A longitudinal study of the enrollment patterns of fulltime, first-time degree-seeking recent high school graduates at a community college

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A LONGITUDINAL STUDY OF THE ENROLLMENT PATTERNS OF FULLTIME, FIRST-TIME DEGREE-SEEKING RECENT HIGH SCHOOL GRADUATES AT A COMMUNITY COLLEGE

by
Ramsaran Ramoutar

A Thesis

Submitted in partial fulfillment of the requirements of the Master of Arts in Higher Education Administration of The Graduate School at Rowan University June 24, 2009

Approved by ____________________________
Dr. Burton R. Sisco

Date Approved ________________
June 24, 2009
ABSTRACT

Ramsaran Ramoutar

A LONGITUDINAL STUDY OF THE ENROLLMENT PATTERNS OF FULLTIME, FIRST-TIME DEGREE-SEEKING RECENT HIGH SCHOOL GRADUATES AT A COMMUNITY COLLEGE
2008/09
Dr. Burton R. Sisco
Master of Arts in Higher Education Administration

This study examined the enrollment patterns of first-time, full time recent high school graduates enrolled a community college. This longitudinal study focused on students who were enrolled at Cumberland County College in the fall of 2002 through the fall of 2008. Enrollment and transfer patterns and graduation rates were explored for the sample population of 209 students who came from all ethnic background. The databases of the Cumberland County College and the New Jersey Higher Education Clearing House were examined in order to retrieve the relevant information. The study revealed that although financial concerns impacted the educational outcomes, there was a weak correlation between enrollment/persistence patterns and receiving Pell grants. It was found that although students received Pell grants those who did not still graduated at a higher rate than those who did. Whites were found to have the highest enrollment/persistence and graduation patterns, while Blacks and Hispanics lagged way behind. The study also showed that a large number of non-graduates accumulated a substantial number of college credits (over 45) before deciding to drop out.
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CHAPTER I
INTRODUCTION

Student retention at colleges and universities, a topic of intense study for over 70 years, has become a vexing, persistent issue for administrators, educators and policymakers at the federal, state local, and institutional levels. While socio-economic factors are still the greatest predictor of educational achievement among and between members of different ethnic groups, the willingness to pursue postsecondary education is affected by many other factors that widen the education gap between students of different ethnicities. Today, the demographic changes of the United States society are reflected in the student population attending colleges and universities. For example, in 1990 the number of students attending colleges and universities in the US was 13,819 million, by 2000 it was 15,312 million and by the year 2007 it had grown 17,958 million (National Center for Educational Statistics, 2007). While total college enrollment is increasing, ethnic involvement in higher education is changing. For example, in 1990 Whites made up 77.6% of the total enrollment, by 2000 they comprised 68.3 % and by 2005, enrollment had dropped to 65.7%. Minority college student population, on the other hand, has been increasing. In 1990, minorities represented 19.6 % of the college student population, by 2000 they made up 28.2%, reaching 30.9% by 2005 (NCES, 2007). Graduation rates also differ significantly. At four year institutions graduation rates for 20002-2003 for Whites was 70%, while for African Americans and Hispanics it was only 9% and 7% respectively. Even at two-year colleges similarities persist. The graduation
rates for Whites for the same period was 67%, while for African Americans and Hispanics it was 11% and 10% respectively (Bailey et al., 2004). This great disparity in graduation rates has become a concern for everyone. Decreasing revenues from the federal and state sources has placed a heightened focus on the demands of institutions to pay more attention to attrition and retention of college students, especially those of minority status. With the minority population, especially Hispanics, posed to become a great contributor to the workforce by the year 2010 this scenario will have severe negative impact on the educational, economic, and political capabilities of the society.

Community colleges serve as one of the major pipelines for postsecondary education for minority students. Although minority student enrollment, both at two- and four-year colleges, has grown considerably over the past four decades, retention and graduation rates continue to be challenging. As the United States becomes more ethnically diverse, the onus becomes more problematic especially for community colleges which are often the primary vehicle of postsecondary opportunities for first-generation, low-income students and underrepresented racial/ethnic minorities.

The academic and social development of the students is tantamount to a university's success and is a direct reflection of the goals, mission and vision of the institution, a concern that can only be achieved through effective retention policies and practices to ensure that students successfully finish college and matriculate. Although significant advances and improvements have been made in high school graduation rates, improvement in college retention rates is still needed in order to enable a greater proportion of college students to successfully complete a degree in a timely manner. This issue assumes more importance when it is viewed in the light of the demographic changes
of society and the unavoidable reality that social, political, economic events, legal, and legislative challenges have forever changed the American higher education landscape. Hispanics are now the largest and the fastest growing minority population, constituting more than 50% of the all foreign born Americans. According to the 2001 US Census Bureau report both Hispanics and African Americans made up 13% of the total population. Today, Hispanics make up 15.1% (41.1 million) and African Americans make up 13% indicating that both minority groups will constitute over one-third the American population by 2030 (US Census Bureau, 2007). Since a majority of minorities begin their postsecondary education at community colleges, these institutions must do everything to ensure that students who enroll are retained long enough to graduate or to successfully transfer to a four year institution. In 2005, minority students enrollment in post secondary education totaled close to 5.5 million when compared to total enrollment of 17 million (US Census Bureau, 2007). In addition, over half of all first-year college students in the United States are enrolled in community colleges (Cohen & Brawer, 1996), and 80% of those students indicate they plan on transferring to a four-year institution (Berger & Malaney, 2003). However, somewhere along the postsecondary highway high students’ dropout/attrition rates become increasingly noticeable, retention becomes problematic, students’ persistence diminishes, and eventually a huge majority disappears from the postsecondary landscape. This is more prevalent among minority student populations. While colleges pay more attention to recruiting and admitting minority students much less attention is paid to retaining them. “Many of these students have special needs that require attention. Others come prepared, enthusiastic, and self-directed but too often these students undergo academic suffrage because of the

According to Redon (1995), more than half of all minority students in higher education attend a community college. Between 1988 to 1992, students of color attending two year colleges increased to 35.5% as compared with 28.7% increase at four year institutions. In the 1999-2000, period four-year college enrollment among Caucasians was 46%, for African Americans it was 40%, and for Hispanics it was 34% (Harvey, 2003). However, during the 1995-1996 period only 55% of all undergraduates who began their studies with the goal of completing a bachelor’s degree successfully did so within six years. A breakdown reveals that this percentage comprised 59% of Caucasians and 41% of both African Americans and Hispanics (Lotkowski, Stevens, Robins, & Noeth, 2004). Although access to and participation in postsecondary education have increased, African Americans, Hispanics, and Native Americans are less likely to attend and complete college than white students. Retention, which involves keeping students continuously enrolled to graduate or to transfer to a four year institution becomes problematic, especially for minorities at predominantly white campuses (Valverde & Castenell, 1998).

In today’s global economy, competitiveness is the key. The changing workforce patterns demands a more rigorous educational background, thus the need to retain more students has become more intensified. “Low retention rates waste human talent and resources, jeopardize our nation’s economic future, and threaten the economic viability of our post secondary institutions and our country’s democratic traditions” (Lotkowski et al., 2004, p12). While getting students into college is important, retaining and help in them complete degrees in no more than five or six years is vital to the economic and
The large number of minority students of college age has a number of implications for higher education institutions. Since higher education institutions, especially community colleges, serve a large and growing population of minority students they must understand and adapt to the differing needs of these students, because as espoused by Tinto (2002) “as the study of retention has developed, so too has awareness that each institution must tailor retention to fit the specific needs of its students and the context of that particular institutional environment” (p.3).

Statement of the Problem

Community colleges enroll nearly half the undergraduates in the United States fulfilling an extremely significant role in the academic, social, political, and economic future of the nation. Community colleges now serve as a major component in the higher education system in the United States and serve larger societal roles by providing access and social and economic mobility. With their historically open-door admission policy community colleges primarily focus on providing a gateway to higher education, both for traditional, non-traditional and “at-risk” students alike. In recent decades they have been held more accountable to demonstrate the benefits they offer and at what cost. A common measure of accountability is student retention but the very characteristics of the students served make them vulnerable to attrition, thereby placing a tremendous burden on community colleges. The mission of these colleges, according to Roman (2002), now include “preparing students for transfer to four-year institutions, vocational education, contract education for local employers, remediation of basic skills, and even community services” (p. 2). By extending educational opportunities beyond the elites of society for whom it was once reserved, community colleges open doors to employment and higher
paying jobs, help to build the tax base and develop persons who contribute to the economic and political development of their local community. In spite of increased enrollment, especially of minority populations, graduation rates are declining and most of these students do not stay long enough to transfer to a four year college or to obtain an associate degree. When attrition rates are examined in the light of the roles of community college the problem assumes significant proportions. Thus, community colleges need to evaluate their roles, taking every opportunity to facilitate student retention long enough to graduate or to transfer to four year institutions. Most of the research on student retention has been conducted at four year institutions with traditional college students. However, there is a need to conduct research at community colleges since the institutional, social, academic, and student characteristics differ from those attending four year institutions. The open door admission policies of community colleges have led to a proliferation of academically under prepared students attending these colleges. Estimates indicate that more than 50% of students entering community colleges require remediation and this is especially true for minority students. Since a large percentage of minority students use community colleges in their quest for higher education and the fact that a large proportion of them are identified as at-risk, more research specifically addressing persistence in community colleges is needed.

Significance of the Problem

Increasing the educational achievements and human capital of any nation is critical for the development and advancement of society. Education, the most powerful factor in upward mobility of any sector of the population, is a prerequisite for the full integration of all sectors of the population into the political, economic, and social fabric
of the United States society. The effects of under-education among minorities together
with the inherent individual and societal costs are tremendous. In order to avoid growing
inequalities, the issue of low postsecondary education of minorities must be addressed.
First, minorities with low levels of educational achievements face poor economic
outcomes. Secondly, the individual and societal economic costs of dropping out of
college for minorities are immense. Thirdly, the number of minorities in political office is
extremely small, resulting in a lack of representation at boards of education, school
administrations, academia, and in the teaching professions. The interaction and
combination of these factors lead to high unemployment rates, lower earning potential,
low poverty levels, comparatively elevated school and college dropout rates, along with a
plethora of other negative consequences resulting from low educational achievements.

This study investigated what environmental factors caused students with similar
demographic backgrounds (SES and minority status) to differ in their retention/student
success rates at community colleges. Unraveling the variables that affect minority
students may help policy makers, administrators, educators and academic institutions to
better understand factors that influence student retention/persistence and provide an
impetus to address the issues that this student population face along their community
college pathway to academic success.

