Evaluating an Academic Support Program for Urban At-Risk College Students at a Private Urban College

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Evaluating an Academic Support Program for Urban At-Risk College Students at a Private Urban College

Abstract
This quantitative study focused on evaluating the effectiveness of an academic support program serving urban at-risk students. The program studied takes place at a private middle size college located in New York City and lower Westchester County, NY which serves a predominately urban population. Retention rates of program participants were compared to a treatment group of statistically matched students. Ten student characteristics, choice of major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent's educational level, and date of initial college application were analyzed as potential predictors of student retention. The findings show that students who participated in the academic support program retained at a significantly higher rate than those that did not participate. Additionally, for students who participated in the academic support program out of ten student characteristics, none were determined to predict a student's retention a year later. For students who did not participate in the academic support program, being a male or testing into a non-credit English course suggests that students are more likely not to retain one year later. Additional research is recommended at this institution to measure other predictors of retention such as non-cognitive traits, debt burden, and high school rigor.

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Evaluating an Academic Support Program for Urban At-Risk College Students at a
Private Urban College

By

Stephen Schultheis

Submitted in partial fulfillment
of the requirements for the degree
Ed.D. in Executive Leadership

Supervised by
Dr. Jerry Willis

Committee Member
Dr. Jamie Steiner

Ralph C. Wilson, Jr. School of Education
St. John Fisher College

August 2014
Dedication

There were many individuals who without their assistance and support this dissertation would not have been possible.

I dedicate this dissertation to my family. My wife Gosha encouraged me to begin and complete this journey. I am grateful for the encouragement and support she has provided. Without her support I would never have considered beginning. My boys, Philip and Benjamin, have been patient and understanding as I have worked through the completion of my studies and this dissertation. They have given me the time to get my work done. My parents, LaNell and Vernon Schultheis, grandmother, Virginia Schultheis, and brothers, Luke, Martin, Michael, and Christopher. They have all helped me grow and focus on serving underrepresented populations.

I am grateful to Dr. Willis, Dissertation Chair and Dr. Steiner, Dissertation Committee Member. Their guidance and instruction provided me with the path to complete this dissertation.

I would like to thank my colleagues at Monroe College especially Marc Jerome, David Dimond, Carol Genese, Janice Girardi, and Cecil Wright for their support. I wish to extend my gratitude to my team in the Student Services Office, especially Jahila Smith for always checking with me on what do I need help with in order to complete this journey. I would like to thank Dr. Ellen Flynn. She encouraged and supported me to make it through this journey.
Finally, I thank God the Father, Son, and Holy Spirit. God’s blessings and grace have provided me with the opportunity to complete this journey.
Biographical Sketch

Stephen Schultheis is currently the Dean of Student Services and Retention at Monroe College in New York. He attended Valparaiso University, graduating in 1997 with a Bachelor of Science degree in Elementary Education. Mr. Schultheis earned his Masters of Arts degree from Teachers College, Columbia University in 2006.

Stephen Schultheis began his doctoral studies in 2012. He attended St. John Fisher College Ed.D. Program in Executive Leadership and pursued his research in the Evaluation of an Academic Support Program for Urban At-Risk Students at a Private Urban College under the guidance of Dr. Jerry Willis, Dissertation Chair and Dr. Jamie Steiner, Dissertation Committee Member.
Abstract

This quantitative study focused on evaluating the effectiveness of an academic support program serving urban at-risk students. The program studied takes place at a private middle size college located in New York City and lower Westchester County, NY which serves a predominately urban population.

Retention rates of program participants were compared to a treatment group of statistically matched students. Ten student characteristics, choice of major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, and date of initial college application were analyzed as potential predictors of student retention.

The findings show that students who participated in the academic support program retained at a significantly higher rate than those that did not participate. Additionally, for students who participated in the academic support program out of ten student characteristics, none were determined to predict a student’s retention a year later. For students who did not participate in the academic support program, being a male or testing into a non-credit English course suggests that students are more likely not to retain one year later. Additional research is recommended at this institution to measure other predictors of retention such as non-cognitive traits, debt burden, and high school rigor.
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Chapter 1: Introduction

This paper highlights recent data on student retention and graduation rates with a brief problem statement, theoretical rationale, purpose and significance of study, and an analysis of literature on Tinto’s (1975) student departure theory as well as a discussion of current retention strategies. Tinto’s (1997) learning community model is examined as the foundation for a theory informed evaluation of an academic support program’s impact on urban at-risk college students.

Problem Statement

College students view college degree attainment as a milestone. Earning a college degree creates greater earning potential and the possibility of career advancement. Graduates with a four-year degree earn up to twice the income of those who only complete a high school degree (Weddle-West & Bingham, 2010). Unfortunately, a high percentage of students that enter college fail to graduate or even persist to their second year. The U.S. Department of Education’s National Center on Educational Statistics (2011) reports 72% of college freshmen persisted to their second year of college at the same institution in four-year colleges and 61% at two-year colleges. Restated, almost 40% of freshmen left two-year colleges before entering their third semester without attaining a degree.

Graduation and persistence rates for minority students are even more problematic. The U.S. Department of Education’s National Center on Educational Statistics (2011) states African American students have a bachelor degree graduation rate
of 39% at four-year colleges. The national graduation rate is 58%. Furthermore, African American students have a graduation rate of 29% at two-year colleges while the national rate is 33%. Latino students, meanwhile, have a bachelor degree graduation rate of 47% and a 37% graduation rate at two-year colleges. The National Center on Educational Statistics (2012) states 21% of Black and 20% of Latino students who started college in 2003-2004 left without completing a degree in 2004.

Minority students’ persistence remains low, even while increasing access to college continues to be a focal point of President Barack Obama’s administration as he aims to increase the amount of students in college and to close the achievement gap for minority students completing college (House, 2012). These goals are vital to society since students who do not persist face potential earnings loss, student loan repayments, and slowed career advancement throughout their life (Ackerman & Schibrowsky, 2007). As a result of low graduation and retention rates, institutions seek to understand student attrition trends, develop methods to improve retention, and to increase college graduation rates for all college students.

Institutions focus time and money into improving student retention rates. Student retention has become a big business for researchers, educators, and entrepreneurs (Tinto, 2006). College administrators view retention rates as indicators of the quality of faculty instruction, support services, and student success (Barbatis, 2010). The research shows that programs designed for incoming college students, such as the freshman experience, improve retention rates and increase graduation rates (McGrath & Burd, 2012). In addition, colleges have implemented academic support programs, established peer mentoring programs, and promoted faculty-student relationships to target underprepared
students and strengthen academic remediation (Sanchez-Leguelin nel, 2008). According to Kuh, Kinzie, Schuh, and Witt (2005), about 25% of first-time students at four-year colleges require at least one year of remedial coursework in order to become college ready or fully out of remedial coursework. Consequently, faculty and staff in colleges and universities must be trained in college readiness strategies to assist students transition from secondary curriculum to post-secondary curriculum. These strategies need to prepare students for academic success. Overall, faculty and staff must develop effective data-driven retention plans based on student academic and social performance.

There is endless research on why students do not remain in school but understanding why the urban at-risk student leaves college is a much more complex question. Pascarella (2006) conservatively estimates that between 6,000 and 7,000 studies of college impact have been conducted and 5,000 to 10,000 more may be produced in the next 20 years. Oseguera and Rhee (2009) agree that the literature on college student retention is vast, advancing our theoretical framework of why students complete college. Colleges need to develop their knowledge base and embrace an improvement of practice (Braxton, 2000). While institutions have made efforts to improve student retention based on the vast amount of research, the overall retention and graduation rates have not drastically improved. As a matter of effectiveness one might question the value of the over 40 years of research on retention that have not produced an improved trend on overall retention and graduation rates.

It seems that much of the research discusses why students do not complete their college degree without discussing how to develop a practical proactive approach that contains valuable elements from multiple theoretical designs. Furthermore, research on
effective retention programs for urban at-risk college students do not necessarily address
the confounding factors such as academic and social readiness that make it extremely
difficult for those students to be successful in a college environment. Retention
initiatives for at-risk students should go beyond just adding another student service office
here and there within the college, to a more comprehensive approach that will create a
collaborative educational environment that promotes the academic success of all students
(Tinto, 1999).

Factors affecting the urban college student’s ability to achieve academic success
are multifaceted and, as stated, a collaborative approach is needed. When college faculty
are asked about the underprepared student, they report that these students are inadequate
writers, they have trouble understanding difficult material, they fall short in applied
knowledge of science and math, they have poor study habits, and they lack motivation
(Sanoff, 2006). Colleges have attempted to address these factors by adding more
remedial courses to the student’s schedule but no considerable improvement in overall
retention of at-risk students occurred. In fact, Kuh et al. (2005) state that as the number
of required developmental courses increase, so do the odds that the student will
eventually drop out.

Moreover, research highlights the connection between the student’s personal
background and the student’s interactions with the institution as a central theme in
successful retention efforts (Willcoxson, Cotter, & Joy, 2011). When a student becomes
academically and socially integrated into the formal and informal academic and social
systems or develops a sense of belonging within an institution then that student will
decide to stay at that college (Tinto, 1975). According to Tinto’s (1975) student
departure theory, helping students feel more connected to the college campus and its culture may influence and possibly determine the student’s retention decision. Tinto (1975) stated that his longitudinal model showed a connection between the academic and social systems of an institution and student retention.

Another important but overlooked factor affecting the academic success of urban at-risk college students is the financial affordability component. Entering freshmen, especially those who are the first-generation in their family to attend college, often do not know what it means to be a successful college student. Research documents that these students work too much outside of school in order to meet living expenses (Shireman, 2009). According to college financial aid experts, financial aid helps lower-income students enroll in college; it does not help them become a college student (Shireman, 2009).

