Students in year the usefulness of the seminar readings at higher levels than their 2004 males FYS without a peer leader. However, for year 2004 female and 2005 female and male students in FYS with a peer leader rated the usefulness of the seminar readings lower than their counterparts in FYS without a peer leader, 2004 females (4.34 vs. 4.68) and 2005 females (4.67 vs. 4.68) and males (4.14 vs. 4.39). In addition, males in 2006 FYS with a peer leader rated statistically significant higher levels of improved sense of belonging and acceptance than 2006 males in FYS without a peer leader (5.61 vs. 5.28). Further findings reveal

that females tend to rate the usefulness of the first-year seminar readings in higher levels as compared to males, with a peer leader 2005 (4.67 vs. 4.14) and 2006 (4.63 vs. 4.61), without a peer leader 2004 (4.68 vs. 4.54), 2005 (4.68 vs. 4.39) and 2006 (3.99 vs. 3.74).

Table 35

Comparison of Academic and Social Integration Factor 12 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 12: Usefulness of Course Readings

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004								
Female	233	4.68	1.5155	163	4.34	1.7346	2.07	.0394*
Male	182	4.54	1.6743	118	4.79	1.4441	-1.33	.1841
2005								
Female	161	4.68	1.6319	330	4.67	1.5644	0.07	.9455
Male	105	4.39	1.6507	214	4.14	1.4766	-0.11	.9133
2006								
Female	81	3.99	1.8833	293	4.63	1.6488	-0.33	.7542
Male	79	3.74	1.6663	228	4.61	1.5726	-4.17	<.0001*

*p<.05

Results of Factor 12: Usefulness of Course Readings by Race

Table 36 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 10: Usefulness of Course Readings. Results in Table 36 reveal that with the exception of year 2004, all students enrolled in FYS with a peer leader tended to perceive the usefulness of the seminar's readings at equal or higher levels than their counterparts in FYS without peer leaders, 2005 Majority (4.58 vs. 4.58) and Minority (4.69 vs. 4.06), and 2006 Majority (4.65 vs. 3.88) and Minority (4.65 vs. 4.65). On the other hand, 2004 Majority (4.55 vs. 4.59) students in FYS with a peer leader rated the usefulness of the seminar's readings at lower levels than their counterparts. Additionally, 2006 Majority students enrolled in FYS with a peer leader perceived the usefulness of the seminar's readings at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader (4.65 vs. 3.88).

Table 36

Comparison of Academic and Social Integration Factor 12 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 12: Usefulness of Course Readings

Cohort Year	Without Peer Leader n	factor mean	S.D.	With Peer Leader n	factor mean	S.D.	*t*	p
2004 Majority	378	4.59	1.599	241	4.55	1.6093	0.34	.7360
Minority	26	4.64	1.3886	31	4.42	1.8236	0.51	.6134
2005 Majority	244	4.58	1.6298	496	4.58	1.50	0.00	.9975
Minority	18	4.06	1.8478	40	4.69	1.82	-1.22	.2259
2006 Majority	157	3.88	1.758	503	4.65	1.5606	-5.17	<.0001*
Minority	10	4.649	1.8712	58	4.65	1.8712	-1.39	.1707

*p<.05

Summary results of academic and social integration factor 12 comparisons of FYS program cohorts with and without peer leaders by gender and by race. Students in year 2004 male, 2005 Majority and Minority, and 2006 female, male, Majority and Minority groups enrolled in FYS with a peer leader perceived the usefulness of the seminar readings at equal or higher levels than their counterparts in FYS without a peer leader. However, for year 2004 female, Majority and Minority, and 2005 female and male students in FYS with a peer leader rated the usefulness of the seminar readings lower than their counterparts in FYS without a peer leader. In addition, male and Majority students in 2006

FYS with a peer leader rated statistically significant higher levels of improved sense of belonging and acceptance than 2006 counterparts in FYS without a peer leader.

Results of Factor 13: Course Improved Satisfaction with the University by Gender

Table 37 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 13: Course Improved Satisfaction with the University. Students in years 2004 males, 2005 females and males, and 2006 males enrolled in FYS with a peer leader perceived the seminar as improving their satisfaction with the university at higher levels than their 2004 male (5.44 vs. 5.36), 2005 female (5.75 vs. 5.56) and male (5.54 vs. 5.48), and 2006 male (5.53 vs. 5.17) counterparts in FYS without a peer leader. Consequently, females in year 2004 and 2006 in FYS with a peer leader rated the seminar in improving satisfaction with the university lower than their counterparts in FYS without a peer leader, 2004 (5.35 vs. 5.67) and 2006 (5.58 vs. 5.68). In addition, males in 2006 FYS with a peer leader rated statistically significant higher levels of the seminar improving their satisfaction with the university than 2006 males in FYS without a peer leader (5.53 vs. 5.17). Further findings reveal that females tend to rate the first-year seminar at higher levels in improving their satisfaction with the university as compared to males, with a peer leader 2005 (5.75 vs. 5.54) and 2006 (5.58 vs. 5.53), without a peer leader 2004(5.67 vs. 5.36), 2005 (5.56 vs. 5.48), and 2006 (5.68 vs. 5.17).

Table 37

Comparison of Academic and Social Integration Factor 13 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 13: Course Improved Satisfaction with the University

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Female	251	5.67	1.1793	181	5.35	1.3623	2.60	.0096*
Male	195	5.36	1.277	133	5.44	1.2721	-0.59	.5557
2005 Female	212	5.56	1.3394	405	5.75	1.1187	-1.84	.0658
Male	126	5.48	1.1902	245	5.54	1.1993	-0.48	.6327
2006 Female	118	5.68	1.3294	362	5.58	1.2672	-0.58	.5854
Male	96	5.17	1.3584	252	5.53	1.1634	-2.40	.0168*

*p<.05

Results of Factor 13: Course Improved Satisfaction with the University by Race

Table 38 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 13: Course Improved Satisfaction with the University. Results in Table 38 reveal that students enrolled in FYS with a peer leader tended to perceive the seminar as improving their satisfaction with the university at higher levels than their counterparts in FYS without peer leaders, 2005 Majority (5.72 vs. 5.56) and 2006 Majority (5.6 vs. 5.53) and Minority (5.11 vs. 4.48). However, 2004 Majority (5.47 vs. 5.61) and Minority (4.57 vs. 4.79) and 2005 Minority (5.19 vs. 5.23) students in FYS with a peer leader rated the

seminar in improving their satisfaction with the university at lower levels than their counterparts.

Table 38

Comparison of Academic and Social Integration Factor 13 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 13: Course Improved Satisfaction with the University

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	408	5.61	1.1979	272	5.47	1.2835	1.43	.1520
Minority	27	4.79	1.2793	33	4.57	1.4397	0.61	.5440
2005 Majority	312	5.56	1.2756	595	5.72	1.1218	-1.96	.0505
Minority	22	5.23	1.3957	47	5.19	1.3614	0.10	.9169
2006 Majority	209	5.53	1.2722	597	5.60	1.2078	-0.69	.4911
Minority	15	4.4833	1.8947	63	5.11	1.4459	-1.41	.1619

*p<.05

Summary results of academic and social integration factor 13 comparisons of FYS program cohorts with and without peer leaders by gender and by race. Students in years 2004 males, 2005 female, male, and Majority and 2006 male, Majority, and Minority groups enrolled in FYS with a peer leader perceived the seminar as improving their satisfaction with the university at higher levels than their counterparts in FYS without a peer leader. Consequently, 2004

female, Majority and Minority, 2005 Minority and 2006 female students in FYS with a peer leader rated the seminar in improving satisfaction with the university lower than their counterparts in FYS without a peer leader. In addition, males in 2006 FYS with a peer leader rated statistically significant higher levels of the seminar improving their satisfaction with the university than 2006 males in FYS without a peer leader.