Purpose of the Study

The purpose of this study was to increase the understanding of persistence
behavior among community college students. The study examined the enrollment,
retention and graduation rates of first-time, full time degree-seeking students who were
enrolled in the fall of 2002 through the fall of 2008 at Cumberland County College. The
study identified areas in which the college could enhance and promote environments to foster and increase student enrollment and hence graduation/retention. The study investigated if there was a correlation between enrollment and persistence/retention patterns and the receipt of Pell grants. Demographic characteristics (SES and race/ethnicity) of the students were also examined to assess enrollment/persistence according to race/ethnicity.

Assumptions and Limitations

Several underlying assumptions were applied in this study. Firstly, since most of the theories of student retention has been done at four year institutions it was assumed that they can also be partially applied to community colleges. However, retaining at-risk students, especially those who are not academically prepared, can be problematic. Secondly, it was assumed that it is the effort of community colleges to retain as many students as possible, providing all possible assistance to the students until they achieve their academic goal. However, it was also assumed that it is impossible to retain every student. Thirdly, student persistence at community colleges and student orientation programs can be effective to some degree in improving student retention and that the applicability of persistence theories to student retention programs conducted at community college environment can promote student retention and academic success.

This study was limited in scope because it concentrated only on the student cohort who graduated from high school in the spring of 2002 and was enrolled as first time, full time students in the fall of 2002 through the fall of 2008. The research was conducted by examining the demographic, SES, and academic statistical data that were compiled by Cumberland Community College and the New Jersey Higher Education Clearinghouse. It
was assumed that records were accurately documented and that all information supplied by the students was true. In relation to the generational status of the students, the information was self-reported but it is assumed to be factual. Another limitation was the SES of the students because it was assumed that those students who received Pell Grants were of low SES and vice versa. Any generalizations are subject to scrutiny because the findings were drawn from this single study. It was assumed that if community colleges focus attention to the academic, social, and institutional integration of minority students and tailor some parts of the college curriculum to fulfill these involvements, the retention rates and academic successes of minority students would improve. Researcher’s biases are expected to be minimal or non-existent because there are no foreseeable gains to be accrued by manipulating the data or the research findings.

Operational Definitions

1. Academic Integration: The development of a strong affiliation with the college academic environment both in the classroom and outside of class. Includes interactions with faculty, academic staff, and peers but of an academic nature (e.g., peer tutoring, study groups).

2. Academic Preparation: Students who are required to complete remedial or developmental courses.

3. Attrition: The dropout of students from an institution.

4. College Readiness: The level of preparation a student needs in order to enroll and succeed-without remediation-in a credit-bearing general education course at a postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate next course in the sequence or the next level of course in the subject area.
5. Dropout: A student who quits school, college or university before attaining the relevant diploma/degree.

6. Enrollment: Being enrolled in college until graduation or transfer to another institution.

7. First Generation Student: Students whose parents’ (one or both) highest level of education is a high school diploma or less.

8. High School Graduate: A high school graduate is defined as an individual who has received formal recognition from school authorities, by the granting of a diploma, for completing a prescribed course of study.

9. Higher Education: Education beyond the secondary school level, mainly at the two and four-year college level.


11. Hispanic: In this study the term refers collectively to Mexican Americans, Puerto Ricans, Cubans, Central and South Americans, the Caribbean Islands, and other Spanish-speaking countries. They share a common language and cultural origins but come from diverse nations and backgrounds with distinctive histories and socio-economic and political background.

12. Low SES: Students who received Pell Grants in the fall of 2002.

13. Minority: For the purpose of this paper the term minority refers to students who are of African American, Hispanic (Latino), Native American or Asian descendent and who attend Cumberland County College.

14. Non-traditional Student: Student in higher education who is over the age of 24 or attends college part time, or is a combination of the two educational goals. Persistence is an indicator of student satisfaction and success.
15. Persistence: Refers to whether student persists to the accomplishment of his or her stated educational goals. It includes the transfer to another institution in pursuit of the educational goals. Measurement requires that institutions collect data on student goals.

16. Postsecondary Education: Education beyond high school level leading to the attainment of an associate, bachelor, masters or doctoral degree.

17. Retention: First-time, full-time students who return to (or graduate from) their first institution, or transfer (or graduate from) to another institution, or remain enrolled long enough to accumulate 70 college credits and more.

18. Social Integration: The development of a strong affiliation with the college social environment both in the classroom and outside of class. It includes interactions with faculty, academic staff, and peers but of a social nature (e.g., peer group interactions, informal contact with faculty, organization activities).

19. Status Dropout: The percentage of 16- through 24-year-olds who are not enrolled in high school and who lack a high school credential which includes a high school diploma or equivalent credential such as a General Educational Development (GED) certificate.

20. Student Academic Success: Determined by whether a student graduates, transfers to another two- or four-year college, or is still enrolled at the same or another college to pursue his/her stated goals.

21. Student Achievement: Improvement in measurable educational outcomes that arise from attending a school, a community two-year college, or a four year college.

22. Student Commitment: A student’s overall satisfaction, sense of belonging, and willingness to attend the institution again. It includes the student’s desire to complete the degree and the willingness to spend the time and energy necessary to obtain it.
Research Questions

The research questions addressed by this study were as follows:

1. What were the persistence rates of fulltime, first-time degree seeking high school students who enrolled at Cumberland County College in fall of 2002 through fall of 2008?

2. What happened to the fulltime, first-time degree seeking high school students who did not graduate from Cumberland County College?

3. Is there a significant relationship between the enrollment/graduation patterns of students who received Pell grants and those who did not?

Overview of the Study

Chapter I stresses the changing role of community colleges, the characteristics of the student population, and the effects of changing demographics on the attrition/retention/graduation and transfer rates.

Chapter II provides a review of the academic, scholarly literature and previous research findings that are applicable to the study. This section gives an account of the history of community colleges, theories of student retention, the importance of effective retention practices, factors that affect student retention and persistence, and the characteristics of community college students.

Chapter III describes the methodology and the procedure that were used to conduct the study. The following details are included in this section: the context of the study, the population and the selection of the sample, the data collection, and analysis of the data obtained from the study.

Chapter IV presents the results of the study. It addresses issues emanating from
the research questions that were presented in the introduction of the study. The data tabulated in this section are summarized through descriptive, narrative, and statistical analysis. The SPSS computer software was used in the analysis of the data.

Chapter V summarizes and discusses the major findings of the research and states conclusions. In addition, the chapter offers recommendations for practice and further research.
CHAPTER II
REVIEW OF THE LITERATURE

History of Community Colleges

The American Community College has emerged from the direct outgrowth of the rapidly increased demands for secondary education in the early 19th century. Originally referred to as Junior Colleges, approximately 275 of these institutions were established in the United States between 1800 and 1940, especially in small and medium-sized cities of the middle and far west. Some, however, were established on the East Coast (Newark NJ, and Springfield, Massachusetts) but most of them did not survive the period. During the 1950s and 1960s, the term Junior College was more often applied to the lower-division branches of private universities and to two-year colleges supported by churches or to those that were independently organized. The term Community College was reserved for comprehensive, publicly supported institutions but by 1970 the name was applied to both private and public two-year institutions (Cohen & Brawer, 1996). Social, economic and political factors resulted in the rapid growth and proliferation of community colleges in the US.

Most prominent factors were the need for workers trained to operate the nation’s expanding industries; the lengthened period of adolescence which mandated custodial care of the young for a longer time; and the drive for social equality, which supposedly would be enhanced if more people had access to higher education (Cohen & Brawer, 1996, p. 1).
In addition, changing American perspectives on life played an integral part in the spread of these colleges because citizens claimed that “people cannot be legitimately educated, employed, religiously observant, ill, or healthy unless some institution sanctions that aspect of their being” (Cohen & Brawer, 1996, p. 1). The need for these institutions was also justified because preparatory institutions for students who planned to move into colleges and universities were in great demand, and their construction was encouraged by the university system itself. Some universities used them as landing grounds “for troublesome freshman and sophomores” (Wechsler, Goodchild, & Eisenmann, p. 567) who were flocking in huge droves to the four year institutions. However, some historians of junior colleges have alleged that the driving force for these colleges was “to establish a community’s commercial and cultural leadership” especially in cities of between 10,000 and 25,000 situated primarily in large agricultural regions (Wechsler et al., p. 567). Their establishment was part of a general strategy “to achieve regional leadership by replicating the full range of those institutions associated with civic life: a comprehensive high school, a library, a hospital, a courthouse, and a college” (Wechsler et al., p. 568). In some states, junior colleges were placed under the formal governance of the public schools while in other wealthier cities like New York and Cincinnati, they were established as free-standing public colleges. It is not surprising that community colleges developed the values and culture of the public high schools in which they were housed and from where they drew their faculty, and under whose governance they functioned during their early formative stage. In addition, junior colleges were viewed as conserving community resources, adding prestige and importance, and providing education at a price that the community
could afford (Wechsler et al., 2007).

The major facets of junior college eventually came under the influence of the universities. Since they were regarded as feeder institutions for four-year colleges, the vast majority of junior colleges were regulated by state universities through a process known as standardization. As several of the nations larger public high schools began to offer collegiate grade courses, there was a dramatic upsurge of applicants to universities across the nation. Larger universities, therefore, felt the need to establish a mechanism by which they could judge the quality of such courses as well as preserve their own integrity of their degrees. By the 1920s, standardization became widespread, with three-quarters of the state legislators adopting junior college legislation, specifically charging their state universities for the oversight of public junior colleges. Standardization eventually was supplanted by the accreditation which became rigid and bureaucratic inquiries with a “more focus, directive and intrusive process” (Wechsler et al., p. 570), thereby forcing these junior colleges to adhere to the required standards in order to be qualified for university accreditation. University accrediting bodies eventually extended their enquiries to include such issues as governance, student access, and faculty qualifications, and working conditions. Even, standards in such areas as laboratory equipment, maintenance of student records, subjects appropriate to a junior curriculum and specific textbooks that could be assigned by junior college faculty were monitored. In this manner admission to four year institutions was easily monitored, the restrictive admissions could be maintained the admission of high school vocational program graduates could be effectively eliminated. Thus the “mental abilities and parental occupations of public junior colleges students were comparable to the freshman and
sophomores at prestigious senior colleges and universities” (Wechsler et al., p. 571).
Even faculty educational levels instructor was to teach and working conditions were to
be similar to those of the university’s junior faculty. To this end, they stipulated
maximum teaching loads and faculty were to be supervised separately from high school
faculty, typically under a dean (Wechsler et al., 2007).

