

The Pennsylvania State University

The Graduate School

College of Education

**AFRICAN-AMERICAN STUDENTS' COLLEGE
TRANSITION TRAJECTORY: AN EXAMINATION OF
THE EFFECTS OF HIGH SCHOOL COMPOSITION
AND EXPECTATIONS ON DEGREE ATTAINMENT**

A Thesis in

Educational Theory & Policy

by

© 2007 Tenisha L. Tevis

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

December 2007

The thesis of Tenisha L. Tevis was reviewed and approved* by the following:

Gerald LeTendre
Professor of Education
Thesis Adviser
Co-Chair of Committee

Regina Deil-Amen
Assistant Professor of Education
Co-Chair of Committee

Robert Reason
Assistant Professor of Education

George Farkas
Professor of Sociology

David Gamson
Associate Professor of Education
Professor-In-Charge of Educational Theory and Policy Program

*Signatures are on file in the Graduate School

ABSTRACT

This dissertation identifies an important limitation within the literature on degree attainment and access to higher education. Current research does not adequately address the paradox that exists for African-American students, in that high degree expectations are coupled with low levels of degree attainment. This study seeks to examine the multi-layered influences that school composition and students' college expectations have on degree attainment. Prior studies typically addressed issues of achievement and attainment segmentally and did not adequately model the cumulative effects. The aim of this work is to model African-American students' college transition trajectory, and explore various achievement and attainment influential factors in light of prior research and theories. Particular emphasis is given to the effect of high school context in relation to student educational attainment.

TABLE OF CONTENTS

List of Figures.....	v
List of Tables.....	vi
Preface.....	vii
Acknowledgements.....	ix
Dedication.....	xi
1. CHAPTER ONE: INTRODUCTION.....	1
1. College Transition Trajectory.....	5
2. High School Composition.....	9
3. Students' Degree Expectations.....	12
4. Significance of the Study.....	13
5. Current Study.....	15
2. CHAPTER TWO: LITERATURE REVIEW.....	18
1. Mickelson's Abstract versus Concrete Theory.....	18
2. Human Capital Theory.....	20
3. From High School to College.....	22
4. Degree Attainment.....	26
5. College Expectations.....	31
6. What is Missing?.....	33
7. Current Study.....	35
3. CHAPTER THREE: DATA AND ANALYTIC PROCEDURES.....	36
1. Data Collection and Sampling.....	36
2. NELS: 88/2000 for the Current Study.....	42
3. College Transition Trajectory Model.....	42
4. Analytical Procedures.....	46
4. CHAPTER FOUR: RESULTS.....	50
1. NELS: 88/2000 Reading and Mathematics Test Scores.....	51
2. Student Grades.....	53
3. Students Degree Expectation.....	60
4. Mothers' College Expectation.....	63
5. Public Two-Year College.....	67
6. Bachelors' Degree Attainment or Higher.....	71
5. CHAPTER FIVE: DISCUSSION.....	79
1. Theoretical Perspectives.....	80
2. College Transition Trajectory.....	89
3. Hypothesis and Secondary Research Questions.....	92
4. Implications for both Secondary and Postsecondary Research.....	99
5. Conclusion.....	101
Appendix A.....	105
Appendix B.....	106
Bibliography.....	108

LIST OF FIGURES

Figure 1-1: College Transition Trajectory Model.....	5/91
Figure 5:1: Original College Transition Trajectory Model.....	90

LIST OF TABLES

Table 3.1 List of Variables.....	43
Table 4.1 Means and Standard Deviation.....	50
Table 4.2 Mathematics and Reading Test Scores.....	51
Table 4.3a Mathematics and English Grade.....	54
Table 4.3b History and Science Grade.....	55
Table 4.4 Students Degree Expectations.....	62
Table 4.5 Mother’s Expectations.....	65
Table 4.6 Public Two-Year College.....	68
Table 4.7 Bachelor’s Degree +.....	73
Table 4.8 Comparing SPSS and AMOS Results.....	76
Table 4.9 Interaction Variables.....	77
Table 5.1 Hypothesis and Secondary Research Questions.....	92

PREFACE

Throughout my academic career, which began at a community college, I noticed a number of my peers did not navigate through academia with the same ease as I did. The majority of my peers and colleagues also wanted to attend and complete their education at a four-year institution as much as I did, yet many of them for myriad reasons did not reach their academic goal. As I continued to further my education, I began to ask myself why I made it and others, with similar degree expectations, did not. I pondered this question a lot as I embarked on my doctoral career.

Having made numerous informal observations and taking full advantage of the research opportunities both in and out of the classroom, focusing on students' postsecondary transition, or lack thereof, to higher education I began to see a need to explore why students, particularly African-American students, were not making the leap to the next level of academia via high school or community college to a four-year institution. Moreover, having faced a few of my own academic hurdles, I thought it befitting to explore why some students make it to and through to degree attainment, while others fall short. Thus, I constructed a model in order to understand and explain a paradox of pressing concern to me as a Black woman and a sociologist, Blacks having high degree expectations but low degree attainment.

This desire that I have to explore such a topic and related issues in academia is linked to my appreciation and belief in education, as well as my desire to see others succeed. As I began to construct the *college transition trajectory* (CTT) model I thought a lot about what aspects of my own education were most influential in my decision-making about college. I found that my standardized test scores, grades, and college cost are what played a major role in my choice to go to college and where. Unlike it is portrayed in prior research, to my knowledge, there was not much stigma attached to attending a two-year public institution, especially since a significant

portion of my family and a few friends had done so and were successful, both academically and professionally. But as I began to see with my own eyes, the decision to attend such an institution was not the best choice for all that I crossed paths with. Thus, as I got more engaged in my coursework and research and started to pay more serious attention to those informal observations I mentioned earlier, I realized that this research area that I was beginning to make new paths in, was important on so many levels and to so many people.

As I learned about and interacted more with the population I was studying, I wanted to write a dissertation that not only provided a model, with the potential to expand, that would address the idea that there is a paradox facing African-American students, but also to direct the attention of other researchers, policymakers, and educators to the idea of what works in theory does not also, always work in practice. Many studies provide myriad of information that seems useful in theory, but exploring a way to put these same results into practice appears unattainable. Therefore, I sought to design a study that was two-fold; one that allows students to see from the CTT model what elements they can change and take action. And two, have a study that will provide an opportunity for “the powers that be” to do the same as students, but make such changes on a larger scale. In essence, I want all involved to move beyond the rhetoric of college for all and actually make it a tangible reality instead of just a dream and in some cases, a dashed pursuit.

In conclusion, my entire academic experience has lead me to write this dissertation with a passion to see that every student in every classroom has the opportunity to reach their full potential and meet their academic expectations bringing their academic dreams to fruition.

ACKNOWLEDGEMENTS

Confess your faults one to another, and pray one for another, that ye may be healed. The effectual fervent prayer of a righteous man availeth much.

James 5:16

Well dad, as we know the word of the Lord shall not return to Him void and because of that I thank you for your prayers.

Be strong and of a good courage, fear not, nor be afraid of them: for the LORD thy God, he it is that doth go with thee; he will not fail thee, nor forsake thee.

Deuteronomy 31:6

To my family:

I thank you too for your prayers, patience, and for holding me up when I did not think I was going to make it. Michele, I thank you for the long and very straight forward talks. I know there were times that it was those talks that kept me motivated. Patrice, I thank you for the edits and very long nights of what we will call intense discussion. You always knew how to rephrase a thought or sentence just right. To my grandparents, thank you for your belief in me, starting at a very young age. Ms. Mae, you have always been there to hold my hand and there are no words to express my gratitude. Papa, I still know my time tables and I thank you for checking in on me from time to time to see if I still knew them and to make sure I was ok. Grandmother, I never forgot from where my blessings came from and I continue to live my life walking with God. To my entire family, each one of you has touched my heart in a way that has made me who I am and brought me thus far. I pray that I continue to make you proud.

To my friends:

Stacey, Lyssa, Sunshine, and Shawntel there are no words to describe the love that I have for you. I appreciate the shoulder you let me cry on, your patience when we could talk for days, weeks, and even months at a time. You all are ALWAYS there for me. I appreciate the prayers,

books, and words of encouragement. Please know that I do not take your friendship and love for granted. I have learned so much from each of you, most important how to believe in myself. Ms. Charlotte, thank you for the dinners, crispy crèmes moments, late night talks, and for letting me crash your date when I needed advice about my future. Pat, you have definitely been an inspiration and have helped me in areas of my life that made it possible for me to further push my way through my program and life. To my State College family, I definitely feel that my experience at Penn State has made me a woman. My intent was to grow academically and professionally, but because of my church family and friends I grew mentally, emotionally, and spiritually. Tara, thanks for the side-bars. Keisha, I appreciate and will forever look forward to those very early Bible studies. Together, you both took the time to get to know me and accepted me for who I am. Thank you. CindyAnn, you were the BEST dissertation buddy a person can have. Thanks for the late night slumber parties, phone conversations, dinners, and walks through the park. You believed in me when I didn't and for that I am so grateful. Finally, to my dear friend Sharise, I'M EXCITED! Though we walked a rough road, God saw fit for us to be in each others lives and I thank Him for that. Though you didn't have to be up, you made it your responsibility to get me upity, upity, upity and encouraged me to stay on task. You too believed in me when I wanted to give up. Thank you.

Special Thanks To:

Regina Deil-Amen, Gerry LeTendre, George Farkas, and Robert Reason (my committee), M. Christopher Brown II, Paula Tufis, Christy Lleras, Kristina Zeiser, Katerina Bodovski, Sarah Irvine Belson, David Perez II, Marcela Movit, Ph. D., and Felicia Sanders; this has been a very long and bumpy road, but because of the God I serve and the friends and family that He has blessed me with, I couldn't have made it without you. Due to your belief in me, I am strong and of good courage. THANK YOU!

DEDICATION

For I know the thoughts that I think toward you, says the LORD, thoughts of peace, and not of evil, to give you a future and a hope.

Jeremiah 29:11

This work is dedicated to the late Reginald Francis Morris for walking out God's plan for my life when I was just starting off at a community college. Thank you for your prayers and belief in me.

Chapter One: Introduction

Key term(s): college transition trajectory, school composition, and expectations.

Consistently, research concludes that African-American students report having higher educational expectations than their peers, yet they continue to have lower rates of degree attainment (Mickelson, 1990; Hossler, Schmidt & Vesper 1999; Qian & Blair, 1999; Venezia, Kirst, & Antonio, 2003; Goldsmith, 2004). Bowen and Bok (1998), confirm this discrepancy in degree attainment outcomes for African-American students. Such students display lower degree completion rates than that of White and Asian-American students. In addition, Hispanic students had a higher degree completion rate than that of Blacks, while White and Asian-American students have the highest degree completion rates.

The achievement gap between Whites and minorities, especially Blacks, has been of pressing concern to both the public and academia for over half a century. The intention of the Supreme Court ruling of *Brown v. Board of Education* in 1954 was to eliminate formal barriers to educational opportunities for African-Americans and establish education as a fundamental right for all citizens. The new integrated school system was expected to produce greater social mobility that would lead to African-American students experiencing significant increases in educational attainment and upward mobility. Eventually, the decision to desegregate schools would afford Blacks the opportunity to achieve at the same level as their White peers. However, it was not foreseen how gradual the process of integrating schools would be, nor how politically contested the issue would become. The long-term process and contested nature of the transition has possibly contributed to the persistent degree completion gap between Blacks and Whites and Whites and other minorities.

Higher education as a critical component in human development is now part of the dominant global ideology (Baker and LeTendre, 2005). Virtually all modern societies operate under this assumption: the more education one receives, the more one can increase in personal development and prosperity by way of broadened educational opportunities and academic attainment. In the United States, more than fifty years after the landmark decision of *Brown vs. Board of Education*, education continues to be viewed as an essential component for greater social status.

Research on degree attainment contends that completing a postsecondary degree is linked to both socioeconomic stability and status attainment (Bowen, 1977), and such thinking has not changed in the new millennium. Pascarella and Terenzini (2005) explain “social mobility and status attainment are a function not simply of family social status and individual ability but also of intervening experiences, including educational experiences and attainment” (p. 373).

Thus the high expectations of Black students to attend college are not misguided. Prior research concludes that education beyond high school leads to increased earnings, professional mobility, and a better quality of life (Bowen, 1977; Leslie & Brinkman, 1988). Pascarella and Terenzini (2005) explain that education acts as a mediating influence on a students’ family socioeconomic background and enhances status attainment in ways unrelated to socioeconomic origins. Moreover, African-Americans as a group have largely adopted the belief that pursuit of higher education is a way to better their economic and class situation and view attending non-segregated schools as a key element in their success (Mickelson, 1990). . Therefore it is imperative to examine the relationship between students’ own degree expectations and school

composition¹ on students' degree attainment as part of a dynamic process which I denote by the college transition trajectory² (CTT) model.

The inconsistency between Black students' thoughts, in the form of their intentions and expectations, and Black students' actions, in the form of achievement and attainment, is disturbing in terms of its potential negative impact on educational and social status attainment. According to Mickelson (1990), there are two sets of attitudes about schooling, *abstract* and *concrete*. Abstract attitudes, she explains, are directly related to the dominant American ideology, "that education is the solution to most social problems; Education paves the road to social mobility and is the remedy for poverty and unemployment" (p. 46). Concrete attitudes, which are class and race specific, are then based on the realities that people experience and can be similar to or completely different from the dominant ideology. Prior researchers (Hossler, Schmidt & Vesper 1999; Qian & Blair, 1999; Venezia, Kirst, & Antonio, 2003) would agree with Mickelson that African-American students "embrace the dominant ideology about the positive links between education and mobility even more strongly than Whites" (Mickelson, 1990, p. 52), and that this accounts for Blacks' abstract attitude about schooling. This is unfortunate because "without fundamental change in the larger opportunity structure, the underachievement of minority and working-class students is likely to persist..." (p. 60) despite their high expectations.

This paradox of high expectations, yet low degree attainment leads to students, particularly African-American students, having a of lack human capital, academic achievement and degree attainment compared to their White peers. This gap represents a significant

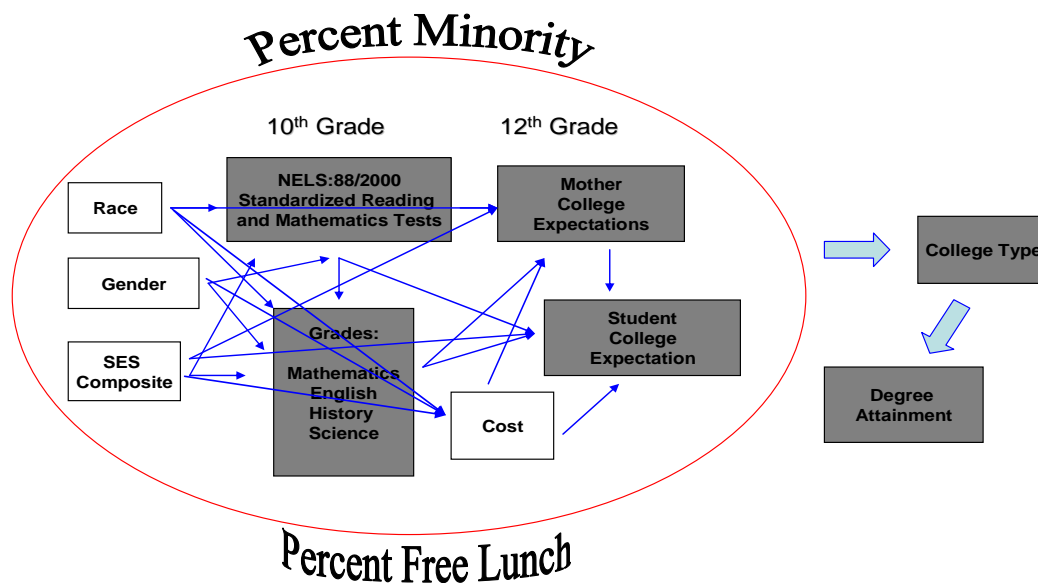
¹ School composition will also be referred to as school effects and school context.

² College transition trajectory has been coined for this dissertation to better understand the compilation of several variables used to examine achievement as students' transition to college and complete their degree. This dissertation is attempting to look over time, starting from sophomore year in high school through the twelfth grade to degree attainment, at the impact students' college expectations and school composition has on degree attainment.

inequality in terms of the investments made toward a better quality of life. If African-American students are not developing their human capital to the same extent as their peers, then they will be shortchanged both academically and professionally in the long run. We live in a constantly-evolving economy that demands new knowledge and ability development to enable us, through education, to attain a better quality of life. Education provides, according to the dominant global ideology, the tools necessary to be part of a highly-educated citizenry. If research continues to show that there is a discrepancy between Blacks' high expectations and their low degree attainment, then how will this affect this portion of the population? Without equal levels of achievement and attainment, African-Americans will have limited career choices and less potential for advancement. Clearly, such students are at risk. The paradox demands a cohesive and systematic investigation that takes into account the fact that various factors may play greater or lesser roles in shaping student attitudes and actions over time. I have attempted to model this process with what I term the College Transition Trajectory Model.

College Transition Trajectory Model

Figure 1-1: College Transition Trajectory Model



Note: Outcome variables are in gray boxes.

To understand the usefulness of such a model for investigating the paradox of Black students' high expectations and low degree attainment, one must consider a series of connected relationships that affect achievement, but which then may affect attainment. In prior studies, the effects of achievement and attainment have only been studied segmentally, which does not adequately model cumulative affects. Therefore, one major contribution of this dissertation is the simultaneous assessment of various factors that have an influence on achievement and attainment. To ground this study in prior theory and research, explicit causal statements (hypotheses) have been developed in order to re-assess the effect of various factors, such as the role of high school context.

The idea that there is a relationship between high school achievement and degree attainment is not a novel idea; however, it is not a concept that has been exhaustively researched either. Adelman (1999; 2000) finds academic achievement to have a high degree of influence on degree attainment. Rosenbaum (2001) asserts that high school achievement predicts a significant portion of low degree attainment for disadvantaged students (typically defined as low SES and/or of a minority racial/ethnic group). In addition to high school background, the interaction of academic achievement overtime with other variables is important in the current study as a potential determinant of eventual degree attainment. At this point, if research continues to show low or no correlation between high expectations and degree attainment (Bowen & Bok, 1998; Hossler, Schmidt & Vesper 1999; Qian & Blair, 1999; Venezia, Kirst, & Antonio, 2003); yet a relationship between high school achievement and degree attainment, and (most recently) an association between students' expectation and high school context (Frost, 2007), then it is essential to conduct a study that combines all such elements together in order to investigate the discrepancy between expectations, achievement, and attainment for Black students that continues today.

Many studies have addressed the effect that race, gender, and/or socioeconomic status has on students' secondary academic performance (Ogbu, & Fordham, 1986; Hossler, Braxton, & Coppersmith, 1989; Farkas, Grobe, Sheehan, & Shuan, 1990; MacLeod, 1995; Farkas, 2003; Goldsmith, 2004; Duncan and Magnuson, 2005). This literature suggests that these, and other factors, influence students' test scores and grades. This research has been expanded by other studies (Mickelson, 1990; Mau, Hitchcock, & Calvert, 1998; Hossler, Schmidt, & Vesper, 1999; Cabrera & LaNasa, 2000; Frost, 2007) which assess the effects of parental influence, students' expectations, and now school composition on academic achievement. As these lines of research

evolve, and our understanding of what affects achievement expands, questions arise as to the direct and indirect influence of these variables on achievement as well as attainment.

Other research (John & Lewis, 1971) suggests that “higher achievement for children [Black and White] in schools over 50 percent White” (p.76). Additionally, Hanushek et al. (2002) finds that schools with higher percentages of Blacks and Hispanic students have lower academic achievement. This research suggests “that a 10 percentage point reduction in percentage Black would raise achievement growth by 0.025 standard deviations” for Black students (p. 23).

Cabrera and LaNasa (2000) review not only SES, students’ academic ability, and a host of other variables, but they also reveal the statistically significant effect college cost has on students’ college expectations. In addition, college cost has also been found to affect college type. Paulsen and St. John (2002) explain “African-American students are more sensitive to college cost than White students; community college students...are more sensitive to college costs than students attending other types of institutions” (p. 196). In essence, Paulsen and St. John explain that college cost is a factor for African-Americans as well as community college attendees. Though community colleges or two-year institutions open the door of opportunity to those who might otherwise not attend college, they are considered to be an inferior form of postsecondary education (Brint and Karabel, 1989). A significant portion of the related literature posits attending a two-year college negatively impacts bachelor’s degree attainment (Alba and Lavin, 1981; Anderson, 1984, 1981; Astin, 1977, 1972; Crook and Lavin, 1989; Dougherty, 1994, 1992, 1987; Karabel, 1972; Monk-Turner, 1983; Nunley and Breneman, 1988; Richardson, Fisk, and Okum, 1983; Velez, 1985; Alfonso, 2006).

College-type has also been found to have a negative effect on students’ college expectations (Pascarella et al., 1998), lowering their plans. According to Clark (1960), students

who begin their educational career at a community college are “cooled out” and destined to conclude their education there. Brint (2003) explains that approximately 70 percent of community college attendees desire to obtain a four-year degree, yet only about 15 percent actually do. A reason for such an outcome is community colleges are said to have adopted practices which lead students to amend their academic and professional aspirations (Clark, 1960).

However, Deil-Amen and Rosenbaum, (2002) explain that this cooling out of students aspirations may be more ambiguous than Clark posits. Instead of diverting students to other academic and professional aspirations, in their qualitative study Deil-Amen and Rosenbaum explain that the staff of such institutions have bought into the idea of college-for-all, and actually encourage their students to pursue their four-year degree aspirations. However, students’ low prior achievement, evidenced by their placement in remedial classes, inhibits their progress and, within an institutional context that downplays their status, creates a situation in which students are cooled-out via a delayed process that tends to lead to no degree attainment rather than the lower degree attainment that Clark describes. Hence, community college students with sustained high expectations fail to complete a bachelor’s degree for reasons strongly associated with prior achievement. Disentangling the simultaneous influence of achievement, expectations, and college type are critical to understanding the attainment paradox which is the focus of this dissertation.

Despite the fact that prior research has provided a host of empirical data that has broadened our understanding of the relationship between academic achievement and attainment, no single study has simultaneously examined the relationship between the factors that influence achievement outcomes alongside factors that are said to predict college attendance and completion in order to assess how, altogether, what patterns of interactions occur, and the

ultimate direct effect these factors have on degree attainment. Such a study may shed light on the paradox that continues to elude researchers – the gap between the expectations and attainment of African-American students. Therefore the current study seeks to explicate this relationship starting with a particular focus on the question: What is the relationship between high school composition and students’ degree expectations and their effect on degree attainment for African-Americans?

