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High School Vocational Program Tracking: Race-Ethnic Variations in Placement and Consequences for Academic and Career Outcomes

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HIGH SCHOOL VOCATIONAL PROGRAM TRACKING: RACE-ETHNIC VARIATIONS IN PLACEMENT AND CONSEQUENCES FOR ACADEMIC AND CAREER OUTCOMES

By

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Data from the National Educational Longitudinal Study (NELS: 88) are used to examine differential student placement and to assess the independent effects of race on academic tracking "within" the vocational program. The study examines how the structure of tracking within the vocational program shapes both academic achievement outcomes and career opportunities among high school students. Student's placement in the vocational program is argued to function as a unique track program that disadvantage students academically, particularly students of color. Racial-ethnic minority students are disproportionately placed into lower level academic courses and programs including vocational education. Once so placed, their subsequent enrollment patterns in specific vocational courses may have varying effects on students' academic and career outcomes. Few studies have attempted to disaggregate how students are further tracked once they are placed into broad high school curriculum tracks. This study analyzes the specific variations in patterns of race-ethnic student placement within vocational programs and examines the consequences of such placement for academic achievement and career attainment outcomes.

Findings reveal that several racial-ethnic variations are associated with the tracking processes within the vocational program and subsequent student academic and career outcomes. Race-ethnicity most often was negatively associated with performance on standardized achievement tests and enrollment into low vocational tracks, primarily among males. There were noteworthy gender differences in the assignment within vocational tracks, academic success, and eventual employment status and occupational placement.

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CHAPTER 1

INTRODUCTION

Many studies have called attention to the effects of tracking and ability grouping on students of color (especially African Americans and Latinos) and low income students who are often overrepresented among the low tracks and classes (Braddock 1995; Braddock and Dawkins 1993; Crosby and Owens 1993; Dauber, Alexander, and Entwisle 1996; Lucas 1999; Mickelson and Heath 1999; Oakes 2005; Oakes 1987). Disadvantaged ethnic minorities are disproportionately enrolled in lower level courses, whereas, affluent White and Asian students are overrepresented in the higher, more academically rigorous programs (Hallinan 2001; Lucas 1999; Mickelson and Greene 2006; Oakes 2005). The structured placement of students in specific academic curricula programs contributes to the disparity in the achievement gap.

At the secondary level, students are typically placed in either academic/college preparatory, general, or vocational program tracks. According to Braddock (1995), academic programs are designed to develop students' academic skills and knowledge which are prerequisites for postsecondary schooling prior to labor force entry; vocational programs are designed to develop occupational skills that lead to direct entry into the labor market; while general education programs lack the specialized focus of either the college preparatory or the vocational curriculum – serving largely as a holding pen prior to graduation or dropping out. Tracking also occurs within these broad program domains. For

example, within the academic or college preparatory tracks, some students are further assigned to advanced placement (AP), international baccalaureate (IB) programs, and the like, with each conferring different status and rewards. Similarly, within the vocational track, students are further assigned to specific specialty areas such as consumer education, health occupations, technology-communications, with each also conferring different status and rewards.

Although vocational programs serve the important function of preparing students for a wide range of blue-collar careers, tracking *within* this program has received limited attention from researchers (Ainsworth and Roscigno 2005; Royster 2003). Thus, very little is known about the actual dispersion of African American, Latino, American Indian, Asian, and White students across and within different types and levels of vocational programs or classes. This dissertation makes three primary contributions toward advancing the literature in this area. One major contribution of this study is to clarify the magnitude of the problem of African American and other students' misdistributions across high school programs. A second contribution is to identify patterns of within-track placement in vocational programs and document potential racial disparities. And perhaps most importantly, a third contribution is to directly examine the link between within-track placement and academic achievement and occupational attainment among African American and other student subgroups in vocational programs. Examining the tracking structure within the vocational program is essential because taking specific courses in the vocational program may in fact advantage or disadvantage specific student subgroups during the school-to-work transition.

Background

Racial and ethnic minorities have endured social injustices that are often traced to discrimination. According to Anderson and Foster (1964), "discrimination is not solely inequality or prejudice and the intent to discriminate alone, but exists only when all of the elements are present." Discrimination perpetuates social disparities within America's institutions such as the labor market (Wilson 1996), healthcare (Smedley, Stith, and Nelson 2003) and education (Farkas 2003). Discrimination in education has produced several levels of educational disparities between Whites and nonwhites, including the academic achievement gap. The deconstruction of school segregation resulted in the development of structured discriminatory practices that, in effect, has since limited ethnic minority groups' access to a quality education. With the implementation of mandatory school desegregation, schools were integrated at the building level but began to resegregate within the classrooms through differential student assignment to academic programs (Mickelson 2000). Affluent whites continued to attend overall better schools and enroll in higher level academic courses, while most disadvantaged ethnic minorities continued to attend poorer schools and receive instruction in lower level academic programs. Also, when ethnic minorities were bused to more affluent schools, they were disproportionately assigned to lower level, less rigorous courses (Armor 1995; Mickelson 2000; Oakes 2005).