Over the decades community colleges have consistently expanded their roles and
responsibilities throughout the years. From acting as feeder pipelines for four-year
institutions to fulfilling the workforce demands of the community and society at large
today they are regarded as a major pipeline for postsecondary education and higher
education achievement. Today, the changing demographics of the US population is
reflected in the student population at colleges and institutions of higher education
which have witnessed a marked increase in the enrollment numbers of minority
students. Demographic projections suggest that greater numbers of students of color
will enter postsecondary education through the community college pipeline. As the US
becomes more diverse legislators, educators and policymakers have the formidable task
of not only attracting students of color to higher education but also ensuring their
learning success retention and matriculation. Since community colleges are often the
primary vehicle of postsecondary opportunities for first-generation, low-income
students and underrepresented racial/ethnic minorities, the burden falls squarely on
these institutions to reevaluate their roles and to initiate policies and procedures to
ensure smooth passage of minority students through the college doors and into the
workforce. While this may seem to be an easily accomplished goal, research has shown
that the plethora of factors combine to mitigate against the effective achievement of
strategies that could be and have been implemented. A combination of approaches, working in conjunction with rigid monitoring and effective leadership, has been initiated in order to solve this almost insurmountable problem that exists both at the community colleges and four year institutions alike.

Theories of Student Attrition/Retention

Much of the earlier research on student attrition and retention has been assessed through the lens of traditional students enrolled at four-year institutions. However, four-year colleges differ institutionally, academically, and socially from two-year community colleges. However, with modifications, these theories and models can still be applied to two year colleges at which more research is needed in order to improve retention and graduation rates. The results have led to the development of models which all emphasize to “varying degrees the importance of academic preparation and the quality of student experiences during college” (Kuh, Kinzie, Schuh, Whitt, & Associates, 2006, p.11). The most often cited theories define student success in college “as persistence and educational attainment, or achieving the desired degree or educational credential” (Kuh et al., p. 11). Student retention models adopt a sociological, organizational, psychological, cultural, or economic view, all of which contribute to an understanding of student success in college. A concise insight into the most often used theories of student retention will be given in order to integrate theoretical concepts with practical applications.

Thomas Spady was the first to propose a widely recognized sociological model of the dropout process for college student. Spady (1970) drawing a parallelism from the Durkheim’s suicide model, claims that when students fail to become integrated into the
social system and values of the college, low commitment results and withdrawal is likely to occur. Spady postulates that students withdraw from college because of lack of shared values or normative support. He identified five variables—academic potential, normative congruence, grade performance, intellectual development, and friendship support—that all contribute directly to social integration, enhance persistence at college, and led to decreased attrition rates. When students recognize and accept the importance of academic work and have normative support (emotionally, financially, or otherwise) from family, close friends, or significant others, successful assimilation and interaction between the student and the institution encourages persistence and eventual academic success. The continued interaction of students’ personal attributes with environmental influences or their introduction or removal gives the students opportunities for successful assimilation into the social and academic systems of an institution. A student’s decision to remain or withdraw is influenced by the rewards found within these systems. According to Harvey-Smith (2002), “the degree to which the rewards within either system are perceived as insufficient is the degree to which the student is likely to drop out. The extent to which a student feels a bond and a connection with the environment, and establishes support relationships with friends determines the basis for social success in this model” (p. 3). Spady’s theory has had profound influence on the development of other student retention theories and has served as the catalyst for many additional studies on student involvement.

The next widely recognized work in attrition modeling was Vincent Tinto’s (1975) Student Integration Model which also adopted a sociological perspective. Tinto’s detailed longitudinal model made explicit connections between the
academic environment, the social systems of the institution, and student retention over different periods of time (Tinto, 2006). Referred to as the “person-environment fit” the primary perspective of this model viewed the level of the students’ academic and social integration, both formal and informal, as being the main reason for attrition/dropout and retention rates. According to Tinto (1998), the knowledge about “persistence is that involvement matters and that it matters most during the critical first year of college” (p.1). The more academically and socially involved students become, the more likely they are to persist. Tinto asserted that students enter college, bringing with them a series of unavoidable traits (ethnicity, secondary school achievements, family support and encouragement, and socioeconomic status) that bear tremendous influences on initial levels of commitment to the institution. Prior levels of goals and institutional commitment combined with a higher the degree of social and academic integration of the individual into the college system, result in greater commitment to the specific institution and to the goal of college completion (Tinto, 1975). As Tinto (1975), indicates “it is the interplay between the individual’s commitment to the goal of college completion and his commitment to the institution that determines whether or not the individual decides to drop out” (p. 96). Tinto eventually expanded his view of student retention to include a three-stage process: separation, transition, and incorporation based on a social anthropology model by Van Gennep based on the “rites of passage.” In this model Tinto claims that students who leave college are those who are unable to effectively distance themselves from their family or community of origin. According to Tinto (1988), “lack of integration, which has been posited elsewhere as the primary cause of student departure … may also result from the inability of students to separate
themselves from past associations and/or make the transition to new ones” (p. 449). This absence of separation also negatively impacts integration into the social system of the college, results in low commitment to the institution, and increases the probability that individuals will drop out (Tinto & Cullen, 1973; Tinto, 1998). As stated by Tinto (1988), it limits their “learning expectations of important norms and patterns of behavior for full incorporation into the life of the college” (p. 446). Tinto (1993) emphasized the longitudinal nature of the attrition process and indicated the importance of background factors in affecting the attrition decisions which added to the strengths of the model. Factors such as adjustment, difficulty, incongruence, isolation, finances, learning, and external obligations or commitments were added to his original model. Tinto (1998) recognized that the role of personality, differences in individual coping skills, and in individual goals and commitments as well as institutional differences and policies, can all lead to departure or retention.

John Bean (1980) developed the Model of Student Departure, which had its foundation in organizational process models of worker turnover, emphasizing the significance of behavioral intentions. As cited by Swail, Redd, & Perna (2003), the purpose, according to Bean, was to help others “visualize how individual psychological processes can be understood in the retention process” (p16). Bean argued that students’ beliefs, attitudes, and behaviors are affected by their experiences with overall campus quality, and that a strong correlation exists between students’ attitudes and behaviors, which are reflected in their intentions to stay or leave the institution (Eaton & Bean, 2000). Bean (1980) also postulates that “factors external to the school might affect retention and thus introduced environmental variables as casual factors in the
retention/attrition model” (p. 151). It is worthy to note that both Bean and Tinto view the level of academic and social integration into the campus structure as being important indicators of an individual's adaptation to college life. Bean’s model incorporates background, organizational, environmental, attitudinal, and outcome variables as being important determinants in students’ attrition/retention (Bean, 1990).

John Bean and Shevawn Eaton (1993) revised this psychological model by including attitude-coping-behavior theory. This approach sought to stress the array of personal characteristics of students that not only foster success in college but also help to explain students’ adaptation to the campus environment. Social and academic integration into the campus climate is reflected by the students’ attitude and institutional fit and commitment, thereby influencing persistence or departure (Eaton & Bean, 1993). This approach/avoidance model of coping has become extremely helpful in examining the ways students cope, adjust, and become familiar and comfortable to their new environment (Bean & Eaton, 2000). According to Eaton and Bean, several psychological processes take place during students’ interaction with the institutional environment. This social acceptance and integration emanate in positive self-efficacy, reduced stress, and increased internal locus of control, all of which increases the students’ academic motivation (Bean & Eaton, 2000). Bean and Eaton eventually summarized, combined and extended the ideas of Astin and Tinto in creating a psychological model of student retention by examining persistence as academic and social integration. They paid attention to students’ attitude/behavior, coping behavior, self-efficacy as well as students’ attributes particularly in relation to their locus of control. The degree to which students feel that they control or influence the successes
and failures in their lives will strongly affect their likelihood of success in college. They stressed the importance of institution provisions for service-learning, freshman interest groups and other learning communities, freshman orientation seminars, and mentoring programs to support student success (Bean & Eaton, 2000).

Alexander Astin’s (1984) developmental theory of student involvement stresses the role of student involvement in development and the eventual decision of students to persist or dropout out of the college environment. Astin’s Theory of Involvement states simply that students learn more to the extent that they are involved in both academic and social aspects of the college experience, and that persistence is affected by academic, faculty, and student peer group involvement, interactions and integration (Astin, 1993). In his longitudinal study of college dropouts, Astin attempted to identify factors that significantly affect the student’s persistence in college. His study showed that virtually every positive factor was likely to increase student involvement in the undergraduate experience, whereas every negative factor was likely to reduce involvement and lead to eventual dropout. The theory links pedagogical and learning outcomes and expectations desired by both students and professors. As stated by Evans, Forney, and Guido-Di Brito (1998), involvement in this case “refers to behavior, what the student actually does, rather than the student’s feelings or thoughts” (p. 26). Astin’s approach focuses on factors that facilitated development rather than examining development itself. For growth and development to occur and for students to persist, students need to engage or become involved in their environment. According to Astin (1984), “student involvement is the amount of physical and psychological energy that the student devotes to the academic experience” (p. 297). Astin (1975) identified
differences between the highly involved student and success, and the uninvolved student who may eventually drop out. Research has shown that when students devote their time and energy to learning and become involved in their own education, the greater their achievement and their satisfaction with their own educational experiences, and the stronger their desire to persist in college (Pascarella & Terenzini, 1991; Tinto, 1993). In addition, Astin postulated that the effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement. Thus, the more hospitable the environment the more students become engaged but the quality and the quantity of a student’s involvement will influence the type of learning and development that occurs and this in turn affects persistence. Thus, colleges need to provide the type of environment if they desire to retain their students (Evans et al., 1998), because involvement increases learning and decreases the probability of dropping out (Astin, 1975, 1984).

Earnest Pascarella’s General Causal Model, based on Tinto’s work, proposes the degree to which the student is engaged with institutional agents of socialization influences the student’s overall academic engagement that affect their persistence. He added that institutional characteristics and the level of student effort are direct influences of academic persistence. Quality of effort is shaped by students’ background traits, by the general institutional environment, and by the normative influences of peers and faculty members. Students’ changes are seen as a function of students’ background characteristics, interactions with major socializing agents, and the quality of the students’ efforts in learning and developing. As stated by Davis and Murrell (1993) “student-faculty interaction and academic integration exert a direct and
important effect on persistence, intellectual and academic outcomes, and institutional loyalty” (p. 58). According to McCalahan (2004), findings from the empirical study indicated that “…the dominant peer group were strong influences on academic achievement” (p. 4). Pascarella, Terenzini, and Wolfe (1986), states “the stronger the individual’s levels of social and academic integration, the greater his or her subsequent commitment to the institution and to the goal of college graduation” (pp. 155-156).