According to Tinto (2012), first-generation and low-income college students typically lack the shared knowledge that most affluent students from college-educated families commonly know about, such as, the nature of the college experience, faculty and classroom expectations, and the time needed to study for a subject. As a result, at-risk students leave little time in their schedule to study their assignments outside of class. First generation and remedial students are in need of this shared knowledge of how to be a successful student, which according to Tinto (2012), can be communicated through mentoring relationships, informal networks among faculty, staff, and students, and the creation of learning communities on campus. Campbell and Campbell (1997) and Tinto (1997) both conducted studies that demonstrated when mentoring relationships and learning communities were used, student retention and performance improved.
In order to respond to the needs of our urban at-risk students, the private, urban middle size college in this study developed a comprehensive academic support program. The comprehensive program consisted of: student advisement, student financial aid counseling, early retention alerts, peer mentoring, increased faculty-student engagement opportunities, and mandated academic support services. In addition, the pilot program attempted to construct a collaborative educational environment based on Tinto’s learning community model.

**Theoretical Rationale**

The academic support program being evaluated in this study is informed by Tinto’s (1997) learning community model. The learning community model is an evolution of Tinto’s (1975) student departure theory which has roots in Durkheim’s theory of anomie. Durkheim’s (1897) theory states that anomie, a sense of derangement, is more likely to occur when individuals are insufficiently integrated into the fabric of society namely, when they are lacking integration, a sense of purpose, emotional emptiness, and personal interaction with members of the collective society (Tinto, 1975). Spady (1961) first connected Durkeim’s theory of anomie to student departure. Spady linked personal attributes with environmental influences, stating a student’s decision to either remain or withdraw is influenced by the reward found within these systems (Spady, 1961). Tinto expanded on Spady, adding that the extent to which a student becomes academically and socially integrated into the formal and informal academic and social systems of an institution determines that individual’s decision whether to depart or not (Tinto, 1975).
Tinto added to his student departure theory in 1987 by recognizing student behaviors, such as a failure to adjust to academic and social life, a failure to resolve individual goals, an inability to commit to college, and poor study habits. According to Tinto (1987), these behaviors impacted the student’s ability to become part of the community. Tinto (1987) stated that incongruence and isolation impact a student’s retention. Student incongruence relates to the quality of the interaction between the student and institution, both academically and socially. Student isolation is the absence of academic and/or social interactions. Bean and Eaton (2000) added to Tinto’s model in their psychological model of college student retention, stating students adopt an attitude that assists them fit into an academic environment causing them greater integration. Student actions that provide positive social and academic results lead to positive expectations, goals, and integration into the college community, which has a positive impact on student retention (Bean & Eaton, 2000; Stage & Hossler, 2000; Tinto, 1987). Students are able to generate actions that result in their success. Tinto (1997) states that goal commitment, institutional commitment, and attitudinal intention are important to understanding student departure. Academic avoidance, such as not committing time to studying, uncertainty of goals, or avoiding classes, leads to a negative relationship with academic integration (Bean & Eaton, 2000; Tinto, 1987).

Student retention initiatives fell predominantly to the student affairs offices. Retention strategies focused then (and even now, at time) on the events occurring outside of the classroom. The social interaction aspect of the student departure theory was being considered. Academic integration was not. College classrooms are central to the learning experience. However, the classroom experience has not changed much, while
the student experience outside the classroom has changed (Tinto, 1997). Tinto (1997) explored the impact of learning communities and collaborative learning strategies on student learning and persistence. Tinto aimed to measure what impact learning communities and the adoption of collaborative learning strategies have on student learning and persistence. The central question was whether, the program made a difference, and if so, how (Tinto, 1997).

Demaris and Kristonis (2011) found that relationships exist between persistence, student involvement in classrooms, and student learning. Learning communities meet the students’ social as well as academic needs without sacrificing either (Tinto, 1997). In the learning community model, faculty interact with students regularly and form a team approach with student affairs personnel. Through a team approach, students are provided with intrusive support, which occurs through regularly scheduled academic advising reviewing goals and objectives by faculty and student affairs staff. Purdie and Rosser (2011) found persistence increased when learning communities focused on forming daily interactions, creating relationships around academic interests. Collaboration is essential to connecting students with support services (Engstrom & Tinto, 2008). The intrusive support or regular interactions fosters opportunities for faculty and students to interact (Purdie and Rosser, 2011).

Tinto’s (1997) learning community model suggests that student persistence increases when learning communities are established and students’ social as well as academic needs were met without sacrificing either. This suggests that, the learning community model has a positive impact on student performance.
Statement of Purpose

The purpose of this study was to evaluate the effectiveness of a comprehensive academic support program for urban at-risk college students at a private, urban, middle size college. Retention and academic performance outcomes of students who participated in a first semester academic support program were examined. The study aimed to identify predictive variables for incoming students who benefit from enrolling in such an academic support program in the future. This quantitative study was conducted in an effort to develop institutional knowledge and thus to guide institutional policy change related to the identification of incoming at-risk students.

Research Questions

The research questions below were used in an evaluation of the academic support program. The quantitative study used archival data to determine the impact of the academic support program on at-risk students.

1. How do one-year retention rates of students enrolled in the academic support program compare to other at-risk students not enrolled in the program?
2. Does the academic support program have an impact on student performance as assessed by the student?
3. For students enrolled in the academic support class in their first semester, does a student’s major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, or date of initial college application have a relationship to the students’ one year retention rates?
4. For students not enrolled in the academic support class in their first semester, does a student’s major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, or date of initial college application have a relationship to the students’ one year retention rates?

**Potential Significance of the Study**

This study was conducted to evaluate the efforts of an academic support program at a private, urban, middle size college. The study aimed to develop institutional knowledge and an assessment of a targeted retention strategy towards at-risk urban students. Additionally, this study aimed to fill a gap in research on effective retention programs targeted towards at-risk urban students.

The study developed institutional knowledge on identifying and successfully retaining at-risk students. Developing profiles of successful versus non-successful at-risk students enables institutions to link appropriate support services that will assist students and positively impact student retention (Laskey & Hetzel, 2011). The results will be used to inform the admissions process at a private college in an effort to provide appropriate support services for incoming urban at-risk students. Additionally, this study will be used to increase access to the college in this study for students who match the criteria of students successful in the academic support program.

There is a gap in translating the vast amount of retention research into effective practice (Carey, 2005; Tinto, 2006). There is a need to research types of programs and institutional practices that lead to increasing student retention. This study seeks to fill the
gap in literature on effective retention programs targeted at urban at-risk first time college students.

Definitions of Terms

The following terms are defined for this study.

*Academic Integration* – For this study this term is defined as the student’s academic performance and their level of intellectual development within an academic environment (Tinto, 1975).

*Academic Support Program* – A comprehensive learning community based on Tinto’s learning community model (Tinto, 1997) at a private, urban, middle sized college consisting of student development interventions, student advisement, student financial aid counseling, early retention alerts, peer mentoring, increased faculty-student engagement opportunities, and mandated tutoring.

*African American* – This term refers to a person having origins in any of the Black racial groups of Africa (NCES, 2012).

*Freshman* – A first time undergraduate student (NCES, 2012).

*First Generation* – For this study the term refers to college students who are the first in their immediate family to attend a post-secondary institution.

*Full-time student* – An undergraduate student who is enrolled for 12 or more semester credits (NCES, 2012).

*Graduation Rates* – This term refers to the completion of a college degree with 150% of the expected time (associate’s degree within 3 years and a bachelor’s degree within 6 years) (NCES, 2012).
**Goal Commitment** – For this study the term refers to the student’s commitment to completing college and graduating (Tinto, 1975).

**Latino** – This term refers to a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race (NCES, 2012).

**One Year Retention** – The term refers to the outcome of a student to enroll at the same institution he or she began at within the following year and or earned a degree or certificate.

**Persistence** – This term refers to whether or not a student enrolls in the same post-secondary institution the year following their first year of enrollment.

**Social Integration** – This term refers to the student’s identification with a post-secondary higher education institution or a perception of a personal fit within the post-secondary higher education institution (Tinto, 1975).

**Undergraduate** – A student enrolled in a 4 or 5 year bachelor’s degree program, an associate’s degree program, or a vocational or technical program below the baccalaureate (NCES, 2012).

**Urban at-risk students** – For purposes of this study, this term refers to students receiving a maximum Pell distribution, having received a high school grade point average below 75% and from areas with a population of 25,000 or more.

**Chapter Summary**

This chapter highlighted recent data on student retention and graduation rates with a problem statement, introduction to the theoretical framework, and the purpose and significance of the study. Chapter 2 will provide a literature review which examines Tinto’s (1997) learning community model and discusses best practices of retention in
higher education. Chapter 3 will describe this quantitative study’s methodology. The results of this study will be reported in Chapter 4. Chapter 5 will discuss this study’s implications, limitations, and recommendations.
Chapter 2: Review of the Literature

There are multiple student retention theories and practices focused on retaining students in higher education. Many of these theories have roots in Tinto’s 1975 student departure theory. This review will discuss Tinto’s student departure theory, the theory’s evolution into his learning community model, and criticisms of this theory. A review of current retention strategies will follow.