Race, Education, and the Legacy of Discrimination

Ethnic minorities' limited access to high quality public education represents a key component in understanding the historical roots of racism and discrimination in education. From the *Jim Crow* era of legalized segregation until the 1954 Brown vs. Board of Education decision, the educational experiences of children existed in two worlds, one Black and one White. The Brown decision set the precedent to end legalized segregation in education and other social institutions. One of its premises was to ensure that all students were given an equal chance at obtaining a quality education.

Similar battles were fought by Hispanic/Latinos, primarily Mexicans, although not widely publicized. Hispanic students also confronted barriers to a quality education similar to African Americans during the era of school segregation. Many Mexican students were denied access to formal schooling or required to attend primarily "Mexican schools" (Contreras and Valverde 1994). As a result, legal sanctions were brought forth to challenge the inequity in education affecting Mexican students. There were a considerable number of legal battles that addressed the equal right to a quality education for Hispanics (Independent School District v. Salvatierra 1930; Mendez v. Westminster School District 1946; Tasby v. Estes 1976). Consequently, there is a long history of African Americans and Hispanics demanding and fighting for their rights to a quality education.

The post-Brown era had a tremendous impact on the lives of racial/ethnic minority children in schools. The promise of school desegregation was for racial

minorities to attend schools with better financial and curricular resources (i.e. books), quality instruction, and language proficiency for the increasing Hispanic student population (Fuligni 1997; Kozol 1991; Velez 1989; Schmid 2001). Nevertheless, there was slow progress in achieving school desegregation (Walters 2001). As a result, ethnic minorities, and an increasing immigrant population, continued to face stringent obstacles in gaining a quality education similar to Whites.

Today, many ethnic minority students continue to face numerous hurdles that stem from the pre-Brown decision period of discrimination in education. For example, ethnic minority students disproportionately attend poorly funded schools that have high student-teacher ratios where they are more likely to receive instruction from unqualified teachers, all of which negatively impact academic achievement (Anyon 1997). They are also disproportionately enrolled in lower, non-college bound courses, special education courses, and vocational courses (Lucas 1999; Oakes 1992; Velez 1989; Arum and Shavit 1995; Ainsworth and Roscigno 2005).

Contemporary Racial Discrimination in Education

Racial stratification and reproduction theories of education (see Bowles and Gintis 1976; Ogbu 1994; Roscigno 1998) point out that the growth of educational attainment among racial-ethnic minorities and recent immigrants have not translated into academic, occupational and income equity between those groups and Whites (Ainsworth and Roscigno 2005). Blacks and Hispanics

continue to lag behind Whites in academic achievement levels and occupational attainment (Jencks and Phillips 1998; Mickelson and Greene 2006; Oakes 2005; Osborne 1999). Some social scientists argue that new forms of institutionalized racism and discrimination contribute greatly to the ongoing equities between racial-ethnic minorities and whites. For example, color-blind racism refers to what is likely the most common type of racism in contemporary America. Colorblind theorists argue that modern forms of racism in America differ significantly from historical forms of racism. Historically, racism was more overt where racial minorities were legally denied rights and privileges that were available to Whites. Today, racism and discrimination are more covert where policies and practices in social institutions may prevent racial minorities from obtaining rights and privileges similar to Whites. Because this form of discrimination and racism is "hidden" and society promotes meritocracy, ethnic minorities are able to pursue similar educational and occupational awards, but may fall short due to covert forms of racism and discrimination (Bonilla-Silva 1996).

Bonilla-Silva (2001) states that colorblind theory includes (1) increasingly covert racial discourses and practices, (2) avoidance of racial terminology and claims by whites that they experience "reverse discrimination," (3) a racial agenda in the discussion of political matters that avoids direct racial references, (4) invisibility of the mechanisms of racial inequality, and (5) the rearticulation of some of the elements of Jim Crow racism. One of the key components of colorblind racism suggests that a person's color should not be a factor on the

basis for social judgments. However, Bonilla Silva (2001) points out that overlooking a person's skin color works well in theory but not in practice.