High School Composition

Imbedded in the discourse on and within the research of segregation and desegregation literature, the impact of school context on academic achievement and attainment is of pressing concern to education researchers as well as sociologists. Leading scholars in this area -- such as Reardon and Orfield have addressed various issues; Reardon (2000; 2002; and 2004) primarily focuses on the methodological issues that surround segregation and the policies that affect it. Moreover, Reardon (2001) and his colleagues focus on racial distribution in relation to neighborhoods, school districts, and policymaker concerns.

Orfield (1997) orients his work toward segregation and extends it to present times in order to draw attention to the snowball effect of various social and demographic changes. He first starts by demonstrating the strong relationship between racial segregation and economic segregation in public schools, “the correlation between the percentage of Black and Latino enrollments and the percentage of students receiving free lunches is an extremely high .72” (p. 11). This then leads to the finding “that high poverty schools usually have much lower levels of educational performance on virtually all outcomes” (p. 11). Orfield distinguishes between school effects and background characteristics; i.e. the fact that students’ who come from less educated households have lower educational performance, on balance. However, school

achievement scores “show a very strong relation between poverty concentrations and low achievement” (p. 11). In essence this correlation between poverty and low achievement, Orfield argues, contributes to racial segregation. Thus, it is imperative that when researchers discuss achievement and school context they include a measure of school SES as well as race/ethnic composition in order to control for contextual effects.

The literature on the school effects on students can be divided into two basic groups of studies. The first group examines the effect of school composition on achievement (Ogbu & Fordham, 1986; Rumberger & Willms, 1992; Mau, 1995; Mickelson & Heath, 1999). This research suggests that students in desegregated schools benefited greatly academically whereas those in segregated, minority environments were less prepared academically, and socially, for college. However, as Kurlaender and Yun (2007) posit, such studies were often flawed due to design limitations and methodological problems. The four major problems that Kurlaender and Yun highlight are 1) different definitions of desegregation levels, whether based on school enrollment or desegregation plans; 2) limited conclusions based on cross-sectional instead of longitudinal data; 3) design flaws said to neglect a clear control group comparison; and 4) a prior focus on minorities versus White students and not minority interaction with other minorities. The current study takes into account this methodological criticism and addresses these issues.

First, high school composition is a function of the school’s enrollment; of students who have not transferred between their tenth and twelfth grade year. Therefore, it is not a matter of desegregation, but of high school context based on the schools’ enrollment. Second, the conclusions drawn from this study will be based on longitudinal data, employing the National Education Longitudinal Study (NELS:88/2000), which is what Kurlaender and Yun say is missing from prior studies. Third, the current study clearly controls for the percent Asian, Hispanic, Black, and American Indian compared to Whites, which address Kurlaender and Yun’s

point of the neglect of a clear control group. Finally, this dissertation focuses not only the relationship between minority groups and Whites, but also between minority group students (i.e. such variables as percent Asian, Hispanic, Black, and American Indian which addresses Kuraelander and Yun's final point of their needing to be minority interaction). Moreover, the school composition variable for the current study is inclusive of not only race/ethnic groups but school SES measured by the percent of students receiving free or reduced lunch, which is hypothesized to have a profound affect on students' academic achievement.

The second group of studies in this area looks at how school environments influence students' expectations or aspirations (Goldsmith, 2005; Frost, 2007). The findings are inconsistent. Goldsmith finds that the beliefs of students, namely Blacks and Latinos, "are more optimistic and more pro-school in segregated-minority schools" (p. 135). However, he notes, despite their optimism, Blacks and Latinos are less likely to attend school beyond college. Further, Goldsmith highlights that such pro-school attitudes is perplexing being such students attend inferior schools and are taught less demanding material. Based on this thought, minority students such as Blacks and Latinos may be ignorant to the fact that their school and the information learned is inferior, further contributing to their pro-school attitude and high academic expectations.

On the other hand, Frost (2007) found a decrease, especially among Hispanic students, in "the school odds of expecting a four-year degree by 5 percent" (p. 57). Together, such literature reveals a conflict in how high school racial composition may affect students' outlooks and their ability to achieve. With this knowledge comes an increasing need to expand research in this area.

In order to use the college transition trajectory model to assess the effect school composition has on students' expectations -- and together the simultaneous effect both composition and expectations have on degree attainment requires a consideration of school

racial/ethnic composition. Frost (2007), innovatively, highlights three “possible scenarios linking school racial composition to educational expectations” (p. 44). She raises questions of whether we really understand high school composition. First, Frost questions whether such a variable is just a proxy for *individual* characteristics and it is not the school itself that affects students’ college expectations. Second, Frost explores the idea that there may be school effects, such as schools’ socioeconomic status. This is important to the current study because it uses both the idea of school racial composition as well as the percentage of students receiving free or reduced lunch, which will be used in this dissertation as a measure of school SES. School SES is largely overlooked in prior studies that explore school composition effects and it is anticipated that by measuring schools SES the current study will provide a better understanding of how schools affect academic expectations, achievement, and ultimately degree completion. Finally, Frost introduces the idea that there may be a “fundamental component” of school racial composition but she does not clarify what this component is or what this concept means. Her findings will be discussed in detail in the subsequent chapter.

Students’ Degree Expectations

Frost (2007) provided a unique perspective on how to examine the influence of school racial composition in new and different ways, but it is also important to note there is a distinction between *expectations* and *aspirations*. Prior research on students’ expectations or aspirations has a tendency to use these terms interchangeably. Other terms used in such a manner are plans, goals, and desires. *Desire* can be used to describe both expectations and aspirations; however, there is a difference between the two which is overlooked in most prior research. This dissertation examines the effect of students’ college expectations, not their aspirations. According to Mau et al. (1998) aspirations are desires without restrictions. They are limitless in

nature. On the other hand, expectations are desires mitigated by one's current situation or circumstances: many things are taken into account in forming one's expectations. There is also an element to expectations of being more immediate in nature, whereas aspirations are desires that one may fulfill over time. Taking into account this distinction, the current study focuses on students' expectations because of a focus on what students want to do based on a host of elements that may impact their immediate future as opposed to what may happen eventually without regard to students' immediate circumstances.

Due to the fact that this distinction is not always made in prior research and that expectation and aspirations are used interchangeably, for the purpose of this study a distinction needs to be made. First, students' expectations are affected by the type of institution they attend both at the secondary and postsecondary levels. As previously mentioned, Frost (2007) and others find that segregated minority high school environments lower students' college expectations. Moreover, Pascarella et al. (1998) find that attending a community college versus a four-year institution lowers students' plans below attaining a bachelor's degree.

Second, students' expectations are affected by their achievement. Mau (1995) finds that students' aspirations are significantly related to their current academic achievements. Moreover, Mickelson (1990) in her study of concrete versus abstract attitudes toward education, found that Blacks' positive attitudes disappears when high school grades are taken into account.

Significance of the Study

It is imperative to acknowledge that prior research is consistent in substantiating the discrepancy between what African-American students want to do and what actually comes to fruition, and it is the goal of this dissertation to forge a relationship between high school composition, students' degree expectation, achievement and attainment to explore this paradox

and why it continues to persist. By assessing the influence of high school composition effects and students' degree expectations, by way of the college transition trajectory model, this dissertation seeks to position itself in the literature by asking (and answering) the question: What is the relationship between high school composition and students' degree expectations and ultimately what is their effect on degree attainment for African-Americans? An examination of this question and an introduction of the *college transition trajectory* are the primary focus of this dissertation, which hopefully will provide a new and interesting model for researchers and policymakers.

There are several reasons for conducting such a study. One is to examine a series of differential educational outcomes for mainly Black students over time, from tenth grade to twelfth grade to college degree attainment. An examination of academic and familial influences over time will provide a sense of the development or academic progress made by the students.

Two, this dissertation will examine the role of high school context as a factor influencing students' college access and success by asking and answering the aforementioned research question.

Finally, this dissertation will simultaneously examine the influence of students' and mothers' expectations on college attendance, the impact that institutional type has on college completion, and finally how these variables along with race, gender, SES, test scores, grades, and college cost affect postsecondary degree attainment. Hopefully this analysis will expand upon prior explorations and findings of the effects of high school composition and students' degree expectations on students' achievement and attainment, while also contributing to a better understanding to the "attitude-achievement paradox among Black adolescents" (Mickelson, 1990).

Current Study

The expectations that students have about going to college are not simply ideal thoughts. For a significant portion of the high school population, attending college is a vision which is expected to come to fruition upon graduation from high school. Yet, students so often fail to meet their college expectations, especially African-Americans. It is the goal of this study to explore why, and to increase our theoretical understanding by using the CTT model. By exploring achievement longitudinally and determining which of the factors that influence achievement also affect postsecondary degree attainment, this dissertation presents an innovative way to expand our understanding of the relationship between school composition, students' college expectations, achievement, and degree attainment.

There has been considerable research in this area. Prior research offers a number of reasons why the completion of higher education, for some, is never realized. However, there are many gaps and unanswered questions within the research literature. The college-choice literature explains that test scores, grades, and familial influences are just a few predictors of students' expectations, yet it overlooks how these factors impact college-type as well as degree attainment. Moreover, research in the area of college-type and degree attainment provides some insight into why bachelor degree completion is low, especially for particular race/ethnic groups, but does not fully explain the varying outcomes for these groups. In essence, research in this area has a lot to offer, but it lacks cohesion and an analysis that models the process of achievement, attainment and expectations that ultimately lead to completion or failure to complete a tertiary degree program. Therefore it will be the focus of this dissertation to take a collective look, examining factors overtime from early high school to degree completion, as well as explore how contextual effects such as school composition may impact students' college expectations and finally how all these factors eventually affect degree attainment. Using the

model of the college transition trajectory may offer a multitude of answers that will expand research on educational outcomes and transition to college research.

In light of what previous studies have found about high school composition, students' expectations, achievement, and degree attainment, the hypotheses for this dissertation are as follows:

HYPOTHESIS 1: Regression analyses will reveal significant, but negative effects between race, gender and SES and students' test scores or grades.

1a However, there will be a significant and positive effect between these same background variables and students' degree expectations.

HYPOTHESIS 2: Significant relationships will be uncovered between race, gender, students' expectations and SES and in a logistic narrative although, , all but SES were found to be insignificant in prior research.

HYPOTHESIS 3: High school composition will have a significant, negative significant effect on students' degree expectations.

HYPOTHESIS 4: The interaction effect between the racial or ethnic composition of a high school and an individuals' race or ethnicity will have a significant, negative effect on degree attainment.

HYPOTHESIS 5: There will be a significant and positive effect between the interaction variables of school race/ethnicity and students' degree expectation on degree attainment.

Again, prior research finds that investing in one's achievement and attainment is considered an investment toward a more prosperous life. By not being able to develop their human capital, for reasons that will be explored through the college transition trajectory model, African-American students are being deprived of their academic and professional opportunities.

In the subsequent chapter, (Chapter Two) this dissertation will provide a theoretical backdrop for understanding the importance of degree attainment as well as an in-depth review of prior research which demonstrates the need for the current study. By elaborating on the relevant literature, this dissertation is better able to address gaps. Chapter Three then looks at the data, NELS:88/2000, and the analytical procedures that are employed to answer the research questions of this dissertation. In addition, this chapter will provide a detailed synopsis of how the NELS data was collected and what steps were taken to analyze this data source. Chapter Four is the most salient chapter of this dissertation because it will provide eight tables that include the means and standard deviation of all 23 variables and the analysis of the ten outcome variables, nine of which act as dependent variables also (see Figure 1-1 above). In the final chapter, Chapter Five, there is an exhaustive discussion on the findings of this dissertation and the saliency of the current study.

Ultimately, prior research has found myriad factors not explored collectively, that may impact students' college expectations, college-type, and eventually degree attainment. The results of this dissertation could enlighten both secondary and postsecondary administrators as well as policymakers on how to better prepare students for their transition to college and eventual attainment. The recommendations that will be generated from the findings in this study will provide a better understanding for educators, researchers and policymakers on how students make decisions regarding their academic future as well as what factors mediate students' educational outcomes. This research is necessary in order to address issues pertaining to educational access and attainment as well as assisting the United State's educational system to live up to its promise and its potential.

Chapter Two: Literature Review

Key term(s): abstract versus concrete attitudes; human capital theory

In order to explicate the connected relationship of the variables outlined in Figure 1-1 makeup the college transition trajectory model this chapter will first discuss Mickelson's theory of *abstract versus concrete* attitudes toward school as well as human capital theory. Second, this chapter will provide an in-depth analysis of previous studies on degree attainment and achievement, and expound on the literature that was briefly introduced in Chapter One. This chapter will focus on several bodies of literature that inform the series of connected relationships that affect achievement and degree attainment. The overarching goal of this chapter is to synthesize the diverse literatures that influence the construction of the CTT model. This model again provides a basic theoretical approach for analyzing the degree attainment process over time from secondary through postsecondary institutions, and expands our current understanding of students' transition into and through college to degree completion by incorporating student expectations.

Mickelson's Abstract versus Concrete Beliefs

Mickelson (1990) examines the paradox of what African-Americans students say they want from education and what they actually achieve. She then conceptualizes people's beliefs about education in a multilayered approach, abstract and concrete. As noted in Chapter 1, abstract beliefs are typically based on the dominant American ideology. This is the idea that education helps one escape the pitfalls of poverty and unemployment. On the other hand,

concrete beliefs, she explains, are grounded in material realities, which can be the same as or different from the dominant ideology.

Abstract

In essence, abstract ideas are the reflection of students' beliefs in what they believe education can do for them. In some cases "abstract attitudes take the form of general ideological beliefs," (p. 46) such as a belief in the reality of the American Dream, which is to... Moreover, such a conceptualization allows students to shape their academic desires based on the dominant ideology. The abstract attitude signifies an "underlying faith that education will bring opportunity" (p. 46).

Mickelson's (1990) findings regarding abstract attitudes are consistent with her hypothesis as well as what we still see today with regard to what Black students say they want and what they actually achieve. She found that African-American students accept the dominant ideology regarding the positive relationship between education and mobility more so than Whites. Therefore, it seems as according to Mickelson and prior research, as stated in the previous chapter, researchers can assume, as does this dissertation that African-American students have adopted the abstract attitude regarding education causing them to have higher expectations than what their academic and social status say they should.

Concrete

The second of the attitude systems is concrete. Here Mickelson (1990) explains such attitudes neither adhere strictly to one dominant ideology nor to general hopes for the future. Instead, concrete attitudes are grounded in tangible realities that express the possibility of education leading (or not leading) to social mobility based on family and community experiences. "They offer insights into the ways in which class, race, and gender differences in the opportunity structure shape students' efforts in school and are expressions of students' lived

culture” (p. 46). Mickelson explains that concrete attitudes expose “students’ perceptions of their probable returns on education from the opportunity structure” (p. 46).

She finds that Black’s concrete attitudes are more negative than their White counterparts. Moreover, there is a major discrepancy between Black’s abstract and concrete attitudes as compared to Whites. And it is this great discrepancy between the two sets of attitudes for African-American students that explains why there is a paradox between what Black students say they want to do and what they actually achieve. Therefore Mickelson (1990) explains that “it is their concrete attitudes that underlie their achievement” (p. 54).

Human Capital Theory

As noted in Chapter One, degree attainment is often seen as an investment in students’ future economic standing. The acquisition of skills and knowledge is a form of capital and this capital is a result of persistent investment (Shultz, 1961). Schultz (1961), a pioneer in the development of human capital theory, explains that “direct expenditures on education...to take advantage of better job opportunities are clear examples [of human capital] (p. 1). In essence, academic achievement and degree attainment are investments in students’ human capital. Such capital has three components: “early ability; qualification acquired through formal education; and skills, competencies, and expertise acquired through on the job training” (p. 9). For the purpose of the current study, the focus will be on the second component.

Human capital is defined as “knowledge, skills, competencies, and attributes embodied in individuals that facilitate the creation of personal, social, and economic well-being” (NRTEE, 2004). Rooted in economic theory and principles and expanded to explain long-term returns as a result of education, not just productivity, human capital moves beyond the labor market to also

include a wide range of values associated with a well educated population. As this discussion of human capital furthers, two aspects, *personal* and *social* need to be addressed.

Personal

The personal aspect of human capital theory focuses on the return to the individual. Initially, human capital theory derived from an assessment of economic growth that was unexplained by conventional labor and capital measures (Griliches, 1996). However, Schultz (1996) explains this phenomenon by pointing to education. “Investment in education has risen at a rapid rate and by itself may well account for substantial part of the otherwise unexplained rise in earnings” (p. 10). He suggests “by investing in themselves, people can enlarge the range of choice available to them” (p. 2). Therefore, human capital is looked upon as an investment action; individuals sacrifice a portion of income for the duration of their academic career for return in the form of increased earnings (Blundell et al., 1999).

According to Becker (1993), “education and training are the most important investment in human capital” (p. 17). As indicated in Chapter One, research concludes that a college education increases one’s earning potential and leads to a better quality of life. Griliches (1996) explains that education does so by adding to one’s pre-existing human capital. As a result, for the purpose of this dissertation, students’ pre-existing human capital is measured not only by their race, gender, and family socioeconomic status, but the hypothesis is their high school performance/achievement acts also as a measure thereof. By completing a college education, it is assumed that students enhance their human capital. To better understand the attainment gap between African-Americans and others by using the college transition trajectory model, the current study seeks to find that early achievement -- coupled with high school composition and students’ degree expectations -- will be key determinants of future educational attainment.

Social

However, the benefits of education are not limited to just individual returns, but could “spill over” to others and the economy as a whole (Blundell et al., 1999). Blundell and his colleagues suggest that at the basic level, “there are obvious benefits to society from having an educated and literate population, including increased participation in democratic institutions and social cohesion” (p. 15). Furthermore, not only does the productivity of the educated increase, but also does that of the “less-well-educated” individuals.

It is important to note that in this rapidly changing technological society human capital is open to deterioration (NRTEE, 2004). This is not only due to retirement and employee replacement, but also because increased technology brings the need for continual investment in the knowledge and experience required to sustain our nation’s economy. In essence, “everything being equal, an experienced and well-educated work-force will be more productive than one with less human capital” (NRTEE, 2004, p.1). Therefore, the study of students’ achievement over time to degree attainment is essential not only to individuals, but also society as a whole.

From High School to College

Starting with the “tool box,” Adelman (1999) extends the discussion of college access and success from college enrollment and persistence to bachelor’s degree attainment. He finds that degree completion is highly correlated with high school curriculum, test scores, and grades, respectively. Unlike Adelman, this study does not directly high school curriculum but does examine grades in English, science, mathematics, and history as a proxy measure of students’ high school academic performance. In addition, the study includes NELS:88/2000 standardized mathematics and reading test scores.

As an extension and replication of his own work Adelman (2006) revisits the tool box and yet finds that academic performance is salient for bachelor's degree attainment. In this study, (2006) measure of academic performance is an *academic resource index* which is a composite of high school curriculum intensity, class rank/GPA, and senior year test scores, equivalent to the SAT. He also notes that "a rising trend in grades fits with attainment, contributing both positively and significantly" (p. xxii).

In the current study academic performance is implied by students' grades, specifically in mathematics, science, history, and English as well as students' test scores, also equivalent to college-entrance exams of their tenth grade year. The use of grades is ideal since they measure the student's actual performance in meeting the academic demands placed on them by the teachers. Moreover, curriculum intensity and class rank are subjective concepts and it is likely that test scores are better measures of the academic preparation students have had exposure to. Traditionally, disproportionately fewer Blacks and Hispanic students, as compared to Whites, take challenging academic courses (Viadero, 2000). In addition Black students are sometimes reluctant to enroll in such courses because "they see no one else in their race in those classes" (p. 4). Additionally, "the menu of Advanced Placement courses in some urban schools is just not as full as it is in many suburban schools" (p.4). This being said, it is arguable to leave such measures of curriculum rigor and class rank out of the analysis given that much of the effect will be captured by grades or test scores.

In his analysis of what does not account for degree completion Adelman (2006) finds that students' anticipations, acting as a measure of students' degree expectations, are not significant at any point in his analysis. This issue will be of interest as one of the primary focuses of this dissertation is to observe students' degree expectation. The hypothesis is that such a factor should yield significant results on degree attainment. The current study predicts a different

outcome because of the choice of construct for measuring students' degree expectation and how it will be recoded differs from Adelman's procedures. In this dissertation students' degree expectation is *how far in school R thinks s/he will get*, looking only at their twelfth grade or senior year. It is recoded into wanting less than a bachelor's degree or wanting a bachelor's degree or higher. Using the measure asked of the students' during twelfth grade seems to be more indicative of their *expectations*, because as discussed in Chapter One, this construct is a desire mitigated by one's current situation or circumstance; meaning the students have taken into account their academic performance up to this point, which is measured in the current study with tenth grade academic performance variables, and in the twelfth grade based on their prior (before their senior year) performance they have an idea of what to *expect*. Moreover, preliminary crosstabular analysis shows the expectation variable to have the strongest correlation with degree attainment.

In Adelman's study, he *carefully* measures what students say they want to do by labeling it anticipations. He does so because "'anticipation' is built from sets of questions asked in both tenth grade and twelfth grade" (p. 25). It is coded as 1) whether the students expected to earn a bachelor's degree in grade 10 and 12; 2) raised expectations to the bachelor's degree between grades 10 and 12; and 3) either lowered their expectations from a bachelor's degree between grades 10 and 12. This dual way of measuring what students want academically post high school between Adelman and this dissertation is very interesting because both seem to be credible constructs and measures of assessing student expectations. However, Adelman does not find students' anticipations to be significant during any step of his logistic analysis. Yet, this variable had an inconsistent effect in his original *Tool Box* study. This non-significant finding in Adelman's most recent study could be attributed to coding/recoding and looking at this construct not independently for which grade it would have the most impact.

Finally, Adelman only finds socioeconomic status to be significantly linked with degree completion. Race and gender were never significant in Adelman's study. This too is interesting because the current study also hypothesizes that race and gender will statistically influence four-year degree attainment. Adelman recodes race as minority versus White, whereas the current study examines all the racial groups independently and compares them to Whites, allowing race, no matter the size of the effect, whether small or large, to actually have an effect. By examining the races independently rather than as one variable (under-represented minority) there is less worry that the effect of certain groups, lumped together, will overshadow a significant effect of a group looked at individually. This may be why Adelman does not find race as a significant variable.