Review of the Literature

Foundation of Tinto’s student departure theory. Tinto’s student departure theory has roots in Durkeim’s 1961 social theory (Tinto, 1975). Durkheim’s (1897) theory states that anomie, a sense of derangement, is more likely to occur when individuals are insufficiently integrated into the fabric of society; namely, when they are lacking moral integration and personal interaction with members of the collective society (Tinto, 1975). Spady (1961) first connected Durkeim’s theory of anomie to student departure. Spady linked personal attributes with the institution’s environmental influences, stating a student’s decision to either remain or withdraw is influenced by the reward found within that system (Spady, 1961). Tinto applied Durkheim’s concept of anomie to Spady’s student departure theory by adding that the extent to which a student becomes academically and socially integrated into the formal and informal academic and social systems of an institution determines that individual’s decision whether to depart or not (Tinto, 1975).
Similar to Durkeim’s theory of anomie, a student has a greater chance of departing when that student is not sufficiently integrated into the fabric of a college. Prior student attrition theories described the student departure process after the student had already been separated from the institution. Tinto’s goal with his student departure theory was to create a more predictive (rather than descriptive) process in order to aid the retention of students (Tinto, 1975).

Among the many predictive factors identified by Tinto (1987), a student’s failure to adjust to the academic and social life within the college and to become a part of the college community have the greatest impact on the student’s reasons to leave school. It is the student’s sense of incongruence and isolation, according to Tinto (1987), which can negatively affect student retention.

A student’s sense of incongruence and isolation from the college community contributes to the lack of meaningful academic and social interactions on campus. As Bean and Eaton (2000) conclude, students who adopt an attitude that they fit into the academic environment will be more likely to have positive expectations, goals, and higher academic success. All of these factors have a positive impact on student retention (Bean & Eaton, 2000; Stage & Hossler, 2000; Tinto, 1987). Therefore, increasing a student’s sense of belonging, encouraging them to develop more meaningful relationships within the academic and social systems on campus should result in their academic integration and retention.

**The learning community model.** It seems that the more students are academically and socially engaged with other people on campus, especially with faculty and student peers, the more likely they will stay and graduate from college (Tinto, 2012).
Academic and social involvement influences retention in a variety of ways. Classroom involvement and student-faculty contact lead to greater effort students put into their studies, which, in turn, lead to greater academic success and retention (Tinto, 2010). Even among those students who complete college, those who reported higher levels of contact with faculty and peers demonstrated higher levels of academic achievement and a stronger sense of validation (Barnett, 2011). For these reasons, student engagement with faculty, peers, and the college community through deliberate institutional action should be established in the critical first year of a student’s college life. Tinto’s learning community model (2012) is one such way institutions can facilitate student involvement that leads to social and academic membership and results in a student’s sense of belonging to the college or university.

Tinto first explored the impact of learning communities and collaborative learning strategies on student learning and persistence at Seattle Central Community College in Washington. Students enrolled in the learning community also attended the same classes during the semester. Tinto aimed to measure what impact the learning community and the adoption of collaborative learning strategies had on student learning and persistence. The central question was whether, the program made a difference and if so, how (Tinto, 1997).

The results of the Seattle study showed that grade point averages, student involvement, and persistence were all impacted by enrollment in the learning community. The students’ grade point average performance was stronger than those not in the program. In addition, students developed stronger networks of support, and were influenced when sources of learning came from a variety of perspectives. The study also
revealed that student involvement and achievement were promoted in a community college setting that traditionally struggled to promote involvement with commuting students. Persistence also increased as student involvement increased (Tinto, 1997).

Learning communities encourage student engagement in the classroom and among student peers. When students from the Seattle study were asked to respond as to how the learning community impacted them they stated that the communities helped build supportive peer groups, assisted in making friends, and brought together academic and social activities (Tinto, 1997). Students who actively participate in the classroom perceive themselves as receiving encouragement, support, and academic growth (Engstrom & Tinto, 2008). Furthermore, student engagement has a positive impact on academic performance and student retention (Shinde, 2010). Decisions to stay or leave college are shaped, in part, by the meaning students attach to their involvement with the college community and the sense of belonging that has been developed (Gonzales, 2002).

Tinto’s model suggests that student involvement increases when learning communities are established (Tinto, 1997). Demaris and Kristonis (2011) state relationships exist between persistence, student involvement in classrooms, and student learning. Learning communities meet the students’ social as well as academic needs without sacrificing either (Tinto, 1997). In the learning community model, faculty interacts with students, advisers, and student development personnel on a regular basis to work as an academic support team. Through this team approach, students are provided with structured support. Structured support occurs through regularly scheduled academic advising by faculty, student affairs staff, and student services administrators (Purdie and Rosser, 2011).
Purdie and Rosser (2011) found persistence was increased when learning communities focused on forming daily interactions creating relationships around academic interests. Purdie and Rosser (2011) add that students’ choice to enroll in the course may have impacted the persistence results. This suggests a need to create multiple learning communities with different topics of interest, encouraging student participation and interest. Additionally, learning community counselors reinforced critical habits and skills. Collaboration is essential to connecting students with support services (Engstrom & Tinto, 2008).

McGrath and Burd (2012) investigated performance, persistence, and graduation rates for students participating in a reactive mandatory freshmen success course. The quantitative study at a four-year public college showed persistence and graduation rates increased when students were enrolled in the success course. The success course promoted awareness of campus resources, involvement in campus organizations, and the development of advisor and faculty relationships with the at-risk students. The study suggests attitudes and behaviors that predict college success can be taught and learned. The study did not address economic or psychological factors’ impact as supported by Braxton (2000), but did emphasize aspects of Tinto’s learning community model (Tinto, 1997). This suggests that in addition to proactive support, a reactive academic support class designed to incorporate Tinto’s (1997) learning community model has a positive impact on student performance as well.

**Criticisms of Tinto’s student departure theory.** Critics of Tinto’s learning community model focus on the theory’s exclusion of social integration (Braxton, Hirschy, & McClendon, 2004). While Braxton et al. (2004) have criticisms of Tinto’s
(1997) model, they recommend the model not be abandoned but reworked. Braxton et al. (2004) add commitment of the institution to student welfare, institutional integrity, communal potential, proactive social adjustment, psychosocial engagement, and the ability to pay as factors that influence social integration.

Braxton (2000) states the need for retention theories to include economic, organizational, psychological, and sociological perspectives. This literature includes institutional factors in the understanding of student retention. Braxton, Jones, Hirschy, and Hartley (2008) add that the value an institution places on students demonstrates its commitment to the success of the students. Braxton et al. (2008) focus on the display of the institution’s commitment in the classroom learning environment and its impact on student persistence. The authors found that active learning demonstrated an institution’s commitment to student welfare and a positive link to student persistence.

The recommendation of Braxton (2000) and Braxton et al. (2004) to include economic, organizational, psychological, and sociological perspectives is supported by additional theorists including St. John, Cabrera, Nora, and Asker (2000), Bean and Eaton (2000), and Berger (2000). Financial resources are needed to attend and persist (Ward, 2008). Students need to have the ability or a strategy to pay for their tuition. In his study of low-socioeconomic urban students, Morales (2010) states that students’ families need to be willing to sacrifice financially in order for the students to be invested and persist. Unfortunately, some colleges provide students with high levels of institutional grants for the first year only, presenting a false sense of affordability. During the second year, students realize the cost of the tuition is too high and not what they planned on spending, which causes them to separate from the institution.
Nasim, Roberts, Harrell, and Young (2005) further support Braxton’s suggestion to include psychological and sociological needs through their study’s findings of students’ resilience to overcome obstacles. The resilience theory found strength of character, motivation, independence, and confidence created a greater ability to adjust and persist through college.

Resilience theory takes into consideration factors based on students’ life experiences as an influence on student persistence (Ungar 2004; Morales, 2010). A student’s emotional intelligence influences how that student will manage in a challenging situation (Morales, 2010; Bean & Eaton, 2000). Ungar (2004) states that compensatory, challenge, and protective behaviors, have an impact on a student’s social integration. These behaviors, which are based on life experiences and perceptions of self, have the potential to cause students to drop out of college or influence student risk in overcoming obstacles and remaining in college. In Morales’ (2010) qualitative study, students identified academic competitiveness as a stressor for low self-esteem causing students to create a protective behavior which would prevent them from seeking assistance in a classroom environment among their peers and reducing the risk for negative outcomes which may cause them embarrassment. This suggests that some students would rather fail out academically and maintain self-esteem than overcome the academic challenge that could potentially result in a negative outcome (Ungar, 2004).

Colleges are challenged with identifying the readiness of students possessing avoidance behaviors that may negatively influence persistence. Identifying students with these behaviors and creating proactive support programs are essential in order to improve student persistence.
Retention strategies. Understanding and implementing retention strategies is essential for practicing professionals to ensure incoming students are successful. There is an extensive body of research pertaining to retention that goes back to the 1970s. Volumes of articles and books have been written attempting to discover the great mystery of retaining college students. Even with the extensive amount of existing research, little has been done to increase student retention and graduation rates. There is much that needs to be done to translate the theory into practice (Tinto, 2006). While there has not been a national breakthrough in retention strategies, there have been institutions that have succeeded in implementing effective retention initiatives. This section will highlight retention strategies focusing on academic and social integration, faculty development, and institutional commitment.

Academic and social integration of college students is an integral part of a retention strategy (Braxton et al., 2004; Chandler & Potter, 2011; Escobedo, 2007; Muldoon, 2009; Purdie III & Rosser, 2011; Talbert, 2012; Tuckman & Kennedy, 2011). Braxton et al. (2004) and Muldoon (2009) state that developing learning communities is an effective method for integrating students academically and socially. This strategy fosters student involvement through participation and interaction with peers and faculty members (Braxton et al., 2004). Along with the establishment of communities on campus, faculty and staff collaboration with each other and students is essential (Escobedo, 2007; Purdie III & Rosser, 2011). The ongoing communication between retention specialists and faculty both encourages the tracking of students’ success and identifies high risk students that require targeted interventions (Chandler & Potter, 2011; Escobedo, 2007; Talbert, 2012). A targeted early academic alert process works as a tool...
for faculty and staff to connect students to the campus support services (Chandler & Potter, 2011; Escobedo, 2007). Finally, intrusive advising by a retention specialist allows students to have regular, structured advising appointments throughout the semester. The advising sessions are an opportunity to discuss the students’ social involvement, needs, and to ensure social interaction with peers (Braxton et al., 2004; Escobedo, 2007; Muldoon, 2009).