A number of more recent theories have been developed in regards to student retention. Joseph Berger (2001) noted, there has been a growing recognition in recent years that an understanding of how colleges work is enhanced when different theories or models of organization behavior are integrated into a coherent whole rather than viewing each theoretical perspective as either being right or wrong (Berger, 2001). This has lead to the integration of organizational theory with student retention models which have been used as frameworks for studying the impact of the college environment on student outcomes, including student attrition/retention. In this model, colleges and universities are regarded as organizations providing an appropriate framework for gaining useful insights into improving retention. By examining the combined effects and interactions of the entire campus culture, activities, and involvement with those of the students educators can become more sensitive on how to promote and ensure student retention. Berger (2000) noted “that undergraduate persistence is the result of an interaction between individuals and institutions as optimizers of capital resources” (p. 121). According to Berger (2000), “organizational theory provides a powerful analytic framework for learning more about ways in which colleges and universities affect the educational experiences and outcomes of undergraduate students” (p. 177).
Student retention theory and practice over the past five decades has evolved from an initial programmatic approach to one now involving an integrative network of practices and policies forged from organizational theories and strategies that position each student for success. "From the original sociological and psychological models and theories to explain student retention, the movement has evolved to include organizational models and theories that identify and explain the many facets of student retention and success" (as cited in McClanahan, 2004, p. 8). Attrition is really a complex longitudinal process that begins with the background characteristics of students whose interaction-academically, organizationally, and socially-with the environment represents a force that could influence them to develop attitudes towards the institution. These attitudes affect institutional fit and loyalty which, together with academic preparedness and other variables, are potent predictors of continued enrollment or departure. In spite of the fact that most of the research to validate the theories has been conducted at four-year colleges many aspects of the theories of student retention/persistence can still be applied to studies of two year institutions. Notably, Tinto (1975) even advised that if one wishes to develop a theoretical model of dropout from college that seeks to explain the longitudinal process of interaction that affects persistence or dropout behavior, "one must build into the model sets of individual characteristics and dispositions relevant to educational persistence" (p.93). Tinto also acknowledged that finance and other external factors like family commitments, distance from institution, lack of social capital, and cultural associations can cause students to rethink their academic aspirations and commitment to the institution and thus affect their academic success (Hoachlander, Sikora & Horn, 2003; Hossler, Bean & Assocaties, 1990; Kuh et al., 2006; Tinto & Cullen, 1973). When taken together
theoretical perspectives on student success and departure provide a holistic accounting of many of the key factors that come into play to shape what students are prepared to do when they get to college and influence the meanings they make of their experiences” (as cited in Kuh et al., 2006, p. 21). According to Pascarella and Terenzini (1991), “one of the most inescapable and unequivocal conclusions we can make is that the impact of college is largely determined by the individual’s quality of effort and level of involvement in both academic and non-academic activities” (p. 610).

Unraveling Student Retention Theories

The factors that affect student retention can be categorized into five broad headings, namely psychological, societal, economic, organizational, and interactional (Kuh, Kinzie, Schuh, Whitt, & Associates, 2005; McClahanan, 2004). These factors are all interrelated with the outcomes of one affecting the decisions of others. Individual personality traits, which distinguish persistence and retention characteristics among students in regards to attrition versus completion of their program of study, are the basis of psychological theories. Social status, race, prestige, and opportunity relative to student persistence are the foundation upon which societal theories of student retention are constructed. In addition, these theories also examine the barriers and hurdles that students have to overcome before and during their postsecondary educational pathway, as well as the host of external factors that affect student retention. Economic theories of student departure emphasize the importance of individual finances and financial aid in student retention. Financial forces are paramount to individual retention decisions, because they are inherently taken into account in the decision regarding entry, that is where and whether to attend a postsecondary institution. Organizational theories stress the impact of such
variables as size of institution, student/teacher ratios, institutional goals and organizational structure on student departure rates. Although these factors first appeared to be more important in residential degree-granting institutions they have become applicable to commuter two-year community colleges as well. Finally, a look at the fit between what a student expects from an institution and how well he/she integrates into the social and academic environment of the institution are viewed through interactional theories (Braxton, Sullivan, & Johnson, 1997; Kuh et al., 2005; McClahanan, 2004). When students’ experiences are positive they are more likely to accept greater financial burdens in order to continue their attendance and achieve their academic goals (Tinto, 1982). Although there are some conflicting findings in the research of student retention, Tinto’s model, in spite of its limitations, still holds strong. It has been modified and revised over the years with the basic ingredient-involvement-still holding the keys to student retention. Student attrition was formerly viewed through the lens of sociology and psychology and was a direct reflection of individual abilities, skills, and motivation. Students’ were perceived as being unwilling and less motivated to achieve a postsecondary education were thus blamed for their failure (Tinto, 2006). Today, however, more emphasis is being placed on the role of the institutions, in helping to solve the attrition problems being faced by community colleges throughout the nation, especially in relation to minority students, mainly Hispanic and African Americans.

Persistence and Degree Attainment

Persistence to degree attainment is a more meaningful way to evaluate true access to higher education, rather than the enrollment of minority students in postsecondary institutions. Although enrollment in degree-granting institutions increased by 16%
between 1985 and 1995, between 1995 and 2005, it increased at a much faster rate (23%) growing from 14.3 million to 17.5 million. By 2010, enrollment is projected to reach approximately 19 million students. Much of this growth was in female enrollment with the number of females enrolled rising by 27%, while the number of males rose 18%. During the same time period, part-time enrollment rose by 9% compared to an increase of 33% in full-time enrollment. Likewise, there has been a stunning increase in the percentage of American college students who are minorities, mounting from 15% in 1976 to 31% in 2005. Much of the change from 1976 to 2005 can be attributed to rising numbers of Hispanic and Asian or Pacific Islander students. During that time period, the percentage of Asian or Pacific Islander students rose from 2% to 6% and the Hispanic percentage rose from 3% to 11%. The percentage of Black students was 9% at the beginning of the time period and it fluctuated during the early part of the period before rising to 13% in 2005. However, white enrollment has decreased from a high of 68.3% in 2000 to 65.7% in 2005 (NCES, 2008). Although the number of minorities in higher education has increased substantially during the last 20 years (Harvey, 2003) the data reveal a bleak picture for minority students. Hispanics display a lower college graduation rate than their African American and White counterparts (Fry, 2002). As a result, the percentage of 25-to-29-year-old Hispanics with at least a bachelor's degree in 2000 was lower for Hispanics (10%) than for African Americans (18%) or Whites (34%). The discrepancy between initial enrollment and subsequent graduation rates suggests that the Hispanic gap in educational attainment (Fry, 2002) as well as African American students is largely attributed to factors related to these students’ college-going experiences. Data from students enrolled in Florida community colleges as well as institutions participating
in the national *Achieving the Dream* project an estimated 17% of the students who start at a 2-year college either drop out or do not earn any academic credits during the first academic term (Kuh, Kinzie, Buckley, John, & Hayek, 2006). Only about half of students who begin their postsecondary studies at a community college attain a credential within 6 to 8 years. An additional 12% to 13% transfer to a 4-year institution (Hoachlander, Sikora, & Horn, 2003). Only about 35% of first-time, full-time college students who plan to earn a bachelor's degree reach their goal within 4 years; 56% achieve it within 6 years (Kuh et al., 2006). There has been a rapidly increasing disproportionate representation of Hispanics in two-year colleges (Arbona & Nora, 2007). For example, in the fall of 2000, 58% of Hispanics enrolled in college were attending two-year institutions compared to 42% of African American and 36% of White students (Harvey, 2003). There is a growing concern that community colleges have not served as the gateway to a bachelor's degree for large numbers of lower-income and ethnic minority populations (Hoachlander et al., 2003). Approximately 25% of Hispanic students in the *Beginning Postsecondary Students Longitudinal Study* of 1996 who attended a two-year college initially intended to transfer to a four-year institution and obtain a bachelor's degree. However, six years after first enrolling in community colleges only 6% had been awarded a bachelor's degree; similarly, the figure for African Americans is 9% (Bailey et al., 2004). Strauss and Volkwein (2004), found that the proportion of students leaving college without a degree is almost twice as large at two-year versus four-year campuses. Students beginning at two-year institutions earned a bachelors' degree at a rate of 38.4% versus a degree-earning rate of 60.4% for students beginning their studies at four-year institutions (Digest of Educational Statistics, 2001).
According to a study by Nora, Alberto, Hagedorn, & Pascarella (1996) institutional experiences, academic achievement, and environmental pull factors contributed the most to persistence decisions. Their analyses revealed that differences in the effects of these factors for different ethnic and gender groups were important in explaining persistence decisions. However, withdrawal from a college or university is a complex behavior that is the result of an intricate mixture of a variety of factors. Although researchers have identified a variety of factors consistently related to student attrition at four year colleges and universities, the heterogeneity of the student body at community colleges and the differences in the student’s purposes for attending these schools make attrition difficult to study (Bean, 1986). Although attrition rates are higher at two-year than at four-year institutions, comparatively little is known about attrition at these institutions. The attainment of a college degree, which has a significant influence on subsequent economic and occupational success for all students depends upon the persistence of the student (Nora et al., 1996; Pascarella & Terenzini, 1991). This interest in college persistence has also been highlighted by the declining college graduation rates on the part of minorities, particularly among African Americans and Hispanics and is rapidly becoming an area of major concern (Nora et al., 1996). However, enrollments at community colleges continue to increase. A longitudinal study conducted by Berkner, He, Catalladi and Knepper (2002), found that the largest proportion of beginning students (46%) enroll at public 2-year while about one-fourth (26%) started at public 4-year institutions, 15% at private not-for-profit 4-year institutions and 10% at private for-profit institutions offering vocational programs of two years or less. This persistent, low retention/persistence and completion rates at community colleges have become an intense
focus for educators, policymakers, and educators.

Researchers, on the other hand, should pay more attention to community colleges and the students since a huge proportion of their population never finish a degree, fail to transfer, or leak through and out of the education pipeline. This is important in the light of the fact that low-income, minority, and first-generation college students all have higher than three and six-year completion rates, earn lower level credentials, and account for 42% of total postsecondary enrollments. Moreover, minority students, particularly Hispanics, African-Americans, (and Asians), are all overrepresented at two-year institutions (Bailey et al., 2004).