Studies such as Adelman's (1999; 2006) contribute to the body of research that looks at the association between pre-college achievement and bachelor's degree attainment, however, the results vary. McCarron and Inkelas (2006) do find a statistically significant relationship between students' aspirations and degree attainment; however they focused on first-generation versus non-first generation status students. The finding that there is a relationship between students' expectations and degree attainment is important. Yet, the examination of first-generation students is not important to this dissertation. The focus of this dissertation is to pay particular attention to African-American students because of their high expectations yet low academic performance and degree completion. Moreover, the current study does an examination of all student-types and it does so by there being no filter for whether one is a first-generation student or not.

Degree Attainment

Often, when research addresses degree attainment, there is some mention of college-type. In the current study, one hypothesis is that college-type greatly impacts bachelor's degree completion. Cohen (1988), Dougherty (1992), Rouse (1995), Astin et al. (1996), and Pascarella et al. (1998), all examine college type, namely community colleges, and their effect on four-year degree attainment. They find that attendance at a two-year college greatly reduces students' odds of obtaining a bachelor's degree. Due to this finding, the hypothesis is that students who attended a public two-year college will lower their chances of obtaining a bachelor's degree.

Among racial/ethnic minority students who do go on to college, i.e. Blacks, significant gains have been made over the years in the area of degree attainment. In 1940 only 1.3 percent of the Black population held a bachelor's degree. However, that number has drastically increased over the years to 4.4 percent in 1970 and 11.4 percent in 1990 (Journal of Blacks in Higher Education, 1994) illustrating great progress toward degree attainment for Blacks. Yet, as previously mentioned, degree completion is low for minority students compared to Whites. Though 11.4 percent of the African-American population obtained a bachelor's degree, 21.5 percent of the White population in 1990 obtained the same credentials. Stoops (2004) explains that the U.S population is becoming more educated. This means that more individuals are graduating high school and moving on to tertiary education. However, there are still imbalances in degree attainment when race is taken into account.

For those of age 25 and older 89.4 percent of Whites, 80.0 percent of Blacks, 87.6 percent of Asians and 57.0 percent of Hispanics were high school graduates. Among these racial/ethnic populations, Asians and Whites had the highest college degree completion rates 49.9 and 30.0 percent, respectively. As for Blacks, bachelor's degree attainment was 17.3 percent and Hispanics had the lowest with 11.4 percent. .

According to the National Center for Education Statistics (2003-164), Blacks comprised 27.5 percent, Hispanics 38.0 percent, and Whites 37.3 percent of the student-body who enrolled at a two-year institution with the desire transfer to a four-year institution. However, the data shows that only 3.1 percent of Blacks and 5.9 percent Hispanics versus 12.0 percent Whites actually attained their bachelor's degree. These rates are alarming and should cause researchers to ask what is happening between the students choice to go to college in high school and degree completion that causes students, especially when one examines race, to not fulfill their college expectations.

College-Type

College-type dominates the degree attainment literature. A significant portion of undergraduates attend community colleges, yet the degree completion rate for such individuals is exceedingly low. Why? A few theorists and researchers have attempted to shed light on the reason.

Community or public two-year colleges (also known as junior colleges) are relatively new to the American higher education system (Vaughan 1980). Offering myriad comprehensive programs, including transfer-oriented and terminal (occupational) associate's degrees, they are most commonly known for their open-door admissions policies and inexpensive cost. The most attractive feature of the community college is its transfer function. Students may enroll at a public two-year college to take their general education courses, then transfer these credits to a four-year institution in hopes of obtaining a bachelor's degree.

However, according to Clark (1960), such students are destined to conclude their education at a community college. According to Brint (2003), approximately 70 percent of community college attendees desire to obtain a four-year degree, yet only about 15 percent actually do. This is a major criticism of the community college and speaks directly to its role.

Vaughan (1980) states the purpose of such institutions is to promote and maintain the socioeconomic status quo, rather than aid in upward mobility. As a result, community colleges have been accused of “cooling out” their students, adopting practices which lead students to amend their academic and professional aspirations.

According to Brint and Karabel (1989), community colleges have developed for two reasons. First, such institutions are a response to the demand to expand educational opportunity to those formerly excluded. Second, these institutions have been called upon to sort students into a predetermined hierarchical destiny which will place certain individuals in the lower echelon of society. In other words, while junior colleges have expanded access to higher education to those who might not otherwise have such an opportunity, these institutions also impose a burden in that they limit the opportunity for students to obtain a four-year degree. Brint and Karabel explain that the number of students who desire a degree is greater than what the labor market can cater to. Due to the high aspirations of young Americans coupled with the reality of what the class structure can provide, public two-year institutions, therefore, operate under a paradox.

Vaughan (1980) too sees community colleges as reproducing the class structure and offers the following explanation. Since the open-door policy occurs only among less-selective institutions at the bottom of the higher education hierarchy, the students who attend these institutions are more likely destined to stay at the bottom. In addition, the low cost of public two-year colleges draws students from underrepresented, low-income backgrounds, leaving four-year institutions with a more privileged body of students. Since junior colleges tend to attract and cater to students from the lower rungs of the economic ladder, they operate in ways that may confine this group of individuals to low-status positions. Moreover, these institutions are criticized for cooling out their students by subtly persuading them to pursue what Clark (1960) refers to as a terminal degree rather than a four-year degree.

Rouse (1995) posits the function of community colleges is two-fold: 1) democratization, which allows for those who may not otherwise have an opportunity to go to college attend, and 2) diversion, which detours those who might have gone to a four-year college. She concludes that those who attend a two-year college complete more years of education than those who do not attend college at all, however, students diverted from attending a four-year college complete fewer years of education than those who do attend such an institution. Therefore, by attending a two-year college students are lessening their chance to attain a degree.

Moreover, Flowers (2006), using Beginning Postsecondary Students Longitudinal Study (BPS: 1996/1998) data concludes that African-American males who attend a four-year institution are more academically as well as socially integrated, which is key to being successful in college and increases the likelihood of attaining a four-year degree. Additionally, according to Pascarella et al. (1998) explain that community college students who planned to obtain a Bachelor of Arts degree were between 20 and 31 percent more likely than similar students attending four-year institutions to lower to educational plans by the end of their second year.

According to Velez (1985), also comparing two-year and four-year institution attendees, those who start at the lesser institution are less likely to finish than their counterparts. Analyzing the National Longitudinal Survey of the High School Class of 1972 (NLS), he finds, though a moderate effect, students from high socioeconomic status backgrounds had larger probabilities of finishing than those from low socioeconomic status families. As far as race is concerned, White students versus non-White students had much higher rates of college completion. In addition, Whites who planned to obtain a baccalaureate degree also had a higher probability of finishing than comparable non-Whites. Moreover, the study concluded that good grades and whether the students perceived their mother to have high aspirations for them had a higher probability of

finishing than one who perceived their mother to have lower expectations. Again, assessing mother's expectation on students' expectation and degree attainment is needed to contribute and further the discussion about this association.

Race

Research on the influence of race yields results demonstrating that race is a salient factor when researching academic achievement and attainment. Beginning with the 1966 Coleman Report and continuing today, one of the most consistent findings regarding race and educational outcomes is "black students [hold] highly favorable attitudes toward education irrespective of their performance" (Mickelson, 1990, p. 44). Since the 1960s research continues to conclude that African-American students have higher educational expectations than their White peers. Ogbu (1978), in an ethnographic account, finds that such students have a deep and abiding belief in education as the means for upward mobility and personal betterment. Moreover, Mickelson (1990) finds "many black youth and adults express a high regard for education even though their academic performance is poor" (p. 44). Employing both analysis of variance (ANOVA) and multiple regression, she finds that black students believe in the relationship between education and mobility, more so than Whites. Therefore, the current study, in the same statistical manner hypothesizes to find a significant association between students' race, expectations, and low degree completion. More specifically, the current study hypothesizes that there will be a positive effect between the interaction of race/ethnicity and students' degree expectation on degree attainment.

Mau (1995) explores educational planning and academic achievement among minority students. Using a chi-square test of independence and both one-way and two-way ANOVAs, results conclude that African-American students were more active in their educational plans. Moreover, "students' educational aspirations were related closely to their academic

achievements” (p. 524). This is important because the current study examines students’ grades and test scores as a measure of academic performance and hypothesizes a statistically significant relationship between being Black, students’ degree expectations, and their academic achievement.

College Expectations

Another important variable for this dissertation will be to assess the role of mother’s influence on students’ college expectations within the college transition trajectory. Since the current study seeks to focus on African-American students, research must take into account the changing family dynamic of Black children being raised in single-parent homes, primarily reared by mothers (Battle & Coates, 2004). Moreover, research concludes that students in mother-only households or where the mother’s influence is dominant, students’ outperform their counterparts (Grolnick, et al., 1991; Battle & Coates, 2004). Therefore, the current study, does not restrict the data to examine mother-only households, but instead examines the mother’s expectations overall on students’ expectations as well as degree attainment, despite the household make-up of the students. Moreover, including fathers’ expectations on students’ expectations in preliminary analysis yield no real statistical significance, which could be due to the low number of father’s responses as well as the lack of consistent response categories for both mothers and fathers. These limitations will be further discussed on Chapter Five. In the meantime, the hypothesis, in light of what little research discusses mother’s influence on both students’ college expectations and attainment, is that there will be a statically significant association between mothers’ and students’ expectations as well as degree attainment. The hope is to fuel and further a much needed discussion on mothers’ role on students’ college expectations and attainment, which is overlooked in prior research.

However, research is conclusive about the impact of parental involvement/encouragement has on students' expectations. Though this research does not differentiate between parents, such research in the area of college-choice is still useful in understanding the role parents play with regards to students' expectations, especially in light of such findings that mothers are more influential regardless of household type.

The college-choice literature focuses on understanding students' college expectations and the influence of parents. This body of literature examines myriad factors related to students' choice of attending college including SES, test scores, academic ability, and parental involvement. These variables are all utilized in the current study, and one of the research hypotheses is that expectations drive both students' achievement and attainment. The college-choice studies do not link expectations with degree attainment as they will in this.

Hossler et al. (1999) cite that parental encouragement is the best predictor of postsecondary educational aspirations. Students who discussed their educational plans with their parents, more than with others, typically planned to go to college and were more certain about their plans. Yet, the authors are unclear about just how a student's family influences enrollment in a particular college-type (two-year or four-year) and ultimately a student's degree attainment. This relationship is important to study because education can mediate family background effects. Rosenbaum, (2001, p. 72) concludes that "in their college plans, students do not fully realize how much their grades, test scores, and efforts predict their ultimate educational outcomes" Moreover, Crouse and Trusheim (1988) explain that test scores, grades, and family influences impact students' decision about college. In addition, Perna (2000) identifies test scores as an important predictor of college enrollment between minority and White students. And, if test scores are a significant predictor in college enrollment, then they might be a significant predictor of students' expectation to go to college. Furthermore, grades and test scores are major factors

within the college transition trajectory model and help shape our understanding of degree attainment. Hypothesis One states that such variables will have a positive and statistically significant effect on students' college expectations as well as college-type and degree attainment.

What is Missing?

The research literature has revealed a host of factors that contribute to our understanding of degree attainment. However, the gap in both achievement and attainment between Blacks and their peers still exist, as well as does the paradox between what Black students want to do and what they actually end up doing. One possible explanation for both low degree completion and the paradox may be school composition. The previous sections of this chapter are in essence a discussion of the control variables for the current study and the major contribution of this dissertation is to link the variables discussed throughout this chapter with high school composition in one model.

Since *Brown* decision, it many have believed that students who grew up in segregated environments were less prepared academically, as well as socially, for college (Massey and Fischer, 2006). However, Goldsmith (2004) – using NELS data --concludes that minority students, particularly Latinos and Blacks are more optimistic and pro-school when they attend segregated or high population minority schools. This is important for the current analysis because school composition has yet to be examined in relation to degree attainment, nor have other longitudinal studies focused on the influence of school effects. Moreover, research in the area of achievement, attainment, and high school composition is studied segmentally, possibly overlooking how together the aforementioned variables discussed throughout this chapter may offer a more cohesive understanding. If school composition impacts high school achievement, one would expect that it would also impact students' expectations, and finally degree attainment,

because school composition as an effect precedes both expectation and attainment. Moreover, Frost (2007) explains “the school socioeconomic composition of peers can also serve to influence students’ educational goals” (p. 46). In the current study, school composition is measured using both percent race/ethnicity -- which is the most common measure of this concept in prior studies-- and the percent of students receiving free or reduced lunch as a measure of school SES. In doing so, the current study hopes to contribute to the achievement and attainment literature by closing the research gap in both these areas as well as providing a much needed response to the inconsistencies between Black students’ college expectation and their actual attainment.

Currently, research in the area of school composition or school effects primarily focuses on the percent racial/ethnic minorities. Few include the SES composition of the school as does Frost (2007) and the current study. However, such studies that have explored the effect of percent of racial/ethnic minorities on educational outcomes have yielded interesting findings; the effect of school racial composition on students’ academic achievement was a major point in arguments used in the fight to end segregated schools.

In a study conducted in the late 1960s and early 1970s, using cross-tabular and multiple regression analyses, John and Lewis (1971) found that both Black and White students revealed higher achievement in schools with over 50 percent White enrollment. Conducted during a time where educational issues were only looked at from a Black-White perspective, a statistically significant relationship was found between school racial composition and mathematics achievement for African-American students, but not in reading. Although the study is dated, it highlights the importance of looking at school effects on both achievement and attainment. Moreover, studies that explore high school composition and degree attainment are non-existent.

Current Study

The purpose of the current study is to assess the association between school composition, students' college expectations, and degree attainment by exploring a series of connected relationships that together form the college transition trajectory. In the next chapter, the main hypotheses will be tested using the NELS:88/2000 data set. Though there is a significant amount of research that attempts to address various components that make-up the CTT model, research still falls short in analyzing the complete model.

By using model presented in this dissertation, (Figure 1-1), the hope is to provide a better understanding of how various factors shape students' decisions about further r education all the way up to degree completion. If such variables are predictors of why students achieve or don't, then they should also predict students' expectations, college-type and their eventual degree attainment. In order to examine the hypotheses that have been presented throughout this chapter, the next chapter will explain the data collection and sampling, the variables and the model design, the analytical procedures, as well as present a list of secondary question sought by the current study to answer.

Chapter Three: Data and Analytic Procedures

This chapter will discuss a number of aspects that are essential to answering the research question: What is the relationship between high school composition and students' college expectations and their effect on degree attainment for African-Americans? This chapter will highlight the data collection and sampling of NELS:88/2000 and why the use of this database. It will also expound on the variables and model design of the college transition trajectory model and present the secondary questions of this dissertation. Finally, this chapter will cover the preliminary and analytical procedures of this research.

Data Collection and Sampling

This study will employ a longitudinal, secondary dataset – The National Education Longitudinal Study (NELS), 1988 – 2000. NELS:88/2000 is a compilation of five waves of data that includes but is not limited to information on students' backgrounds, parental data, high school transcript data, post-high school data that includes individuals' income, occupation, education, and what type of institution (two-year or four-year) they attended, and post-secondary transcript data. The purpose of NELS:88/2000 was to examine high school students of the 1990s by obtaining knowledge of their achievement and status prior to them starting high school and measure students' academic growth over time³.

The first wave of data collection is referred to as the base year, which began with students who were in the eighth grade in 1988. Surveyed were 24,599 students out of 26,432 encompassing 1,052 public, Catholic, and other private schools. In addition to surveys, students

³ Please refer to the Educational Longitudinal Study 2002: Base Year Data File User's Manual; National Center for Educational Statistics; U.S. Department of Education, Institute of Education Sciences NCES 2004-405; The information regarding the various waves of data comes from this source unless cited or footnoted otherwise.

also took a series of four achievement tests: reading, mathematics, science, and social studies. Moreover, during the base year data collection phase, information was gathered about the students' home, school, and individual factors by surveying one parent, two teachers, and the principal of each selected student. Although the base year data is an integral part of the NELS:88/2000 database, for the purpose of this study it has little relevance and will not be included in the analysis.

The most salient wave of data collection for the purpose of this study is the first follow-up which took place in 1990. This wave of the data is similar to the base year data, but included additional information on students' educational and occupational aspirations, extracurricular activities, and current jobs⁴. Furthermore, during this phase achievement data was also collected⁵. The tests taken during the first follow-up were adapted to the students' ability based on the outcomes measured in the base year, the more difficult test forms were administered to those who demonstrated a higher ability estimate. The purpose for retesting the students was to assess cognitive growth between the eighth and tenth grade in the aforementioned subject areas. A freshened sample was added to the student component during this wave of data collection. This process will be explained further with the discussion of sampling design for both the schools and the students selected to participate in NELS:88/2000.

A two-stage sampling method was applied for the first follow-up⁶. From the base year, 21,474 students were selected. Due to the fact that sophomores were either not in the 8th grade during 1988, or were unavailable to participate in the study, the cohort had to be increased by freshening the sample. Tenth grade students needed to be randomly selected from high schools

⁴ <http://nces/ed/gov/pubsearch/pubsinfo.asp?pubid=2002323>

⁵ It is good to note that this wave of data collection was also particularly important because the dropout population would be easy to identify by starting with the base year, those who left before and after their spring term of the tenth grade. Also notable about the NELS:88/2000 first follow-up is that the data is comparable to tenth graders studies in High School and Beyond longitudinal study from 1980.

⁶ <http://nces/ed/gov/pubsearch/pubsinfo.asp?pubid=2002323>

to be nationally representative as well as comparable to the High School and Beyond (HS&B) sophomore cohort⁷. This method added 1,034 high school students who were not captured in the base year sampling frame.

First follow-up is most significant to this study because this is from where the majority of the variables for analysis will be obtained. In the next section the current study will further elaborate on these variables and how they will be used.

The NELS:88/2000 second follow-up was a repeat of all of the components collected in the first follow-up and took place in 1992⁸. The parent questionnaire included a supplemental series of questions for parents not previously part of NELS:88/2000. The transcript and course offerings data described the students' academic experience and what kind of curriculum was offered by their school. The twelfth grade sample also needed to be freshened to ensure that it was nationally representative. Such students who were new to NELS:88/2000 were also administered a supplemental questionnaire, which collected the demographic information that would have been obtained during the base year data collection process. This process added 279 eligible students to the second follow-up data⁹. The final sample size for the student component was 18,209.

Again achievement was measured and cognitive tests were administered to this population of students. In addition, the students were surveyed about their perceptions and feelings about their education, their family structure, occupational and postsecondary educational plans, as well as the family decision making process in regard to the students' transition from high school to either higher education or the work environment¹⁰. However, this wave was only

⁷ This information comes from both <http://nces/ed/gov/pubsearch/pubsinfo.asp?pubid=2002323> and the 2005 NELS:88/2000 Database Workshop

⁸ <http://nces/ed/gov/pubsearch/pubsinfo.asp?pubid=2002323>

⁹ Once again students who dropped out between spring 1987-88 and 1991-92 school year were also surveyed.

¹⁰ <http://nces/ed/gov/pubsearch/pubsinfo.asp?pubid=2002323>

able to collect data from one teacher of the students who participated in the study as well as the school principals. This wave of data is salient to the current study, much like the first follow-up, because the variables pertinent to students' college expectations and parental expectations will come from here.

The third follow-up study was conducted in 1994 to examine those who were once students but now are enrolled at a postsecondary institution or are part of the work world¹¹. The purpose for collecting such data was to be able to look at issues of employment as well as access and choice in higher education¹². The final sample size was 14,915¹³. Yet, like the base year this wave has little relevance to the current study.

The fourth and final NELS:88/2000 data collection took place in 2000¹⁴. The fourth follow-up was of the 8th grade class of 1988 and those students who participated in the tenth and twelfth grade studies. The data collection method employed in prior waves of data collection switched from school-based to computer-assisted telephone interviews (CATI) in the third and fourth follow-up, but also in the fourth follow-up computer-assisted personal interviews (CAPI) were used for telephone nonrespondents. As in the second-follow-up postsecondary transcript data was also collected. During this wave of data collection to avoid dealing with those who would be difficult to contact or locate, the third follow-up frame was subsampled to weed such

¹¹ <http://nces/ed/gov/pubsearch/pubsinfo.asp?pubid=2002323>

¹² <http://nces/ed/gov/pubsearch/pubsinfo.asp?pubid=2002323>; Educational Longitudinal Study 2002: Base Year Data File User's Manual; National Center for Educational Statistics; U.S. Department of Education, Institute of Education Sciences NCES 2004-405. It is also noteworthy to mention that would be comparable to NLS-72 and HS&B, in addition to seeing how many dropouts returned to school and by what means.

¹³ Educational Longitudinal Study 2002: Base Year Data File User's Manual; National Center for Educational Statistics; U.S. Department of Education, Institute of Education Sciences NCES 2004-405; Quick Guide to Using the NELS:88/2000 Data~from Base Year to Fourth Year Follow-up Data File User's Manual: Appendix A NCES 2002-323.

¹⁴ <http://nces/ed/gov/pubsearch/pubsinfo.asp?pubid=2002323>

individuals out. A second subsample was applied to limit bias resulting from interview nonrespondents. The final sample for this wave is 12,144 participants¹⁵.

NELS:88/2000 fourth follow-up, for the purpose of the current study, offers the same significance as the first and second follow-up. The fourth follow-up variables that are of importance for the analysis are college-type and degree attainment.

The sampling design of the NELS:88/2000/2000 dataset began as a two-stage stratified sample, yet, the design became more complex with each wave of data collection¹⁶. Instead of creating a comprehensive list of all the eighth graders in the United States, a list of all the schools with eighth grades was compiled. From such a list developed a list of students from both public and private schools in the U.S. The school sample frame began with 38,866; 1,734 schools were selected; and 1,057 actually participated.

Initially, in the base year data collection phase, the schools were divided into groups called strata and schools were chosen independently within each¹⁷. Schools were first sorted by school type and geographic region. This was referred to as the superstrata. Then, schools were categorized according to whether the school was urban, suburban, or rural and according to minority classification. This was known as the substrata¹⁸. However, public versus private schools were selected a little differently. The number of public schools to be selected was set to be proportional to the mass of eighth grade enrollment of all the schools in the superstratum. On the other hand, due to the disproportionality of public versus private schools, private schools were oversampled and augmented in one northeastern state. Finally, 24 students were selected per school unless the eighth grade student total was less than 24, then all of the students were

¹⁵ <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002323>; Educational Longitudinal Study 2002: Base Year Data File User's Manual; National Center for Educational Statistics; U.S. Department of Education, Institute of Education Sciences NCES 2004-405

¹⁶ <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002323>

¹⁷ <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002323>

¹⁸ Note a minority substrata was not created for private schools.

selected for the study. Additionally, Asian/Pacific Islanders and Hispanic students were also oversampled. The goal was to accumulate 2,200 more students with these racial/ethnic categories.

A cross sectional sample design was implemented for the first and second follow-up phases of data collection. As mentioned earlier, the students' sample with each wave had to be freshened¹⁹.