Faculty instructing first year students need to be prepared and trained to address the needs of the at-risk student. Development and instruction of pedagogy is an essential strategy to a successful retention initiative (Arcco, Fernandez-Martin, & Fernandez-Balboa, 2011; Braxton et al., 2004). Faculty teaching at-risk students need to assist students to develop practices of understanding the task, setting goals, managing time, building confidence, taking responsibility, learning from lectures, and preparing for exams (Chandler & Potter, 2011; Tuckman & Kennedy, 2011).

A successful retention initiative needs to have institutional commitment (Braxton et al., 2004). Historically, student affairs professionals handled much of the work to provide students the assistance they needed to persist (Tinto, 2006). Retention initiatives should be organized by senior management as a means of creating institutional commitment dedicated to providing academic, social, and financial support. The challenges both academically and socially cannot be addressed alone by one department; the full support of the institution is needed to be successful.
Chapter Summary

This chapter reviewed recent student retention and graduation data. Data from the National Center for Educational Statistics shows that student retention and graduation rates are a problem, especially the retention and graduation rates of minorities.

This literature review covered theoretical applications to community colleges, four year public and private institutions, and students residing in college housing. Some commonalities in the literature focus on student learning and institutional culture. The literature differs on the importance of the influence of external factors such as financial barriers, personal responsibilities, and college readiness.

Current retention strategies were reviewed. The strategies discussed focused on academic and social integration, faculty development, and institutional commitment.

This study conducted a quantitative review of an academic support program developed to increase retention at a private, urban, middle size college. The academic support program was designed using Tinto’s (1997) learning community model. Using a 2 X 2 Chi-square statistic this study assessed the program’s impact on the academic performance and retention of at-risk urban college students with a control group as a comparison. An online Likert survey was used to assess impact of the academic support program on student performance as perceived by the student. Additionally, through the use of a logistic regression analysis, the study sought to identify variables that improve the prediction of at-risk students who retain.
Chapter 3: Research Design and Methodology

This quantitative study was conducted in an effort to develop institutional knowledge and thus to guide institutional policy change related to the identification of incoming at-risk students. In addition, this study sought to evaluate the effectiveness of the comprehensive academic support pilot program for urban at-risk, underprepared, first year undergraduate students at a private, urban, middle size college. The academic support program began in fall 2009 as an educational support method for urban at-risk students. Since its inception, the college has enrolled students into the program each fall.

Research Questions

The four research questions that guided this study were:

1. How do the one-year retention rates of students enrolled in the academic support program compare to other at-risk students not enrolled in the program?

2. Does the academic support program have an impact on student performance as assessed by the student?

3. For students enrolled in the academic support class in their first semester, does a student’s major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, or date of initial college application have a relationship to the students’ one year retention rates?
4. For students not enrolled in the academic support class in their first semester, does a student’s major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, or date of initial college application have a relationship to the students’ one year retention rates?

Research Context

The college where this study was conducted is a private urban college that provides professional and career oriented programs to students from diverse backgrounds. The college enrolls 4,399 full time undergraduate students, 70% females, 30% males, 52% Hispanic or Latino, 38% Black, 10% Asian, white, and unknown. The overall retention rate for full time, first time undergraduates is 66%. In comparisons involving students who did or did not take an academic support course, students at the campus in lower Westchester County, NY constitute the group that took the course. The control group consisted of students at the college’s main campus which is located in Bronx, NY. Demographic data collected from both groups was used to determine if the two groups of students were similar enough to make comparisons between them meaningful when seeking information on whether the academic support course had an impact on retention. There were differences between the two groups on important demographic variables and a procedure known as propensity score matching (PCM) was used to build similar experimental (took academic support course) and control (no academic support course) so that meaningful comparisons could be made (Reynolds & Des Jardins, 2009).
**Research Participants**

The academic support program at the lower Westchester County branch campus began in fall 2009 as an educational support method for urban at-risk students. The program has enrolled students into each fall class since the inception. The college’s main campus does not have an academic support program for incoming at-risk students.

The same general admissions process is followed at both campuses. Several sources of data are considered when making a decision to admit a student: high school grade point average, counselor recommendation, personal goal statement, high school recommendations, and performance on the math and English placement examinations administered by the college.

High school seniors who have applied to the college’s branch campus with a cumulative grade point average below 75% are considered for enrollment into the academic support program. Students with cumulative grade point averages of 75% or higher are not considered for the academic support program. However, at the branch campus, enrollment into the academic support program is a mandatory condition of acceptance for an applicant with a high school grade point average below 75%. The main campus does not offer the academic support program to any students.

The Academic Support Group (ASG) consisted of first-time, full time students enrolled in the academic support program for the 2009-2012 academic years at the branch campus. The sample size was 31 students from the fall 2009 semester, 37 students from fall 2010, 14 from fall 2011, and 59 from fall 2012 for a total sample size of 141 students. In fall 2009 there were two academic support sections offered, two in fall 2010, one in fall 2011, and three in 2012 for an average section size of approximately 18 students.
The number of sections offered each year depended on the number of students who were required to take the course.

At the main campus, the No Academic Support Program (No-ASP) or “control group” for the first and fourth research questions consisted of first-time, full time students with a high school grade point average below 75%. Had these students been admitted to the branch campus they would have been required to enroll in the academic support program. Because these students attended the main campus, no such program was required or available. The control group consisted of 139 students from fall 2009, 125 from fall 2010, 79 from fall 2011, and 121 from fall 2012 for a total of 464 students.

Because random selection of students for the experimental and control groups was not possible, another approach was used to create the two groups that were compared. First, the two groups, as described above, were compared on the available demographic measures. If the treatment and no-treatment groups do not differ on those demographic measures, which according to the literature were predictors of the dependent variable in this study (retention), the intact groups could be compared even though random assignment was not possible. On the other hand, if important differences were detected, a propensity score matching methodology would be used to create a non-treatment group that was similar to the treatment group. Reynolds and DesJardins (2009) state that propensity score matching measures observable characteristics of the treated and untreated populations in order to create groups that allow researchers to make rigorous statistical inferences. In this study the propensity score matching would use the following measurable characteristics as the basis for matching:

- high school grade point average,
• race,
• age,
• gender,
• if the student received Title IV financial aid, and
• if the student tested into developmental courses

There were significant differences in two of these variables and prior to analyzing the data, propensity score matching was conducted to match GPA, age, gender, race, math placement, English placement, and title IV on retention. Once propensity score matching was completed, data cleaning and data screening were undertaken to ensure the variables of interest met appropriate statistical assumptions. Thus, the following analyses were assessed using an analytic strategy where the variables were first evaluated for univariate outliers and normality. Subsequently, Chi-square tests of independence, descriptive statistics, and logistic regression analyses were run to determine if any relationships existed between the variables of interest.

Propensity score matching (PSM) is a statistical technique that estimates the effect of a variable by accounting for the covariates that predict it. PSM attempts to reduce the bias due to confounding variables. The specific procedure in SPSS 22.1 matches experimental cases with similar control cases contained in a single dataset. It first runs a logistic regression with the control group variable as the dependent variable. Then it selects a match for each case from the control group based on the propensity score from the logistic regression. The propensity score is an estimate of the probability of membership in the case group. Matching is conducted by using a match tolerance value to specify the tolerance for the score in matching cases and controls. A control is
eligible to match a case if the absolute value of the difference in the propensity scores is less than or equal to this value. A value of 0 means exact matches only while a value of 1 means any control would match any case. Smaller values produce closer matches but may increase the number of unmatched cases. For this analysis a match tolerance value of 95.0% was used and subsequently rendered no exact matches and 98 matches.

Before matching was attempted, the original sample had 600 college students with 459 that were not enrolled in academic support and 141 that were. After matching academic support on GPA, age, gender, race, math placement, English placement, and title IV, there were 98 that enrolled and 98 that did not enroll.