Results of Factor 14: Course Included Engaging Pedagogy by Gender

Table 39 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 14: Course Included Engaging Pedagogy. Students in years 2004 males, 2005 females and males, and 2006 females and males enrolled in FYS with a peer leader perceived the seminar as having engaging pedagogy at higher levels than their 2004 male (4.87 vs. 4.71), 2005 female (4.83 vs. 4.74) and male (4.78 vs. 4.65), and 2006 female (4.96 vs. 4.37) and male (4.95 vs. 4.26) counterparts in FYS without a peer leader. Consequently, females in year 2004 in FYS with a peer leader rated the seminar as including engaging pedagogy lower than their counterparts in FYS without a peer leader 2004 females (4.67 vs. 4.91). In addition, males in 2006 FYS with a peer leader rated statistically significant higher levels of the seminar as having engaging pedagogy than 2006 males in FYS without a peer leader (4.95 vs. 4.26). Further findings reveal that females tend to rate the seminar as having engaging pedagogy in higher levels as compared to males, with a peer leader 2005 (4.83 vs. 4.78) and 2006 (4.96 vs. 4.95), without a peer leader 2004 (4.91 vs. 4.71), 2005 (4.74 vs. 4.65), and 2006 (4.37 vs. 4.26).

Table 39

Comparison of Academic and Social Integration Factor 14 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 14: Course Included Engaging Pedagogy

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Female	250	4.91	1.309	181	4.67	1.3543	1.85	.0650
Male	195	4.71	1.2665	132	4.87	1.1735	-1.21	.2288
2005 Female	212	4.74	1.3051	405	4.83	1.1671	-0.87	.3837
Male	126	4.65	1.3147	245	4.78	1.1251	-0.99	.3244
2006 Female	118	4.37	1.4158	362	4.96	1.276	-0.67	.5344
Male	96	4.26	1.2569	252	4.95	1.1731	-4.79	<.0001*

*p<.05

Results of Factor 14: Course Included Engaging Pedagogy by Race

Table 40 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 14: Course Included Engaging Pedagogy. Results in Table 40reveal that with the exception of 2004, all students enrolled in FYS with a peer leader tended to perceive the seminar as including engaging pedagogy at equal or higher levels than their counterparts in FYS without peer leaders, 2005 Majority (4.81 vs. 4.71) and Minority (4.91 vs. 4.91) and 2006 Majority (4.96 vs. 4.34) and Minority (4.88 vs. 3.87). However, 2004 Majority (4.74 vs. 4.80) and Minority (4.89 vs. 5.22) students in FYS with a peer leader

rated the seminar as including engaging pedagogy at lower levels than their counterparts. Additionally, 2006 Majority and Minority students enrolled in FYS with a peer leader perceived the seminar in including engaging pedagogy at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader, Majority (4.96, 4.34) and Minority (4.88 vs. 3.87).

Table 40

Comparison of Academic and Social Integration Factor 14 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 14: Course Included Engaging Pedagogy

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004 Majority	407	4.80	1.2991	271	4.74	1.2723	0.54	.5900
Minority	27	5.22	1.0327	33	4.89	1.2234	1.14	.2608
2005 Majority	312	4.71	1.2958	595	4.81	1.1391	-1.14	.2533
Minority	22	4.906	1.4367	47	4.91	1.2737	-1.54	.1274
2006 Majority	209	4.34	1.347	597	4.96	1.2217	-6.14	<.0001*
Minority	15	3.8693	1.4714	63	4.88	1.2998	-2.64	.0101*

*p<.05

Summary results of academic and social integration factor 14 comparisons of FYS program cohorts with and without peer leaders by gender and by race. Students in years 2004 male, 2005 female, male, Majority, and Minority and 2006 female, male, Majority and Minority groups enrolled in FYS with a peer leader perceived the seminar as having engaging pedagogy at equal or higher levels than their counterparts in FYS without a peer leader. Consequently, female, Majority, and Minority students in year 2004 in FYS with a peer leader rated the seminar as including engaging pedagogy lower than their counterparts in FYS without a peer leader 2004 females. In addition, male, Majority, and Minority students in 2006 FYS with a peer leader rated statistically significant higher levels of the seminar as having engaging pedagogy than 2006 males in FYS without a peer leader.

Results of Factor 15: Overall Effectiveness of the Course by Gender

Table 41 reflects gender differences of students enrolled in FYS with and without peer leaders on Factor 15: Overall Effectiveness of the Course. Students in years 2004 males, 2005 females and males, and 2006 females and males enrolled in FYS with a peer leader perceived the overall effectiveness of the seminar at higher levels than their 2004 male (4.94 vs. 4.60), 2005 female (5.07 vs. 4.85) and male (4.87 vs. 4.76), and 2006 female (5.09 vs. 4.66) and male (5.03 vs. 4.45) counterparts in FYS without a peer leader. However, females in year 2004 in FYS with a peer leader rated the overall effectiveness of the seminar lower than their counterparts in FYS without a peer leader 2004 females (4.78 vs. 4.93). In addition, males in 2006 FYS with a peer leader rated

statistically significant higher levels of the overall effectiveness of the seminar than 2006 males in FYS without a peer leader (5.03 vs. 4.45). Further findings reveal that females tend to rate the overall effectiveness of the seminar at higher levels as compared to males, with a peer leader 2005 (5.07 vs. 4.87) and 2006 (5.09 vs. 5.03), without a peer leader 2004 (4.93 vs. 4.60), 2005 (4.85 vs. 4.76), and 2006 (4.60 vs. 4.45).

Table 41

Comparison of Academic and Social Integration Factor 15 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Gender

Factor 15: Overall Effectiveness of the Course

	Without Peer Leader			With Peer Leader				
Cohort Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004								
Female	250	4.93	1.4135	181	4.78	1.4986	1.04	.2985
Male	195	4.60	1.5268	132	4.94	1.3364	-2.10	.0369*
2005								
Female	211	4.85	1.4817	405	5.07	1.2505	-1.92	.0552
Male	125	4.76	1.3696	243	4.87	1.3456	-0.76	.4453
2006								
Female	118	4.66	1.6279	362	5.09	1.4761	-0.50	.6405
Male	96	4.45	1.4347	251	5.03	1.3233	-3.56	.0004*

*p<.05

Results of Factor 15: Overall Effectiveness of the Course by Race

Table 42 reflects racial differences of students enrolled in FYS with and without peer leaders on Factor 15: Overall Effectiveness of the Course. Results in Table 42 reveal that all students enrolled in FYS with a peer leader tended to perceive the overall effectiveness of the seminar at higher levels than their counterparts in FYS without peer leaders, 2004 Majority (4.82 vs. 4.78) and Minority (5.09 vs. 5.03), 2005 Majority (5.03 vs. 4.85) and Minority (4.69 vs. 4.20), 2006 Majority (5.09 vs. 4.59) and Minority (4.79 vs. 4.15). Additionally, 2005 and 2006 Majority students enrolled in FYS with a peer leader perceived the overall effectiveness of the seminar at statistically significant higher levels than their counterparts enrolled in FYS without a peer leader, 2005 (5.03 vs. 4.85) and 2006 (5.09 vs. 4.59).

Table 42

Comparison of Academic and Social Integration Factor 15 for Student Cohort Groups in First-Year Seminar With and Without Peer Leader by Race

Factor 15: Overall Effectiveness of the Course

Cohort	Without Peer Leader			With Peer Leader				
Year	n	factor mean	S.D.	n	factor mean	S.D.	*t*	p
2004								
Majority	407	4.78	1.4725	271	4.82	1.4327	-0.37	.7093
Minority	27	5.03	1.2251	33	5.09	1.3631	-0.19	.8491
2005								
Majority	310	4.85	1.4032	593	5.03	1.2474	-1.99	.0466*
Minority	22	4.2	1.832	47	4.69	1.5994	-1.14	.2582
2006								
Majority	208	4.59	1.5531	596	5.09	1.3918	-4.27	<.0001*
Minority	15	4.1467	1.349	63	4.79	1.4112	-1.59	.1162

*p<.05

Summary results of academic and social integration factor 15 comparisons of FYS program cohorts with and without peer leaders by gender and by race. With the exception of 2004 female cohort, all female, male, Majority and Minority students enrolled in FYS with a peer leader perceived the overall effectiveness of the seminar at higher levels than their counterparts in FYS without a peer leader. However, 2004 female students in FYS with a peer leader rated the overall effectiveness of the seminar lower than their counterparts in FYS without a peer leader. In addition, 2004 male, 2005 Majority, and 2006 male and Majority students in FYS with a peer leader rated statistically significant

higher levels of the overall effectiveness of the seminar than their counterparts in FYS without a peer leader.