Factors Related to Student Retention

A number of factors have been found to be related to student retention and persistence. Among the most prevalent are academic preparedness, campus climate, commitment to educational goals and the institution, social and academic integration, and financial aid.

*Academic Preparedness and Integration*

A review of the literature reveals a number of factors (cognitive, social, and institutional) are related to student retention. The academic resources students bring to college, assessed primarily in terms of the quality and rigor of their high school curriculum, have emerged as one of the strongest predictors of retention and the eventual attainment of a bachelor degree (Adelman, 1999; Nora et al., 1996; Pascarella & Terenzini, 1991; Tinto, 1975). Academic preparedness and integration emerge as being the chief variable in college student attrition/retention rates. Research shows that between 30% and 40% of all entering freshman are unprepared for college-level reading and
writing and approximately 44% of all college students who complete a 2 or 4-year degree had enrolled in at least one remedial/developmental course in math, writing, or reading (Swail, 2004).

A similar finding emanates from the NCES (2004) report which claims that 60% of students in public 2-year colleges and one-quarter in 4-year colleges and universities require at least one year of remedial or developmental coursework. More than 25% of 4-year college students who have to take three or more remedial classes leave college after the first year (CCSSE, 2005). This is daunting because the possibilities of dropping out in relation to the number of required developmental courses are directly related. Of the 45% of students who start college and fail to complete their degree, less than one quarter are dismissed for poor academic performance. Most leave for other reasons: psychological, social, financial, family commitments, etc., (Kuh et al., 2006). Among the pre-college characteristics of students that are predictors of their persistence are being academically successful in high school, high ranking in the graduating high school class, taking college preparatory courses, possessing high but realistic educational goals, and having college-educated parents who are financially well off and who support the student’s decision to attend college. Research shows that academic preparedness exerts the greatest positive influence on persistence towards gaining a degree (Adelman, 1999; Kuh et al., 2006; Nora et al., 1996; Pascarella & Terenzini, 1991).

College readiness is generally based on the SAT and ACT scores. The results of these tests indicate that minority students, as well as those of low SES, score below white and Asian students. The ACT Report (2006) indicated that too few students are prepared for the rigors of college. The results show that not only 42% of test-takers scored at the
college-ready benchmark in mathematics, but a surprisingly low figure of 53% met the reading target. The report explicitly states that African American and Latino students were less likely than their White and Asian peers to score in this range. Similarly, the National Assessment of Educational Progress (NCES, 2005) reveals that in reading assessment for 12th graders only the 43% of White students and 36% of Asian/Pacific Islander students, 20% of Hispanic students and 16% Black students scored at the proficient level. In mathematics, only 29% of Whites, 36% Asian/Pacific Islander, 8% of Hispanic, 6% of Black and 6% American Indian/Alaska Native students scored at the proficient level (NCES, 2005).

These results underscore the importance of not only mandating a rigorous sequence of high school courses but also the dire need to motivate and encourage more students to take them, thereby increasing the likelihood of their retention in college. These figures point to the unpreparedness of high school graduates for college readiness. Considering that reading ability is a primary factor in an individual’s ability to learn (Adelman, 1999), these results pinpoint the fact that most minority students are unprepared for college. It is no surprise that community colleges with their open door policies have a huge difficulty in solving student attrition and retention (Hoachlander et al., 2003; Siedman, 1995). According to Adelman (1999), high school course selection and integrity plays an integral part on academic preparation and college persistence the most significant of which is that a rigorous mathematics curriculum path taken in high school results in high achievement levels for all students, regardless of race or ethnicity.

Several studies point to the academic deficiencies among many minority students, particularly the inability of the school system to better serve under-represented
students. In addition, exposure to higher-order skill development is a major concern. A review of the NAEP (1996) science scores of 17-year-olds found that although 9% of white students had the ability to integrate specialized scientific information, only 0.5% of African Americans and 1% of Hispanic students demonstrated this ability. Further exacerbating this dilemma is the perception that minority students cannot succeed in these higher-order disciplines. It is no surprise that community colleges with their open door policies have a huge difficulty in solving student attrition and retention (Hoachlander et al., 2003; Swail et al., 2004).

Bean (1986) found that teachers who thought this way were more likely to send negative messages to their students regarding their ability in math or science, thus affecting their self concept and confidence. In addition, many minority students lack other critical skills essential to their persistence and success through their college pathway and severely inhibit their retention. According to Fry (2004), among two-year college entrants that are minimally qualified for college, 66% of Latinos and 45% of similarly prepared white college students initially enroll in open-door institutions. However, white youths are nearly twice as likely as Hispanic youths to finish a bachelor’s degree. By comparing the best prepared white and Latino college students at non-selective colleges and universities, he also found that 81% of whites as compared to 57% of Latinos complete a bachelor’s degree (Fry, 2004). These pre-college resources also pave the way for community college students’ transfer to four-year colleges (Bailey et al., 2004; Hoachlander et al., 2003; Nora et al., 1996). Many of the minority students who are admitted to community colleges realize that they do not possess the requisite academic skills to succeed. Thus, a high percentage of these students end up on the
remedial or developmental track. The time and resources spent in these development courses can be a deterrent, eventually leading to a low self-esteem and drop out.

According to Lang & Ford (1988), “it seems to be an acceptable fact that if one is black and poor in this society he must also be ignorant and uneducable” (p. 9).

Campus Climate

The climate or culture that exists at a particular institution bears heavily on student retention. Researchers agree that a significant number of problems that minority students face on Primarily White Institutions (PWIs) have a direct or indirect impact on their academic achievement and retention. At two and four year PWIs, minority and low-income students inadequately prepared for non-academic challenges can experience culture shock and alienation. When unable to make timely, successful emotional and social adjustments, they find themselves eventually dropping out of college. Diversity, with regard to income and race/ethnicity, student and faculty population, and the curriculum, often play a major role in affecting minority students’ interactions. Its absence can lead to a decline in the educational attainment and academic achievement of minority students (Roscingo, 2000). According to Hall (1999) “African Americans who attend PWIs suggest the availability of ethnic and cultural organizations and a “critical mass” of African American students help reduce the isolation and alienation often found on predominantly white campuses” (p. 27). For example, Historically Black Colleges and Universities (HBCUs) support campus climates that foster students’ self-pride and confidence and lead to academic and social success. Although most African Americans at HBCUs do not experience culture shock associated with race, they do experience the culture shock of transitioning from a secondary educational system to a higher
educational one. Campus climate such as mono-cultural curricula, professors' expectations and attitudes, cultural conflicts, institutional racism, lack of support services, isolation or alienation, and problems involving socialization and motivation, all tend to affect minority student retention.

Commitment to Educational Goals and the Institution

College performance and persistence are intimately affected by students' commitment to occupational and educational goals as well as commitment to the institution in which one enrolls bearing a direct correlation to each other (Tinto, 1993). The stronger the goal and institutional commitment the more likely the student will graduate (Astin, 1977). Students with good high school grades generally have more well defined career goals than their peers with low levels of high school achievement. When academic and social integration is encouraged these goals lead to retention and persistence. The greater the integration into the academic and social environments the more intense is the institutional commitment and student persistence (Astin, 1982, 1984; Tinto, 1975, 2002)). Conversely, a lack of congruity is more likely to result in dropout or transfer.

Social and Academic Integration

Becoming socially integrated into the culture of the university has a profound effect on student retention and persistence (Tinto, 1975, 1993). This is not an overnight process but a gradual, cumulative experience, the outcome of which creates an academic, institutional, and social bond which encourages persistence and retention. The level of social integration, through the establishment of peer relations and the development of role models and mentors, are all critical factors in student integration, especially during the
first year of study tends to become stronger as the student progresses through college (Kraemer, 1977; Tinto, 2000). Interaction with faculty (formal and informal) not only increases social integration but also fosters increased institutional commitment and increases student academic integration (Tinto, 1993, 2000). However, for minority students such interaction can be problematic because positive role models and minority faculty are highly underrepresented at colleges.

**Economic Perspectives**

Economic theories of student retention are viewed through family SES and the availability of financial aid. Financial support, especially those of low-income and minority students, is a major determinant of student retention, enrollment and persistence decisions. In 2001, the median household income of African American and Hispanics families was $36,824, and $41,652 respectively while white households had a combined income of $61,643 (U.S. Census Bureau, 2001). Thus, by definition, more African American and Latino families will require financial assistance to attend and persist in college. However, a disturbing discrepancy weighs heavily on retention for low income and minority students. Low-income students are at greater risk than other students of not completing college and they typically need substantial financial assistance in order to attend college. In 1995–96, 26% of all undergraduates were low income and need some form of financial assistance (NCES, 2000). Low-income students attending full time, full year had about 60% of their budgets covered by aid, with about 60% in the form of grants and 32% in the form of loans. According to NCES (2000), at public two year institutions while the average financial need for students was $7,051 the student budget and family contribution (EFC) was calculated to be $8265 and received only $3059 in financial aid.
However, at public four year institutions while the average financial need for students was $10,876 the student budget and family contribution (EFC) was calculated to be $11,505. However, they received $6116 in financial aid.

Low-income and minority students who receive grants generally are more likely to persist than those who receive loans. With federal policies of moving away from grant to loans a negative effect on low income, for first generation, minority students who are much less willing to borrow than white students, is expected. However, given the rising costs of attending college, it is unlikely that low-income students will be able to receive bachelor’s degrees without any loan aid (Lotkowski et al., 2004; Harvey, 2003). The characteristic of low income students make them vulnerable to attrition with family income and first generation status being two dimensions of this disadvantaged sector that have negative implications for minority students.