The original archival data were collected from a sample of 600 college students. Approximately, 94.00% of the participants were 18 years old (n = 564), 5.67% were 17 years old (n = 34), and two participants were 19 years old (0.33%). The majority of participants were female (n = 321, 53.50%) and the remaining 46.50% were male (n = 279). Additionally, the sample consisted mostly of underrepresented minority students or Black (non-Hispanic) students (n = 287, 47.83%) and Hispanic students (n = 277, 46.17%). Furthermore, 76.5% (n = 459) did not participate in the academic support program and 23.5% (n = 141) did participate in the academic support program. Cross tabulations of Academic Support and No Academic groups data on race, age, gender, Title IV eligibility, and developmental testing are displayed in Tables 3.1 through 3.5. This reflects the characteristics of the two groups before propensity score matching was applied.
Table 3.1

*Race Characteristics of No Academic Support Students Versus Academic Support Students*

<table>
<thead>
<tr>
<th>Population</th>
<th>n</th>
<th>Underrepresented Minority (%)</th>
<th>Other (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Academic Support</td>
<td>459</td>
<td>94</td>
<td>6</td>
</tr>
<tr>
<td>Academic Support</td>
<td>141</td>
<td>94</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 3.2

*Age Characteristics of No Academic Support Students Versus Academic Support Students*

<table>
<thead>
<tr>
<th>Population</th>
<th>N</th>
<th>17 (%)</th>
<th>18 (%)</th>
<th>19 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Academic Support</td>
<td>459</td>
<td>5</td>
<td>95</td>
<td>0</td>
</tr>
<tr>
<td>Academic Support</td>
<td>141</td>
<td>9</td>
<td>91</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3.3

*Gender of No Academic Support Students Versus Academic Support Students*

<table>
<thead>
<tr>
<th>Population</th>
<th>n</th>
<th>Female (%)</th>
<th>Male (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Academic Support</td>
<td>459</td>
<td>61</td>
<td>39</td>
</tr>
<tr>
<td>Academic Support</td>
<td>141</td>
<td>30</td>
<td>70</td>
</tr>
</tbody>
</table>

Table 3.4

*Recipients of Title IV for No Academic Support Students Versus Academic Support Students*

<table>
<thead>
<tr>
<th>Population</th>
<th>n</th>
<th>Recipients (%)</th>
<th>Non-Recipients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Academic Support</td>
<td>459</td>
<td>96</td>
<td>4</td>
</tr>
<tr>
<td>Academic Support</td>
<td>141</td>
<td>91</td>
<td>9</td>
</tr>
</tbody>
</table>
Table 3.5

*Tested into Developmental Math or English for No Academic Support Students Versus Academic Support Students*

<table>
<thead>
<tr>
<th>Population</th>
<th>n</th>
<th>Developmental Course (%)</th>
<th>No Developmental Course (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Academic Support</td>
<td>459</td>
<td>87</td>
<td>13</td>
</tr>
<tr>
<td>Academic Support</td>
<td>141</td>
<td>66</td>
<td>34</td>
</tr>
</tbody>
</table>

Note that there were large differences between the experimental (Academic Support) and control (No Academic Support) groups on two of the independent variables: gender and low scores on developmental math and English exams. After matching was conducted on academic support by specifying GPA, age, gender, race, math placement, English placement, and title IV as covariates, group equality was achieved. As displayed in Tables 3.6 through 3.9, frequency of responses by level of academic support for each categorical variable level (Age, Gender, Race, and Title IV) demonstrates relative equality.

Table 3.6

*Age Characteristics of No Academic Support Students Versus Academic Support Students*

<table>
<thead>
<tr>
<th>Population</th>
<th>17 (%)</th>
<th>18 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Academic Support</td>
<td>9</td>
<td>91</td>
</tr>
<tr>
<td>Academic Support</td>
<td>5</td>
<td>95</td>
</tr>
</tbody>
</table>
Table 3.7

*Gender of No Academic Support Students Versus Academic Support Students*

<table>
<thead>
<tr>
<th>Population</th>
<th>Female (%)</th>
<th>Male (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Academic Support</td>
<td>42</td>
<td>58</td>
</tr>
<tr>
<td>Academic Support</td>
<td>35</td>
<td>65</td>
</tr>
</tbody>
</table>

Table 3.8

*Race Characteristics of No Academic Support Students Versus Academic Support Students*

<table>
<thead>
<tr>
<th>Population</th>
<th>Underrepresented Minority (%)</th>
<th>Other (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Academic Support</td>
<td>95</td>
<td>5</td>
</tr>
<tr>
<td>Academic Support</td>
<td>93</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 3.9

*Recipients of Title IV for No Academic Support Students Versus Academic Support Students*

<table>
<thead>
<tr>
<th>Population</th>
<th>Recipients (%)</th>
<th>Non-Recipients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Academic Support</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>Academic Support</td>
<td>92</td>
<td>8</td>
</tr>
</tbody>
</table>

**Data Collection Procedure**

The data analysis for research questions 1, 3, and 4 used archival data stored in Colleague, the college’s institutional database. Fields identifying a student’s start term, major, incoming high school grade point average, gender, race, college math and English
placement scores, date of initial registration, family estimated contribution, parent’s educational level, date of initial college application, college grade point average, and last term the student attended were downloaded into a spreadsheet. The data was moved into and analyzed using the version 22 of the SPSS software package.

The data analysis for research question 2 was based on an eight question on-line survey using a Likert scale for responses. The survey notification was mailed and emailed to the 141 academic support participants. The survey was completed using Survey Monkey.

Data Analysis

This section is organized around the four research questions. For each question the types of analysis planned is described.

Research Question 1: How do the one-year retention rates of students enrolled in the academic support program compare to other at-risk students not enrolled in the program?

Research question 1 used a 2 X 2 Chi-square statistic to measure the difference in the retention results of the Academic Support Group (ASG) and the No Academic Support Program (No-ASP) group. Membership in one or the two groups constitutes the independent variable and student retention was the dependent variable. A significant Chi-square would indicate the two groups are different with regard to the percentage of students who return for the fall semester of their second year of college.

Research Question 2: Does the academic support program have an impact on student performance as assessed by the student?
Research question 2 was addressed with summary, descriptive statistics based on the student survey administered in Survey Monkey. The mean and standard deviation was presented in a table and graphically represented in bar charts. A standard t-test was used to test whether there were statistically significant differences between the two groups. The t-tests were one-way because the researcher predicted the experimental group would have higher retention than the control group.

Research Question 3: For students enrolled in the academic support class in their first semester, does a student’s major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, or date of initial college application have a relationship to the students’ one year retention rates?

Research Question 4: For students not enrolled in the academic support class in their first semester, does a student’s major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, or date of initial college application have a relationship to the students’ one year retention rates?

The third and fourth research questions used a logistic regression analysis to determine which, if any, of the multiple independent variables improved prediction of the dependent variable, which in this case is retention rate. Two logistical analyses (logit) were run, one for the ASG students and one for the No-ASG students.

Logistic regression analysis is traditionally used in retention studies (Kovacic, 2012). Tinto (1993) states incoming characteristics may impact student integration, which may in turn impact student retention. A student’s choice of major, incoming high
school grade point average, gender, race, college math and English placement scores, 
date of initial registration, family estimated contribution, parent’s educational level, and 
date of initial college application were used as potential predictor variables while one 
year retention (Yes or No) was the single predicted or criterion variable. SPSS was used 
for the data analysis.

The independent variables used in this study are mixed. Some, such as race and 
gender, are categorical variables. Others, such as incoming grade point average, are at 
least ordinal and are typically treated as interval variables in this area of research. Still 
others such as math and English placement scores are generally considered interval data. 
In contrast, the dependent variable, one year retention, has only two values, Yes or No. It 
is thus a binary variable. Logistic regression is one of many complex regression 
procedures. It is generally used when the criterion variable is categorical such as 
Heads/Tails, Cured/Not Cured, Alive/Not Alive, or, as is the case here, Persistent or Not 
Persistent. Logit is also very flexible when it comes to multiple independent variables. 
Independent variables may be categorical, ordinal, or interval, and they need not all the 
same type of data. Logistic regression is thus an ideal approach to analyzing the data in 
this study, which consists of a binary dependent variable and multiple independent 
variables that vary from categorical to interval (continuous). Traditional linear regression 
procedures are based on a statistical procedure called “least squares” which involves 
plotting a regression line that minimizes the squared distance between the obtained scores 
that are to be predicted an the regression line proposed by the linear regression analysis. 
That line is sometimes called the “line of best fit.” However, in many applied research 
studies, the criterion or predicted variable is not a score that varies across a wide range.
Instead, it is a binary variable such as Persistent (retained) or Not Persistent (not retained). Logistic regression procedures were developed precisely for this type of criterion variable. They are based on binomial probability theory rather than on a “least squares” model, and they use an approach called maximum likelihood. Maximum likelihood is a statistical process for maximizing the probability that you will correctly predict for a particular person, a future binary value such as Persistent or Not Persistent. Traditional linear regression procedures cannot be used when the criterion variable is not an interval, or at least ordinal, variable.

Logistic regression analysis was used in Tinto’s (1997) study at Seattle Central Community College. Tinto sought to predict how changes in the independent variables increased or decreased the likelihood of student persistence into the second year. Similarly, Purdie II and Rosser (2011) used logistic regression analysis to understand the impact of high school grade point average, sex, race, initial major, and family income on persistence in their study of living-learning communities.

Summary

Urban at-risk students are failing to complete college. This study evaluated one medium-sized urban college’s attempt to improve urban at-risk student retention. The study first determined the academic support’s impact on student retention as compared to a control sample. The control sample was balanced with similar students to the academic support sample using propensity score matching. A 2 X 2 Chi-square statistic was used to determine the statistical difference of the academic support group’s and the control group’s retention results.
Student feedback on the impact of the academic support program was gathered using an eight question survey using a Likert scale to address the second research question. The final two research questions used logistic regression analysis to determine the impact of multiple independent variables impact on student retention.

In Chapter 4 the results of the study will be reviewed.
Chapter 4: Results

This chapter reports the results of the study. This quantitative study evaluated the effectiveness of the comprehensive academic support pilot program for urban at-risk, underprepared, first year undergraduate students at a private, urban, middle size college. The chapter will present the results for each research question. The chapter concludes with a summary of the results.

The four research questions that guided this study were:

1. How do the one-year retention rates of students enrolled in the academic support program compare to other at-risk students not enrolled in the program?

2. Does the academic support program have an impact on student performance as assessed by the student?

3. For students enrolled in the academic support class in their first semester, does a student’s major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, or date of initial college application have a relationship to the students’ one year retention rates?

4. For students not enrolled in the academic support class in their first semester, does a student’s major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, or date of initial application have a relationship to the students’ one year retention rates?
college application have a relationship to the students’ one year retention rates?