Summary

In this chapter, findings were organized into sections in accord with the original research questions and comparison groups examined. Program outcome effects of the peer leader component within the First-Year Seminar were explored for gender and race characteristics, with examinations on student first-to-second year persistence rates, student grade point averages, and academic and social integration factors. Two comparison groups were utilized respective to the two research questions: 1) three year, 2001-2003 data group of the FYS Program without a Peer Leader Component option was compared to three year, 2004-2006 data group of the FYS Program with a Peer Leader Component option; and 2) within the 2004-2006 FYS Program with a peer leader component option, students in FYS with a peer leader were compared to students in FYS without a peer leader.

Research Question 1

Comparisons of Students in 2001-2003 FYS Program Without the Peer Leader Component vs. Students in 2004-2006 FYS Program With the Peer Leader Component

First-to-second year persistence rates.

- Female, male, and Majority students in 2004-2006 FYS Program with the Peer Leader Component had statistically higher retention rates than their counterparts.

- Minority students in 2004-2006 FYS Program with the Peer Leader Component also revealed higher rates than their counterparts, but were not of statistical significance.
- Overall, female and Majority students were retained at higher rates then male and Minority counterparts regardless of FYS Program with or without the Peer Leader Component.

Grade point averages.

- Female, male, and Majority students in 2004-2006 FYS Program with the Peer Leader Component had significantly higher grade point averages than their counterparts.
- Minority students in 2004-2006 FYS Program with the Peer Leader Component revealed lower mean grade point averages than their counterparts, but were not of statistical significance.
- Overall, female and Majority students had higher mean grade point averages than male and Minority counterparts regardless of FYS Program with or without the Peer Leader Component.

Research Question 2

Comparisons of Students Enrolled in FYS With a Peer Leader vs. Students Enrolled in FYS Without a Peer Leader

First-to-second year persistence rates.

- 2004 female and Majority students in FYS with a peer leader had significantly lower retention rates than their counterparts in FYS without a peer leader.

- 2004 Minority and 2005 female, male, Majority and Minority students in FYS with a peer leader had higher retention rates than their counterparts in FYS without a peer leader, but were not of statistical significance.
- Overall, female and Majority students were retained at higher rates then male and Minority counterparts regardless of FYS with or without a peer leader.

Grade point averages.

- 2004 female and Majority students in FYS with a peer leader had significantly lower grade point averages than their counterparts in FYS without a peer leader.
- 2005 Majority and Minority and 2006 female, Majority and Minority students in FYS with a peer leader had higher grade point averages than their counterparts in FYS without a peer leader, but were not of statistical significance.
- Overall, female and Majority students had higher grade point averages than male and Minority counterparts regardless of FYS with our without a peer leader.

Academic and social integration factors of first-year initiative survey.

Factor 1: FYS Course Improved Study Strategies
Astin: Involvement with Academic & Faculty & Peers
Tinto: Integration Academically & Socially

- 2004 Minority and 2006 male, Majority, and Minority students in FYS with a peer leader rated statistically higher levels of improved

study strategies than their counterparts in FYS without a peer leader.

- All female, male, Majority and Minority student in all years, with the exception of 2004 females, rated higher levels of improved study strategies than their non-peer leader FYS counterparts, but not all were of statistical significance.
- Overall, female and Majority students tended to rate higher levels of the FYS course having improved their study strategies than male and Minority counterparts regardless of FYS with our without a peer leader, with the exception of 2004 Majority students in FYS with a peer leader.

Factor 2: FYS Course Improved Academic and Cognitive Skills
Astin: Involvement with Academic & Faculty
Tinto: Integration Academically

- 2006 male, Majority, and Minority students in FYS with a peer leader rated statistically significant higher levels of improved academic and cognitive skills than their counterparts in FYS without a peer leader.
- 2004 Minority, 2005 female, Majority and Minority, and 2006 female, male, Majority and Minority students rated higher levels of improved academic and cognitive skills than their counterparts in FYS without a peer leader, but not all were of statistical significance.

- Overall, male students tended to rate higher levels of the FYS course having improved their academic and cognitive skills than female counterparts regardless of FYS with our without a peer leader.

Factor 3: FYS Course Improved Critical Thinking Skills
Astin: Involvement with Academic & Faculty & Peers
Tinto: Integration Academically & Socially

- 2006 male and Majority students in FYS with a peer leader rated statistically significant higher levels of improved critical thinking skills than their counterparts in FYS without a peer leader.
- All female, male, Majority and Minority students in all years rated equal or higher levels of improved critical thinking skills than their counterparts in FYS without a peer leader, but not all were of statistical significance.

Factor 4: FYS Course Improved Connections with Faculty
Astin: Involvement with Academic & Faculty & Peers
Tinto: Integration Academically & Socially

- 2006 male and Majority students in FYS with a peer leader rated statistically significant higher levels of improved connections with faculty than their counterparts in FYS without a peer leader.
- All female, male, Majority and Minority students in all years, with the exception of 2004 female and Majority students, rated equal or higher levels of improved connections with faculty than their counterparts in FYS without a peer leader, but not all were of statistical significance.

- Overall, female and Majority students tended to rate higher levels of the FYS course having improved connections with faculty than male and Minority counterparts regardless of FYS with our without a peer leader, with the exception of 2004 females in FYS with a peer leader and 2004 Majority students.

Factor 5: FYS Course Improved Connections with Peers
Astin: Involvement with Academic & Peers
Tinto: Integration Academically & Socially

- 2006 male and Majority students in FYS with a peer leader rated statistically significant higher levels of improved connections with peers than their counterparts in FYS without a peer leader.
- All female, male, Majority and Minority students in all years, with the exception of 2004 female, Majority and Minority, and 2005 male students, rated equal or higher levels of improved connections with peers than their counterparts in FYS without a peer leader, but not all were of statistical significance.
- Overall, female and Majority students tended to rate higher levels of the FYS course having improved connections with faculty than male and Minority counterparts regardless of FYS with our without a peer leader, with the exception of 2004 female students in FYS with a peer leader.

Factor 6: FYS Course Increased Out-of-Class Engagement
Astin: Involvement with Peers
Tinto: Integration Academically & Socially

- 2006 male and Majority students in FYS with a peer leader rated statistically higher levels of out-of-class engagement than their counterparts in FYS without a peer leader, while 2004 Majority students in FYS with a peer leader rated statistically lower levels of out-of-class engagement than their counterparts in FYS courses without a peer leader.
- 2005 female and Majority and 2006 female, male, Majority, and Minority students in FYS with a peer leader rated equal or higher levels of increased out-of-class engagement than their counterparts in FYS without a peer leader, but not all were of statistical significance.

Factor 7: FYS Course Improved Knowledge of Campus Policies
Astin: Involvement with Academic & Faculty
Tinto: Integration Academically

- 2006 male and Majority students in FYS with a peer leader rated significantly higher levels of improved knowledge of campus policies than their counterparts in FYS without a peer leader.
- 2005 female and Majority and 2006 female, male, Majority and Minority students rated equal or higher levels of improved knowledge of campus policies than their counterparts in FYS without a peer leader, but not all were of statistical significance.

- Overall, female students tended to rate higher levels of the FYS course having improved knowledge of campus policies than male counterparts regardless of FYS with our without a peer leader, with the exception of 2004 female students in FYS with peer leader.