Characteristics of Community College Students

The characteristics of community colleges make them the first point of entrance for a large percentage of minority students. With the open door access, low tuition rates, convenient location, flexible scheduling, with programs and services designed to support at-risk students with a variety of social and academic barriers to postsecondary education, community colleges have become the main gateway to academic success (Bailey et al., 2004; Feldman, 2005). Over 32% of undergraduates who began college in 1995-96 came from low income families. These low SES students differ from other students in several ways. They are more likely to be females, African American, Hispanic, Asian American or Native American who begin college later in life and are far more likely to have started a family. In addition, their academic background also differs, with 48% of these low
income students are racial or ethnic minority compared with 20% middle and upper income (Feldman, 2005). They do not take rigorous high school courses, do not enter college immediately after high school, and are more likely than other students to drop out before earning a degree (Alderman, 1999). Two thirds of them are first generation college students, have far less experience and information on social and academic culture of higher education, and may not be able to rely on parents for these matters. In the 1995-96 school year, for example, these low SES students accounted for 55% of all first-time college students enrolled in two-year public institutions compared with 35% at four-year public and not-for profit institutions. However, after six years, 36% of students who enrolled in a community college as their first postsecondary enrollment in the 1995-96 school year had completed a certificate, associate, or bachelor’s degree. Another 22% were still enrolled in college indicating that 42% of students who started in a two-year public institution had left college within six years after initial enrollment without a degree or certificate (Bailey et al., 2004).

Although community colleges enroll the largest number of low income and first-generation college students, after six years, only 3% of community college students had completed either a certificate, or an associate’s, or a bachelor’s degree. An additional 13% had transferred to a four-year institution. Within community colleges, minorities are less likely than Whites to complete a degree or certificate. Completion rates among African-Americans are particularly low. Only 27% earned any type of award within six years, while an additional 10% transferred to a four-year institution. Hispanics complete at a slightly higher rate (2%), and over two-thirds of their awards were accounted for by associate and bachelor’s degrees (Bailey et al., 2004). In 2004, American College Test
(ACT) reported a 48% drop-out rate for students enrolled in public two-year institutions and a 39% drop-out rate for students in private two-year institutions (ACT, 2004). In addition, 29% of students attending public schools and 51.9% of students attending private schools graduated within three years. As can be seen with these numbers, low retention/high attrition rate is a major problem for community colleges nation-wide.

Summary of the Literature Review

As the United States becomes more racially and ethnically diverse, it is imperative that institutions of higher education continually work to strengthen the academic success of students of color. It is projected that by the year 2020, people of color will make up over 39% of the total U.S. population and that proportion will increase to 50% by 2050 (U.S. Census Bureau, 2007). In 1995, Whites made up 71% of the college undergraduate population. By 2015, their numbers will drop to 63%, while African Americans and Hispanic undergraduate will increase to just over 13% and 15% respectively (Fry, 2002). Minority students will constitute a large part of America’s workforce in the coming years thus their involvement in the higher education system is of great importance to the nation, with the onus of ensuring their retention/graduation rates falling squarely on the shoulders of community colleges where over 50% of minority students initially enroll. However, attrition rates are high, retention and graduation rates are low, and the attrition/retention theories developed around four-year institutions, though partly applicable to two year institutions, still need reinventing and revising to enhance the success of extremely diverse population of community colleges. While prior academic achievement and intellectual ability have been considered primary factors affecting student retention and learning success a number of other institutional, social and academic factors also play a significant role.
psychological factors contribute to the high attrition rates of African Americans and Native Americans at the postsecondary level of the education pipeline (Zamani, 2000). High school grades have consistently been a strong predictor of first-year college grades, accounting for 25% to 33% of the variance. About 87% of students who complete 4 years of math, science, and English in high school stay on track to graduate from college compared with a 62% persistence rate among those who do not complete that coursework (Adelman 1999). Students with low-level degree goals and aspirations, lack of financial resources, poor study habits, full-time employment, and parents with low levels of educational attainment have also been identified as contributing to low retention rates (Mohammadi, 1994).

Thus the burden falls on the shoulders of educators, administrators and policy makers to initiate programs that will take all the factors into consideration in order to increase the retention/graduation rates at community colleges. In order to ensure the continued demands of an educated workforce are effectively satisfied, programs have to be initiated to alleviate the deficiencies of the “at-risk” minority population who dominate the community college environment.

Community colleges are quite often the point of access to postsecondary education and professional career exploration for many ethnic minorities. Estimates are that 54% of all Hispanic and 45% of all African American enrollments in the postsecondary sector are in two-year colleges. As of 2001, students under the age of 22 constituted 42% of all credit-seeking students in community colleges and those under the age of 24 constituted nearly 75% of first-time community college students (Alderman, 2005). Thus these colleges face the daunting tasks of fulfilling the postsecondary educational
needs and aspirations of a huge sector of the American population. A significant research problem exists because most of the studies on student retention have been previously conducted at four year institutions with predominantly white student/faculty populations. Although some studies have been done at HBCUs and HSIs more research should be conducted at two-year community colleges where a large majority of minority students enter the postsecondary education system but from which retention/persistence is a problem, fewer graduate or transfer to four year institutions to obtain a degree.

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CHAPTER III

METHODOLOGY

Context of the Study

This study was conducted at Cumberland County College, Vineland, New Jersey. The college serves residents of the entire state but out-of-state and foreign nationals also attend the institution. The three surrounding cities of Millville, Bridgeton, and Vineland have a combined population of over 110,000 persons with Hispanics making up over 28% of the population. Cumberland County, located in the south west corner of New Jersey, with population of over 155,000, (US Census Bureau, 2007), consists of three cities-Bridgeton, Millville, and Vineland, one borough and 10 townships. In 2007, 51% of the population was classified as Whites (81,300), 22.4% as African Americans (35,400), and 22.3% as Hispanics (35,200). By the year 2025, these figures are projected to rise to 107,000, 47,000, and 51,000 respectively (Cumberland County Area Scan, 2006-2007). Mexicans make up the greater percentage of the Hispanic population in these areas, followed by Puerto Ricans. About 35% of this population has a median age of below 18 years (US Census Bureau, 2007). In addition, most of the Mexican youth are not versed in English language and have difficulty remaining in the education system.

Cumberland County College is located approximately 40 miles from Philadelphia, while other large cities like New York City and Washington, D.C. are each about a three-hour drive. Money Magazine twice selected Cumberland County as one of the best places to live in New Jersey, and the National Association of Home Builders recently named the
area as one of the most affordable housing market in America.

An abundance of recreational and job opportunities exist throughout the region and in the county, which is located on the Delaware Bay and within 35 miles of the Atlantic Coast beaches and the casinos in Atlantic City. This ideal location has also led to the growth of a number of jobs to satisfy the diverse market. In addition, the establishment of Urban Enterprise Zones throughout Southern New Jersey has attracted a large number of industries to the area, thereby increasing the demand for a more educated workforce and encouraging the college to change some of its programs of study towards satisfying the needs of area employers. This is reflected in the main goals of the college which is to “promote, celebrate and embrace cultural, racial and ethnic diversity across the curriculum and through co-curricular and social events, to hire and retain individuals that reflect cultural, racial and ethnic diversity and to improve student success rates” (Ender, 2007. p.1).

The college is fully accredited by the Middle States Association of Colleges and Schools. In 2007, it had an enrollment of over 3,500 students with an additional 1000 students enrolled in professional and continuing education courses. The college offers over 100 programs that lead to Associate degrees, Academic Certificates, Career Certificates, and Short-Term Training Certificates and has graduated more than 11,000 students since it opened in 1966. More than half of CCC graduates continue their education at four-year colleges and universities while the others become a vital part of the workforce. The demographics of the population pose a direct challenge in meeting the goals of the college and satisfying its mission and vision. Student enrollment has been on the increase, growing from 3,260 in 2005 to 3,527 students in 2007, with the minority
student populations, mainly African Americans and Hispanics, on the rise (Ender, 2007).

Population and Sample Selection

The population was conveniently selected from a cohort of students who enrolled at Cumberland County College in the fall of 2002. The cohort only included first-time, fulltime, high school students who graduated in the spring of 2002 and enrolled at the college in the fall of the same year through the fall of 2008. All ethnicities were included in the sample population which comprised of 209 students. Student data in regards to race/ethnicity, SES, demographic, academic preparedness and academic achievement and generational status, were examined and analyzed. All information regarding the population sample was retrieved from the databases of Cumberland County College and the New Jersey Higher Education Clearinghouse.

Data Sources

Permission to conduct this study was obtained from the Institutional Review Board of Rowan University (Appendix A). Although permission to conduct the study was sought from officials at Cumberland County College it was not a pre-requisite. This longitudinal analysis extended from the fall of 2002 to the fall of 2008. All information was retrieved from databases of Cumberland County College and New Jersey Higher Education Clearinghouse. Dr. Adrian DeWindt-King contacted the New Jersey Higher Education Clearinghouse to obtain the information about the education status of students who graduated or transferred from Cumberland County College.

The first phase of the study involved examining the database of Cumberland County College to determine the cohort of students who graduated from high school in the spring of 2002 and who enrolled at the college in the fall of 2002. Only first-time, full
time students were included in the study sample. Their demographic information (race/ethnicity, gender) as well as their SES, academic preparation and academic achievement, their enrollment patterns, and graduation status were retrieved from the CCC database. Information in regards to those students who graduated from Cumberland County College or transferred to another institution, (2-or 4-year) was retrieved from the databases of New Jersey Higher Education Clearinghouse. The information from both databases was then combined into one working file. The academic status of these students was tracked from the fall of 2002 through the fall of 2008 in order to determine their enrollment patterns and retention/graduation status and academic success.

Data Analysis

The dependent variable in this study included the enrollment patterns of students who began their postsecondary education at CCC. Information for this variable was obtained from the database kept by the college. This database also gave demographic information, high school attended, graduation year, transfers to other colleges, parents’ education level, and Pell grants. The Higher Education Clearinghouse database gave transfer status and enrollment patterns of students who graduated from Cumberland County College. The independent variable was the receipt of Pell grants. Variations in the enrollment patterns of students were explored in order to examine their academic success. The SPSS computer software was used in calculations and correlations. Descriptive statistics such as frequency and percentages were used to report on the data in regards to the research questions. The statistics included information on ethnicity, gender, SES, college credit accumulation, and dropout, transfer, and graduation rates. A Pearson correlation was used to indicate if there was a significant relationship between the
enrollment and graduation patterns of students who received Pell grants and those who did not.
CHAPTER IV
FINDINGS

Profile of the Sample

The sample for this study was conveniently selected from a cohort of 209 students who began their postsecondary education at Cumberland County College in the fall of 2002. They were first-time, fulltime degree-seeking students who graduated from high school in the spring of 2002 and were enrolled in the fall of that same year (2002) through the fall of 2008. There was no graduation information on 2 students who had enrolled at the college in the fall of 2002 but they had accumulated a substantial number of college credits. The sample of 209 students was comprised of 97 (46.4%) males, and 112 (53.6%) females. All of the students were less than 20 years old at the time of their enrollment at Cumberland County College. Forty five students were classified as first generation and 150 were second generation. An additional 14 students did not report their generational status. Seventy six students had received Pell while 133 did not. Coincidently, these are same statistics for students who graduated (76) and those who did not (133). Tables 4.1 and 4.2 contain demographic data of the sample population who had enrolled at the college in the fall of 2002.
Table 4.1

*Demographic Information - Gender (N = 209)*

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>97</td>
<td>46.4</td>
</tr>
<tr>
<td>Females</td>
<td>112</td>
<td>53.6</td>
</tr>
<tr>
<td>Total</td>
<td>209</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4.2

*Demographic Information - Ethnicity (N = 209)*

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>127</td>
<td>60.7</td>
</tr>
<tr>
<td>Blacks</td>
<td>33</td>
<td>15.8</td>
</tr>
<tr>
<td>Hispanics</td>
<td>37</td>
<td>17.7</td>
</tr>
<tr>
<td>Am. Indian</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td>Oriental</td>
<td>5</td>
<td>2.4</td>
</tr>
<tr>
<td>Not Reported</td>
<td>5</td>
<td>2.4</td>
</tr>
<tr>
<td>Total</td>
<td>209</td>
<td>100</td>
</tr>
</tbody>
</table>

Analysis of the Data

Research Question 1: What are the persistence rates of fulltime, first-time degree seeking high school students who enrolled at Cumberland County College in fall of 2002 though fall of 2008?