Data Analysis and Findings

This section is organized around the four research questions. For each question an analysis is described.

Analysis and Results of research question 1. Using SPSS 22, a chi-square test for independence with propensity matching was conducted to examine differences in one-year retention rates between students that were enrolled in the academic support program compared to other at-risk students who were not enrolled in the program. The groups compared were the groups created using propensity score matching as described in Chapter 3. There were 98 students in each of the groups. Results indicated that a significant difference in retention rates (yes or no) did exist between students that participated in the academic support program and those that did not, Chi-square with Yates Continuity Correction = 8.022, df = 1, sig. = .005 (Pearson’s χ² = 8.889, sig. = .003, phi coefficient = .21). That is, students enrolled in the academic support program were 1.37 times more likely to remain in school after one year compared to students that were not enrolled; odds ratio (OD) = 1.37. A cross tabulation of the students’ one-year retention rates by academic support program groups is shown in Table 4.1.
Table 4.1

*Students’ One-year Retention Rates by Academic Support Program Groups*

<table>
<thead>
<tr>
<th>Population</th>
<th>Retained (%)</th>
<th>Dropped (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Academic Support</td>
<td>54</td>
<td>46</td>
</tr>
<tr>
<td>Academic Support</td>
<td>74</td>
<td>26</td>
</tr>
</tbody>
</table>

**Analysis of research question 2.** Research question 2 used descriptive statistics to evaluate the impact on students’ performance, as assessed by the students themselves, in the academic support program. Specifically, eight items from the *Academic Support Survey* were used to measure student satisfaction. Response parameters were measured on a 4-point Likert-type scale where 1 = *very dissatisfied*, 2 = *somewhat dissatisfied*, 3 = *somewhat satisfied*, and 4 = *strongly satisfied*.

The survey results consist of 12 out of 141 potential responses. Due to the low response rate the results will not be reported. It is recommended that the survey be built into the last week of the semester in which the academic support class is scheduled to improve the response rate.

**Analysis of research questions 3 and 4.** Research questions 3 and 4 used logistic regression analyses to test if any significant relationships existed between students’ one year retention rates and their major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, or date of initial college application. Specifically, the criterion variable was students’ retention rates (retained = 1, not retained = 0). The predictor variables were students’ major, incoming high school grade point average (measured on the 0 to 4 point system), gender (male,
female), race, college math and English placement scores (credit and developmental),
date of initial registration (measured in days), family estimated contribution (measured in
dollars), parent’s educational level (unknown, middle school/Jr. high, high school, and
college or beyond), or date of initial college application (measured in days). For
Research question 3, only students that participated in the academic support program
were evaluated \( n = 141 \) and those that did not participate in the academic support
program were evaluated for research question 4 \( n = 459 \). Since the distribution of
academic majors was so widely distributed across ten separate majors, the majors were
consolidated into four main groups. The four groups used included: Business \( n = 152 \)
(Assoc. Accounting and Business Administration), Criminal Justice \( n = 243 \), Medical \( n =
131 \) (Medical Administration, Medical Assisting, and Pharmacy Technician), and Other \( n = 74 \)
(Assoc. Hospitality Management, Assoc. Culinary Arts, Baking & Pastry, and
Information Technology). Similarly, for participant’s race, the ethnic groups were
consolidated into three categories: Black (non-Hispanic) \( n = 287 \), Hispanic \( n = 277 \), and
Other \( n = 36 \) (American Indian, Asian, West Indian, White, and unknown).

Before the research questions were assessed, the data were screened for missing
data, univariate outliers, and multivariate outliers. Missing data were investigated using
frequency counts and many instances of missing data existed. Specifically, for the
predictor variable, date of initial college application, data for more than half of the
sample were missing; thus, the variable was removed from the logistic analyses of
research questions 3 and 4. The data were screened for univariate outliers by
transforming raw scores to z-scores and comparing z-scores to a critical value of \(+/- 3.29, p < .001\) (Tabachnick & Fidell, 2007). Z-scores that exceed this critical value are more
than three standard deviations away from the mean and thus represent outliers. The distributions were evaluated and no cases with univariate outliers were found. Thus, for research question 3, 141 responses from participants were received and 118 were included in the analysis \((n = 118)\); for research question 4, 459 responses were received and 438 were used in the analysis \((n = 438)\).

The assumption of multicollinearity was tested by calculating correlations between variables and collinearity statistics (Tolerance and Variance Inflation Factor). Correlations between predictor variables were not too low and did not exceed .70. Tolerance is calculated using the formula \(T = 1 – R^2\) and the variance inflation factor (VIF) is the inverse of Tolerance \((1 \text{ divided by } T)\). Commonly used cut-off points for determining the presence of multicollinearity are \(T < .10\) and \(VIF > 10\). No correlational results between predictor variables violated this assumption; therefore, the presence of multicollinearity was not assumed.

**Results of research question 3.** Using SPSS 22, results from the logistic regression analysis revealed that there were no significant relationships between students’ in the Academic Support program one year retention rates and a model containing ten predictor variables (major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, and parent’s educational level), \(\chi^2(17, n = 118) = 14.078, p = .662\). The ten predictor variables explained between 11.2\% (Cox and Snell R square = .112) and 15.3\% (Nagelkerke R square = .153) of the variance observed in the criterion variable (retention rates). Additionally, the model as a whole correctly classified 67.8\% of the cases. A model summary of the logistic regression analysis is displayed in Table 4.2.
### Table 4.2

**Model Summary of Logistic Regression Analysis of Research Question 3**

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>-0.001</td>
<td>0.524</td>
<td>0.000</td>
<td>1</td>
<td>0.999</td>
<td>0.999</td>
<td>0.358</td>
<td>2.789</td>
</tr>
<tr>
<td>Medical</td>
<td>-0.372</td>
<td>0.762</td>
<td>0.239</td>
<td>1</td>
<td>0.625</td>
<td>0.689</td>
<td>0.155</td>
<td>3.067</td>
</tr>
<tr>
<td>Other</td>
<td>0.141</td>
<td>0.851</td>
<td>0.028</td>
<td>1</td>
<td>0.868</td>
<td>1.152</td>
<td>0.217</td>
<td>6.103</td>
</tr>
<tr>
<td>GPA</td>
<td>-0.593</td>
<td>0.419</td>
<td>2.009</td>
<td>1</td>
<td>0.156</td>
<td>0.553</td>
<td>0.243</td>
<td>1.255</td>
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<tr>
<td>Gender</td>
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</tr>
<tr>
<td>Male</td>
<td>0.569</td>
<td>0.561</td>
<td>1.030</td>
<td>1</td>
<td>0.310</td>
<td>1.767</td>
<td>0.588</td>
<td>5.306</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black (non-Hispanic)</td>
<td>0.105</td>
<td>0.602</td>
<td>0.030</td>
<td>1</td>
<td>0.862</td>
<td>1.110</td>
<td>0.341</td>
<td>3.612</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-1.168</td>
<td>1.269</td>
<td>0.848</td>
<td>1</td>
<td>0.357</td>
<td>0.311</td>
<td>0.026</td>
<td>3.736</td>
</tr>
<tr>
<td>Math Placement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental</td>
<td>0.294</td>
<td>0.488</td>
<td>0.364</td>
<td>1</td>
<td>0.546</td>
<td>1.342</td>
<td>0.516</td>
<td>3.491</td>
</tr>
<tr>
<td>English Placement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental</td>
<td>-0.237</td>
<td>0.433</td>
<td>0.299</td>
<td>1</td>
<td>0.584</td>
<td>0.789</td>
<td>0.338</td>
<td>1.845</td>
</tr>
<tr>
<td>Registration</td>
<td>-0.007</td>
<td>0.009</td>
<td>0.742</td>
<td>1</td>
<td>0.389</td>
<td>0.993</td>
<td>0.976</td>
<td>1.009</td>
</tr>
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<td>Family Contribution</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>0.824</td>
<td>1</td>
<td>0.364</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Fathers Education</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>3.503</td>
<td></td>
<td>3.290</td>
<td>3</td>
<td>0.320</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle School/Jr. High</td>
<td>-1.444</td>
<td>0.954</td>
<td>2.293</td>
<td>1</td>
<td>0.130</td>
<td>0.236</td>
<td>0.036</td>
<td>1.530</td>
</tr>
<tr>
<td>High School</td>
<td>-0.856</td>
<td>0.564</td>
<td>2.299</td>
<td>1</td>
<td>0.129</td>
<td>0.425</td>
<td>0.141</td>
<td>1.285</td>
</tr>
<tr>
<td>College or beyond</td>
<td>-1.162</td>
<td>0.961</td>
<td>1.461</td>
<td>1</td>
<td>0.227</td>
<td>0.313</td>
<td>0.048</td>
<td>2.059</td>
</tr>
<tr>
<td>Mothers Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>2.541</td>
<td></td>
<td>2.468</td>
<td>3</td>
<td>0.468</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle School/Jr. High</td>
<td>0.984</td>
<td>1.032</td>
<td>0.909</td>
<td>1</td>
<td>0.340</td>
<td>2.675</td>
<td>0.354</td>
<td>20.210</td>
</tr>
<tr>
<td>High School</td>
<td>0.333</td>
<td>0.788</td>
<td>0.179</td>
<td>1</td>
<td>0.673</td>
<td>1.395</td>
<td>0.298</td>
<td>6.542</td>
</tr>
<tr>
<td>College or beyond</td>
<td>-0.253</td>
<td>0.753</td>
<td>0.113</td>
<td>1</td>
<td>0.737</td>
<td>0.777</td>
<td>0.178</td>
<td>3.396</td>
</tr>
<tr>
<td>Constant</td>
<td>1.386</td>
<td>1.298</td>
<td>1.139</td>
<td>1</td>
<td>0.286</td>
<td>3.998</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. Reference groups for Math and English Placement groups = Credit; Reference group for Gender = Female*
Results of research question 4. Results from the logistic regression analysis for research question 4 revealed that there were no significant relationships between students’ not enrolled in the Academic Support program one year retention rates and a model containing ten predictor variables (major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, and parent’s educational level), $\chi^2(17, n = 438) = 18.917, p = .333$. The ten predictor variables explained between 4.2% (Cox and Snell R square = .042) and 5.7% (Nagelkerke R square = .057) of the variance observed in the criterion variable (retention rates). The model as a whole correctly classified 63.7% of the cases. Although a significant difference was not found in the overall model containing ten predictor variables, there were significant differences in retention rates between gender ($p = .011$) and English placement scores ($p = .013$). That is, males were 1.741 ($\text{Exp}[B] = 1.741$) times more likely to drop out before the start of their second year in school than females; additionally, students’ with a developmental English placement score were 1.927 ($\text{Exp}[B] = 1.927$) times more likely to drop out before the start of their second year in school than those who received a credited English placement score. A model summary of the logistic regression analysis is displayed in Table 4.3.
Table 4.3