Factor 8: FYS Course Improved Knowledge of Academic Services
Astin: Involvement with Academic & Faculty
Tinto: Integration Academically & Socially

- 2005 Majority and Minority and 2006 male, Majority and Minority students in FYS with a peer leader rated significantly higher levels of improved knowledge of academic services than their counterparts in FYS without a peer leader.
- All female, male, Majority and Minority students, with the exception of 2004 female, male, and Majority, rated equal or higher levels of improved knowledge of academic services than their counterparts in FYS without a peer leader, but not all were of statistical significance.
- Overall, female and Majority students tended to rate higher levels of the FYS course having improved knowledge of academic services than male and Minority counterparts regardless of FYS with our without a peer leader, with the exception of 2004 Majority students.

Factor 9: FYS Course Improved Managing Time and Priorities
Astin: Involvement with Academic & Faculty
Tinto: Integration Academically & Socially

- 2006 male and Majority students in FYS with a peer leader rated significantly higher levels of improved management of time and priorities than their counterparts in FYS without a peer leader.
- 2004 male, 2005 female, male, Majority and Minority, and 2006 female, male, Majority and Minority students rated equal or higher levels of improved management of time and priorities than their counterparts in FYS without a peer leader, but not all were of statistical significance.
- Overall, female and Majority students tended to rate higher levels of the FYS course having improved management of time and priorities than male and Minority counterparts regardless of FYS with our without a peer leader, with the exception of 2004 Majority students.

Factor 10: FYS Course Improved Knowledge of Wellness
Astin: Involvement with Academic & Faculty & Peers
Tinto: Integration Academically & Socially

- 2004 male and 2006 male, Majority and Minority students in FYS with a peer leader rated significantly higher levels of improved knowledge of wellness than their counterparts in FYS without a peer leader.
- All female, male, Majority and Minority students, with the exception of 2005 male and Majority, rated equal or higher levels of

improved knowledge of wellness than their counterparts in FYS without a peer leader, but not all were of statistical significance.

- Overall, female students tended to rate higher levels of the FYS course having improved knowledge of wellness than male counterparts regardless of FYS with our without a peer leader, with the exception of 2006 females in FYS with a peer leader.

Factor 11: FYS Course Improved Sense of Belonging and Acceptance
Astin: Involvement with Faculty & Peers
Tinto: Integration Academically & Socially

- 2006 male and Majority students in FYS with a peer leader rated significantly higher levels of improved senses of belonging and acceptance than their counterparts in FYS without a peer leader.
- 2004 male and Minority and 2006 female, male, Majority and Minority students rated equal or higher levels of improved senses of belonging and acceptance than their counterparts in FYS without a peer leader, but not all were of statistical significance.
- Overall, female and Majority students tended to rate higher levels of the FYS course having improved their sense of belonging and acceptance than male and Minority counterparts regardless of FYS with our without a peer leader, with the exception of 2004 females in FYS with a peer leader.

Factor 12: Usefulness of FYS Course Readings
Astin: Involvement with Academic & Faculty
Tinto: Integration Academically

- 2006 male and Majority students in FYS with a peer leader rated significantly higher levels of usefulness of seminar course readings than their counterparts in FYS without a peer leader.
- 2004 male, 2005 Majority and Minority, and 2006 female, male, Majority and Minority students rated equal or higher levels of usefulness of course readings than their counterparts in FYS without a peer leader, but not all were of statistical significance.
- Overall, female students tended to rate higher levels of usefulness of seminar course readings than male counterparts regardless of FYS with our without a peer leader, with the exception of 2004 females in FYS with a peer leader.

Factor 13: FYS Course Improved Satisfaction with the University
Astin: Involvement with Academic & Faculty & Peers
Tinto: Integration Academically & Socially

- 2006 male students in FYS with a peer leader rated statistically higher levels of improved satisfaction with the university than their counterparts in FYS without a peer leader, while 2004 female students in FYS with a peer leader rated statistically lower levels of improved satisfaction with the university than their counterparts in FYS courses without a peer leader.
- 2004 female, 2005 female, male, and Majority and 2006 male, Majority and Minority students rated equal or higher levels of

improved satisfaction with the university than their counterparts in FYS without a peer leader, but not all were of statistical significance.

- Overall, female and Majority students tended to rate higher levels of improved satisfaction with the university than male and Minority counterparts regardless of FYS with our without a peer leader, with the exception of 2004 females in FYS with a peer leader.

Factor 14: FYS Course Included Engaging Pedagogy
Astin: Involvement with Academic & Faculty & Peers
Tinto: Integration Academically & Socially

- 2006 male, Majority and Minority students in FYS with a peer leader rated significantly higher ratings that the seminar included engaging pedagogy than their counterparts in FYS without a peer leader.
- All female, male, Majority and Minority students, with the exception of 2004 female, Majority and Minority, rated equal or higher levels that the seminar included engaging pedagogy than their counterparts in FYS without a peer leader, but not all were of statistical significance.
- Overall, female students tended to rate higher levels that the seminar included engaging pedagogy than male counterparts regardless of FYS with our without a peer leader, with the exception of 2004 females in FYS without a peer leader.

Factor 15: Overall Effectiveness of the FYS Course
Astin: Involvement with Academic & Faculty & Peers
Tinto: Integration Academically & Socially

- 2004 male, 2005 Majority, and 2006 male and Majority students in FYS with a peer leader rated statistically significant higher levels of the overall effectiveness of the seminar than their counterparts in FYS without a peer leader.
- All female, male, Majority and Minority students, with the exception of 2004 female, rated equal or higher levels of the overall effectiveness of the FYS course than their counterparts in FYS without a peer leader, but not all were of statistical significance.
- Overall, female and Majority students tended to rate higher levels of the overall effectiveness of the course than male and Minority counterparts regardless of FYS with our without a peer leader, with the exception of 2004 females in FYS with a peer leader and 2004 Majorities.

Overall, this study has revealed statistically significant results by both gender and race. When comparing the three year First-Year Seminar Program with the Peer Leader Component to the three year First-Year Seminar Program without the Peer Leader Component, both first-to-second year persistence rates and grade point averages were statistically higher for female, male, and Majority students enrolled in FYS Program with the Peer Leader Component as opposed to FYS Program without the Peer Leader Component. In contrast, both significantly lower persistence rates and grade point averages were found when

comparing students enrolled in FYS with a peer leader to students enrolled in FYS without a peer leader, for 2004 female and Majority cohorts.

With the exception of 2006 Majority students for Factor 13(Course Improved Satisfaction with the University), statistical significance was found for all fifteen academic and social integration factors for both 2006 male and 2006 Majority students enrolled in FYS with a peer leader as having higher factor means than their respective counterparts enrolled in FYS without a peer leader. 2006 Minority students enrolled in FYS with a peer leader had significantly higher factor means than their counterparts enrolled in non-FYS course in Factor 1 (Course Improved Study Strategies), Factor 2 (Course Improved Academic and Cognitive Skills), Factor 8 (Course Improved Knowledge of Academic Services), Factor 10 (Course Improved Knowledge of Wellness), and Factor 14 (Course Included Engaging Pedagogy). 2005 male students enrolled in FYS with a peer leader had significantly higher factor means than their counterparts enrolled in FYS courses without a peer leader in Factor 8 (Course Improved Knowledge of Academic Services), with 2005 Minority students enrolled in FYS with a peer leader had significantly higher factor means than their counterparts enrolled in FYS without a peer leader in Factor 1 (Course Improved Study Strategies) and Factor 8 (Course Improved Knowledge of Academic Services). 2004 male students enrolled in FYS with a peer leader had significantly higher factor means than their counterparts enrolled in FYS without a peer leader in Factor 10 (Course Improved Knowledge of Wellness) and Factor 15 (Overall Effectiveness of the Course), with 2004 Majority students enrolled in FYS with a peer leader

had significantly higher factor means than their counterparts enrolled in FYS without a peer leader in Factor 15 (Overall Effectiveness of the Course). In contrast, 2004 Majority students enrolled in FYS with a peer leader had significantly lower factor means than their counterparts enrolled in FYS without a peer leader in Factor 6 (Course Increased Out-of-Class Engagement).