“The freshening procedure was carried out in four steps:

1. For each school that contained at least one base-year 10th-grade student who was selected for an interview in 1990, a complete alphabetical roster of all 10th-grade students was obtained.
2. For each base-year sample member, the next student on the list was examined. If the base year student was the last one listed on the roster, the first student on the roster was examined.
3. If the student who was examined was enrolled in the 8th grade in the United States in 1988, then the freshening process terminated. If the designated student was not enrolled in the 8th grade in the United States in 1988, then that student was selected into the freshened sample.
4. Whenever a student was added to the freshened sample in Step 3, the next student on the roster was examined and Step 3 was repeated. The sequence of Steps 3 and 4 was repeated (adding more students to the freshened sample) until a student who was in the 8th grade in the United States in 1988 was reached on the roster”
(<http://nces.ed.gov/pubs2002/2002323.pdf>).

Freshening is an unbiased method that helped to produce a representative sample students who were enrolled during each wave of data except the base year.

¹⁹ Note it was mentioned earlier that parents were also freshened but the details of that process were not disclosed so it may be a similar process as for the students.

NELS:88/2000 for the Current Study

There are two primary reasons for using NELS:88/2000: 1) the size of the database, and 2) future potential to expand the current study. It is also important to note that, unlike the National Longitudinal Study of the High School Class of 1972 (NLS-72) and High School and Beyond (HS&B) databases, NELS:88/2000 was designed to capture high school students in the early 1990s with a pre-measure of their academic achievement prior to entering high school. In addition, it provides researchers with a myriad of school and student data that has proved useful when examining student educational outcomes. Moreover, NELS:88/2000 offers a fourth-year follow-up to further analyze, longitudinally, students' academic outcomes including type of institutions students attended and degree completion data which are salient to the current study.

College Transition Trajectory Model

Variables

As previously mentioned, the CTT model, (Figure 1-1), is made up of ten dependent variables of which nine acts as independent variables. Table 3.1 lists the variables and how they were recoded for the current study. Again, the purpose of this study is to examine degree attainment longitudinally from tenth grade to twelfth grade to four-year degree completion and answer the question: How does school composition and students' college expectations effect degree attainment for Black students?

Table 3.1 List of Variables

NELS:88/2000 Variable Name	Recoded Variable Name	Conceptual/Methodological Framework Variables
F1RACE	Asian Hispanic Black American Indian	Race
F1SEX	Males	Sex
F1SES		SES
F2C22A		Percent Asian
F2C22B		Percent Hispanic
F2C22C		Percent Black
F2C22E		Percent American Indian
F2C25A		Percent Free or Reduced Lunch
F12XRSTD		NELS:88/2000 Reading Test Score
F12XMSTD		NELS:88/2000 Mathematics Test Score
F1S39A	Mathematics	Grades
F1S39B	English	
F1S39C	History	
F1S39D	Science	
F2S43 (recoded)	Degexp	Students' Degree Expectation
F2S42B (Mother)		Mothers' Expectation
F2S59A		Cost
F4ELSECT (recoded)	Twoyr	College-Type
F4HHDG (recoded)	Bachelorplus	Degree Attainment

Variables Defined

F1 means that the variables came from the tenth grade wave, F2 are the variables that came from the twelfth grade wave, and F4 are from the final follow-up wave. F1SEX is gender and is a dichotomous variable male = 1 and female = 0. F1SES is a composite variable provided in the NELS data that is made up of parents' educational attainment, mother and father's occupational prestige, family income and household resources and is used as is. Because SES is a continuous variable if it yields a positive coefficient, then in the multiple regression analysis it has a positive effect on the outcome variable and in the logistic regression analysis SES increases one's chance or the odds of an outcome. If the coefficient is negative, then the interpretation is opposite. F2C22A through F2C25A are measures of school composition variables that include percentage of race/ethnicity of a particular school and the percent free or reduced lunch, which will act as a measure of school socioeconomic status. F1S39A through F1S39D are the students'

grade and have been recoded to a 4.0 grade point average scale. F2S43 is degree expectation and this is recoded dichotomously into less than a bachelor's degree or a bachelor's degree or higher. F2S59A is how important are college expenses and this variable was left as is. Finally, F4ELSECT is for the sector for most recent PSE attended. This variable is recoded dichotomously to public, two-year = 1 and all other options = 0. And F4HHDG is for the highest PSE degree attained as of 2000. This to was recoded dichotomously into less than a bachelor's degree = 0 and a bachelor's degree or higher = 1.

Model Design

The college transition trajectory or CTT model is constructed similar to a path analysis in order to express the hypothesized cause-and-effect relationships but nested within school composition as one would see in multilevel modeling. Statistically, the analysis still consists of a series of regressions, but this model allows the current study to express explicitly the presumed causal relationships among the variables conceptualized.

This model also imposes a time order which is not expressed in common regression analysis. Obviously tenth grade variables come before twelfth grade variables, however, the current study hypothesizes that test scores are also good predictors of students' grades. Both test scores and grades act as academic performance measures. Adding college cost to the model, the hypothesis is that it, along with the academic performance measures, will affect mothers' and students' college expectations. Moreover, school composition is thought to influence the tenth and twelfth grade variables. Finally, the school and expectations variables are hypothesized to effect college-type and degree attainment. Constructing the CTT model in this way, (Figure 1-1), provides cause-and-effect relationships that hypothesize a series of connected regressions in which outcomes are believed to be caused by predictor and other outcome variables that may, in essence, effect both achievement and attainment.

Table 3.1 (above) is a list of the NELS:88/2000 variables, the recoded variable names, and the variables that make-up the CTT model, (Figure 1-1).

The tenth grade variables (1990) for the current study are race, gender, socioeconomic status (SES) composite, NELS:88/2000 standardized reading and mathematics test scores, and English, science, history and mathematics grades. The twelfth grade variables (1992) used in this analysis are mothers' college expectations, students' degree expectations, and college cost. College-type and degree completion are the fourth-year follow-up variables (2000) and the final outcome variables of the analysis. NELS:88/2000 standardized test scores, grades, mothers' and students' degree expectation, and college-type are all outcome as well as predictor variables, whereas degree attainment is the sole outcome variable. The model (Figure 1-1) shows the directionality of the regression and logistic analysis for the variables mentioned above.

College transition trajectory will prove to be vital for future analysis when exploring educational achievement and attainment. Currently, various factors that impact various aspects of college unfortunately lie within individual bodies of literature: school composition, college choice, college-type, and degree attainment. However, it is important and a major contribution of this dissertation to combine all of these bodies of literature to see the interaction between achievement and attainment and how this dynamic impacts the academic future of African-American students. Therefore, this dissertation will examine a host of variables, new and previously studied, using NELS:88/2000, which are hypothesized to influence both achievement and attainment outcomes for African-American students. The primary research question for this dissertation is: What is the relationship between high school composition and students' degree expectations and their effect on degree attainment for African-Americans?

The secondary questions being sought to answer are the following:

1. How will race, gender, SES, and school composition affect the dependent variables test scores?
2. How will the exogenous variables (race, gender, SES), school composition, and test scores (now, added into the equation as an independent variable) affect the dependent variable of students' grades?
3. What effect will race, gender, SES, school composition, test scores, and grades (now, added into the equation as an independent variable) have on the dependent variable (students' college expectations)?
4. How will all the aforementioned variables, including mother's expectations, now acting as an independent predictor variable, plus college cost, affect the dependent variable of college-type?
5. How will all thirteen variables, all acting as independent variables, impact the dependent variable of degree completion?
6. Finally, will being Black matter on both analysis of achievement and attainment?

Analytical Procedures

The sample for this study was restricted to a subset of participants who responded to the relevant variables, resulting in a sample size of 3,832 for analysis. Due to this restriction this analysis will be ran in both SPSS and AMOS. As Rosenbaum (2000) posits, regression analysis allows researchers to examine associations between demographic characteristics and attainment, and in the case of this dissertation, achievement as well, and then examine the predictive power of other influential factors, in steps. However, due to the number of lost cases leaving such a small sample size, it is also wise to run our regression analysis in AMOS as a structural equation model (SEM) because it uses maximum likelihood to deal with missing variables, while SPSS uses listwise deletion. The hypothesis is that the results between the analysis in SPSS and the analysis conducted with AMOS will yield similar results.

As previously stated, the college transition trajectory model is composed of ten outcome variables of which nine also serve as predictor variables (grey boxes in Figure 1-1). The primary exogenous variables are race, gender, and socioeconomic status. The first regression of dependent variables will be on the NELS:88/2000 standardized reading and mathematics tests, administered by NELS:88/2000 staff. With the test scores now acting as dependent variables, the next regression analysis will be on grades: mathematics, English, history, and science. As the current study continues to move to the right, the next regression is on mothers' college expectations. Then a regression is run on students' college expectations, with all the aforementioned outcome variables acting as control variables.

As the current study makes its way toward the final two analyses on college-type and degree attainment logistic regression is now used, due to recoding the both college-type and degree attainment into dichotomous outcome variables. Logistic regression is the process of determining the statistical relationship between a dichotomous dependent response variable and one or more independent variables to predict the odds of the dependent variable. Logistic regression is required for the current study because both college type and degree attainment have dichotomous response categories. In logistic regression tables, results that are less than one decrease the odds, for example, of students attending a two-year college. However, results above one increase students' odds of attending a two-year college. Thus the coefficients presented in the tables in the following chapter for multiple regressions and logistic regression will be displayed differently. The unstandardized beta coefficients and their standard error are presented for the multiple regression results, while the $\text{Exp}(B)$ is reported for the logistic regression results. For every multiple and logistic regression analysis on both achievement and attainment, school composition is added as a predictor variable every time.

In addition, interaction variables are added to the logistic regression analysis for college-type attendance and degree attainment. The interaction variables are made by adding each recoded race and degree expectation and each recoded race and each recoded percent race of school composition. This is done to better assess, most specifically, the effect of Black's expectations on college-type and degree attainment as well as how an individual's race interact with their school racial composition.

Preliminary Analysis and Data Manipulation

Before starting the analysis, grades, college-type, and degree attainment were recoded. Grades were recoded to a 4.0 standard grade point average (GPA) scale. College-type was recoded to examine public two-year institutions versus all other types of higher education options. And degree attainment was recoded to bachelor's degree or higher versus any academic attainment below a bachelor's degree.

The current study had to hold constant its sample for all the variables included in the analysis to avoid discrepancies in the amount of missing cases between the various regression and logistic analysis. In essence, by restricting attention to a complete dataset, the current study yields consistent results by not having a different N (number of cases analyzed) with each analysis.

A series of crosstabular analyses were run to find the best measures for student's and mothers' college expectation. By conducting such a preliminary analysis, the current study was better able to identify variables that would be most effective in answering the research questions generated by the conceptual/methodological framework. Once the data was ready, following the path of the framework above, logistic regressions were run for college-type and degree attainment. For the remaining eight dependent variables, multiple regressions were run. The current study used both logistic and multiple regression because preliminary analyses showed no

advantage to using a more advanced methodology. The next chapter will provide answers to the above questions and a discussion of the results of the analyses.

Chapter Four: Results

This chapter will summarize the results of analysis of the primary research question: What is the relationship between school composition and students' college expectations, their effect on degree attainment for African-Americans. Table 4.1 presents the means and standard deviations for the 22 variables that were included in the analytic procedures used to investigate the College Transition Trajectory model after they have been recoded. It is important to note, this table further illustrates that the majority of students do expect to attain a college degree with a mean of 3.26. With four-year degree attainment as the final outcome variable, the chapter will assess the influence of various high school factors from tenth grade to twelfth grade on different dependent.

Table 4.1 Means and Standard Deviation

Variables	Means	Standard Deviation
PCT. ASIAN/PACIFIC ISLANDER	3.62	7.429
PCT. OF HISPANIC	7.87	17.213
PCT. OF BLACK (NON HISPANIC)	8.56	15.594
PCT. AMER INDIAN OR ALASKAN	.90	4.601
PCT. RECV FREE, REDUCED-PRICE LUNCH	16.77	18.237
HOW IMPORTANT ARE COLLEGE EXPENSES (COST)	2.04	.692
SOCIO-ECONOMIC STATUS COMPOSITE (SES)	.27974	.742355
Mathgrade	3.0486	.85285
Englishgrade	3.2258	.73294
Histgrade	3.2274	.77496
Scigrade	3.1200	.79909
Students' Degree Expectations	3.2602	.72562
Males	.45	.498
Asian	.08	.278
Hispanic	.08	.278
Black	.05	.226
Indian	.01	.075
Bachelorplus	.57	.496
Public Two-year	.2387	.42635
HOW FAR IN SCHOOL MOTHER WANTS R TO GO	8.27	1.508
READING STANDARDIZED SCORE	55.3546	8.59439
MATHEMATICS STANDARDIZED SCORE	56.1416	8.76365

NELS:88/2000 Reading and Mathematics Test Scores

Table 4.2 presents the first series of regression equations with test scores in math and reading as dependent variables used to assess achievement. A separate analysis was run for both the reading and mathematics standardized test scores. The coefficients are presented in three steps. The first step examines the relationship between race and test scores. The second adds race, males (gender), and socioeconomic status to the equation. The final step then adds high school race/ethnic composition and SES composition.

Table 4.2 Unstandardized Beta Coefficients and their Standard Errors for NELS:88/2000 Mathematics Test Scores

	Unstandardized Beta Coefficients and their Standard Errors for NELS:88/2000 Mathematics Test Scores			Unstandardized Beta Coefficients and their Standard Errors for NELS:88/2000 Reading Test Scores		
	1	2	3	1	2	3
Asian	3.644** (.499)	3.012** (.468)	2.712** (.505)	1.061* (.497)	.418 (.473)	.200 (.512)
Hispanic	-5.052** (.499)	-2.953** (.477)	-2.529** (.560)	-4.355** (.497)	-2.382** (.481)	-2.217** (.567)
Black	-6.470** (.613)	-5.248** (.576)	-4.421** (.677)	-5.238** (.497)	-4.292** (.582)	-4.351** (.686)
American Indian	-6.651** (1.850)	-5.449** (1.732)	-4.591** (1.743)	-7.220** (1.643)	-6.186** (1.749)	-5.668** (1.765)
Males		1.131** (.260)	1.115** (.259)		-1.121** (.262)	-1.132** (.262)
SES		4.003** (.179)	3.672** (.189)		3.655** (.180)	3.426** (.191)
Percent Asian			.043* (.019)			.024 (.019)
Percent Hispanic			-.006 (.009)			.000 (.010)
Percent Black			-.013 (.010)			.009 (.010)
Percent American Indian			-.023 (.028)			-.019 (.029)
Percent Free or Reduced Lunch			-.033** (.008)			-.027** (.009)
Constant	56.647 (.157)	54.818 (.1196)	55.445 (.247)	55.956 (.156)	55.272 (.198)	55.652 (.250)

Focusing on the mathematics test scores, column one presents the total effects of racial background. Being Asian (3.644), Hispanic (-5.052), Black (-6.470), and American Indian (-6.651) are statistically significant at both the .01 and .05 levels in terms of their effect on math test scores, but being Hispanic, Black, and American Indian all have a negative effect. Similar were obtained in reading although the beta coefficients are lower: Asian (1.061), Hispanic (-

4.355), Black (-5.238), and American Indian (-7.220). These findings are well aligned with prior research. It is common knowledge to researchers, educators, and policymakers that Whites and Asians tend to outperform Hispanics, Blacks, and American Indians on standardized tests.

In column two of Table 4.2 for the mathematics test scores, being male (1.131) has a positive and statistically significant effect controlling for race and socioeconomic status. However, for the reading test scores being male (-1.121) while statistically significant had a negative effect. For mathematics test scores, being male is significant at the .05 level. And for the reading test scores being male is statistically significant at a .01 level. Prior research on sex differences on standardized test scores has found that males tend to do better on standardized mathematics tests than females (Fierros, 1999). Also, the effect of SES on the mathematics test score is 4.003, while for reading test score it is 3.655 -- a large positive effect, significant at both the .01 and .05 levels. Moreover, SES, when controlling for race and gender, explains a large portion of the race effect.

Column three includes the high school composition variables. High school composition in terms of percent Asian/Pacific Islander is significant at the .05 level for math test scores. However, percent Hispanic, percent Black, and percent American Indian of the school is statistically insignificant after controlling for race, gender, and SES. Reading test scores yield similar results, except that percent Asian/Pacific Islander is not significant. In addition, the percent of students receiving free or reduced lunch has a negative effect on both the mathematics test scores (-.033) and the reading test score (-.027) and the relationship is statistically significant at both .05 and .01 levels. The free or reduced lunch variable also explains part of the race and socioeconomic effect controlling for race, gender, SES, and percent race/ethnic make-up of the high school. This supports Orfield's (1997) discussion regarding the link between race, poverty, and segregation mentioned in Chapter One.

The results using AMOS are not much different. Again, the AMOS analysis allows us to see the results from the college transition trajectory model but with Maximum Likelihood estimates, which allows for unbiased coefficients versus listwise deletion²⁰. Comparing the results from column three to the AMOS output, being Asian is not statistically significant for students' NELS reading test score. However, being Asian is significant on NELS mathematics test score, and has a positive effect. In terms of other race variables, being Hispanic, American Indian or Black results in a significant and negative effect on both reading and mathematics test scores/. Socioeconomic status is also statistically significant and has a positive effect at both levels on both test scores. Being male also yields the same results in AMOS as it did in SPSS. Being male has a negative effect on students' reading test score, but a positive effect on students' mathematics score, statistically significant at both levels.

However, unlike the SPSS analysis on high school composition, the percent Asian is not significant in the AMOS analysis. The other race/ethnicity measures maintain their lack of effect on test scores. In addition, the percent of students receiving free or reduced lunch is statistically significant having a negative effect on students' test scores.

Students' Grades

Table 4.3a and Table 4.3b (below) list students' grades (as reported by their teacher) as the dependent variable. In this analysis, grades served as a measure of academic ability as well as academic achievement. In each table there are four columns representing the sequence of regressions. Similar to Table 4.2, column one introduces the racial background variables, column two controls for race, gender and SES. Column three controls for race, gender and SES,

²⁰ SPSS uses list-wise deletion.

and introduces high school composition. And finally, column four controls for test scores which are used as a control for academic performance.

Table 4.3a Unstandardized Beta Coefficients and their Standard Errors for Mathematics grade

	Unstandardized Beta Coefficients and their Standard Errors for Mathematics grade				Unstandardized Beta Coefficients and their Standard Errors for English grade			
	1	2	3	4	1	2	3	4
Asian	.229** (.050)	.202** (.050)	.246** (.054)	.109* (.048)	.231** (.042)	.196** (.042)	.221** (.045)	.167** (.042)
Hispanic	-.220** (.050)	-.136** (.051)	-.134* (.060)	.015 (.053)	-.099* (.043)	-.005 (.043)	-.058 (.050)	.032 (.046)
Black	-.312** (.061)	-.268** (.061)	-.133 (.072)	.073 (.065)	-.189** (.053)	-.167** (.051)	-.155* (.061)	.012 (.056)
American Indian	-.137 (.185)	-.091 (.184)	-.083 (.185)	-.125 (.165)	-.250 (.159)	-.212 (.155)	-.269 (.156)	-.073 (.144)
Males		-.009 (.028)	-.009 (.027)	-.071** (.025)		-.293** (.023)	-.292** (.023)	-.290** (.022)
SES		.157** (.019)	.168** (.020)	-.003 (.019)		.161** (.016)	.182** (.017)	.047** (.016)
Percent Asian			-.004* (.002)	-.006** (.002)			-.004* (.002)	-.005* (.002)
Percent Hispanic			-.004 (.001)	.000 (.001)			-.001 (.001)	.002* (.001)
Percent Black			-.004** (.001)	-.003** (.001)			-.001* (.001)	-.001* (.001)
Percent American Indian			-.002 (.003)	-.001 (.003)			.002 (.003)	.003 (.002)
Percent Free or Reduced Lunch			.002 (.001)	.003** (.001)			.002* (.001)	.003** (.001)
NELS:88/2000 Reading Test Score				-.005** (.002)				.020** (.002)
NELS:88/2000 Mathematics Test Score				.051** (.002)				.018** (.002)
Constant	3.065 (.016)	3.018 (.021)	3.027 (.026)	.451 (.097)	3.226 (.014)	3.307 (.017)	3.280 (.022)	1.169 (.085)

Table 4.3b Unstandardized Beta Coefficients and their Standard Errors for History grade

	Unstandardized Beta Coefficients and their Standard Errors for History grade				Unstandardized Beta Coefficients and their Standard Errors for Science grade			
	1	2	3	4	1	2	3	4
Asian	.298** (.045)	.265** (.045)	.300** (.048)	.243** (.045)	.274** (.047)	.245** (.050)	.281** (.050)	.191** (.046)
Hispanic	-.095* (.045)	.004 (.046)	-.026 (.054)	.070 (.050)	-.127** (.047)	-.037 (.047)	-.066 (.056)	.041 (.051)
Black	-.301** (.056)	-.257** (.055)	-.218** (.065)	-.039 (.060)	-.271** (.057)	-.229** (.057)	-.236** (.067)	-.043 (.062)
American Indian	-.156 (.168)	-.105 (.165)	-.125 (.167)	.084 (.154)	-.243 (.173)	-.196 (.171)	-.246 (.173)	-.032 (.158)
Males		-.089** (.025)	-.087** (.025)	-.085** (.023)		-.057* (.026)	-.057* (.027)	-.080** (.024)
SES		.182** (.017)	.207** (.018)	.063** (.018)		.166** (.018)	.184** (.019)	.026 (.018)
Percent Asian			-.004** (.002)	-.005** (.002)			-.005* (.002)	-.006** (.002)
Percent Hispanic			.001 (.001)	.001 (.001)			.001 (.001)	.001 (.001)
Percent Black			-.002* (.001)	-.002* (.001)			.000 (.001)	-.000 (.001)
Percent American Indian			-.003 (.003)	-.002 (.002)			.002 (.003)	.003 (.003)
Percent Free or Reduced Lunch			.003** (.001)	.004** (.001)			.002** (.001)	.003** (.001)
NELS:88/2000 Reading Test Score				.021** (.002)				.012** (.002)
NELS:88/2000 Mathematics Test Score				.019** (.002)				.032** (.002)
Constant	3.227 (.014)	3.209 (.019)	3.179 (.024)	.921 (.090)	3.124 (.015)	3.095 (.019)	3.074 (.025)	.638 (.093)

Racial/ethnic background plays a significant role in explaining students' math grades when no other variables are present in the model. Being Asian (.229) has a positive and a statistically significant effect. However, being Hispanic (-.220) and Black (-.312) have a negative effect and are statistically significant. However, being American Indian provides no statistical significance. Moreover, being Asian, Hispanic, and Black are all also significant at .01 and .05 levels.