Model Summary of Logistic Regression Analysis of Research Question 4

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>-0.130</td>
<td>0.279</td>
<td>0.217</td>
<td>1</td>
<td>0.642</td>
<td>0.878</td>
<td>0.509</td>
<td>1.516</td>
</tr>
<tr>
<td>Criminal Justice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>0.097</td>
<td>0.313</td>
<td>0.095</td>
<td>1</td>
<td>0.758</td>
<td>1.101</td>
<td>0.596</td>
<td>2.035</td>
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<tr>
<td>Other</td>
<td>-0.272</td>
<td>0.371</td>
<td>0.539</td>
<td>1</td>
<td>0.463</td>
<td>0.762</td>
<td>0.368</td>
<td>1.576</td>
</tr>
<tr>
<td><strong>GPA</strong></td>
<td>0.289</td>
<td>0.452</td>
<td>0.409</td>
<td>1</td>
<td>0.523</td>
<td>1.335</td>
<td>0.551</td>
<td>3.238</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>0.554</td>
<td>0.219</td>
<td>6.399</td>
<td>1</td>
<td>0.011</td>
<td>1.741</td>
<td>1.133</td>
<td>2.675</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black (non-Hispanic)</td>
<td>0.361</td>
<td></td>
<td>0.361</td>
<td>2</td>
<td>0.835</td>
<td></td>
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</tr>
<tr>
<td>Hispanic</td>
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<td>0.218</td>
<td>0.050</td>
<td>1</td>
<td>0.824</td>
<td>0.953</td>
<td>0.621</td>
<td>1.460</td>
</tr>
<tr>
<td>Other</td>
<td>-0.275</td>
<td>0.460</td>
<td>0.357</td>
<td>1</td>
<td>0.550</td>
<td>0.760</td>
<td>0.308</td>
<td>1.872</td>
</tr>
<tr>
<td><strong>Math Placement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental</td>
<td>0.076</td>
<td>0.225</td>
<td>0.113</td>
<td>1</td>
<td>0.736</td>
<td>1.079</td>
<td>0.694</td>
<td>1.676</td>
</tr>
<tr>
<td><strong>English Placement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental</td>
<td>-0.656</td>
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<td>6.119</td>
<td>1</td>
<td>0.013</td>
<td>1.927</td>
<td>3.236</td>
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</tr>
<tr>
<td>Registration</td>
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<td>0.004</td>
<td>2.144</td>
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<td>0.143</td>
<td>0.995</td>
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<tr>
<td><strong>Family Contribution</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fathers Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>0.542</td>
<td>0.378</td>
<td>2.048</td>
<td>1</td>
<td>0.152</td>
<td>1.719</td>
<td>0.819</td>
<td>3.608</td>
</tr>
<tr>
<td>Middle School/Jr. High</td>
<td>0.196</td>
<td>0.253</td>
<td>0.599</td>
<td>1</td>
<td>0.439</td>
<td>1.216</td>
<td>0.741</td>
<td>1.997</td>
</tr>
<tr>
<td>College or beyond</td>
<td>-0.059</td>
<td>0.405</td>
<td>0.021</td>
<td>1</td>
<td>0.884</td>
<td>0.943</td>
<td>0.426</td>
<td>2.085</td>
</tr>
<tr>
<td><strong>Mothers Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>-0.302</td>
<td>0.398</td>
<td>0.574</td>
<td>1</td>
<td>0.449</td>
<td>0.739</td>
<td>0.339</td>
<td>1.614</td>
</tr>
<tr>
<td>Middle School/Jr. High</td>
<td>-0.290</td>
<td>0.300</td>
<td>0.934</td>
<td>1</td>
<td>0.334</td>
<td>0.748</td>
<td>0.416</td>
<td>1.347</td>
</tr>
<tr>
<td>College or beyond</td>
<td>-0.141</td>
<td>0.328</td>
<td>0.184</td>
<td>1</td>
<td>0.668</td>
<td>0.869</td>
<td>0.457</td>
<td>1.651</td>
</tr>
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<td>Constant</td>
<td>-0.624</td>
<td>1.303</td>
<td>0.230</td>
<td>1</td>
<td>0.632</td>
<td>0.536</td>
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<td></td>
</tr>
</tbody>
</table>

Note. Reference groups for Math and English Placement groups = Credit; Reference group for Gender = Female
Summary

The academic support population and the no academic support population showed clear differences when reviewing categorical data. Propensity score matching was used to find a comparable group. Categorical data including age, race, gender, and if a student received Title IV funds demonstrated matched groups.

The retention rate of the propensity matched academic support group was statistically higher than that of the propensity matched no academic support group. This is a significant finding since a variety of additional institutional resources were used to work with the academic support group population.

A significant finding was that there were no characteristics out of the ten analyzed that showed a statistically significant impact on predicting retention within the academic support group. Placement into remedial English course work and students having a male gender were statistically significant predictors of not retaining in the no academic support group. Simply stated, retention was not able to be predicted based on the incoming characteristics of the no academic support group while remedial English placement and male gender were predictors of not retaining in the no academic support group.
Chapter 5: Discussion

This chapter discusses the results of the study evaluating the impact of an academic support program on urban at-risk students at a private middle size college. The study compared the retention rates of students who participated in the academic support program with matched students who did not participate in the academic support program. Additionally, the study sought to gather student feedback from those who participated in the academic support program. Finally, the study reviewed student characteristics as potential predictors of not returning to college for a second year for students who participated in the academic support program as well as those that did not participate in the academic support program. In this chapter the researcher will discuss implications of the study’s findings, the study’s limitations, and propose recommendations.

Implications of Findings

The findings of this study increase the private middle size college’s knowledge about efforts to serve urban at-risk students. The findings indicate students in the academic support program designed around Tinto’s (1997) learning community model had a significantly higher retention rate than that of the students who did not participate in the academic support program. In fact, the students who participated in the academic support group located at the branch campus were 2.48 times more likely to be retained one year later than the matched students at the main campus that did not participate. This finding supports the existing literature on the development of learning communities and academic and social integration’s positive impact on retention (Demaris & Kristonis,
2011, Engstrom & Tinto, 2008, Tinto, 1975). This data suggests that if the institution were to create an academic support program or develop learning communities on its main campus, retention of the at-risk students would be likely to increase. This data also suggests that the institution is able to successfully enroll and retain students who are at-risk suggesting that the admissions and recruitment of students could benefit by establishing programs to attract and retain this at-risk population.

None of the data collected addresses why the academic support group had a higher retention rate. A key to understanding the retention rate of the academic support program participants would be to know the impact the program had on the students. The low response rate of the student opinion survey limits the researcher’s ability to provide clarity on how the academic support program impacted the student’s decision to retain at the college at a higher rate than the students in the no-academic support group. In order to understand how the participants viewed the program the survey will need to be administered within the semester the student is enrolled so the data can be collected during a class meeting instead of via email and regular mail.

An additional key finding was that none of the ten characteristics analyzed predicted a student’s retention for participants in the academic support program. This is significant as this is counter to the literature on predictors of student retention. Two characteristics, being male and testing into remedial English, did relate to a student’s greater chance of non-retention in the no-academic support group. This indirectly supports the conclusion that male students who must complete remedial English course are so influenced by the intervention program that those two characteristics are no longer predictors of failure to continue their college career. This finding will assist the
institution in identifying at-risk students and supplying services to those students more likely not to retain. While the identification of two characteristics being male and needing remedial English) that are associated with attrition was expected, the lack of predictive power for all ten characteristics selected for the study indicates the institution should look beyond this set of data and begin to explore other factors, such as non-cognitive traits, to identify factors that predict retention. It appears that, in a college environment designed to support students from at-risk environments, students with a range of characteristics that normally predict attrition, according to the literature, do not. Again the data supports the idea that with support and help, at-risk students can succeed in college.

Limitations

The following covariates were used to identify those urban students who met the criteria for at-risk to drop out of college in their first year: high school grade point average, race, gender, Title IV financial aid eligibility, and English and math placement exams scores. While the literature supports the inclusion of these covariates as necessary factors when describing urban at-risk college students, there was no evidence in this study to suggest that these factors are the only ones to include.

Bean and Metzer (1985) suggest the need to conduct research on subgroups of students rather than generalize to all students collectively. In this study, generalizations were made about urban at-risk students. Most have low high school GPA’s, are either Black or Hispanic, are eligible for Title IV financial aid and they need developmental courses in English and Math. While these factors are relevant to an at-risk identification, they are not sufficient for capturing the multi-faceted character of an urban at-risk college
student. According to Conley (2007), a more comprehensive conception of college-readiness is needed.