Chapter V

SUMMARY, DISCUSSIONS, AND RECOMMENDATIONS

This final chapter provides highlights and attempts to synthesize how the study results contribute to the knowledge base and decision-making processes involving student engagement, retention, and academic success in higher education. Differences of peer leader program outcome effects and persistence, grade point averages, and academic and social integration factors are compared in terms of gender and race. Discussion and implications of the findings are linked to literature on First-Year Seminar, peer-to-peer influence, and two student development theory models. Finally, suggestions for future study are also recommended.

Review of the Proposal, Literature and Theoretical Perspectives

A good deal of literature revealed students having significant and positive impact on other students (Chickering,1969; Pascarella & Terenzini,1991; Gardner,1996). Literature also increasingly identified the impact of peer to peer influence specific to persistence and retention rates of first-year students (Astin, 1993; Gardner, 1996; Hamid, 2001; Cuseo, 1991; Barefoot, 2002). Accordingly, a substantial number of studies on First-Year Seminars have shown its positive effects on grade point averages, credits earned, social integration, and retention (Barefoot & Fidler, 1996; Upcraft & Gardner 1989; Yockey & George, 1998). In surveying American higher educational institutions, Tobolowsky (2005) reported over 81% of university and colleges offering FYS courses, but approximately only 10% of them incorporating peer leaders within the course. Research on peer

leaders within First-Year Seminars had been quite limited, with only two institutional studies thus far (Hamid, 2001).

The purpose of this study investigated the program outcome effects of the peer leader program component on the First-Year Seminar Program at Slippery Rock University of Pennsylvania. Students enrolled in the First-Year Seminar (FYS) Program with the Peer Leader Component (2001-2003) were compared to students enrolled in the FYS Program without the Peer Leader Component (2004-2006). Additionally, students enrolled in FYS courses with a peer leader were also compared to students enrolled in FYS courses without a peer leader during academic years 2004-2006.

As we delve into the main findings of the study, two student developmental theories are at the core of discussion, as they provide the foundational underpinnings to student retention and first-year seminars nationally (Pascarella, Terenzini, & Wolfle, 1986; Milem & Berger, 1997). Alexander Astin's (1996) Theory of Student Involvement suggests that student retention is significantly tied to student involvement with the institution. He further identifies three significantly critical forms of student involvement – involvement with academics, involvement with faculty, and involvement with peers – as necessary for student success. Vincent Tinto's (1975) Theory of Student Integration, also referred to as the Student Departure Model, is similar to Astin's theory. The theoretical model proposes that social integration – defined as students integrating themselves to the social and academic life, thereby becoming committed to graduation and the institution – is the key factor for student

persistence and graduation. It is this student interaction with other students, faculty and staff that Tinto suggests to be of critical significance. Tinto asserts that with all other factors staying constant, the stronger a student's level of social and academic integration, the greater the student's institutional and graduation commitment (Tinto, 1993).

Summary & Discussion of Main Findings

Comparing Peer Leader Effects with Retention and Persistence by Race and Gender

Retention "may be a significant indicator of institutional quality and impact" (Pascarella, 1986, p. 100) and has become a gauge of institutional effectiveness used as a measure of an institution's commitment to its students (Astin, Green & Korn, 1987). Retaining students has been a primary challenge for university and colleges nationwide and the First-Year Seminar has been one means of addressing that concern. In advocating for the use of FYS courses, Murphy agreed with "…the most practical outcome of such an intervention is increased retention" (1989, p. 94). Additional research linking peer leaders having positive impact on the retention of first-year students has been found as evidenced by increases in first-to-second year retention rates (Astin, 1993; Gardner, 1999; Hamid, 2001).

Comparisons of Peer Leader Effects in Three-Year FYS Program

In comparing the three-year FYS Program with the Peer Leader Component (2001-2003) to the three-year FYS Program without the Peer Leader Component (20004-2006), the results of this study clearly provided support to the

positive effects of peer leadership in First-Year Seminars. Female, male, and Majority students in FYS Programs with the Peer Leader Component were found to have significantly higher retention rates than their counterparts in FYS Programs without the Peer Leader Component. Similarly, Minority students, too, were found to have higher retention rates (although not of statistical significance) than their counterparts in FYS Programs without the Peer Leader Component.

Comparisons of FYS Course Effects

In comparing students enrolled in FYS course with a peer leader to students enrolled in FYS courses without a peer leader, however, mixed results were revealed. Cohort year 2004 female and Majority students in FYS with a peer leader had significantly lower retention rates that their counterparts in FYS without a peer leader. Although not statistically significant, 2004 Minority and 2005 female, male, Majority and Minority students in FYS with a peer leader revealed having higher retention rates than their counterparts in FYS without a peer leader. Due to the limited research examining the overall role of peer leaders in First-Year Seminars (Bortman, 2005), coupled with the seemingly non-existent studies comparing gender and race differences, results from this study may be the first documenting FYS peer leader effects by gender and by race. It should be noted however that research for First-Year Seminars – with no peer leader considerations – have shown mixed results on persistence rates. Although a significant body of literature supports the benefits of FYS as a retention tool (Gass, 1990; Glass & Garrett, 1995, Gordon & Grites, 1984; Hoff et al., 1996; Strumpf & Hunt, 1993), Davis (1992) found no significant differences in

retention rates for academically weaker seminar students when compared to a matched control group in one institutional study. In another study, Chapman and Reed (1987) also found no differences in attrition rates between FYS students and non-FYS students in the general population.

Comparing Peer Leader Effects with Grade Point Average by Race and Gender

Tinto delineates and identifies education and academic performance as the primary function of the university with: "Education, not retention, is the primary principle of effective retention" (1990, p. 38). Bean and Metzner (1985) found that the two best predictors of dropout were college grade point average and intent to leave. A good deal of additional literature reveals that measures of student achievement such as GPA are often predictive of persistence. Lightfoot (2000) in her study of mentoring experiences on the persistence of Minority and Non-Minority college students showed that "for every measurable decrease in GPA, the likelihood or the odds of persisting were decreased" by a certain percentage (p. 114). Astin (1985) has also found academic performance to be one of the major contributors to persistence decisions especially among minority college students. Additional research reports First-Year Seminars as having positive effects not only on retention, but also on grade point averages (Barefoot & Fidler, 1996; Upcraft & Gardner, 1989; Yockey & George, 1998) and it has been further argued that peers are more capable than faculty of engaging first-year students in the classroom (Cuseo, 1991).

Comparisons of Effects of Three-Year FYS Program

In comparing the three-year FYS Program with the Peer Leader Component (2001-2003) to the three-year FYS Program without the Peer Leader Component (20004-2006), the results of this study provided mixed support to the positive effects of peer leadership in First-Year Seminars. Female, male, and Majority students in FYS Programs with the Peer Leader Component were found to have significantly higher grade point averages than their counterparts in FYS Programs without the Peer Leader Component. In contrast, Minority students were found to have lower GPAs (although not of statistical significance) than their counterparts in FYS Programs without the Peer Leader Component. The lower Minority student GPAs are of significant educational concern, since Lightfoot (2000) and other studies show that lower GPAs can be predictive of non-persistence, particularly for Minority students. Utilizing Minority peer leaders may help to address this concern, as Chang (2002) reports that involvement with ethnic based students and organizations work favorably in support of African-American student success. Utilizing diversity-friendly peer leaders may also help to address this concern, as the importance of student social experiences, particularly for Minority students, has been established as a determinant to student success (Pascarella & Chapman, 1983; Pascarella & Terenzini, 1987), and Pascarella (1985) has even stated that social integration can even be more influential than academic integration on persistence.