When the equation controls race, gender, and SES (column two) the beta coefficients drastically change. Being Asian (.202) continues to have a positive and statistically significant effect on students' mathematics grade. The trend continues with being Hispanic (-.136) and Black (-.268) having a negative effect on students' mathematics grade and is statistically

significant at both the .05 and .01 levels. Gender has no significant effect while socioeconomic status (.157) has a positive and significant effect and both gender and SES explains the new race effect.

With the inclusion of the high school composition variables (column three), being Asian continues to have a positive and statistically significant effect at both the .01 and .05 levels. In addition, being Hispanic maintains its negative effect, but is significant just at the .05 level. The effect of being male did not change much when adding high school composition, yet SES (.168) increased slightly, which statistically significant at the .01 and .05 levels. However, high school composition did yield interesting results. The percent Asian (-.004) and the percent Black (-.004) of the school have a negative effect on students' mathematics grade and are both statistically significant. The percent Hispanic and percent American Indian have negative effects and were not significant. Moreover, the percent of those receiving free or reduced lunch also has no affect.

The final analysis (column four) included the above variables and added both students' standardized reading (-.005) and mathematics (.051) test scores. Though the reading test score has a negative effect and the mathematics test scores has a positive effect, both are statistically significant at a .01 and a .05 level, when controlling race, gender and high school composition. As far as race/ethnicity is concerned, being Asian (.109) has a positive and statistically significant effect on students' mathematics grade at both the .01 and .05 levels. While controlling for test scores being male (-.071) continues to have a negative effect and is statistically significant. Prior to controlling for test scores, SES (.168) had a positive effect that was statistically significant. However, after controlling for reading and mathematics test scores, SES loses its affect completely. This could be explained by the fact that socioeconomic status

and standardized test scores are highly correlated. This means test scores (prior academic ability) may be explaining away the effect of SES.

As compared to students' mathematics grade, race/ethnicity continues to have a statistically significant effect but on the students' English grade. Although, it is important to note that Hispanic is significant at the .05 level, while being Asian and Black are significant at both the .01 and .05 level (column one). And being American Indian does not have a significant effect.

Column two shows the results of race after controlling for gender and socioeconomic status. Although being Asian and Black maintains its statistical significance at both the .01 and .05 levels, being Hispanic loses its effect altogether. Being male (-.293), as with students' mathematics grade, remains negative and statistically significant at both the .01 and .05 levels. SES (.161) also has a positive effect and is significant at both levels. Gender and socioeconomic thus essentially explain the new race/ethnicity effect.

Column three of Table 4.3a and Table 4.3b shows the results of controlling for the most exogenous variables while the analysis now includes high school composition. The effect of being Asian on students' English (.221) grade and remains statistically significant and continues to have a positive effect at both .01 and .05 levels. In addition, being Black (-.155) is statistically significant, yet only at the .05 level. Socioeconomic status (.182) also continues to be statistically significant at both levels as it is for students' mathematics grade.

High school composition yields different results for students' English grade as it did for their mathematics grade. For their English grade, the percent of Asian students and the percent of students receiving free or reduced lunch are significant at the .05 level, yet the percent Asian has a negative effect while the percent free lunch has a positive effect. No other high school composition variables have an effect.

The final regression analysis examines the effect of race, gender, socioeconomic status, school composition, and finally mathematics and reading test scores on grades. Again, being Asian is significant at both .01 and .05 levels and has a positive effect for students' English grade, but there are no other race/ethnicity effects. Being male continues to have a negative effect on students' grades in English and is statistically significant at both the .01 and .05 levels. Socioeconomic status is also significant at the .01 and .05 levels; however it has a positive effect on students' grades in English.

The high school composition variables yielded interesting results. Again, the percent Asian (-.005) and the percent of students receiving free or reduced lunch (.003) are statistically significant when controlling for test scores and both are significant at the .01 and .05 levels. And as with students' mathematics grade, both the reading and the mathematics test scores are statistically significant for grades in English at the .01 and .05 levels.

Turning now to students' grades in history being Asian, Hispanic and Black are all statistically significant, yet Black is only significant at the .05 level (similar to its effect on grades in English). When controlling for gender and SES, being Hispanic loses its significant effect, while being Asian and Black maintain their significance at both the .01 and .05 levels. Both socioeconomic status and being male continue to be statistically significant, yet being male has a negative effect while SES has a positive effect.

With the inclusion of the high school composition variables, being Asian and Black maintain their statistical significance at both the .01 and .05 levels. In a similar way, the effect of SES and being male and also remains unchanged. Similar to students' mathematics grade, both the percent Asian and the percent Black in a school have a statistically significant effect on students' history grade; however they are only significant at the .05 level. The percent of students that receive free or reduced lunch also remains a significant influence at both the .01

and .05 levels and has a positive effect on students' history grade. In the final analysis (column four), when controlling for test scores, the basic pattern of effects of the variables mentioned above did not change much except for significance. Percent Asian becomes statistically significant at both the .01 and .05 levels. Test scores remain statistically significant and at both levels.

There is also an individual race/ethnicity component that explains students' science grade. Similar to students' grades in mathematics, English, and history, being Asian, Hispanic, and Black are all statistically significant at both the .01 and .05 levels. However, when controlling for gender and SES, being Hispanic loses its statistical power, a change which may possibly be explained by gender and socioeconomic status. Being male maintains a negative effect and is significant at the .05 level; SES is significant at both levels.

When controlling for high school composition, the effect of being Asian, Black or male as well as socioeconomic status maintains their significance. The percent Asian has a negative effect at the .05 level and the percent of students receiving free or reduced lunch has a positive effect, but only at the .05 level.

In the final regression that controls for the all of the variables mentioned above, and introduces mathematics and reading test scores, test scores have a positive effect and are statistically significant at both levels.

In the equations that model effects on students' grades it is interesting to note that being American Indian has no statistical significance, perhaps due to the small number of Native Americans represented in the sample and the percent of students' receiving free or reduced lunch seems to be a better measure for school composition than looking solely at race/ethnicity.

Analyzing the same equations in AMOS provides results that are consistent with the results provided by SPSS. Being Asian is significant at both levels and has a positive effect on

all grades (i.e. mathematics, English, science, and history). However, unlike the SPSS analysis, the AMOS analysis produces a significant, negative effect of being Black on history and science grades, while being American Indian is statistically significant and has a negative effect on all grades.

Consistent with the SPSS regression analysis is the effect of being male on students' grades. This variable decreases students grades except in science, where SPSS yields significant results, AMOS produces insignificant results. Moreover, socioeconomic status has a strong, significant and positive effect on students' grades. Finally, in regard to the high school composition variables, the percent Asian maintains its significance and has a negative effect on all students' grades as it did in SPSS. However, AMOS yields different significance levels for percent Hispanic and the percent Black compared to SPSS. The percent Hispanic is significant and has a positive effect on all grades but mathematics, whereas in SPSS this variable had no effect on any grades. The percent Black is significant and has a negative effect on both students' mathematics and science grades. The mathematics grade is consistent with the results that SPSS produced, but the percent Black had a negative effect on students' history grade, not science as it does in AMOS.

Students' Degree Expectation

Table 4.4 (below) summarizes the analysis of yet another one of the predictor/outcome variables, students' degree expectation. For this analysis there are six columns, which add clusters of variables in a manner similar to the preceding tables. Column one presents the total effects of race on students' degree expectation with sets of variables being added up to column six which controls for the effect of college cost.

Unexpectedly being Asian (.343) and Black (.314) are statistically significant at both the .01 and the .05 levels and have a positive effect on students' degree expectations, whereas being Hispanic and American Indian have no effect. Controlling for both gender and SES, being Asian (.289) and being Black (.399) continue to have a positive and significant effect as does being Hispanic (.185), at both significance levels. Being male (-.056) has a negative effect and is significant only at the .05 level. Moreover, socioeconomic status (.315) has a positive and statistically significant effect at both significance levels.

In column three, the analysis now controls for high school composition, and being Hispanic loses its statistical significance, while the significance of the effect of being Asian and Black remains constant from the first column. Being male (-.055) and SES (.002) also maintain their effect on students' degree expectation and are statistically significant. Controlling for high school composition, only the percent Hispanic (.003) at both the .01 and .05 levels and the percent Black (.002) at the .05 level have a positive and significant effects on students' degree expectations.

Table 4.4 Unstandardized Beta Coefficients and their Standard Errors for Students' Degree Expectations

	1	2	3	4	5	6
Asian	.343** (.042)	.289** (.040)	.247** (.044)	.172** (.042)	.055 (.029)	.057 (.029)
Hispanic	.016 (.042)	.185** (.041)	.084 (.048)	.130** (.047)	.038 (.032)	.040 (.032)
Black	.314** (.052)	.399** (.050)	.327** (.058)	.429** (.056)	.250** (.039)	.251** (.039)
American Indian	-.070 (.157)	.020 (.149)	-.020 (.150)	.093 (.145)	.079 (.100)	.076 (.100)
Males		-.056* (.022)	-.055* (.022)	-.034 (.022)	-.002 (.015)	-.003 (.015)
SES		.315 (.015)	.317** (.016)	.229** (.017)	.060** (.012)	.055 (.012)
Percent Asian			.001 (.002)	.001 (.002)	.001 (.001)	.001 (.001)
Percent Hispanic			.003** (.001)	.003** (.001)	.001* (.001)	.001* (.001)
Percent Black			.002** (.001)	.002** (.001)	.001 (.002)	.001 (.001)
Percent American Indian			.000 (.002)	.001 (.002)	.000 (.002)	.000 (.002)
Percent Free or Reduced Lunch			-.001 (.001)	-.001 (.001)	.001 (.000)	.001 (.000)
NELS:88/2000 Reading Test Score				.006** (.002)	.003* (.001)	.003* (.001)
NELS:88/2000 Mathematics Test Score				.009** (.002)	.004** (.001)	.004** (.001)
Mathematics				.011 (.016)	.004 (.011)	.004 (.011)
English				.060** (.020)	-.006 (.014)	-.006 (.014)
History				.053** (.018)	.028* (.013)	.028* (.013)
Science				.060** (.018)	.023 (.012)	.023 (.013)
Mothers' Expectation					.342** (.005)	.342** (.005)
Cost						-.023* (.011)
Constant	3.213 (.013)	3.136 (.017)	3.116 (.021)	1.704 (.087)	-.186 (.067)	-.129 (.073)

Column four presents the results for race, controlling for gender, socioeconomic status, school effects and academic factors. Again, being Asian has a positive and statistically significant effect, and being Hispanic is once again statistically significant, but at both the .01 and .05 levels. Being male loses its significance, while SES maintains a positive and significant effect on students' degree expectation even controlling for test scores and grades. In terms of high school compositions, percent Hispanic and percent Black continue to record positive,

significant effects. However, percent Black loses its significance in the remaining two equations (column five and six). Students' reading and mathematics test scores have a positive effect and are statistically significant. This effect also continues when controlling for mother's expectations and college cost. As for students' grades, all but students' mathematics grade have a positive and statistically significant effect on students' degree expectation and all at both the .05 and .01 levels.

Controlling for mother's college expectations for their students, the only race effect is being Black, which is positive and statistically significant. SES (.250) remains significant at both levels. Percent Hispanic is the only high school composition measure that offers any statistical significance and has a positive effect. As for controlling for academic factors, test scores, again, have a positive and significant effect. However, students' history grade is the only grade that impact students' degree expectation when controlling for mothers' college expectation. The outcome is not so much about the history grade, but that grades are still important.

In the final analysis the aforementioned results from column five remain the same, controlling for college cost. Moreover, college cost (-.023), as expected, has a negative effect on students' degree expectation and is statistically significant at the .05 level.

Mothers' College Expectation

Table 4.5 (below) show the results of the analysis where mother's college expectations for their children is the dependent variable. In column one, the race effects of being Asian (.649) or Black (.269) have a positive, significant effect on mothers' college expectations. Next, controlling for gender and SES (column two), being Asian (.535) or Black (.471) continues to have the same effect and being Hispanic (.348) now becomes significant. All are significant at the .05 and .01 levels. Being male (-.153) is statistically significant at both the .01 and .05

levels, but has a negative effect. This means that mothers have lower expectations for boys, a finding consistent with prior research. This male effect remains, but not always at both significance levels. When factors such as high school composition (column three), academic factors (column four), and college cost are added, the coefficients for the effect of being male decrease, probably due to the introduction of these control variables. Moreover, in column two, SES (.661) is positive and has a large, statistically significant effect and continues to remain strong throughout the rest of the analysis. This indicates that SES plays a major role in mothers' college expectations for their children.

Table 4.5 Unstandardized Beta Coefficients and their Standard Errors for Mothers' Expectations

	1	2	3	4	5
Asian	.649** (.088)	.535** (.084)	.485** (.091)	.342** (.089)	.344** (.089)
Hispanic	-.008 (.088)	.348** (.085)	.190 (.101)	.268** (.098)	.270** (.098)
Black	.296** (.109)	.471** (.103)	.349** (.122)	.524** (.119)	.524** (.119)
American Indian	-.292 (.328)	-.103 (.311)	-.162 (.313)	.040 (.304)	.037 (.304)
Males		-.153** (.047)	-.153** (.047)	-.093* (.047)	-.094* (.047)
SES		.661** (.032)	.650** (.034)	.494** (.035)	.489** (.036)
Percent Asian			.000 (.003)	.000 (.003)	.000 (.003)
Percent Hispanic			.006** (.002)	.005** (.002)	.005** (.002)
Percent Black			.004* (.002)	.005** (.002)	.005** (.002)
Percent American Indian			.003 (.005)	.003 (.005)	.003 (.005)
Percent Free or Reduced Lunch			-.003* (.002)	-.003* (.001)	-.003* (.001)
NELS:88/2000 Reading Test Score				.008* (.004)	.008* (.004)
NELS:88/2000 Mathematics Test Score				.015** (.004)	.015** (.004)
Mathematics				.020 (.033)	.020 (.033)
English				.193** (.042)	.193** (.042)
History				.075 (.039)	.076 (.039)
Science				.106** (.037)	.106** (.037)
Cost					-.025 (.034)
Constant	8.196 (.028)	8.050 (.035)	8.053 (.044)	5.523 (.184)	5.582 (.200)

Assessing the impact of high school composition effects on mothers' expectations, percent Hispanic and Black (.006 and .004, respectively) are consistently positive and statistically significant throughout the analysis (columns three through six) even after controlling for race/ethnicity, SES, gender, academic factors, and college cost. On the other hand, the

percent of students receiving free or reduced lunch has a negative effect and maintains its statistical significance at the .05 level when controlling for race/ethnicity, SES, gender, and school composition, in addition to academic achievement measures, and college cost. This indicates that measures of high school socioeconomic status composition have a robust, but negative impact on mothers' college expectations for their children. This finding has important implications both for studies of racial re-segregation in schools as well as for studies of educational expectations and will be discussed in detail in the in the final chapter of this dissertation.

Controlling for academic factors, race/ethnicity continues to be significant except for American Indian. That is, being Hispanic is significant when controlling for gender, SES, high school composition, and academic factors another crucial finding which suggests that both racial and ethnic factors need to be examined when analyzing parental expectations. Test scores prove to be a significant factor affecting mother's college expectations at both the .05 and .01 levels even after controlling for college cost (column six). And as far as grades are concerned, in this regression analysis students' grades in English grade are statistically significant and have a positive effect on mothers' college expectation. Finally, after controlling for race/ethnicity, SES, gender, high school composition, academic factors, and college cost, we find that such expenses have no statistical significance on mother's college expectations.

The race/ethnicity effects in AMOS are consistent with those produces by SPSS as well as well being male, SES, and the percent Hispanic and the percent Black. Moreover, the percent of students receiving free and reduced lunch results are the same in AMOS as they are in SPSS as is test scores. However, in AMOS English, history and science grades all impact mothers' college expectation of their students, whereas in SPSS, only English and science grades matter. And, again, college cost has no effect in either analysis.

Public Two-Year College

The results presented in Table 4.6 (below) explain what factors are most influential on the odds of attending a public two-year or community college. Table 4.6 presents the results of log-linear equations which must be interpreted differently from the coefficients presented in the previous tables. Log-odds represent the odds of having the same outcome compared to a control group. For example, being Asian (.622) means that students of Asian backgrounds are almost half as likely to attend two-year or community colleges and that Hispanics (2.046) are almost twice as likely to attend such colleges as compared to attending a four-year institution. Both effects are statistically significant at both the .01 and .05 levels. Also, being American Indian (3.028) is also significant but at a .05 level. As expected, being Asian would make one less likely to attend a two-year college and being Hispanic and American Indian would make one more likely to attend such an institution. However, it was not expected that being Black would have no effect.

Table 4.6 Logistic Regression: Odds of Attending a Public Two-Year College

	1	2	3	4	5	6	7
Asian	.622**	.659**	.642*	.844	.901	.901	.882
Hispanic	2.046**	1.351*	1.262	1.104	1.171	1.171	1.157
Black	1.004	.785	.761	.515**	.623*	.622*	.618*
American Indian	3.028*	2.575	2.300	1.642	1.737	1.735	1.751
Males		1.041	1.045	.957	.941	.940	.952
SES		.431**	.449**	.575**	.630**	.630**	.647**
Percent Asian			1.001	1.001	1.002	1.002	1.002
Percent Hispanic			1.001	1.001	1.003	1.003	1.003
Percent Black			.999	.998	.999	.999	.999
Percent American Indian			1.004	1.004	1.005	1.005	1.005
Percent Free or Reduced Lunch			1.005*	1.006*	1.005*	1.005*	1.006*
NELS:88/2000 Reading Test Score				.989	-.991	.991	.991
NELS:88/2000 Mathematics Test Score				.964**	.968**	.968**	.968**
Mathematics				.956	.964	.964	.965
English				.745**	.762**	.763**	.760**
History				.869*	.886	.885	.884
Science				.816**	.832**	.832**	.837*
Students' Degree Expectations					.664	.672**	.675**
Mothers' Expectation						.993	.991
Cost							1.165*
Constant	.300 (.044)	.355 (.058)	.322 (.074)	36.866 (.327)	73.866 (.347)	75.338 (.365)	53.070 (.392)

Controlling for SES and gender (column two) being Asian, Hispanic, and American Indian remain statistically significant. However, much of their effect can not be explained by socioeconomic status (.431), which is statistically significant at both the .01 and .05 levels. As expected students of high socioeconomic status have a reduced chance of attending a public two-year college, as compared to students of low socioeconomic status.

Column three controls for high school composition. The results for being Asian (.642) continues to decrease the odds of one's attending a two-year public college and socioeconomic status (.449) maintains its effect at both the .05 and .01 levels. The percent of race/ethnic make-up of the school is not significant and stays this way throughout the rest of the analysis (columns three through seven), yet the percent of students receiving free or reduced lunch (1.005) has a positive effect and is statistically significant at the .05 level. This could be explaining away the Asian and Hispanic effects which are no longer significant once high school composition is controlled for.

Column four controls for academic factors which brings out the effect of being Black (.515). This is to say that being Black decreases one's odds of attending a public two-year institution, i.e. blacks are, on balance, about half as likely to attend public two-year institutions as whites. This is an interesting effect which will be discussed in more detail in the final chapter of this dissertation. The effect of being Black continues to reduce the likelihood of attendance at a two-year throughout the rest of the analysis even when controlling for interaction variable effects. In addition, no other race/ethnic group is significant and this too remains throughout the rest of the analysis.

Moreover, SES (.575) continues decreases students' odds of attending a community college. This result remains even after controlling for students' degree expectation, mother's expectation, and college cost. The same can be said for the high school composition variable students receiving free or reduced lunch.

Regarding students' academic factors, test scores (.964), namely mathematics test scores, are statistically significant at both the .01 and .05 levels and negatively effect the odds of attending a public two-year college. This result is consistent as the analysis controls for student's college expectation, mother's expectation, and college cost. Students' English (.745),

history (.869), and science (.816) grades are significant and continue to be significant when controlling students' expectation, mother's expectation, and college cost. These findings suggest that the academic achievement measures presented in this dissertation, test scores and grades, are good predictors of public two-year college attendance.

In column five, the analysis now includes students' degree expectations (.664). Controlling for race/ethnicity, gender, socioeconomic status, high school composition, and academic factors students' degree expectation is statistically significant at both the .01 and .05 levels and remains consistently significant after controlling for mother's expectation and college cost. This means students with high degree expectations, decrease their odds of going to a two-year college. Including mother's college expectation of their student yield no effect on the odds of attending a community college. And lastly, college cost (1.165) is statistically significant at the .05 level as well as has a positive effect on the likelihood of students attending a two-year college. In essence college cost increases the odds that students will attend this sector of postsecondary education.

The analysis now controls for the interaction variables race/ethnicity and degree expectation as well as high school composition and race/ethnicity. Again, this is to analyze being Black and degree expectation as well as being Black and high school composition and this interaction effect on the odds of attending a two-year public college. Controlling for all of the aforementioned non-interaction independent variables, statistical significance does not appear until race/ethnicity + degree expectation, the percent of Asian + race/ethnicity, and percent Hispanic + race/ethnicity are included in the analysis. The only one to be significant at the .05 level and decreasing the odds of whether a student attends a community college is Asian students attending a high percentage Hispanic high school (.977). This effect remains when the analysis controls for the percent Black + race/ethnicity.

In addition, being Hispanic and attending a high percent Hispanic high school (.988) is now statistically significant also at the .05 level. This is to say that Hispanics attending a high populated Hispanic high school decrease their odds of attending a community college. This is an anomalous finding being that being Hispanic increased the odds of attending a two-year public college when just examining race effects. Moreover, being Hispanic at a high percent Black high school as well as being Black both decreased students' odds of attending a two-year college. Due to the finding that being Black decreased students' odds of attending a community college (columns four through seven) this outcome is somewhat understandable and will be further discussed in the final chapter of this dissertation.

Controlling for the percent American Indian and race/ethnicity being Hispanic is a high percent Hispanic school loses its effect; however, being Asian in a high Hispanic school as well as being both Black and Hispanic at high percent Black schools maintains their effect.

The results from AMOS are mostly consistent with the results from SPSS explained above concerning what increases the odds of students attending a two-year public institution. However, students' history grade is statistically significant in AMOS, but was not in SPSS. Yet, it is important to note, like test scores, it is not about the individual grades as much as it is about grades in general and their effect on students' attendance at a community college. Moreover, Mother's college expectation, unlike in SPSS, was also statistically significant at both the .01 and .05 levels in AMOS, decreasing the odds of attending such an institution.