An overall examination of the data of the enrollment patterns reveals that a total of 76 students from the entire cohort (36.3%) had remained enrolled for the six-year period.
period beginning in the fall of 2002 and ending in the fall of 2008, and had graduated from Cumberland County College (see Table 4.3). Seven students (3.3%) had graduated at the end of the 2\textsuperscript{nd} year, 28 students (13.4%) graduated at the end of the 3\textsuperscript{rd} year, 20 students (9.6%) graduated at the end of the 4\textsuperscript{th} year, 12 students (5.7%) graduated at the end of the 5\textsuperscript{th} year, 6 students (2.9%) graduated by spring 6\textsuperscript{th} year, with an additional 3 students (1.4%) graduating at the end of the fall of 6\textsuperscript{th} year (2008). Ninety students from the remaining 133 students had dropped out completely, while 43 students had transferred directly to other colleges without graduating from CCC.

The data show that the greater percentage of the students took more than the stipulated three years to graduate from CCC and that only slightly more than a quarter of the cohort (60 or 28.7%) of students remained enrolled long enough to graduate within a three-to-five year period. By the end of the period, 90 students (43.1%) of the entire cohort had dropped out of the system, 27 (12.9%) had stopped out after graduating from CCC, and 49 (23.4%) had graduated and then transferred to other institutions in pursuit of their academic goal. In addition, 43 (20.6%) students had accumulated a significant number of college credits and then transferred to other institutions without graduating from CCC (see Table 4.4).
Table 4.3

Graduation Rates \((n = 76)\)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Year</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Spring 2004</td>
<td>3.3</td>
</tr>
<tr>
<td>28</td>
<td>Spring 2005</td>
<td>13.4</td>
</tr>
<tr>
<td>20</td>
<td>Spring 2006</td>
<td>9.6</td>
</tr>
<tr>
<td>12</td>
<td>Spring 2007</td>
<td>5.7</td>
</tr>
<tr>
<td>6</td>
<td>Spring 2008</td>
<td>2.9</td>
</tr>
<tr>
<td>3</td>
<td>Fall 2008</td>
<td>1.4</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>36.3</td>
</tr>
</tbody>
</table>

Table 4.4

Enrollment/Graduation Pattern \((N = 209)\)

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stopped</td>
<td>90</td>
<td>43.1</td>
</tr>
<tr>
<td>Graduated and Stopped</td>
<td>27</td>
<td>12.9</td>
</tr>
<tr>
<td>Graduated then Transferred</td>
<td>49</td>
<td>23.4</td>
</tr>
<tr>
<td>Transferred Directly</td>
<td>43</td>
<td>20.6</td>
</tr>
<tr>
<td>Total</td>
<td>209</td>
<td>100</td>
</tr>
</tbody>
</table>
Research Question 2: What happened to the fulltime, first-time degree seeking high school students who did not graduate from Cumberland County College?

By the end of the fall of 2008, 133 students had not graduated from Cumberland County College. Of this portion of the student cohort 53 (39.8%) were males and 80 (60.2%) were females. Seventy two Caucasians (or 54.1%) made up the greater proportion of the non-graduate student body while Blacks and Hispanics made up 18% and 21% respectively. In addition, 43 students (30.8%) had accumulated a number of college credits and transferred directly to other colleges without graduating from CCC. A significant proportion, 62 students, representing 46.6% of the non-graduates, had disappeared after accumulating as many as 45 college credits. Twenty two students (16.6%) had dropped out after accumulating between 46 and 75 credits and 6 non-graduates had stopped out after securing over 75 credits (see Tables 4.4 and 4.5).

Table 4.5

<table>
<thead>
<tr>
<th>Credits</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 and less</td>
<td>20</td>
<td>15.0</td>
</tr>
<tr>
<td>16 - 30</td>
<td>23</td>
<td>17.3</td>
</tr>
<tr>
<td>31 - 45</td>
<td>19</td>
<td>14.3</td>
</tr>
<tr>
<td>46 - 60</td>
<td>9</td>
<td>6.8</td>
</tr>
<tr>
<td>61 - 75</td>
<td>13</td>
<td>9.8</td>
</tr>
<tr>
<td>Over 75</td>
<td>6</td>
<td>4.5</td>
</tr>
<tr>
<td>Transferred Directly</td>
<td>43</td>
<td>32.3</td>
</tr>
<tr>
<td>Total</td>
<td>133</td>
<td>100</td>
</tr>
</tbody>
</table>
Research Question 3: Is there a significant relationship between the enrollment/graduation patterns of students who receive Pell grants and those who did not?

A Pearson product moment was calculated for the relationship between the enrollment/graduation pattern of Pell grant recipients and those who did not. Seventy six (36.4%) students in the cohort received Pell grants, while 133 students did not receive any. By coincidence these are the same statistics for graduate and non-graduate students.

First generation students totaled 45 or 21.5% of the entire population of whom only 16 or 7.7% received Pell grants. Second generation students totaled 150 students (71.8%) of whom 56 (26.8%) had received Pell grants. In addition, 14 other students did not report the education levels of their parents, thus their generation status could not be determined. However, 4 students in this sub-group had received Pell grants.

Ten first generation (4.8%) students had dropped out and did not remain enrolled long enough to graduate or transfer to another institution, as compared to 30 (14.4%) of second generation students. Nineteen (9.1%) of the first generation and 48 (23.0%) of the second generation did not receive Pell grants but graduated and/or transferred to other colleges. Eight (3.8%) of the first generation who had received Pell grants dropped out as compared to 30 second generation students, while an additional 8 first generation students (3.8 %) received Pell and had graduated. Twenty six second generation students (12.4%) received Pell grants and graduated or transferred and enrolled in other institutions (see Tables 4.6 and 4.7).
Table 4.6

*First Generation Pell/Grad Status (n= 45)*

<table>
<thead>
<tr>
<th>First Generation</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Pell and Drop</td>
<td>10</td>
<td>4.8</td>
</tr>
<tr>
<td>No Pell and Grad</td>
<td>19</td>
<td>9.1</td>
</tr>
<tr>
<td>Pell and Drop</td>
<td>8</td>
<td>3.8</td>
</tr>
<tr>
<td>Pell and Grad</td>
<td>8</td>
<td>3.8</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>21.5</td>
</tr>
</tbody>
</table>

Table 4.7

*Second Generation Pell/Grad Status (n = 150)*

<table>
<thead>
<tr>
<th>Second Generation</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Pell and Drop</td>
<td>46</td>
<td>22.0</td>
</tr>
<tr>
<td>No Pell and Grad</td>
<td>48</td>
<td>23.0</td>
</tr>
<tr>
<td>Pell and Drop</td>
<td>30</td>
<td>14.4</td>
</tr>
<tr>
<td>Pell and Grad</td>
<td>26</td>
<td>12.4</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>71.8</td>
</tr>
</tbody>
</table>

The Pearson product moment calculation for the relationship between enrollment/graduation pattern and the receipt of Pell grant showed a significant but weak negative correlation ($r = -0.126, p<0.035$) indicating a significant linear relationship between the two variables (see Table 4.8).
Table 4.8

Correlation between Graduation and Pell Grants (N = 209)

<table>
<thead>
<tr>
<th>Status</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment/Grad/Pell</td>
<td>-0.126</td>
<td>&lt; .035</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (1-tailed)

Table 4.9 is a combination of both first and second generation students who either received or did not receive Pell grants and either graduated, or transferred, or dropped out of college. It shows that although 38 students who received Pell grants dropped out of college, while 56 students (26.8%) who did not receive Pell grants also dropped out.

Moreover, the greater amount of graduates or transfers (67 students or 32.1% of the cohort) did not receive Pell grants as compared to only 34 students (16.2%) who received Pell grants and either graduated or transferred to other institutions.

Table 4.9

Combined Pell and Graduation Status (N = 209)

<table>
<thead>
<tr>
<th>Pell/Grad Status</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pell and Drop</td>
<td>38</td>
<td>18.2</td>
</tr>
<tr>
<td>Pell and Graduate</td>
<td>34</td>
<td>16.2</td>
</tr>
<tr>
<td>No Pell and Drop</td>
<td>56</td>
<td>26.8</td>
</tr>
<tr>
<td>No Pell and Grad</td>
<td>67</td>
<td>32.1</td>
</tr>
<tr>
<td>No Info</td>
<td>14</td>
<td>6.7</td>
</tr>
<tr>
<td>Total</td>
<td>209</td>
<td>100</td>
</tr>
</tbody>
</table>
CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Study

The purpose of this longitudinal study was to assess the enrollment/persistence patterns of fulltime, first-time recent high school graduates entering Cumberland County College (CCC) in the fall of 2002 through the fall of 2008. The study also investigated whether receiving Pell grants had a significant impact on the enrollment/persistence and graduation patterns of the sample population.

The information for this study was retrieved from the databases of Cumberland County College and the New Jersey Higher Education Clearinghouse. The CCC database provided the information about the enrollment patterns and graduation status of the students up to their point of departure from the college. The New Jersey Higher Education Clearinghouse database provided information about the enrollment and transfer status of students who began their postsecondary education at CCC. It did not provide information about the graduation status of the students after they transferred from CCC to another institution. In this study, it was assumed that if the information about the student did not show up in the New Jersey Higher Education Clearinghouse database, that student had dropped out of college after the last enrollment semester at CCC. However, there may be a number of other reasons for the information about the student not showing up in the database.