Comparisons of FYS Course Effects

In comparing students enrolled in FYS course with a peer leader to students enrolled in FYS courses without a peer leader, more favorable results were revealed supporting peer leadership-FYS courses. Cohort year 2004 female and Majority students in FYS with a peer leader had significantly lower grade point averages than their counterparts in FYS without a peer leader. However some students, 2005 Majority and Minority and 2006 female, Majority and Minority students in FYS with a peer leader, had higher grade point averages (although not of statistical significance) than their counterparts in FYS without a peer leader. This is consistent with the research supporting Tinto's theory that academic and social integration of students have the most consistent and positive effects on student success (Pascarella, 1980; Pascarella, Smart, & Ethington, 1986; Pascarella & Terenzini, 1979, 1980) and specifically, Pascarella and Terenzini (1991) reveal that peer interactions provide students opportunities to interact and develop relationships with other "achievement oriented peers," thus nurturing and supporting college and university educational goals (p. 411).

Comparing Peer Leader Effects with Academic and Social Integration Factors by Race and Gender

First-Year Seminar courses are designed to enhance the academic and social integration of first-year college students into the institution (Barefoot & Fidler, 1996; Gordon, 1989). An abundance of research examining the relationship between students participating in FYS and factors such as academic and social integration has been prevalent (Barefoot & Fidler, 1996; Barefoot &

Fidler, 1992; Crissman, 2001; Dick, 1998; Fildler & Moore, 1996; Fidler, Neurerer-Rotholz, & Richardson, 1999; Gahhagan, 2002 Hendel, 2001; Hoff, Cook & Price, 1996; Linder 2002; Maisto & Tammi, 2001; Odell, 1996; Starke, Harth, & Sirianni, 2001; Upcraft & Gardner, 1989; Williford, Chapman & Kahrig, 2001). The use of upper-class students in the FYS course has proven to be beneficial (Astin, 1993; Garner, 1996; Hamid, 2001). Cave and Quint (1990) found that students in various mentoring programs have higher levels of college enrollment and higher educational aspirations than students not in mentoring programs and Cohen (1993) addresses the critical importance of mentors specifically for the culturally diverse students.

Comparisons of FYS Course Effects

In comparing students enrolled in FYS courses with a peer leader to students enrolled in FYS courses without a peer leader (2004, 2005, & 2006) on race and gender the results of this study clearly provided support to the positive effects of peer leadership in First-Year Seminars on race and gender. These findings support Swing's (2001) correlations between higher learning outcomes and satisfaction scores with the use of FYS peer leaders as compared to lower students scores in FYS without peer leaders. The following reveals overall major findings, of both statistical and educational significance, for each factor individually. Additionally, statistically significant findings are provided as a summary.

Factor 1: FYS Course Improved Study Strategies. All female, male, Majority and Minority students in FYS with a peer leader in all

years, with the exception of 2004 females, rated higher levels of improved study strategies than their non-peer leader FYS counterparts, some groups with statistical significance.

Factor 2: FYS Course Improved Academic and Cognitive Skills. Most students in FYS with a peer leader – 2004 Minority, 2005 female, Majority and Minority, and 2006 female, male, Majority and Minority – rated higher levels of improved academic and cognitive skills than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 3: FYS Course Improved Critical Thinking Skills. All female, male, Majority and Minority students in all years rated equal or higher levels of improved critical thinking skills than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 4: FYS Course Improved Connections with Faculty. All female, male, Majority and Minority students in FYS with a peer leader in all years, with the exception of 2004 female and Majority students, rated equal or higher levels of improved connections with faculty than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 5: FYS Course Improved Connections with Peers. All female, male, Majority and Minority students in FYS with a peer leader in all years, with the exception of 2004 female, Majority and Minority, and 2005 male students, rated equal or higher levels of improved connections with peers than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 6: FYS Course Increased Out-of-Class Engagement. Many students – 2005 female and Majority and 2006 female, male, Majority, and Minority – in FYS with a peer leader rated equal or higher levels of increased out-of-class engagement than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 7: FYS Course Improved Knowledge of Campus Policies. Many students – 2005 female and Majority and 2006 female, male, Majority and Minority – in FYS with a peer leader rated equal or higher levels of improved knowledge of campus policies than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 8: FYS Course Improved Knowledge of Academic Services. All female, male, Majority and Minority students in FYS with a peer leader, with the exception of 2004 female, male, and Majority, rated equal or higher levels of improved knowledge of academic services than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 9: FYS Course Improved Managing Time and Priorities. Most students -- 2004 male, 2005 female, male, Majority and Minority, and 2006 female, male, Majority and Minority – in FYS with a peer leader rated equal or higher levels of improved management of time and priorities than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 10: FYS Course Improved Knowledge of Wellness. All female, male, Majority and Minority students, with the exception of 2005 male and

Majority, in FYS with a peer leader rated equal or higher levels of improved knowledge of wellness than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 11: FYS Course Improved Sense of Belonging and Acceptance. Many students – 2004 male and Minority and 2006 female, male, Majority and Minority – in FYS with a peer leader rated equal or higher levels of improved senses of belonging and acceptance than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 12: Usefulness of FYS Course Readings. Most students – 2004 male, 2005 Majority and Minority, and 2006 female, male, Majority and Minority – in FYS with a peer leader rated equal or higher levels of usefulness of course readings than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 13: FYS Course Improved Satisfaction with the University. Most students – 2004 female, 2005 female, male, and Majority and 2006 male, Majority and Minority – in FYS with a peer leader rated equal or higher levels of improved satisfaction with the university than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 14: FYS Course Included Engaging Pedagogy. All female, male, Majority and Minority students, with the exception of 2004 female, Majority and Minority, in FYS with a peer leader rated equal or higher levels of the seminar including engaging pedagogy than their counterparts in FYS without a peer leader, some groups with statistical significance.

Factor 15: Overall Effectiveness of the FYS Course. All female, male, Majority and Minority students, with the exception of 2004 female, in FYS with a peer leader rated equal or higher levels of the overall effectiveness of the FYS course than their counterparts in FYS without a peer leader, some groups with statistical significance.

Statistical significance was found for two groups in all of the fifteen academic and social integration factors: 1) 2006 males enrolled in FYS courses with a peer leader had statistically significant higher factor means than 2006 males enrolled in FYS courses without a peer leader, and 2) 2006 Majority students enrolled in FYS with a peer leader had statistically significant higher factor means than 2006 Majority students enrolled in FYS without a peer leader (with the exception of Factor 13, Course Improved Satisfaction with the University). These findings may help address the lower male graduation rates revealed by the US Department of Education National Center for Education Statistics (2008) report showing that from 1995-96 to 2005-06, the number of degrees earned by females have grown at a faster rate than for males, with over 65 percent of the increase in the total bachelor's and master's degrees awarded. Further, NCES reports that although Minority students have been earning degrees at a faster rate than Majority students (44% vs. 19%) between 1995-96 and 2005-06, Majority students are way beyond in numbers, earning 1.1 million bachelor's degrees in 2005-06 as compared to only 363, 300 bachelor's degrees earned by Minority students. Therefore, further exploration of helping to increase

the academic and social integration factor means of Minority students are still of critical importance.

Implications of the Main Findings

This study has implications for improving the practice in peer to peer mentoring for both the First Year Seminar Program at Slippery Rock University of Pennsylvania and for the future of the First Year Experience nationally. The results expand our understanding with regards to the profession of student engagement, academic persistence and retention in higher education, offering gender and race considerations.

Implications for Slippery Rock University of PA

Review of Slippery Rock University FYS and Peer Leader Program

Slippery Rock University first developed its First-Year Seminar – a one-credit, optional, graded course – in 1999, as an integral component of the institution's strategic plan, targeted to increase student persistence, academic performance, and academic and social integration within the institution. Since its implementation in 2000, institutional research had revealed several significant findings of the FYS course (e.g., higher first-to-second year persistence rates for general and student-of-color population, higher graduation rates). In 2003 Slippery Rock University began utilizing quantitative data from the nationally-administered Educational Benchmarking (EBI) First-Year Initiative (FYI) Survey, a diagnostic tool assessing the seminar's impact. The FYI survey – with its fifteen academic and social integration factors – revealed statistically significant findings for SRU against its benchmark institutions and also to the SRU institution, itself.