Bachelors' Degree Attainment or Higher

Table 4.7 presents the results of the analysis on the remaining outcome (also, the only variable which was not used in both a predictor/outcome way) variable bachelors' degree or higher attainment. This table, like Table 4.6, shows the relative chances of attaining a final

degree compared to some control group. This Column one displays the total effects of racial background. As expected, being Asian (2.083) has greatest effect of all the race/ethnic groups on increasing a students' odd of attaining a bachelor's degree or higher (i.e. Asians are almost two times as likely as Whites to get a bachelor's degree). On the other hand, being Hispanic (.440), Black (.743), and American Indian (.230) all produce statistically significant negative effects, decreasing such students' odds of attaining a four-year degree or higher. Also as would be expected, after controlling for gender and SES (column two), race/ethnicity is still statistically significant and have the same effect. However, being Black is no longer significant. Being male (.717) has a negative effect, decreasing the odds of males compared to females attain a bachelor's degree or higher and socioeconomic status (3.135) has a positive effect, increasing the odds of such an opportunity. SES has such a large effect that it may be totally explaining the Black effect and partially explaining the Hispanic effect.

**Table 4.7 Logistic Regression:
Odds of Attaining a Bachelors'
Degree or Higher**

	1	2	3	4	5	6	7	8
Asian	2.083**	1.994**	1.896**	1.304	1.208	1.201	1.212	.1216
Hispanic	.440**	.711*	.686*	.807	.763	.754	.757	.825
Black	.743*	.959	1.054	1.640*	1.370	1.391	1.396	1.277
American Indian	.230**	.271**	.328*	.450	.417	.418	.413	.471
Males		.717**	.714**	.760	.771**	.776**	.771**	.722**
SES		3.135**	2.971**	2.341**	2.140**	2.112**	2.079**	1.948**
Percent Asian			1.003	1.006	1.005	1.005	1.005	1.008
Percent Hispanic			1.003	1.003	1.001	1.001	1.002	1.002
Percent Black			.999	1.002	1.001	1.001	1.001	1.000
Percent American Indian			.986	.986	.985	.985	.985	.988
Percent Free or Reduced Lunch			.993**	.991**	.991**	.991**	.991**	.993**
NELS:88/2000 Reading Test Score				1.001	.999	.999	.999	.995
NELS:88/2000 Mathematics Test Score				1.058**	1.055**	1.054**	1.054**	1.050**
Mathematics				1.147*	1.144*	1.143*	1.142*	1.143*
English				1.558**	1.526**	1.517**	1.518**	1.461**
History				1.224**	1.199**	1.201**	1.202**	1.152
Science				1.360**	1.327**	1.324**	1.321**	1.311**
Students' Expectation					1.567**	1.366**	1.361**	1.205
Mothers' Expectation						1.099*	1.099**	1.114**
Cost							.921	.971
Two-Year College								.083**
Constant	1.359 (.038)	1.136 (.055)	1.286 (.068)	.002 (.343)	.001 (.372)	.001 (.403)	.001 (.429)	.003 (.468)

Once SES, gender, and high school effects are controlled for (column three), race/ethnicity yield the same results as they did in column two. The same can be said for being male and SES from column two. As for high school composition, the only measure that is statistically significant is

percent free or reduced lunch (.993), which has a negative effect, reducing the odds of attaining a bachelors' degree or higher attainment.

Net of academic factors (column four), the Black effect (1.640) returns and has a positive and statistically significant at the .05 level, increasing the odds of attaining a bachelor's degree or higher, which was not expected but will be discussed in the subsequent chapter. Moreover, as with public two-year attendance and column three of the bachelor's degree attainment or higher analysis, high school race/ethnic composition is insignificant. In addition, being male loses the effect it has in columns two and three. And socioeconomic status continues to have a positive and strong effect and does so throughout the analysis, even after controlling for all independent variables (column four through eight). The same can be said for the high school composition measure percent students receiving free or reduced lunch. This variable continues to have a negative effect, again, decreasing the odds of students attaining a bachelor's degree or higher.

The initial effect (column four) of academic achievement, test scores, namely mathematics, and all four grades are positive and statistically significant, increasing the odds of attaining a bachelor's degree or higher. This shows that there is a relationship between high school achievement and degree attainment. Moreover, these effects remain after controlling for students' and mothers' college expectations, and college cost. Yet, the results deviate when finally controlling for two-year college attendance.

Students' degree expectations (1.567), net of academic factors, high school composition, SES, gender, and race/ethnicity (column four) is significant at the .01 and the .05 levels. This means that students' college degree expectation increases the odds of bachelor's degree or higher attainment and explains the statistically significant positive effect of being Black on the odds of attaining a bachelor's degree or higher.

Mother's college expectation (1.099) is also significant at .01 and .05 levels and has a positive effect, increasing the odds of degree attainment (column six). This effect is consistent net of college cost (column seven), which has no significant effect and college-type (.083) (column eight). Moreover, college-type has the greatest effect, as expected which is negative and statistically significant at both levels. In essence, attending a public two-year college greatly diminishes students' chances of obtaining a bachelors' degree or higher. In addition, no interaction variables are significant.

As explained above, SPSS race/ethnicity was not statistically significant when all of the independent variables are used as controls; however, in the AMOS analysis being Hispanic and Black yield statistically significant results. Being Hispanic decreases the odds of attaining a bachelor's degree or higher, while being Black increases students' chances of attaining such a degree. Being Black only had this effect when the in the SPSS analysis we controlled for gender, SES, high school composition, and academic achievement measures.

Moreover, the percent American Indian in AMOS is statistically significant at the .05 level and decreases the odds of student attaining a bachelor's degree or higher. In SPSS, only the percent of students receiving free or reduced lunch was significant as was explained above. Also, all grades are significant in AMOS, whereas only mathematics and English were significant in SPSS. In addition, students' degree expectation, which is not significant in the SPSS analysis, has a positive and statistically significant effect, increasing the odds of bachelor's degree attainment or higher. Finally, college cost decreases the odds of attaining such a degree in AMOS, but in SPSS has no significant effect.

Because AMOS does not examine the final outcome in steps as SPSS does, Table 4.8 illustrates the final outcome of degree attainment as analyzed in both SPSS and AMOS. Again, analysis was conducted using both methods to address the issue of sample size given the list-

wise deletion function used in SPSS and whether that function had any bearing on specific results. The table shows difference in directionality and significance between AMOS and SPSS and allows us to assess whether or not SPSS has produced accurate estimates of the correlations.

Table 4.8
Comparison of SPSS
and AMOS results

Dependent Variable	Independent variable	SPSS Direction/Significance	AMOS Direction/Significance
Bachelor +	Asian	+/>.05	+/>.05
	Hispanic	-/>.05	-/<.05
	Black	+/>.05	+/<.05
	Indian	-/>.05	-/>.05
	Male	-/<.05	-/<.05
	SES	+/<.05	+/<.05
	Percent Asian	+/>.05	
	Percent Hispanic	+/>.05	+/>.05
	Percent Black	+/>.05	+/>.05
	Percent Indian	-/>.05	-/<.05
	Percent Reduced		
	Lunch	-/<.05	-/<.05
	Mathematics	+/<.05	+/<.05
	English	+/<.05	+/<.05
	History	+/>.05	+/<.05
	Science	+/<.05	+/<.05
	Mathematics Test		
	Score	+/<.05	+/<.05
	Reading Test Score	-/>.05	+/>.05
	Mother's Expectation	+/<.05	+/<.05
College Cost	-/>.05	-/<.05	
Degree Expectation	+/>.05	+/<.05	
Two-year	-/<.05	+/<.05	

Table 4.9 displays the interaction effects between race/ethnicity, students' degree expectations, race and the percentage of race/ethnicity that make-up the high schools. Interaction effects were important in the current study to illustrate -- for two-year college attendance and degree attainment -- the directionality of the effect, and whether the effect was significant. Unfortunately, AMOS does not allow for the estimation of interaction variables so there will be no comparison for those variables.

The table shows that the interaction effect between race and degree expectation on both two-year college attendance and degree attainment is insignificant. This further confirms the

discussion within this dissertation that Black students' degree expectations have no bearing on their degree attainment as well as the type of college they choose to attend. The same can be said for all the race/ethnic groups.

As we look further into the interactive effect of a students' race and attending a high school with a high percentage of other minority groups, the analysis reveals that the interaction between racial background and the percent minority in a school only matters when looking at two-year college attendance and only for Hispanics and Blacks. Indeed, Hispanics who attend a high percent Asian high school are less likely to attend a two-year institution. The analysis further reveals that Blacks who attend high percentage Black and Latino high schools, respectively, are less likely to attend a two-year college. This finding has not been recorded in prior related literature.

Table 4.9
Interaction Variables

Race + Degree Expectations	Two-year Direction/Significance	Bachelor + Direction/Significance
Asianexp	+/>.05	+/>.05
Hispexp	-/>.05	+/>.05
Blackexp	-/>.05	-/>.05
Indianexp	-/>.05	+/>.05
Race + Percent Race		
AsianpercentA	+/>.05	-/>.05
AsianpercentH	-/>.05	+/>.05
AsianpercentB	-/>.05	-/>.05
AsianpercentI	+/>.05	+/>.05
HispercentA	-/<.05	-/>.05
HispercentH	-/>.05	+/>.05
HispercentB	-/>.05	+/>.05
HispercentI	-/>.05	-/>.05
BlkpercentA	-/>.05	-/>.05
BlkpercentH	-/<.05	+/>.05
BlkpercentB	-/<.05	+/>.05
BlkpercentI	-/>.05	-/>.05
IndpercentA	-/>.05	-/>.05
IndpercentH	+/>.05	-/>.05
IndpercentB	+/>.05	+/>.05
IndpercentI	-/>.05	-/>.05

In the next chapter the current study will recap the most salient findings from this chapter, the hypotheses from Chapter Two, and discuss more in-depth the results of this study that relate to the major research question as well as the secondary questions sought by this dissertation to answer.

Chapter Five: Discussion

This chapter synthesizes the analytic results of the study, the saliency of the current study to the research literature, policy implications, directions for future research, and the strengths and limitations of conducting such a study. This dissertation identified important weaknesses in the literature on attainment and access to higher education. Specifically, prior studies have not considered the multi-layered influence that high school composition and students' college expectations may have on degree attainment. By assessing whether the factors that impact achievement also affect attainment, i.e. by employing a college transition trajectory model, the current study positions itself to directly address the paradox of high expectations and low degree attainment that exists for African-American students. This study presented an in-depth exploration of the complex interaction between individual and contextual factors that produce high degree expectations coupled with lower levels of degree attainment.

Prior research consistently asserts that African-American students have high college degree expectations but low degree attainment (Mickelson, 1990; Hossler, Schmidt & Vesper 1999; Qian & Blair, 1999; Venezia, Kirst, & Antonio, 2003). Bowen and Bok (1998) further reiterate this discrepancy, noting that Black students display lower degree completion rates than White and Asia American students. In addition, Latino students had a higher degree completion rate than that of Blacks, while White and Asian-American students have the highest degree completion rates. Moreover, research offers inconsistent findings when assessing the influence of school composition on students' expectations. Goldsmith (2005) finds that minority students are more optimistic about their college plans in segregated-minority environments, whereas Frost (2007) finds "a 10 percent increase in the share of Hispanic students lowers the school odds of expecting a four-year college degree by 5 percent" (p. 57).

This dissertation undertook an ambitious approach to data analysis with the goal of examining a wide range of constructs. Key findings, both statistically significant and not, yet still important, are presented in this chapter. This new model should inform future studies of the importance of assessing individual and contextual effects on achievement and attainment longitudinally. In the future, it may be viable to assess students' grades and test scores as well as how teachers' perception of their students' academic engagement (or even how internal and external psychological factors) play a role in students' high school achievement and their ultimate degree attainment. Another factor that should be examined in future research is delayed enrollment and how the lag time, from when students graduate high school to when they enter college, plays a role in their four-year degree attainment. Nevertheless, the current model does an adequate job of contributing to prior research as well as creating a springboard for future research by assessing a host of factors that effect achievement and degree attainment in one study. In prior studies, such issues as achievement and attainment have only been studied in pieces, and do not adequately model the cumulative affects. Therefore, this dissertation puts together, in one study, an analysis of various achievement and attainment factors using explicit causal statements derived from prior research and inclusive of the role played high school context.

Theoretical Perspectives

Two major theoretical perspectives guided this study. The first comes from the sociology of education perspective, and focuses on abstract versus concrete attitudes about schooling. The second is derived from human capital theory and focuses on realistic expectations and calculations people make about the gains that can be had from education. Both focus on the interplay between expectations and eventual outcomes, a theoretical lens that offers educators,

researchers, and policymakers a better view of the problem and can untangle the seeming illogicality of African-American students having high degree expectations, yet lower degree attainment.

Mickelson's (1990) initial exploration of the discrepancy between what Black students say they want to do and what they actually accomplish is explained by a hypothesizing a dual attitude system, abstract and concrete attitudes. It is clear that African-American students "buy-in" to the dominant ideology relating education to social mobility to some extent. This "buy-in" represents the abstract attitude. On the other hand, there are concrete attitudes, which are often class and race specific and derive from students' own realities and experiences. Abstract and concrete attitudes can be similar or completely different. To address the paradox, Mickelson theorizes that it is Blacks' concrete attitude that drives their achievement, not their abstract attitudes. "Concrete attitudes show how students' grades are influenced by the social context in which achievement occurs" (p. 58). Mickelson explains "that the material realities of Black youth challenge the rhetoric of the American Dream" (p. 59). Familial realities of Black students are mitigated by the *real-world experiences* that challenge the idea that education opens the door of opportunity for all. Mickelson finds that Blacks' positive attitude disappears when high school grades are taken into account. Moreover, she concludes that Blacks' concrete attitudes are more negative than Whites. Though the current study did not differentiate between the different levels of degree expectations, concrete versus abstract, this dissertation is aligned with Mickelson's discussion and finds that grades and test scores do increase students' expectations, net of students' background characteristics and high school composition.

It is crucial to note that Mickelson did not examine test scores or high school composition. These factors – related to basic academic ability and overall environmental quality – appear extremely important to measuring students' concrete attitudes. If, as Mickelson

postulates, concrete attitudes drive Blacks' actual attainment, then any study would need to control for a given students' basic ability and the conditions of the school they attend. Since this study more accurately measures the factors that are likely to contribute to concrete attitudes, it is not surprising that no "paradox" emerges from the analysis.

The second theoretical perspective essential to the study is influenced by human capital theory. This perspective specifically relates to Mickelson's (1990) *abstract* way of thinking. In both academic and real-life applications of the theory, education is considered to lead one to increased earnings, professional mobility, and a better quality of life. Rooted in an economic theory and principles, Schultz (1961) explains that in this perspective, the acquisition of skills and knowledge is a form of capital, and this capital is a result of persistent investment. Thus, high school achievements, furthered by degree attainment at the tertiary level, are all cumulative investments in students' human capital. Therefore, if research continues to conclude that there is a discrepancy between Blacks high expectations and their low degree attainment, then this portion of the population essentially has not only less capital than Whites, but a lower utilization of the mechanisms by which such capital is obtained. Without levels of educational achievement and attainment equivalent to Whites, African-Americans will have limited career choices and less potential for work or professional advancement. Clearly, such a situation indicates severe, life-long limitations on students and requires a cohesive exploration of this paradox was needed. Thus, the primary research question - -What is the relationship between high school composition and students' degree expectations and their effect on degree attainment for African-Americans - - becomes the central question to addressing the ongoing achievement gap between Blacks and Whites in US society.

To re-address this primary research question, refer again to column one of Table 4.7, which examined the total effect of race on degree attainment. In this equation being African-

American has a statistically significant and negative effect on eventual degree attainment. However, as control variables are added (SES and gender (column two) as well as school composition (column three)), being Black is no longer significant on degree attainment. The individual racial effect, we find, is actually explained away by a combination of individual (gender) and contextual (SES), and percent free or reduced lunch), variables. Again, it is a measure of school socioeconomic status that appears to play a major role in determining final degree attainment, not the fact that one is Black. However, as one continues to map effects across the college transition trajectory model, column four shows that being Black is significant and has a positive effect on bachelor's degree attainment, net of demographic characteristics, school composition, and academic factors. This suggests that once academic factors are entered, racial background is again salient.

Yet, this relationship disappears and is explained by students' degree expectations (column five). In essence, students' expectations play a major role on students' degree expectations and this remains through to column seven. And finally, students' ultimate degree expectations are explained by two-year college attendance, net of the model, which has a negative effect, decreasing students' chances of bachelor's degree attainment or higher.

Though prior research that explores degree attainment by way of high school achievement is scarce, available studies do find that academic performance is salient for bachelor's degree attainment (Adelman, 1999; 2006). Using variables for courses taken and grades received, Adelman finds that these variables are crucial to ultimate academic attainment. However, he did not find "students' anticipations," to be significant during any step of his logistic analysis for the high school class of 1992.

As mentioned above, this dissertation uncovered different effects with regards to students' degree expectation, perhaps because a different proxy for measuring students' degree

expectation is used. As previously stated in Chapter Two, using a measure of degree aspirations (asked when students were in the twelfth grade) seems to be more indicative of their concrete *expectations*, because this variable measures a desire mitigated by one's current situation or circumstance; meaning the students have taken into account their academic performance up to this point. The current study also included tenth grade academic performance variables. Thus, in the twelfth grade, based on their prior (before their senior year) performance, students have more information that can inform their decision of what to *expect* with regard to future education. And again, preliminary cross tabular analysis shows the variable used in this dissertation to measure students' degree expectations has the strongest correlation with degree attainment compared to other potential variables such as what students thought their *chances* were and what their *plans* were following high school. Thus, the constructs *plans* and *chances* were not as highly correlated with attainment as *how far in school R thinks s/he will get* – this suggests that concrete expectations, not abstract values, are the most salient attitudinal factor affecting long-term degree attainment.

As mentioned in Chapter Two, Adelman's study used anticipations because they are built from sets of questions asked in both students' sophomore and final year of high school. In his study, this measure was coded as 1) whether, in grades 10 or 12, the students expected to earn a bachelor's degree; 2) raised future educational expectations to the bachelor's degree between grades 10 and 12; and 3) lowered their expectations from a bachelor's degree between grades 10 and 12. The non-significant effect of anticipations, found in his most recent study, could be attributed to the recoding and examining this construct not independently for which grade it would have the most impact.

Another difference in findings between the current study and Adelman's (2006) analysis could be attributed to the use and non-use of specific variables. For background variables, (refer

to Table 3.1) this dissertation uses race/ethnicity, gender, and SES. Adelman also uses race, gender, and SES as well as family income to yield an upper, middle, or low-income measure of the population. He also includes, nonnative speakers of English, parents' immigrant status, the number of siblings of the student, first generation post-secondary student, urban to indicate the location of the high school, and a variable to denote whether students were parents by the time they were 20. As for high school variables, the current study uses school composition (both race/ethnicity and school SES), NELS mathematics and reading test scores, grades, how far in school mother wants R to go, the importance of college cost, and students' degree expectations. Adelman uses educational anticipation, class rank/GPA quintile, senior test score quintile, highest mathematics course taken in high school as well as a combination of highest level of mathematics with the number of credits earned in a core lab science, number of credits of foreign language taken, Advance Placement courses, academic intensity in quintiles, and a composite of curriculum, class rank, and senior year test score.

The use of family income and SES in Adelman's study may have been redundant, and thereby contributed to the insignificant effect of anticipations. In addition, the use of class rank/GPA and curriculum may also be a reason anticipations are found to have no effect. It makes sense to assume that students who take on a more rigorous curriculum would be more likely to expect a bachelor's degree or higher, especially when a significant portion of high school students expect to go to college. However, there are two ways to explain why curriculum rigor was not used in this study.

First, constructs such as Advance Placement and class rank, for the purpose of this study, are not practical. Curriculum rigor is not uniform across all secondary school, thus making class rank hard to analyze. Moreover, Adelman states "the missing element, a by product of the limitations of the NCES grade-cohort longitudinal studies database, is content standards in high

school curricula” (p. 97). As he conducted his study using transcript-based data, Adelman found that courses in one high school had a different content area than in another school under the same course title. This further solidifies the logic for leaving curriculum out of the current study’s analysis.

Second, the use of test scores and grades, as academic performance measures in this dissertation, used independently and taken from their tenth grade year, adequately capture curriculum rigor effect. Moreover, preliminary analysis showed using test score composite on the myriad outcome variables of the current study, and not the test scores independently, had no effect. Therefore, using the senior year test score quintile, as Adelman did, may also contribute to why he does not find anticipations to be significant. In essence, the labeling of tracks and the loose correlation between track and actual academic preparation indicates the use of test scores.

Moreover, Adelman only finds socioeconomic status to be significantly linked with degree completion. Race and gender were never significant in Adelman’s study. This too is interesting because the current study also hypothesized that race and gender will statistically influence four-year degree attainment and the results confirm these hypotheses. An explanation for the difference in findings could be due to the analytical procedures employed by Adelman. He recodes race as minority versus White, whereas the current study examines all the racial groups independently and compares them to Whites, allowing race, no matter the size of the effect, whether small or large, to actually have an effect. By examining the races independently rather than as one variable (under-represented minority) there is less worry that the effect of certain groups, lumped together, will overshadow a significant effect of a group looked at individually. This may be why Adelman does not find race as a significant variable.

Furthermore, there are parallels between looking at students’ expectations independently and not as a sum and examining race independently. By examining race independently this

dissertation finds that in fact, the individual characteristic of being Black increases the odds of attaining a bachelor's degree or higher, when controlling for gender, SES, high school composition, and academic performance. However, there is a shift in the significance of being Black on degree attainment. Initially, when only controlling for race, being Black has a negative effect. Net of race/ethnicity, gender, and socioeconomic status, being Black is no longer significant, possibly being explained by the huge effect of SES. This non-effect remains after controlling for the addition of school composition. Yet, as mentioned above, it now has a positive effect after adding academic performance. Once students' degree expectations are introduced to the analysis (Table 4.7, column 5), being Black is no longer significant, which means the Black effect is possibly being explained by the profound effect of students' degree expectations. It is important to note, that the finding of being Black having a significant and positive effect on degree attainment is supported by NCES (2001)²¹ and Rosenbaum (2001).

Yet, as mentioned earlier, the positive effect of being Black on degree attainment disappears once students' degree expectations are introduced to the model and this effect remains insignificant for the remainder of the analysis. One explanation for this outcome could be the use of a different variable to measure students' degree expectations. Two, the current study examines mother's expectations, college cost, and two-year college attendance after looking at students' expectations. For those enrolled in college with similar levels of prior educational achievement, being Blacks was statistically significant on degree attainment.