Conley’s (2007) comprehensive model consists of certain factors that are interconnected, and can be identified and measured before a student is admitted to college. Is this college student able to apply learning, critically problem-solve, construct well-reasoned arguments or proofs, explain phenomena or issues, and defend a particular point of view or arrive at a meaningful conclusion? In other words, what is the level of the student’s cognitive ability? In this study, it was assumed that a high school GPA would identify the cognitive ability or content knowledge of the incoming college student. Yet a study of high school transcripts undertaken by ACT researchers found compelling evidence of grade inflation (ACT, 2005). Therefore, a grade point average of a 2.0 in high school now may reflect knowledge and skills equivalent to something more like a 1.0 GPA thirty years ago. In this study using just the high school GPA’s as the only index for cognitive ability may have been a very weak predictor.

In addition, this study assumed that the GPA from one high school was comparable to another high school. There were no adjustments made for the high school with challenging curricula nor was the nature and quality of high school courses measured in any way. Adelman (2006) suggests employing a transcript analysis to obtain a more complete picture of the incoming student’s academic abilities. He states that course titles on a high school transcript may mislead the college admissions officer by appearing to meet college preparatory standards. Through transcript analysis, he finds that the demands within a course may be substandard and not truly aligned with the actual content knowledge expected of someone who passes that course. Using only the
student’s high school GPA in this study, without employing Adelman’s transcript analysis, may have resulted in a sampling error.

This study did not adequately answer the question about the impact of the academic support on student performance as perceived by the student participant due to the low response rate for the self-report survey. Also, this study did not have a quantitative measure in place to track academic improvement throughout the support program. It is unclear whether student participants developed better study habits, learned to write better research papers, or showed marked improvement on their classroom assignments or projects. Therefore, evaluating the reason for the effectiveness of the program still remains a task for further research. Effectiveness might be better defined as progressive academic improvement of students’ college readiness skills than by simply measuring student retention the following year. Urban at-risk students may need more than just a semester of academic support in order to persist and finally complete a college degree.

**Recommendations**

Most importantly this study showed that the academic support program is worth the institutional resources used. Urban at-risk students who participated in the academic support program were more likely to retain. Although this study showed that the academic support program was effective for urban at-risk college students, future investigation could provide more substantive conclusions. Using Conley’s (2007) comprehensive conception of college readiness may be more useful for the identification of urban at-risk participants before assigning students to an academic support program. Factors, such as cognitive abilities, non-cognitive skills, and contextual behaviors could
be expanded and considered interrelated to the overall detection of an urban at-risk student. Admissions officers should use the transcript analysis method to evaluate high school records in order to get a clearer picture of the student’s academic abilities. Grade point averages alone, without considering the high school curricula, the quality of courses taken, and the educational environment the student was exposed to, may interfere with an accurate assessment of student’s high school performance.

The research on first-generation students should be considered when identifying urban at-risk students as well as using the variable of parent’s education level. Many first-generation at-risk students do not have siblings, or close relatives that attended college. The literature shows that even if one’s parents did not go to college but there is a sibling or close relative who did, the student has a better chance to succeed at college and complete a degree (Chen & Carroll, 2005). First generation students are more likely than their peers to withdraw from and, repeat courses, and eventually drop out of school (Pascarella, Pierson, Wolniak & Terenzini, 2004). Students with fewer withdrawn or repeated courses were more likely than their counterparts to earn a bachelor’s degree (Strayhorn, 2006). Therefore, using an index to measure first-generation at-risk students is more complex than just using the parent’s education level.

A student’s tuition debt burden is an often overlooked factor that affects retention and attrition rates and should be factored into the urban at-risk student’s profile. A national study of non-completers showed that students who receive Pell Grants, typically the lowest-income students, were more likely than other students to report that their debt burden was a critical factor in the decision to stop attending college (Baum & O’Malley, 2003). Future studies with urban at-risk students and retention should consider measuring
the debt burden variables as part of the student’s decision making process to leave college.

When constructing an institutional response for the needs of urban at-risk students, the classroom is still the crossroad where social integration and academic integration convene (Tinto, 1993). What occurs in the classroom can affect student retention and professors, administrators, and support services staff can increase the urban at-risk students’ chances for academic success and degree completion (Adelman, 2006 Peterson & Deal, 1998, Tinto, 2012). The question for future researchers is to figure out how.

Summary

Earning a college degree increases an individual’s lifelong financial earnings as well as improves the possibility of career advancement (Weddle-West & Bingham, 2010). Nationally, only 72% of freshmen continue to work towards their college degree at the same institution after attending their first year as stated by the U.S. Department of Education’s National Center on Educational Statistics (2011). Institutions of higher education must seek out retention strategies in an effort to improve their retention and graduation rates.

The purpose of this study was to evaluate the effectiveness of a comprehensive academic support program for urban at-risk college students at a private, urban, middle size college. The study compared one year retention outcomes of students who participated in an academic support program with students who did not participate. The study also aimed to identify predictive variables for incoming students who would benefit from enrolling in such an academic support program. This study was conducted in an
effort to develop institutional knowledge and guide institutional policy change related to the identification and support of incoming at-risk students.

The research questions that guided this study were:

1. How do the one-year retention rates of students enrolled in the academic support program compare to other at-risk students not enrolled in the program?
2. Does the academic support program have an impact on student performance as assessed by the student?
3. For students enrolled in the academic support class in their first semester, does a student’s major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, or date of initial college application have a relationship to the students’ one year retention rates?
4. For students not enrolled in the academic support class in their first semester, does a student’s major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, or date of initial college application have a relationship to the students’ one year retention rates?

This quantitative study compared retention results using a Chi-squared test after a treatment and non-treatment group was established through propensity score matching. The propensity score matching created two groups similar in high school grade point average, race, age, gender, Title IV financial aid eligibility, and developmental placement
test results. Additionally, a logistic regression analyses was used to determine if multiple independent variables, choice of major, incoming high school grade point average, gender, race, college math and English placement scores, date of initial registration, family estimated contribution, parent’s educational level, and date of initial college application were predictors of retention, the dependent variable.

Students who participated in the academic support program were more likely to remain in school after one year compared to students who did not participate in the academic support program. Out of the ten characteristics measured for ability to predict student retention, only being a male, and testing into developmental English, increased the likelihood of not retaining for students who did not participate in the academic support program. The findings will enhance institutional knowledge on the effectiveness of the academic support program on how to identify at-risk students. However, additional research is necessary to improve the efforts of serving and supporting urban at-risk students at this institution.
References


ACT. (2005). *Crisis at the core: Preparing all students for college and work access.* Iowa City, IA: ACT, Inc.


Appendix A

Letter of Introduction

Dear Student:

I am Stephen Schultheis, Dean of Student Services and Retention at Monroe College. I am also a doctoral candidate at St. John Fisher College at the College of New Rochelle. I am in pursuit of the Ed.D. in Executive Leadership. My study will focus on evaluating the effects of an Academic Support class (EN 091) on student success. You are being asked to participate in this study because you were enrolled in the Academic Support class in your first semester at Monroe College. There is no penalty for not participating in this study.

Purpose: This study is being conducted in an effort to develop institutional knowledge and thus to guide institutional policy change related to the identification of incoming students who need academic support. In addition, this study seeks to evaluate the effectiveness of the academic support program.

Participation: If you decide to participate, please go to the following link and complete the eight question survey.

Survey Link: https://www.surveymonkey.com/s/LR66PL5

Compensation: For your participation I am grateful that you will contribute to the understanding of academic support at Monroe College. You will not receive compensation for participating in this research.

Risks and Benefits: The potential risks associated with this study are minor inconveniences due to time required to complete the survey.

Confidentiality: The survey results will be anonymous. I will not be able to determine which students completed the survey.

Your rights: As a research participant, you have the right to:

1. Have the purpose of the study, and the expected risks and benefits fully explained to you before you choose to participate.
2. Refuse to answer a particular question without penalty.
3. Be informed of the results of the study.

Should you have any questions or would like additional information about this research, please contact me at 914-740-6870 or sschultheis@monroecollege.edu. Please know that St. John Fisher College Institutional Review Board has approved this study and its procedures.
Thank you.

Stephen Schultheis
Appendix B

Academic Support Program Survey

This survey is designed to assess the Academic Support Program (EN091) that you participated in during your first semester at Monroe College. The responses gathered will be anonymous.

Your participation in this research study is voluntary. You may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. If you decide not to participate or if you withdraw from participating at any time, you will not be penalized. If you have any questions about the research study, please contact Stephen Schultheis at 914-740-6870 or sps09773@sjfc.edu. Please know that St. John Fisher College Institutional Review Board has approved this survey.

Clicking on the “agree” button below indicates that you have read the above information and voluntarily agree to participate. If you do not wish to participate in the research study, please decline participation by clicking on the “disagree” button.

- Agree
- Disagree

Thank you for your participation.

Please indicate your satisfaction with your Academic Support experience. (Very Dissatisfied, Somewhat Dissatisfied, Somewhat Satisfied, Strongly Satisfied)

1. Overall satisfaction with the Academic Support Program.

2. My participation in the Academic Support Program improved my sense of belonging or feeling of being connected at Monroe College.

3. My participation in the Academic Support Program improved my adjustment to academic challenges.

4. My participation in the Academic Support Program improved my communication with professors.

5. My participation in the Academic Support Program improved my ability to get to know students who have similar interests.

7. My participation in the Academic Support Program improved my awareness of resources on-campus.