In 2004, peer leaders were piloted as co-facilitators in the First-Year Seminar. Preliminary program evaluations (student, peer leader, and faculty perceptions) had been found to be favorable, leading to a continued increase yearly of peer leader-faculty partnerships, beginning with only fifteen peer leader-faculty partnerships piloted in 2004, to its current number of over forty-eight peer leader-faculty partnerships in year 2008. To date, no study had been done to determine the impact of the peer leader program specific on FYS persistence, grade point average, and social and academic integration at the university.

Implications for Improving Three-Year FYS Program based on Given Persistence & GPA Results

Results from this study clearly indicate that the addition of the Peer Leader Program Component option (in comparison to the FYS three-year Program with no Peer Leader Program Component) assisted in higher retention rates for all student groups in FYS courses, with a statistical significance for female, male, and Majority students. The Peer Leader Program component option also revealed statistically significant higher grade point average means for female, male, and Majority students. Given that the dropout rates for first-year students range from fifty percent (Consortium, 1999) to as high as seventy-five percent (Tinto, 1987), but that dropout rates tend to diminish by as much as fifty percent for every college year successfully completed (Levitz and Noel, 1989), it would be to the university's advantage to maintain the Peer Leader Program Component within its First-Year Seminar Program. It should be noted, however, that the Minority student groups in the three-year FYS Program with the Peer

Leader Component (2004-2006) tended to have slightly lower mean GPAs than their counterparts with no Peer Leader Component option (2001-2003). Since Slippery Rock University continues to work in meeting its institutional and Pennsylvania State System of Higher Education performance targets – including increasing retention rates of its African-American and Hispanic students up to 79% (with average system-wide rates currently at 57% - 68%) – exploring factors contributing to, and thusly addressing, this phenomenon is suggested. Literature purports that the use of mentoring and the development of integrative relationships among minority students, faculty, and staff eased transition adjustments for minority students. Further, specific strategies in learning how to cope with new student responsibilities, while maintaining previous work, family and social demands, have been found to critical for first-generation and minority student college success (Nora, 1996; Pascarella, Smart, & Ethington, 1986; Cohen, 1993; Jacobs, Unger, Striegl-Moore, & Kimbrell, 1983).

Implications for Improving FYS Course based on Persistence & GPA Results

Study findings of first-to-second year persistence and GPA in FYS courses with or without a peer leader revealed mixed results for all student populations, with persistence rates and GPAs varying from higher to lower levels in students enrolled in FYS courses with peer leaders as compared to students enrolled in FYS courses without peer leaders. First-to-second year retention did prove to be higher for many students in FYS with a peer leader – 2004 Minority and 2005 female, male, Majority and Minority – than their counterparts in FYS without a peer leader. Similarly, grade point averages also were higher for many

students in FYS with a peer leader – 2005 majority and Minority and 2006 female, majority and Minority – than their counterparts in FYS without a peer leader.

Statistical significance was found in both persistence and GPA factors for 2004 female and Majority students in FYS with a peer leader as having lower retention rates than their counterparts in FYS without a peer leader. Although this may initially cause alarm to the institutional site, the finding may likely be attributed to: 1) 2004 was the pilot and first year of the peer leader program, 2) there were only fifteen FYS courses with a peer leader (N=328) as compared to thirty-three FYS courses without a peer leader (N=903) , 3) gender breakdown within year 2004 was female (n=733), male (n=498), and 4) race breakdown within year 2004 was Majority (n=1124), Minority (n=94).

Of educational significance in both persistence and GPA factors to the study site is that overall female and Majority students had higher first-to-second year persistence rates and higher grade point averages than their male and Minority counterparts regardless of FYS with or without a peer leader. This finding, too, may be attributed to the total gender and race breakdown of the three years: female (n=2241), male (n=1655) and Majority (n=3475), Minority (n=338). However, exploring ways to intentionally assist the male and Minority population, particularly in light of national and SRU statistics revealing the lower male and Minority graduate numbers, would be suggested.

Implications for Improving FYS Course based on Academic & Social Integration Factors Results

Results of the social and academic integration factors specific to FYS courses with or without a peer leader indicate strong support for the continued use of peer leaders with the FYS course. In the attempt to summarize the results for even further simplicity and clarification, the following is provided:

All students – female, male, Majority, and Minority – in FYS with a peer leader rated higher factor means than their counterparts in FYS without a peer leader (some with statistical significance) for:

Factor 3: FYS Course Improved Critical Thinking Skills

Most students – female, male, Majority, and Minority – in FYS with a peer leader rated higher factor means than their counterparts in FYS without a peer leader (some with statistical significance) for:

Factor 1: FYS Course Improved Study Strategies

Factor 2: FYS Course Improved Academic and Cognitive Skills

Factor 4: FYS Course Improved Connections with Faculty

Factor 5: FYS Course Improved Connections with Peers

Factor 8: FYS Course Improved Knowledge of Academic Services

Factor 9: FYS Course Improved Managing Time and Priorities

Factor 10: FYS Course Improved Knowledge of Wellness

Factor 12: Usefulness of FYS Course Readings

Factor 13: FYS Course Improved Satisfaction with the University

Factor 14: FYS Course Included Engaging Pedagogy

Many students – female, male, Majority, and Minority – in FYS with a peer leader rated higher factor means than their counterparts in FYS without a peer leader (some with statistical significance) for:

Factor 6: FYS Course Increased out-of-Class Engagement

Factor 7: FYS Course Improved Knowledge of Campus Policies

Factor 11: FYS Course Improved Sense of Belonging and Acceptance

Of fundamental significance, all students – with the exception of 2004 female – in FYS with a peer leader rated the overall effectiveness of the course at equal or higher levels than their counterparts in FYS without a peer leader. Of these, 2004 male, 2005 Majority and 2006 male and Majority students were of statistical significance for:

Factor 15: Overall Effectiveness of the FYS Course

Statistical Significance was found for two populations in FYS courses with a peer leader as having higher factor means on all fifteen academic and social integration factors as compared to their counterparts in FYS courses without a peer leader. Males of year 2006 had significantly higher means than their counterparts in FYS courses without a peer leader. Additionally, Majorities of year 2006 also had higher means in fourteen of the fifteen factors – except for:

Factor 13: FYS Course Improved Satisfaction with the University

Given these findings, it is recommended that Slippery Rock University continue with peer leaders in the FYS Program. However it should be noted that the FYS Program at SRU had already proven to increase retention, GPA, and academic and social integration factors on its own and prior to the addition of the FYS peer leaders. The peer leader effects prove to contribute to the FYS Program's existing effectiveness, as well as offering new gender and race delineations. Considerations of these study results – along with PA State School System of Higher Education and institutional strategic plans, financial and resource limitations, changing demographic student population – should be utilized for more strategic use of peer leaders in FYS, and possible other first-year courses at the institution.

External Implications

These study results contribute to the knowledge base within the profession of academic persistence, academic performance, and student engagement in higher education. There are limited and insufficient studies reporting a longitudinal impact of peer leaders within First-Year Seminars. Specifically, the study's major findings provide support to the literature of peer leader effects on the First-Year Seminar, with gender and race considerations.

Implications for First-Year Seminar

Due to extensive research documenting First-Year Seminar's effectiveness on retention, performance, and social integration, over 81% of

universities and colleges nationally provide a FYS at their institutions (Tobolowsky, 2005). This study contributes directly to the body of literature supporting FYS programming. The study site of Slippery Rock University of PA reported 69-70% first-year retention rates in 1999, prior to their utilization of the First-Year Seminar. Since the FYS implementation, this study (2001-2006) reveals first year retention rates comparatively much higher, with gender considerations (76% - 94%) and race considerations (68% - 92%). Grade point averages of the study (2002-2006) support FYS programming as well, with gender considerations (2.57 – 3.15) and race consideration (2.19 – 3.04) as mean average ranges. Additionally, SRU began utilizing the national First-Year Initiative Survey to help assess its First-Year Seminar. Study results utilized, and now magnify, the invaluable resource of the FYI Survey, as it provides significant and substantial information regarding first -year student perceptions of the FYS course and the institution. Through FYI results, SRU has not only been able to benchmark itself for comparisons against like-institutions, but more importantly, has been able to compare and improve its FYS course to itself yearly.