Moreover, this dissertation also finds gender to be significant. Using females as the reference, being male decreases a student's chances of degree completion. Rosenbaum (2001) states "women have higher educational attainments than males. Moreover, similar to

²¹ <http://nces.ed.gov/pubs2001/inequality/index.asp>

Rosebaum's assertions, the current study also found that females have higher grades than males, yet as previously mentioned in Chapter Four, males have higher test scores.

Finally, the use of transcript-based data used for Adelman's analysis may have also contributed to the discrepancy in results between his study and the current study. The use of transcript data minimizes the initial sample used to conduct analysis as compared to the cohorts without transcript data restriction²² and this is prior to the manipulation imposed once the sample is solidified.

As one would notice Adelman does not include high school context, which is a primary focus of the current study and of Frost's (2007) work. Addressing the remainder of the primary research question - the relationship between high school composition and students' degree expectations - this study shows that only the percent Hispanic in a high school and the percent Black were statistically significant and had a positive effect on students' degree expectations, after controlling for individual characteristics. However, percent Hispanic was significant throughout each step of the analysis from its onset, while the percent Black was only significant net of controlling for school composition and academic factors. It was explained away by mother's expectations and college cost. This is one of the few times that school composition measured by race/ethnicity showed significance over the school composition of the percentage receiving free or reduced lunch.

Moreover, the individual characteristic of being Black was statistically significant and had a large effect throughout the regression sequences on degree expectation. In the final two regression steps, the Black effect was partially being explained by mother's expectation and college cost; however it maintained its significance at both the .05 and .01 levels. On the other hand, Frost (2007) finds no relationship between educational expectations and the individual

²² <http://nces.ed.gov/pubs/web/95732.asp>

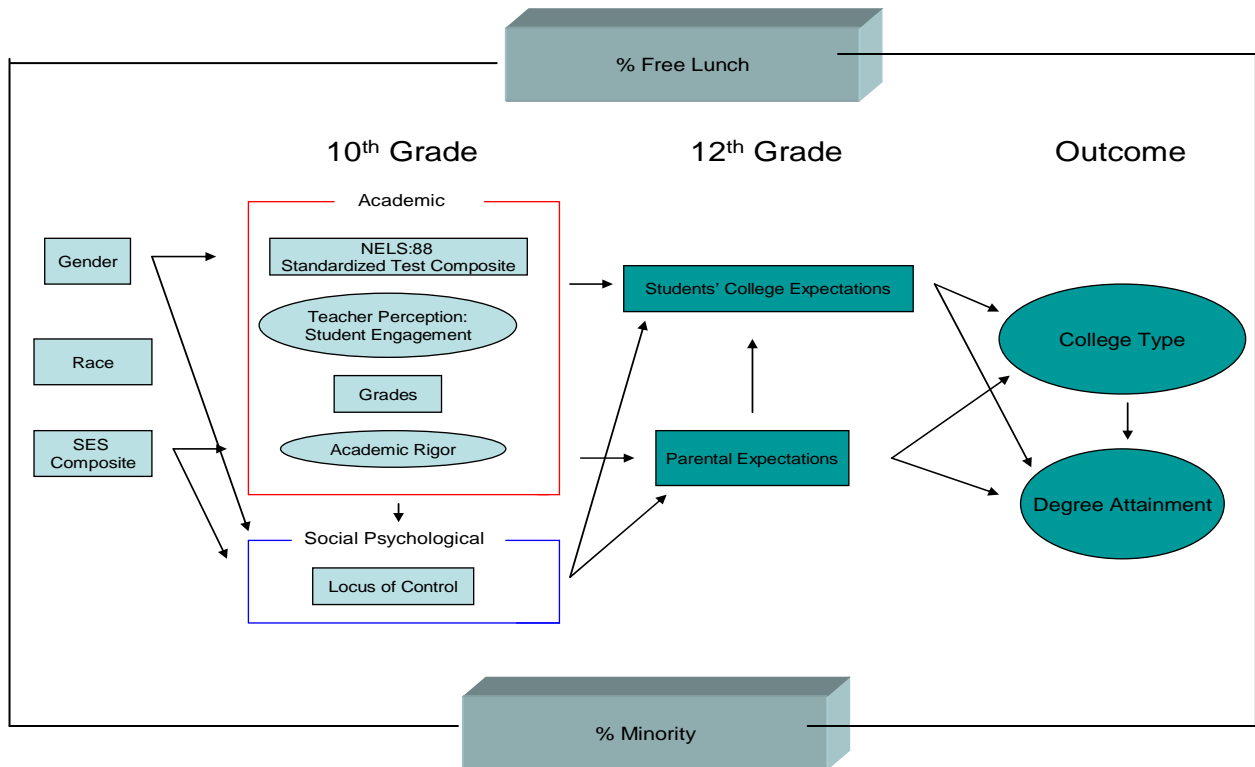
characteristic of being Black. Yet, she does conclude that, “the proportion of Hispanic students in a school is negatively associated with the proportion of students in a school who expect to complete a four-year college degree” (p. 57).

There are two plausible explanations for this discrepancy between Frost’s study and this dissertation; one, could be the difference in methodological approach, ordinary least squares (OLS) and logistic regression employed by the current study versus multilevel modeling conducted in Frost’s analysis. Methodologically, adopting the premise of Rosenbaum (2001), as previously stated throughout this dissertation, regression analysis is the ideal way to examine high school achievement as a predictor of lower attainment and deterred educational plans because one is given the ability to examine simple relationships between familial characteristics and attainment, mediated by independent predictors as this dissertation has done. Two, her focus on Texas and specific state-wide data rather than a national dataset may have also yielded different results as Frost is only looking at a small subset of the U.S. population that expect a college degree. Though her methodological procedures were vast, not making the current study’s methods inferior, she only used “the survey data from the seniors for statistical analysis” (p. 49). Because the current study examines high school composition and students’ expectations longitudinally, this may also explain why there are differing results.

College Transition Trajectory

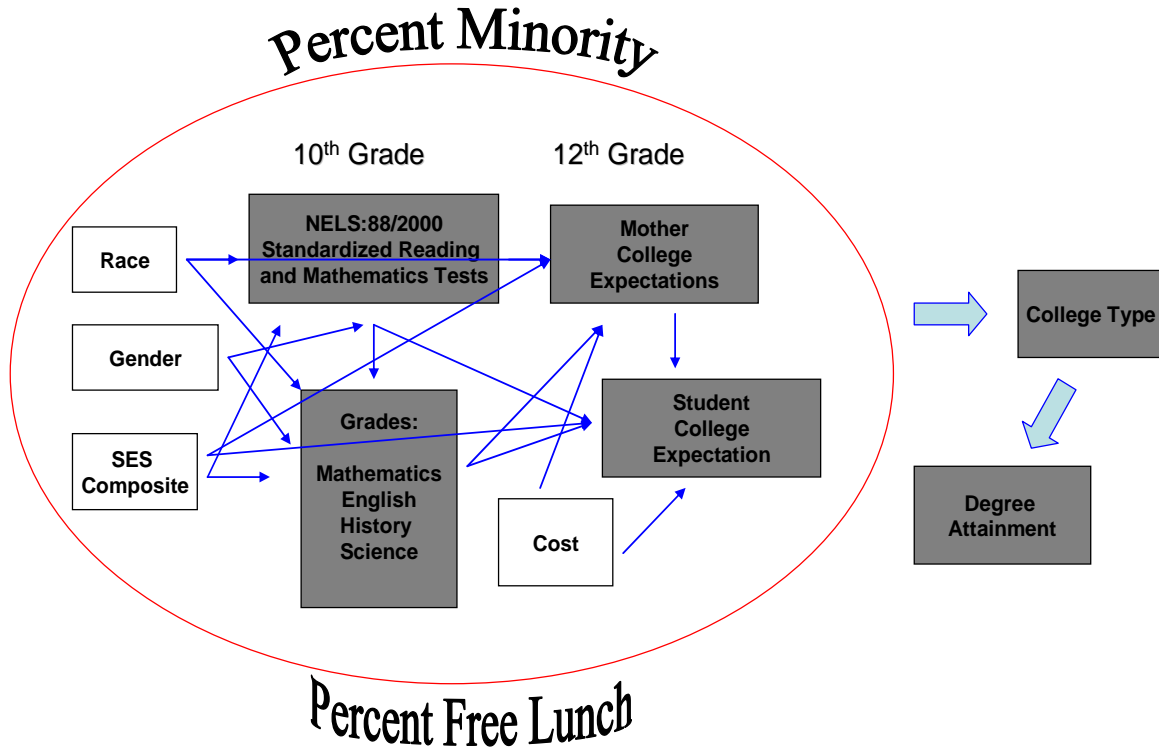
The idea that there is a direct relationship between high school achievement and degree attainment is not novel. Adelman (1999; 2006) finds academic achievement is very influential on degree attainment. More so, Rosenbaum (2001) finds high school achievement predicts a significant portion of low degree attainment for disadvantaged students, which are usually defined by being low SES and/or of an underrepresented racial/ethnic group.

Figure 5-1: Original College Transition Trajectory Model



As one will notice from the college transition trajectory model, Figure 1-1, a number of the variables from the original model were kept to construct the new model. The purpose for constructing the CTT model was to explore whether the variables that effect achievement also effect attainment. As there has been no previous work which examines the relationship between the myriad variables that are said to influence student’s degree expectations and high school achievement onto and with factors that are said to predict college attendance and completion to asses how together they all influence degree attainment, this study significantly adds to the current knowledge base.

Figure 1-1: College Transition Trajectory Model



Note: Outcome variables are in gray boxes.

Hypothesis and Secondary Research Questions

Table 5:1	Secondary Research Questions					
Hypothesis	1	2	3	4	5	6
1	X	X	X	X		X
2						
3				X	X	
4				X	X	
5						

The purpose of this section is to directly address the current study's hypotheses and secondary research questions. The secondary questions are as follows:

- 1 How will race, gender, SES, and school composition affect the dependent variables, mathematics and reading test scores?
- 2 How will the exogenous variables (race, gender, and SES), school composition, and test scores (now, added into the equation as an independent variable) affect the dependent variable of students' grades?
- 3 What affect will race, gender, SES, school composition, test scores, and grades (now, added into the equation as an independent variable) have on the dependent variable students' degree expectations?
- 4 How will all the aforementioned variables, including mother's expectations, now acting as an independent predictor variables, plus college cost, affect the dependent variable college-type?
- 5 How will all thirteen variables, all acting as independent variables, impact the dependent variable of degree completion?
- 6 Finally, will being Black matter on both analysis of achievement and attainment?

Table 5:1 illustrates how the secondary research questions correspond to the hypotheses. In addition to the primary research question, this dissertation undertook an investigation of 5 hypotheses and 6 secondary research questions. This section lays out the findings related to both the hypotheses and the secondary questions.

HYPOTHESIS 1: Regression analyses will reveal significant, but negative effects between race, gender and SES and students' test scores and grades. However, there will be a significant and positive effect between such background variables and students' degree expectations.

As mentioned in Chapter One, numerous studies conclude that race/ethnicity, gender, and SES significantly impact students' test scores and grades in addition to factors such as college cost, college type, and both mother and students' degree expectations. Some studies (Ogbu, & Fordham, 1986; Hossler, Braxton, & Coppersmith, 1989; Crouse and Trusheim 1988; Hossler, Schmidt, & Vesper, 1999; Farkas, Grobe, Sheehan, & Shuan, 1990; MacLeod, 1995; Perna, 2000; Rosenbaum, 2001; Paulsen and St. John, 2002; Farkas, 2003; Goldsmith, 2004; Duncan and Magnuson, 2005) find that test scores are important factors for minority students as compared to White students. One contribution this study makes in this area is that it finds gender to be significant: being male decreases students' chances of degree completion. This finding is consistent with Rosenbaum (2001) who posits that women have higher educational attainments than males. Further, similar to Rosembaum's claim, the current study also found that females have higher grades than males, yet as previously mentioned in Chapter Two, males have higher test scores.

Additionally, research has revealed a statistically significant effect of college cost on students' college expectations and the type of institution (two-year versus four-year) they attend. Race, as well as socioeconomic status, also influences college type. Moreover, according to this research, mother's expectation is now also known to influence students' college expectations.

Continuing to explore the answers to the secondary questions, a host of variables influence the outcome of mother's college expectations for their children. Baker and Stevenson (1986) find that mothers are more active in their child's academic career, influencing their

performance. It is important to note that fathers were not included in the analysis of the current study because of their low response rate in NELS to accurately discuss *parents* influence on achievement. Being Asian, Black, and Hispanic all have positive effects on mother's college expectation for their student. As already noted, Asian students' parents have high educational expectation of their students. Socioeconomic status also plays a role in mother's college expectations. This is supported by Baker and Stevenson (1986) who explain that households with high SES and active mothers expect more from their students.

As far as high school composition is concerned, being in a high proportion Black or Hispanic school positively affects mother's college expectations. However, the percent of students receiving free or reduced lunch has a negative effect on mother's college expectation. This may be due to the idea that poor families are more pessimistic about college than their students. Cabrera and La Nasa (2000) and Rosenbaum (2000) find that students of disadvantaged means are optimistic about going to college; however, research is scarce on how SES affects families, primarily mothers' expectations. Therefore, the current study has created a springboard for future investigation into the role SES and high school composition plays on mother's expectation. Lastly, concerning the affect of students' academic performance on mother's college expectations, the current study finds, generally speaking, that both test scores and grades positively influence this outcome. Hossler et al. (1999) support this finding by explaining that parents' educational expectations are (heavily or very much) influenced by their child's grades and standardized test scores.

The current study validates the current state of the knowledge base with regard to minority students' lower mathematics and reading test scores, which is only partially explained by students' family socioeconomic status. In addition, this dissertation finds that the percent of students receiving free or reduced lunch, as a measure of a school's SES, also reduces students'

test scores. A school's socioeconomic status matters, as does race. This has particular salience for current educational debates, as confirmed in a recent article in the Washington Post (September 10, 2007)²³. "Black students in the Class of 2007 scored well at some of the region's [Maryland and Virginia] most prestigious high schools; at a few, Black students topped the overall national average...on the best-known college entrance test" (p.1). Yet, Black students at "regular high schools" – less affluent - in the same region did not meet or beat the SAT average for all students in those counties. As mentioned in Chapter Three, according to NCES, the performance yielded on the mathematics and reading tests are considered to be similar to how students will perform on the college entrance exams. Therefore, such findings presented in the Washington Post further support that a school's SES matters when assessing achievement. Moreover, controlling for race/ethnicity, SES, and gender, the percent Black and percent Hispanic had no effect on test scores. In addition, it is important to note that the percent of students receiving free or reduced lunch does partially explain the individual's race effect.

As far as grades are concerned, Blacks and Hispanics are found to have lower grades, which are partially explained by SES. The percent of students receiving free or reduced lunch is marginally significant, actually raising students' grades.

Mother's expectations are immensely powerful and explain the Asian and Hispanic effect and a good portion of the Black effect on students' degree expectation. This is a contribution to and an extension of Mickelson's (1990) research on the attitude-achievement paradox by controlling for not only mother's expectations, but also students' test scores. In her 1990 study, Mickelson did not control for students' test scores, school composition, or mother's expectations, and such factors proved to be an important influence when examining students' expectations.

²³ <http://www.washingtonpost.com/wp-dyn/content/article/2007/09/09...>

In summary, like grades, as previously mentioned in Chapter Four, research cannot focus simply on individual mathematics and reading test scores, but must consider test scores in context. The results are that race/ethnicity, gender, SES, and high school composition significantly interact with this independent variable. Again, being Asian has a positive effect on the NELS mathematics test but not on the NELS reading test. However, being Black, Hispanic, and American Indian all negatively effect students test scores. This finding is supported by prior research (Jencks and Phillips, 1998; Bowen and Bok, 1998) which shows that African-American and Latino students score lower on standardized tests than their Asian and White peers.

Moreover, being male had a positive effect on the math test but a negative effect on the reading test. This finding could be due to the fact that males tend to do better on standardized mathematics tests as compared to females (Fierros, 1999, Rosenbaum, 2001). In addition, SES has a strong effect, explaining some of the diminishing individual race/ethnicity effects which are still present in the current study. According to Duncan and Magnuson (2005) and as mentioned above, though they state that it is difficult to prove in the social sciences, they do find that socioeconomic status does play a role in adolescent academic achievement.

HYPOTHESIS 2: Significant relationships will exist between race, gender, and SES and in a logistic narrative, as will students' expectations, which all but SES were found to be insignificant in prior research.

According to Adelman (2006) “of student demographic characteristics, only one – socioeconomic status – was significantly associated with degree completion...when race/ethnicity group was treated as an independent variable, the basic story did not change” (p. xxiii). Adelman also found gender to also not be significant in the logistic narrative. However, this dissertation found opposite results. Race/ethnicity and gender did in fact significantly

influence degree attainment. Using logistic regression Adelman's (2006) study and the current study both find race/ethnicity to have no effect while controlling for other factors on degree attainment. Yet, after employing structural equation modeling (SEM), both individual characteristics, being Hispanic and being Black were statistically significant on attaining a college degree (refer to Table 4.8). This similar result in logistic regression may be due to the issue of missing data, which was a key element in the decision to include structural equation modeling (AMOS) in this dissertation. Moreover, gender was significant in both the logistic regression analysis and in SEM, finding that being male reduces the odds of one attaining a bachelor's degree or higher. Such results may differ from Adelman because the current study uses different variables within NELS to examine the factors that impact students' achievement and attainment as mentioned above as well as in Chapter Two and Three. Moreover, this dissertation also includes the effects of both school racial and SES composition, which may be contributing to the different findings between the current study and Adelman's research.

HYPOTHESIS 3: High school composition will have a negative but significant effect on students' degree expectations.

HYPOTHESIS 4: The interaction effect between racial/ethnicity of high school composition and individual race/ethnicity will have a negative impact on degree attainment.

HYPOTHESIS 5: There will be a significant and positive effect between the interaction variables of race/ethnicity and students' degree expectation on degree attainment.

Hypothesis 3, 4 and 5 can be discussed together. As discussed in Chapter One, high school composition is often discussed within the segregation/desegregation literature. In essence, Reardon's (2000; 2002; and 2004) studies are methodologically oriented and such

research positions itself within the school composition literature to better understand the construct and how to use it in analysis. On the other hand, Orfield's (1997), discussion of school composition, best described as a snowball effect, explains that the background characteristics such as SES and parents' educational level contribute to defining who students are, thus creating a school effect. This is similar to the discussion Frost (2007) presents: both Reardon and Orfield focus very heavily on the racial segregation as an aspect of school composition, despite Orfield's discussion of socioeconomic status, because in the end school SES is a by-product of racial segregation. However, as previously mentioned in this chapter; as this dissertation finds, school SES is the most salient measure when assessing school effects on achievement and attainment, net of the percentage of race/ethnicity effects. This means that for education researchers and sociologists, future studies that examine school composition or focus on segregation/desegregation may need to be more concerned with the school's socioeconomic status rather than the issue of race.

As far as being a minority in a high percentage minority school, again there was no effect on degree attainment, yet there was an effect of the percent receiving free or reduced lunch. Additionally, there was a race + percent race interaction effect on attending a two-year college. Being Hispanic in a high percentage Asian school had a negative effect on two-year college attendance, while being Black at both a high percentage Hispanic and a high percentage Black school also decreased students odds of attending a community college. This is another major contribution because research on college-type does not include school composition and due to the results of this study future studies should use this predictor variable.

Moreover, although the current study hypothesized that there would be a positive effect between race + degree expectations (refer to Table 4.9) on degree attainment, this was not found. This is important to note because the individual characteristics of race/ethnicity as well as

student's degree expectation does impact degree attainment, however, no interaction effect means they should continue to be analyzed independently. In addition, prior research (Cohen, 1988; Dougherty, 1992; Rouse, 1995; Astin et al., 1996; and Pascarella et al., 1998) finds that attendance at a two-year college greatly decreases the odds of obtaining a bachelor's degree. Though the current study found no interaction effects between Black and degree expectation (refer to Table 4.9), this dissertation did find that attending a two-year college does in fact greatly diminish the odds of attaining a bachelor's degree or higher. Further, students' degree expectations contribute to explaining the race/ethnicity effect.

Implications for both Secondary and Postsecondary Research

The expectations that students have to go to college are not idle wishes. For a significant portion of the high school population, attending college is a vision which is expected to come to fruition upon graduation. Yet some students, often African-American, fall short of their college expectations and it was the purpose of this study to explore why.

The research in this area is vast. Taken independently it offers a number of reasons why higher education, for some, becomes a dashed pursuit. However, there are many gaps and unanswered questions in this large and varied literature. The college-choice literature explains that test scores, locus of control, grades, curricular track, and familial influences are just a few predictors for college enrollment, yet it overlooks how these factors and others impact college type as well as degree attainment. Moreover, research in the area of college type and degree attainment provides some insight into why bachelor degree completion is low, especially for particular groups, but does not fully explain the varying outcomes for these groups. And, no study bridged what affects achievement with what affects attainment. In essence, research in this area has a lot to offer, but it lacks cohesion and the modeling of the outcomes as a long-term

process. Therefore it was the focus of this dissertation to take a collective look, examining factors from high school to degree completion, and explore the relationship between high school composition and degree attainment on African-American students' degree expectations. By using the college transition trajectory model, the results of the variable analysis in the current study will offer a multitude of answers that will expand education research.

Ultimately, there are factors unexplored or not explored collectively, that may impact students' college expectations, college-type, and eventually degree attainment. The results of this study should enlighten both secondary and postsecondary administrators, as well as policymakers, on how to better prepare students for transition from high school to college. Additionally, this study contributes to the literature by highlighting the impact of not looking at the entire process, from high school to degree attainment.

Due to the limitation of time constraints, and conducting a study using secondary data analysis, the research was hindered in terms of what question could be answered and how. However, this study did generate some findings (as well as provoke further questions) that will provide a better understanding for educators, researchers and policymakers on how students make decisions regarding their academic future as well as what factors mediates students' educational outcome as well as to fodder with. For example, there needs to be an increase in Hispanic and American Indian research on academic performance and their educational expectations. Though there is some research concerning Hispanic students, American Indian research is almost non-existent. Moreover, more studies using SES as a proxy for high school composition may be more beneficial than just looking at race/ethnicity. In the current study, one can see that SES and racial context are confounded measures which may both be tied to a lack of opportunity. In this study, one can see that percent free or reduced lunch as a measure of high school context has a strong, constant and negative effect on bachelor's degree attainment, net of

racial composition. With this in mind, it may be better for research in the area of desegregation and education, to shift its attention to school socioeconomic status instead of solely examining race. It is important to note there is a relationship between race and SES because school SES plays a major role in affecting how students in high school make the transition to college. School SES affects students' expectations, college type, as well as attainment.