To protect the identity and well being of the subjects, approval from the
Institutional Review Board at Rowan University was secured. The application was approved on March 25th 2009 (Appendix A). A total of 209 students who satisfied the criteria of the study were selected from the CCC database. Descriptive statistics and correlations in regards to the variations in enrollment/persistence patterns were explored using the Standard Package for Social Sciences (SPSS) computer software. Significant statistical differences were determined through the use of Pearson product-moment calculations.

Discussion of the Findings

Research Question 1: What were the persistence rates of fulltime, first-time degree seeking high school students who enrolled at Cumberland County College in fall of 2002 through fall of 2008?

The findings show that at the end of the study period 76 students (36.3%) of the cohort graduated from CCC, 90 students (43.1%) stopped out, and 43 (23.6%) transferred directly to other colleges before graduating from CCC. In addition, among those who graduated, 27 students (12.9%) dropped out while 49 (23.4%) of them had transferred to other institutions. These findings are consistent with those of Hoachlander et al. (2003) who found that only half of the students who begin their postsecondary studies at a community college attain a credential within 6 to 8 years and additional 12% to 13% transfer to a 4-year institution. However, this study revealed that there was a much greater percentage (23.4%) of direct transfers to other institutions before graduating from CCC. This pattern is indicative of persistence in enrollment towards achieving educational goals. The findings are not consistent with those of Kuh et al. (2006) who found that only about 35% of first-time, full-time college students who plan to earn a
bachelor's degree reach their goal within four years and 56% achieve it within six years. In the case of CCC, only seven students (3.3%) had graduated with an associate degree by the end of the second year, and an additional 48 students (23%) graduated by the fall of the fourth year. By the end of the six year study period only 76 students (36.3%) from the study sample of 209 students had graduated with an associate degree.

Females made up the greater percentage of those who either graduated and stopped, or graduated and then transferred to other colleges or transferred directly before graduation. Females (70) comprised 58.8%, while males (49) made up 41.2% of this portion of the cohort. In addition, whites comprised 82% of those who either graduated and stopped, or graduated and then transferred to other colleges, or transferred directly before graduation. Blacks and Hispanics lagged far behind and accounted for 21% and 11% respectively. These findings are consistent with those of Bailey et al. (2004), Fry (2002, 2004), and Harvey (2003), who found that there is great disparity in the graduation rates between whites and other groups of students and that white youths are nearly twice as likely as Hispanic youths to finish a bachelor's degree. Other researchers such as Adelman (2005), Hoachlander et al. (2003), and Roscingo (2000), found a similar pattern in that students of color and ethnic minority status fail to enroll in college long enough to graduate or transfer to four year institutions to finish an academic degree.

Research Question 2. What happened to the fulltime, first-time degree seeking high school students who did not graduate from Cumberland County College?

The findings are similar to those of Hoachlander et al. (2003) and Bailey et al. (2004) who found that community colleges have not served as the gateway to a bachelor's degree for large numbers of lower-income and ethnic minority populations, especially
African Americans and Hispanics.

From the entire cohort of 209 students, 90 students (43.1%) had dropped out completely. Another 43 or 20.6% of the cohort had not remained long enough to graduate from CCC but transferred to other colleges and institutions in pursuit of their educational goals. Other dropouts had accumulated a number of college credits and disappeared. This is consistent with the findings of Nora et al. (1996) and Pascarella and Terenzini (1991), who stated that the attainment of a college degree depends on the persistence of the students which result in declining graduation rates especially among African Americans and Hispanics.

These findings are consistent with previous researchers who found that the level of education of the parents can have negative as well as positive impacts on the educational achievement of students (Adelman, 1999; Arbona & Nora, 2007; Bean, 1990; Harvey, 2003; Lotkowski, et al., 2004; Zamani, 2000).

Research Question 3: Is there a significant relationship between the enrollment/graduation patterns of students who received Pell grants and those who did not?

The findings showed that there was a weak negative correlation between the enrollment/graduation patterns of students who received Pell grants and those who did not ($r = -.126, p< .035$). These findings are consistent with those of other researchers (Astin, 1993; Berger, 2001; Braxton et al., 1997; Kraemer, 1997) who found that in spite of the availability and access to financial aid, a huge number of students still drop out of college and do not enroll long enough to graduate or transfer. This finding does not suggest causation but is just an enrollment pattern consistent with minority populations.
Conclusions

Several findings emerged from the study, the results of which, for the most part, were consistent with much of the previous research which was mainly done at four-year colleges; with some modifications, the results can be applied to two-year institutions. The study clarified and reinforced previous research in that it showed the problems that community colleges face in student retention. The study showed that more students dropped out of college than those who remained enrolled long enough to graduate. Even among the graduates, 35.5% (27 students) did not transfer to a four year institution to pursue a bachelor's degree. This high proportion of dropouts infers that a substantial sector of the student population was “at-risk” and that many of these students might have had special needs that required attention: they might have been academically unprepared for college, or there was a lack of social and academic integration into the culture of the college, or that more academic attention should have been devoted to serving them in order to help guide these “at-risk” students through college and assist in their retention.

Since a large number of students graduated at the end of the fourth year in college it suggests that the time taken to graduate is longer than the stipulated three-year period and that early academic counseling and intervention might have helped diminish the time taken to graduate. In addition, the great disparity in graduation rates between whites and other ethnic groups further suggests that the college students of minority status were “at-risk” students, or were probably not motivated enough to remain in college in order to graduate, or did not seek out faculty advice, counseling, and guidance, or they might have entered the system unprepared for the rigors of college study. It also suggests the need for more faculty interaction (both formal and informal) with students. The huge numbers
of students who had accumulated over 45 college credits suggest that early intervention was needed to identify signs of potential attrition, and that intrusive counseling and guidance may have helped in their retention. The large number of Caucasians who had not graduated from CCC suggests that not only minority groups, but also white students, could also be labeled “at-risk” and that they too also deserve academic attention and intrusive counseling and guidance.

Although financial assistance impacts educational outcomes, in this study there was a weak correlation between enrollment/persistence/graduation patterns of students who received Pell grants and those who did not. This suggests that in spite of the availability of financial aid students did not remain enrolled long enough to graduate or to achieve their academic goal, and that their academic goals might have been affected by other variables such as lack of social and academic integration, lack of parental involvement in the academic success of the students, college culture shock, or the rigors of college level work.

Recommendations for Practice

Based upon the findings of the study, the following suggestions are made for practice:

1. Ensure that all students have rigorous, intensive precollege academic preparation in order to reduce the time spent in college.
2. College readiness or preparatory programs must address the educational needs of all students. These programs can be developed at the state or national level and passed onto the secondary school level.
3. College admissions personnel should establish and maintain regular contact with officials and administration of the schools, and exchange information in regards to course sequence and standards that meet the requirements for college admission.

4. College personnel should maintain regular, live contact/interaction with students of the high school graduating class, and help eliminate fears and myths of college attendance. They should visit the schools, and the students, and also have the students spend some time in the college environment before enrollment.

5. Since some students enter colleges lacking some of the basic college skills, assessment programs should be established very early in the beginning semester to allow for placement at the appropriate level. Students can then be placed into learning communities so that peer network and support can be more easily initiated, and students do not feel isolated. Students can then register for blocks of classes together, and progress through the courses as a well-knit cohort. This shared educational climate, with supportive peer group members providing formal and informal assistance in and out of the classroom experience, can enhance enrollment/persistence/graduation.

6. Service program personnel should disseminate information regularly about the services that are available in college, such as financial aid programs, and the assistance that is given in filing the application.

7. Students should be encouraged to give support to fellow members because peer mentors are generally viewed as less “threatening.”

8. Faculty should make themselves more visible outside the classroom and in less formal environments. Taking a casual “walk and talk” approach within the campus borders can make students feel more comfortable and establish a more informal social connection and
integration.

9. Colleges should develop a method to track students after they have graduated. In this manner, colleges can refer to the database to get information on the academic status of previous students who might be willing to volunteer their services in assisting students in completing their academic work.

10. Interracial, multi-ethnic, and diversity issues and relations should be made more open, and the advantages of social integration should be stressed by both faculty and staff.

Information provided to, and by, the National Clearinghouse should be updated regularly.

Recommendations for Further Research

Based upon the findings and conclusions of the study, the following suggestions for further research are offered:

1. More longitudinal studies should be conducted at community colleges to assess the impact of social integration on academic achievement and persistence.

2. Studies should be conducted to assess the impact of financial aid on student enrollment/retention/graduation rates at community colleges.

3. Studies should be conducted on the impact of changing economic and education policies on the enrollment patterns of community college students.

4. More studies should be conducted at community colleges in order to comprehensively understand the plethora of factors that lead to dropouts at this level.

5. Research should be conducted at the high school level to determine the adequacy of pre-college preparatory courses taken.

6. More studies using student involvement and engagement theories should be done in the community college environment.
REFERENCES


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APPENDIX A

Institutional Review Board Approval Letter
March 25, 2009

Ramsaran Ramoutar
105 Quaker Road
Mickleton, NJ 08056

Dear Ramsaran Ramoutar:

In accordance with the University’s IRB policies and 45 CFR 46, the Federal Policy for the Protection of Human Subjects, I am pleased to inform you that the Rowan University Institutional Review Board (IRB) has approved your project:

IRB application number: 2009-151

Project Title: A Longitudinal Study of the Enrollment Patterns of Fulltime, First-Time Degree-Seeking High School Graduates at a Community College

In accordance with federal law, this approval is effective for one calendar year from the date of this letter. If your research project extends beyond that date or if you need to make significant modifications to your study, you must notify the IRB immediately. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

Please retain copies of consent forms for this research for three years after completion of the research.

If, during your research, you encounter any unanticipated problems involving risks to subjects, you must report this immediately to Dr. Harriet Hartman (hartman@rowan.edu or call 856-256-4500, ext. 3787) or contact Dr. Gautam Pillay, Associate Provost for Research (pillay@rowan.edu or call 856-256-5150).

If you have any administrative questions, please contact Karen Heiser (heiser@rowan.edu or 856-256-5150).

Sincerely,

Harriet Hartman, Ph.D.
Chair, Rowan University IRB

c: Burt Sisco, Educational Leadership, Education Hall