Implications for Peer Leadership in FYS

This study clearly provides research supporting the specific use of peer leaders within the First-Year Seminar. Although 81% of universities offer FYS course, only about 10% incorporate peer leaders within the course (Tobolowsky, 2005). Study results of increased retention and GPAs of the FYS Program with the Peer Leader Component reinforces the argument for FYS with peer leaders. The mixed results of various student populations – female, male, Majority, and

Minority – in FYS with and without peer leaders provide deeper insight and contributions to the general knowledge of gender and race differences of students in higher education, but more importantly, it also provides evidence to be used for more strategic peer leading program planning and improvement.

Implications for Peer-to-Peer Influence

The two theorists, widely known for retention, academic performance and social integration, attest to the magnitude of peer-to-peer influence. Alexander Astin declares "the student's peer group is the single most potent source of influence on growth and development of during the undergraduate years" (1993, p. 398). Vincent Tinto (1993) asserts that the more socially and academically students interact with other students and faculty, the greater the likelihood they'll persist. In addition, Arthur Chickering, historically known for his extensive studies on student developmental processes states,

"relationships with close friends and peer groups, or sub-cultures, are primary forces influencing student development in college" (1969, p. 253). Consistent with the literature, the study results also attest to the effects of peer-to-peer influence in general. Research questions sought program outcome effects of peer leaders and differences were found for students enrolled in a course with and without peer leaders. A good deal of positive peer-to-peer influence, many of statistical significance , was found in respect to persistence, grade point averages, and academic and social integration factors. Although this study explored peer leaders within FYS courses, it is suggested that peer leaders be

considered for other first-year courses and other mentor roles both inside and outside of the classroom.

Implications for Student Development Theories

Lastly, study results contribute markedly to the student development theories of Alexander Astin's (1977; 1993) Theory of Involvement and Vincent Tinto's (1987; 1993) Theory of Integration. The First-Year Seminar, and accordingly, the national First-Year Initiative Survey, has both Astin and Tinto underpinnings at its foundation. Astin's Theory of Involvement emphasizes three critical forms of student involvement necessary for student success, involvement with faculty, with academics, and with other peers. Tinto's Theory of Integration is similar, stressing the necessity of two critical forms of student integration, academic integration with faculty and peers and social integration with faculty and peers. Increases in the persistence, grade point average, and the academic and social integration factors revealed in the study both inherently and now calculatedly support these student development theories.

Recommendations for Further Research

This study collected and analyzed the First-Year Seminar at the study institution and therefore can only be generalized to that specific student population during the time period of the study. Replication of this study outside of the study institution, with different types of institutions, would provide more generalized results. This study, although longitudinal in its scope of the peer leader program effects, examined students only in their first year of college. It does not provide insight into longer-term effects of persistence, academic

performance, integration, and graduation. Having said that, this study does, nonetheless, document the favorable program effects of the peer leader in the First-Year Seminar. Four, five, and six-year graduation rates of student cohorts are recommended for further research linking predictive differences.

The study was a quantitative analysis of existing institutional, FYS, and peer leader data, one of only a few studies examining FYS peer leader effects (Hamid, 2004). Additional quantitative and qualitative research on FYS and peer leadership would provide further insight on student performance and retention.

The FYS course examined was a one-credit, graded, elective at the study institution. Students did not actively choose nor were aware of seminars with or without peer leaders and were subsequently enrolled into the FYS based primarily on major, liberal studies course interest, and seminar availability. FYS faculty voluntarily chose to partner with or without a peer leader. Peer leaders may or may not have been directly recruited by their respective FYS faculty. A strongly-encouraged, yet still voluntary two-day training was provided for FYS faculty and peer leader. Given all of these confounding variables, it is recommended that practical consideration be given to capitalize on the favorable results of this study and streamline FYS peer leader selection, recruitment, and training .

As mentioned before, study results of FYS peer leadership may prove beneficial in other first-year courses beyond the FYS as well as in other peer mentoring roles outside of the classroom. Literature reports how peer mentoring not only benefits the mentees, but also provides a benefit to the mentors

themselves, developing skills necessary to work with individuals and providing opportunities for teaching and learning (Ender & Newton, 2000).

Finally, results from this study suggest that current gender and racial differences of student experiences and perceptions of the FYS and peer leaders need to be examined. It seems clear that more detailed research and analysis into the nature and dynamics of mentoring experiences are needed. Additional studies may examine the specific cultural needs of Minority and male students, such as transitional issues, cultural identity, and socioeconomic concerns. Tinto (1987) stresses the importance of mentoring factors specifically for minority students and identifies formal academic interactions with faculty, campus climate and validation as potential influences on minority student persistence.

Summary

This study focused on the program outcome effects of the peer leader program on the First-Year Seminar on first-to-second year persistence, grade point average, and academic and social integration factors for college students, with gender and race considerations. Analysis from six-year institutional data indicated that the Peer Leader Component option had significant benefits to the FYS Program. Female, male, and Majority students in FYS Programs with the Peer Leader Component had significantly higher first-to-second year persistence and GPA levels than female, male, and Majority students in FYS Programs without the Peer Leader Component. Further, male and Majority students enrolled in FYS courses with a peer leader had significantly higher academic and social integration factor means than male and Majority students in FYS courses

without a peer leader. The data provided by this study offered additional educationally significant support for the utilization of peer leaders in the FYS. Many to most students in FYS with a peer leader had higher retention rates, GPAs and academic and social integration levels than their counterparts in FYS without a peer leader, with some populations of statistical significance.

Study findings documented peer-to-peer influences on student persistence, grade point averages, and academic and social integration factors. The study provides evidence and identification of a specific and elemental peer leading programming component that college and university administrators and policymakers need to consider when making decisions regarding first-year student success. While the goal of this study was to increase the knowledge base relating to practice within the study site institution, it contributed to the higher education community as a whole. Subsequently, peer leading can be accomplished for additional, first-year (or other) courses nationwide. The present study investigated peer leader programming for the FYS course, for which peer leadership was most clearly indicated (Astin, 1993; Gardner, 1996; Hamid, 2001; Cuseo, 1991; Barefoot, 2002).

On a final note, student engagement and interaction cannot be left to chance, particularly when this and a vast majority of other studies cited in the literature review show how intentional services, such as peer-to-peer mentoring, can be so very effective and instrumental in ensuring student success. As Astin stated “the student’s peer group is the single most potent source of influence on growth and development during the undergraduate years.” We would be foolish

as educators to not use this influence to further develop our students, mentors and mentees both.

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Appendix A

Study Site Approval

10/23/2007 10:45 4867 ENROLLMENT SERVICES PAGE 01/01

Slippery Rock University

Dr. Amanda Yale
Associate Provost

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Enrollment Services

Academic Advisement
Academic Records & Summer School
Admissions
Department of Academic Services
Career Services
Financial Aid
Graduate Studies
Office for Students with Disabilities
Orientation
Retention Services

October 15, 2007

Institutional Review Board
Indiana University of Pennsylvania
1011 South Drive
Indiana, PA 15705

Dear Review Board reader,

Ms. Jessamine M. Montero has made us aware of her intent to conduct a study at Slippery Rock University of Pennsylvania as part of her doctoral studies at Indiana University of Pennsylvania. Her study will involve the examination of existing institutional records, primarily the First-Year Initiative (FYI) and institutional data for academic cohort years of 2001 – 2006.

This letter is to inform the Institutional Research Board that Jessamine has the approval and full support of Slippery Rock University to utilize our location as the site of her research. She has agreed to share her research findings with the administration, faculty, and staff. We anticipate these findings to be beneficial to our institution as well as to post-secondary educational institutions as a whole.

We wish her the best of luck with her study.

Sincerely,

Dr. Amanda A. Yale
Associate Provost

Dr. William F. Williams
Provost

Dr. Robert R. Smith
President