It should also be noted that the current study only looks at high school and not the earlier years of the educational system. Most of the desegregation literature ignores the elementary school where school effects may be serious and possibly adversely affect poor and minority students' access to quality education. What is highlighted here is necessary in order to address issues pertaining educational access, enrollment, and attainment as well as assisting the United State's educational system to live up to its promise and its potential.

Such findings of the current study open the door for policy exploration at both the high school and college level. At the high school level, as is explored at the elementary level, it may behoove policymakers to examine the re-segregation of students in order to create better educational experiences for those disproportionately unable to benefit from a quality education. Additionally, at the college level, further exploring students' college experiences, and identifying those factors that contribute to the retention of students of color entails that educators assess the impact of high school experiences.

Conclusion

Again the purpose of this study is to answer the question what is the relationship between high school composition and student's degree expectation on degree attainment for Black students. The underlying goal was to see if what affects achievement also affects attainment, by using the CTT model. This study was important because it is seen as being able to provide both

secondary and postsecondary institutions as well as researchers and policymakers with information on what factors are influencing students' educational outcomes, from high school achievement to degree attainment.

At this point it is clear that this dissertation has made several contributions to the fields of achievement, attainment, college-type, and degree attainment. Originally, the major contribution that this study was founded on was the simultaneous assessment of various factors that have an influence on achievement and attainment, making causal inferences that are supported by previous research and theory, and then assessing what role school composition would play coupled with students' degree expectations. Exploring the idea that there are a series of connected relationships that may affect both achievement and attainment, called the transition trajectory model, is what drove this study. However, as this dissertation progressed, a number of other contributions and strengths came to fruition.

First, this study supported the findings of the both the NCES (2001) and Rosenbaum (2001) that being Black, net of several factors, does have a positive effect and statistically influences degree attainment. Though, being Black is ultimately explained by students' degree expectations, it is important to note that there is a system in place that is working to some degree. Further research should focus on the issue of getting Black students to and through college. Second, we find that racial/ethnic school composition is not as salient a factor as school socioeconomic status. Though, small and with little effect, this study finds that the focus on school racial/ethnic composition, though it may be related to school SES (Orfield, 1997), should not get as much attention as it is garnered. Both Frost (2007) and the current study have shown that there needs to be more focus on school SES as a measure of school composition in order to produce a better understanding of high school achievement. Third, this study has extended the understanding of the attitude-achievement paradox presented by Mickelson (1990) by including

test scores, school composition, and mother's expectation on students' degree expectations. Lastly, race, gender, and SES matter in terms of both analysis of achievement and attainment, when only SES mattered in prior studies. One reason for such a finding in this dissertation is that the measures and constructs used in this analysis are more relevant when looking at the achievement and attainment of African-Americans.

However, there were a number of limitations to the current study as well. One is the use of a secondary data set. Though the use of NELS:88/2000 allows for future expansion of the current study and it was large offering myriad variables for analysis, there are always limitations when imposing one's constructs on a data that was not collected with such constructs in mind. Also, the way in which this data was collected, employing the "freshening" process with each wave of data collection, leads one to question the validity of the sample. In addition, the current study had to impose two constraints onto the data, resulting in a sample size of 3,832. First, the data had to be restricted to only those that didn't transfer schools between the tenth and the twelfth grade for the variables that were pulled from NELS, starting with a sample size of 7,773. Second, this dissertation, for analysis in SPSS, restricted this subset of 7,773 to those who responded to the relevant variables. Due to these restrictions the analysis had to be run using both SPSS and structural equation modeling, in AMOS, to address missing data and to further confirm the results produced by SPSS.

In conclusion, if "a story twice told should be a story to which we listen" (Adelman, 2006, p. xxii), then what about a story told three times? Due to the fact that NCES (2001), Rosenbaum (2001), and the current study all found that being Black is significantly and positively associated with students' degree attainment, then researchers need to continue to examine the most influential factors, longitudinally, providing educational reformers with the means to enact practice that lives up to its purpose, rather than providing information that only

sounds good in theory. Though over the last thirty years, Blacks have increased their degree attainment from 6.7 percent to 17.5 percent as of 2005, compared to Whites that have increased their degree attainment from 18.9 percent to 34.1 percent also as of 2005, there is still a desperate need to dismantle low achievement and the paradox of high expectations, yet low degree attainment because it is evident that, when researched adequately Blacks can reach degree attainment. Moreover, such findings that high school socioeconomic status, as a measure of school composition, in conjunction with an examination on delayed enrollment, teacher's perspectives, and self-efficacy will further inform the field.

It is critical to note that the college transition trajectory model draws educator's and researcher's attention to the process of getting students to and through college. In the case of African-American students, certain variables "win out" in the examination of the long-term view of the process. By looking segmentally at educational attainment and achievement, some factors have been identified as significant which, in fact, were not significant in terms of ultimate degree attainment. The CTT model allows for a different explanation of the paradox: i.e. that the paradox exists only if we compare Blacks abstract expectations to their academic achievement absent other contextual variables. When we employ all the variables noted in the CTT model, and apply the long-term process view implicit in the model, the paradox of Black expectations and attainment disappears.

APPENDIX A

Table 3.1 List of Variables

NELS:88/2000 Variable Name	Recoded Variable Name	Conceptual/Methodological Framework Variables
F1RACE	Asian Hispanic Black American Indian	Race
F1SEX	Males	Sex
F1SES		SES
F2C22A		Percent Asian
F2C22B		Percent Hispanic
F2C22C		Percent Black
F2C22E		Percent American Indian
F2C25A		Percent Free or Reduced Lunch
F12XRSTD		NELS:88/2000 Reading Test Score
F12XMSTD		NELS:88/2000 Mathematics Test Score
F1S39A	Mathematics	Grades
F1S39B	English	
F1S39C	History	
F1S39D	Science	
F2S43 (recoded)	Degexp	Students' Degree Expectation
F2S42B (Mother)		Mothers' Expectation
F2S59A		Cost
F4ELSECT (recoded)	Twoyr	College-Type
F4HHDG (recoded)	Bachelorplus	Degree Attainment

APPENDIX B

Tenth Grade Variables

Socioeconomic Status (F1SES)

- SES Composite

Sex (F1SEX -- recoded)

- Male

Race (F1RACE – recoded)

- Asian
- Hispanic
- Black
- American Indian

Test Scores

- NELS:88 Standardized Reading Test (F12XRSTD)
- NELS:88 Standardized Mathematics Test (F12XMSTD)

Grades: Describe respondent's...(teacher survey -- recoded)

- Mathematics (F1S39A)
- English (F1S39B)
- History (F1S39C)
- Science (F1S39D)

Tenth Grade Variables: Outcome/Predictors

Test Scores

- NELS:88 Standardized Reading Test
- NELS:88 Standardized Mathematics Test

Grades: Describe respondent's...(teacher survey)

- Mathematics
- Science
- History
- English

Twelfth Grade Variables

Cost (F2S59A)

- How important are college expenses

School Composition (recoded)

- Percent: Asian/Pacific Islander (F2C22A); Hispanic (F2C22B), Black (F2C22C), American Indian (F2C22E)
- Percent: Students receiving free, reduced lunch (F2C25A)

Twelfth Grade Variables: Outcome/Predictors

Mothers' Expectations (F2S42B)

- Mother's desires for R after high school

Students' College Expectations (F2S43 – recoded)

- How far in school R thinks s/he will get

Year 2000: Fourth-year Follow-up

College-type (F4ELSECT – recoded)

- Sector for the most recent PSE attended: Two-year college

Degree Attainment (F4HHDG -- recoded)

- Highest PSE degree attained: Bachelor's degree or higher

Bibliography:

- Adelman, C. (1999). Answers in the tool box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment. ED Pubs, PO Box 1398, Jessup, MD.
- _____. (2006). *The Toolbox Revisited: Paths to Degree Completion From High School Through College*. ED Pubs, P.O. Box 1398, Jessup, MD
- Alba, R. D., & Lavin, D. E. (1981). Community Colleges and Tracking in Higher Education. *Sociology of Education*, 54(4), 223-237.
- Anderson, G., Alfonso, M., & Sun, J. (2006). Rethinking Cooling Out at Public Community Colleges: An Examination of Fiscal and Demographic Trends in Higher Education and the Rise of Statewide Articulation Agreements. *The Teachers College Record*, 108(3), 422-451.
- Anderson, K. L. (1981). Post-High School Experiences and College Attrition. *Sociology of Education*, 54(1), 1-15.
- _____. & National Institute of, E. (1984). *College Effects on the Educational Attainment of Males and Females*: Washington, DC: National Institute of Education.
- Astin, A. W. (1972). *College Dropouts: A National Profile*. Office of Research, American Council on Education, Washington, D.C.
- _____. (1977). *Four Critical Years. Effects of College on Beliefs, Attitudes, and Knowledge*: Jossey-Bass Publishers, Inc., 615 Montgomery Street, San Francisco, CA.
- _____. (1993). What Matters in College. *Liberal Education*, 79(4), 4-15.
- Baker, D. P., & Stevenson, D. L. (1986). Mothers' Strategies for Children's School Achievement: Managing the Transition to High School. *Sociology of Education*, 59(3), 156-166.
- Battle, J., & Coates, D. L. (2004). Father-Only and Mother-Only, Single-Parent Family Status of Black Girls and Achievement in Grade Twelve and at Two Years Post High School. *Journal of Negro Education*, 73(4), 16.
- Becker, G. S. (1993). *Human Capital: A Theoretical and Empirical Analysis, With Special Reference to Education*: University of Chicago Press.
- Berger, J. B., & Milem, J. F. (1999). The Role of Student Involvement and Perceptions of Integration in a Causal Model of Student Persistence (Vol. 40, pp. 641-664): Springer.
- Bowen, H. R. (1977). *Investments in Learning*: Jossey-Bass, San Francisco.

- Bowen, W. G., & Bok, D. (1998). *The Shape of the River*: Princeton Univ. Pr.
- Brint, S. (2003). Few Remaining Dreams: Community Colleges Since 1985. *The ANNALS of the American Academy of Political and Social Science* 2003; 586; 16
- _____, & Karabel, J. (1989). *The Diverted Dream: community colleges and the promise of educational opportunity in America, 1900-1985*: Oxford University Press US.
- Cabrera, A. F., & La Nasa, S. M. (2001). On the Path to College: Three Critical Tasks Facing America's Disadvantaged Research in Higher Education Vol. 42, pp. 119-149.
- Carter, D. F. (1999). The Impact of Institutional Choice and Environments on African-American and White Students' Degree Expectations Research in Higher Education Vol. 40, pp. 17-41
- Choy, S. P. (2001). Findings from The Condition of Education 2001: Students Whose Parents Did Not Go to College: Postsecondary Access, Persistence, and Attainment (NCES 2001-126). US Department of Education.
- Clark, B. R. (1960). The "Cooling-Out" Function in Higher Education. *The American Journal of Sociology*, 65(6), 569-576.
- Cohen, A. M., & Brawer, F. B. (1982). *The American community college*. Jossey-Bass Inc., Publishers, San Francisco, CA.
- Conklin, M. E., & Dailey, A. R. (1981). Does Consistency of Parental Educational Encouragement Matter for Secondary School Students? (Vol. 54, pp. 254-262): JSTOR.
- Crook, D., & Lavin, D. (1989). The Community College Effect Revisited: The Long-Term Impact of Community College Entry on BA Attainment. *Annual Meeting of the American Educational Research Association, San Francisco*.
- Crouse, J., & Trusheim, D. (1988). *The Case Against the Sat*: University of Chicago Press.
- Deil-Amen, R., & Rosenbaum, J. E. (2002). The Unintended Consequences of Stigma-Free Remediation. *Sociology of Education*, 75(3), 249-268.
- Dougherty, K. (1987). The Effects of Community Colleges: Aid or Hindrance to Socioeconomic Attainment? *Sociology of Education*, 60(2), 86-103.
- _____. (1992). Community Colleges and Baccalaureate Attainment. *The Journal of Higher Education* Vol. 63, pp. 188-214
- _____. (1994). *The Contradictory College: The Conflicting Origins, Impacts, and Futures of the Community College*: State University of New York Press.
- Duncan, G. J., & Magnuson, K. A. (2005). Can Family Socioeconomic Resources Account for Racial and Ethnic Test Score Gaps? *The Future of Children*, 15(1), 35-54.

- Eagle, E., & Carroll, C. D. (1988). *Postsecondary Enrollment, Persistence, and Attainment for 1972, 1980, and 1982 High School Graduates: High School and Beyond, National Longitudinal Study*: US Dept. of Education, Office of Education Research and Improvement: For sale by Supt., of Docs., USGPO.
- Farkas, G. (1996). *Human Capital Or Cultural Capital?: Ethnicity and Poverty Groups in an Urban School District*: New York Aldine de Gruyter.
- _____. (2003). Cognitive Skills and Noncognitive Traits and Behaviors in Stratification Processes (Vol. 29, pp. 541-563): *Annual Review of Sociology*
- _____, Grobe, R. P., Sheehan, D., & Shuan, Y. (1990). Cultural Resources and School Success: Gender, Ethnicity, and Poverty Groups within an Urban School District (Vol. 55, pp. 127-142): JSTOR.
- Farmer, G. L. (2001). Longitudinal Exploration of the Caste Theory of Educational Aspirations [Children and Schools](#), Volume 23, Number 3, 1 July 2001 , pp. 160-170(11) Association of Social Workers.
- Fierros, E. G. (1999). *Examining Gender Differences in Mathematics Achievement on the Third International Mathematics and Science Study (TIMSS)*. Report: Graduate School of Education. Boston College.
- Flowers, L. A., & Pascarella, E. T. (2003). Cognitive Effects of College: Differences Between African American and Caucasian Students. *Research in Higher Education*, 44(1), 21-49.
- Fordham, S., & Ogbu, J. U. (1986). Black Students' School Success: Coping with the "Burden of 'Acting White'" *The Urban Review* Vol. 18, pp. 176-206
- Frost, M. B. (2007). Texas Students' College Expectations: Does High School Racial Composition Matter? *Sociology of Education*, 80, 43-66.
- Goldsmith, P. A. (2004). Schools Racial Mix, Students Optimism, and the Black-White and Latino-White Achievement Gaps. *Sociology of Education*. Vol. 77, pp. 121-147
- Griliches, Z. (1996). Education, Human Capital, and Growth: A Personal Perspective. *National Bureau of Economic Research, NBER Working Paper 5426*, 1-25.
- Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). Inner resources for school achievement: Motivational mediators of children's perceptions of their parents. *Journal of Educational Psychology*, 83(4), 508-517.
- Hanushek, E. A., Kain, J., & Rivkin, S. G. (2002). New Evidence about Brown v. Board of Education: The Complex Effects of School Racial Composition on Achievement: Working Paper. National Bureau of Economic Research. Cambridge, MA

- Horn, L., Kojaku, L. K., Carroll, C. D., & National Center for Education, S. (2001). *High School Academic Curriculum and the Persistence Path Through College Persistence and Transfer Behavior of Undergraduates 3 Years After Entering 4-year Institutions*: US Dept. of Education, Office of Education Research and Improvement; Ordering from US Dept. of Education, ED Pubs.
- Hossler, D., Braxton, J., & Coopersmith, G. (1989). Understanding student college choice (Vol. 5, pp. 231–288).
- _____, Schmit, J., & Vesper, N. (1999). *Going to College: How Social, Economic, and Educational Factors Influence the Decisions Students Make*: Baltimore: The.
- Hurtado, S., Inkelas, K. K., Briggs, C., & Rhee, B. S. (1997). Differences in College Access and Choice Among Racial/Ethnic Groups: Identifying Continuing Barriers. *Research in Higher Education*. Vol. 38, pp. 43-75.
- Jencks, C., & Phillips, M. (1998). *The Black-White Test Score Gap*: Brookings Institution Press.
- John, N. H. S., & Lewis, R. (1971). The Influence of School Racial Context on Academic Achievement. *Social Problems* Vol. 19, pp. 68-79.
- Karabel, J. (1972). Community Colleges and Social Stratification. *Harvard Educational Review*, 42(4), 521–562.
- Kirst, M. W., & Venezia, A. (2004). *From High School to College: Improving Opportunities for Success in Postsecondary Education*: Jossey-Bass.
- Kozol, J. (1992). *Savage Inequalities: Children in America's Schools*: Harper Perennial.
- Kurlaender, M., & Yun, J. T. Measuring School Racial Composition and Student Outcomes in a Multiracial Society.
- Leslie, L. L., & Brinkman, P. (1988). *The Economic Value of Higher Education*: Collier Macmillan Publishers.
- MacLeod, J. (1995). *Ain't No Makin'It: Aspirations and Attainment in a Low-income Neighborhood*: Westview Press.
- Massey, D. S., & Fischer, M. J. (2006). The Effect of Childhood Segregation on Minority Academic Performance at Selective Colleges. *Ethnic and Racial Studies*, 29(1), 1-26.
- Mau, W. C. (1995). Educational Planning and Academic Achievement of Middle School Students: A Racial and Cultural Composition. *Journal of Counseling and Development*, 75(3), 518-526.
- _____, Hitchcock, R., & Calvert, C. (1998). High School students' career plans: The influence of others' expectations *Professional School Counseling*, v2 n2 p161-66 Dec 1998

- McCarron, G. P., & Inkelas, K. K. (2006). The Gap between Educational Aspirations and Attainment for First-Generation College Students and the Role of Parental Involvement (Vol. 47, pp. 534-549).
- McDonough, P. M. (1997). *Choosing Colleges: How Social Class and Schools Structure Opportunity*: State University of New York Pr.
- Mickelson, R. A. (1990). The Attitude-Achievement Paradox Among Black Adolescents. *Sociology of Education* Vol. 63, pp. 44-61
- _____, & Heath, D. (1999). The Effects of Segregation on African American High School Seniors' Academic Achievement. *The Journal of Negro Education*, 68(4), 566-586.
- Monk-Turner, E. (1983). Sex, Educational Differentiation, and Occupational Status: Analyzing Occupational Differences for Community and Four-Year College Entrants*. *The Sociological Quarterly*, 24(3), 393-404.
- NRTEE, (2004). 4.7 Human Capital Indicator: Educational Attainment of the Working-Age Population. <http://www.nrtee-trnee.ca/eng/publications/sustainable-development-indicators/Chapter4-7-Sustainable-Development-Indicators-eng.html>
- Nunley, C., & Breneman, D. (1988). Defining and Measuring Quality in Community College Education. In J. Eaton (Ed.), *Colleges of Choice: The Enabling Impact of the Community College* 62–92. New York: American Council on Education
- Ogbu, J. U. (1978). *Minority Education and Caste: The American System in Cross-cultural Perspective*: Academic Press.
- Orfield, G., Bachmeier, M. D., James, D. R., & Eitle, T. (1997). Deepening Segregation in American Public Schools: A Special Report from the Harvard Project on School Desegregation. *Equity & Excellence in Education*, 30(2), 5-24.
- _____, Schley, S., Glass, D., & Reardon, S. (1994). The Growth of Segregation in American Schools: Changing Patterns of Separation and Poverty Since 1968. *Equity & Excellence in Education*, 27(1), 5-8.
- Pascarella, E. T., & Terenzini, P. T. (1998). Studying college students in the 21st century: Meeting new challenges. *The Review of Higher Education*, 21(2), 151-165.
- _____, & Terenzini, P. T. (2005). *How college affects students*: Jossey-Bass San Francisco, Calif.
- _____, Wolniak, G. C., & Pierson, C. T. (2003). Influences on Community College Students' Educational Plans. *Research in Higher Education* Vol. 44, pp. 301-314
- Paulsen, M. B., & John, E. P. S. (2002). Social Class and College Costs: Examining the Financial Nexus between College Choice and Persistence. *The Journal of Higher Education*, 73(2), 189-236.

- Perna, L. W. (2000). Differences in the Decision to Attend College among African Americans, Hispanics, and Whites. *The Journal of Higher Education* Vol. 71, pp. 117-141
- Qian, Z., & Blair, S. L. (1999). Racial/Ethnic Differences in Educational Aspirations of High School Seniors. *Sociological Perspectives* Vol. 42, pp. 605-625
- Reardon, S. F., & Firebaugh, G. (2002). Measures of Multigroup Segregation. *Sociological Methodology*, 32, 33-67.
- _____, & O'Sullivan, D. (2004). Measures of Spatial Segregation. *Sociological Methodology*, 34, 121-162.
- _____, & Yun, J. T. (2001). Suburban Racial Change and Suburban School Segregation, 1987-95. *Sociology of Education*, 74(2), 79-101.
- _____, & Yun, J. T. (2002). Private school racial enrollments and segregation. *The Civil Rights Project, Harvard University*, June, 26.
- _____, Yun, J. T., & Eitle, T. M. (2000). The Changing Structure of School Segregation: Measurement and Evidence of Multiracial Metropolitan-Area School Segregation, 1989-1995. *Demography*, 37(3), 351-364.
- Richard Blundell, L. D., Costas Meghir, and Barbara Sianest. (1999). Human Capital Investment: The Returns from Education and Training to the Individual, the Firm, and the Economy. *Fiscal Studies*, 20(1), 1-23.
- Richardson, R., Fisk, E., Okum, M. (1983). Literacy in the Open-Access College. Jossey-Bass Publishers: San Francisco, CA
- Rosenbaum, J. E. (2002). Beyond College for All: Career Paths for the Forgotten Half. Russell Sage Foundation: New York
- Rouse, C. E. (1995). Democratization or Diversion? The Effect of Community Colleges on Educational Attainment. *Journal of Business & Economic Statistics*, 13(2), 217-224.
- Rumberger, R. W., & Willms, J. D. (1992). The Impact of Racial and Ethnic Segregation on the Achievement Gap in California High Schools. *Educational Evaluation and Policy Analysis*, 14(4), 377-396.
- Schultz, T. W. (1961). Investment in Human Capital. *The American Economic Review*, 51(No. 1), 1-17.
- Stoops, N., & Bureau of the, C. (2004). *Educational Attainment in the United States 2003*: Census Bureau: For sale by the USGPO, Supt. of Docs.
- Vaughan, G. (1980). Questioning the Community College Role. *New Directions in Community Colleges*.

Velez, W. (1985). Finishing College: The Effects of College Type. *Sociology of Education*, 58, 191-200.

Venezia, A., Kirst, M. W., & Antonio, A. L. (2003). *Betraying the College Dream: How Disconnected K-12 and Postsecondary Education Systems Undermine Student Aspirations*: US Dept. of Education.

Viadero, D., & Johnston, R. C. (2000). Lags in Minority Achievement Defy Traditional Explanations. The Achievement Gap. *Education Week*, 19, n2818.