In social institutions such as education, colorblind racism can be a determining factor in the success and failure of students. One structural factor includes how students are assigned to academic programs. Historically, ethnic minorities were viewed as being intellectually inferior to Whites (Crane 1994; Hernstein and Murray 1994); therefore, a disproportionate number of ethnic minority students received most of their schooling in lower level academic courses. Today, despite evaluating students' enrollment patterns based on academic performance, there remains a significant disparity in the types of programs to which Whites and ethnic minorities are assigned. Not withstanding some element of student choice in determining their own academic trajectories, empirical evidence consistently finds that schools' tracking structure plays a key role in the disparity in academic achievement between White students and ethnic minority students (Feagin and Feagin 1996, Gamoran 2001; Hallinan 2001; Jencks and Phillips 1998; Lucas 1999; Mickelson and Greene 2006; Mickelson and Heath 1999; Oakes 2005). Academic tracking and how it functions in reproducing academic measures of inequality (i.e. performance on standardized exams, graduation rates, college enrollment, and dropouts) continue to highlight how students' performance in different academic programs contributes to the ongoing achievement gap.

Vocational programs contribute to the disparity in academic achievement between Whites and ethnic minorities. Vocational education[1] was first implemented in public schools to teach working class minorities and immigrants the skills necessary to take on the increasing job demand of an economy that was becoming more industrial. Currently, the vocational program is a part of the school curriculum that continues to emphasize training non-college bound students. However, because of the racial and social economic disparity in academic programs and student performance, an investigation of vocational education tracking is critical. As a part of schools' larger tracking system, students that are low-achieving and from lower socioeconomic backgrounds most often enroll in vocational programs. Considering that ethnic minorities make-up a disproportionate number of these at-risk populations, they are most affected by vocational program tracking processes. Therefore, this project investigates academic achievement and occupational outcomes of students enrolled within the various tracks of the vocational program.

Vocational Education in Historical Perspective

Vocational education was influenced by expansion of industrialization and the subsequent growing need of skilled workers. As a result, the demand for skilled labor sparked the movement for free public education (Romes 1989). This transition caused an important change in school's curriculum. The formalization and incorporation of vocational and apprenticeship programs were

[1] The term vocational education was replaced with Career and Technical Education (CTE) in the early 2000s. However, within the sociological literature, works continue to reference "vocational education" or

eventually incorporated into public education to meet the needs of the growing industrial economy (Gordon 1999; Benavot 1983). As a result, private industry and factories looked to the schools to recruit younger, more skilled workers. Accordingly, vocational education's objective was to develop and prepare working class individuals to be skilled, productive workers.

In American public schools the Smith-Hughes Act (1917) (Benavot 1983) secured federal funding for the implementation of vocational education in public schools. Many working class and minority individuals were encouraged to participate in vocational education because it was considered the best means for acquiring employment. Today, the demands for vocational education remain. Its main objectives is to provide training to non-college bound students as well as retrain and upgrade adult workers currently in vocational fields (Arum 1998; Arum and Shavit 1995; Romes 1989).

Despite the positive implications of the vocational program, it is also considered by some as a "dumping ground" for low-achieving students (Adams 2001; Rasinski and Pedlow 1998). Upper level, more academically able students typically do not take vocational courses because their academic trajectory most often leads them to higher education. Consequently, non-college bound and low achieving students are encouraged to enroll in vocational courses (Mupinga and Livesay 2004; Wan Mohamed 1998), developing a cycle of stratification based on the academic tracking system where low-achieving, non-college bound students are assigned to vocational and general programs, while academically affluent

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"vocational programs." To remain consistent with previous sociological studies, I will use vocational education.

students are placed into upper-level, more rigorous academic programs. As a result, students are placed on divergent academic and career trajectories.

There are various curricula paths students can take once enrolled in the vocational program. These paths are not all parallel and may have different racial and gendered patterns of enrollment and outcomes. Therefore, the overarching research questions this project will address are: Does race-ethnicity affect the likelihood of placement in specific vocational tracks and academic experiences within those tracks? If so, what are the consequences of those experiences (i.e. employment status, job placement)?

The dissertation is organized as follows: Chapter *One* provides an introduction and overview of the problem examined in the dissertation; Chapter *Two* presents a review of the literature on academic tracking and situates research on vocational programs in that context; Chapter *Three* describes the conceptual model guiding this research and the methods employed; Chapter *Four* reports the findings of both the descriptive and multivariate analyses; and Chapter *Five* presents a summary and discussion of the results and draws conclusions and implications of this study.

CHAPTER 2

LITERATURE REVIEW

American public education is based on a common school ideology which, in theory, provides equal access to learning opportunities for all students. In this sense, American schools have been viewed as great equalizers. Nevertheless, the American educational system has historically provided disproportionately greater benefits to whites than to students of color, and to the middle and upper classes than to the poor. As a direct consequence of widespread and entrenched patterns of tracking and between-class ability grouping in public schools, students of color often experience differentiated classroom learning opportunities. Tracking as a form of stratification within schools, in theory, is designed to place students into curricular paths that match their levels of past academic achievement (Lucas 1999; Mickelson and Heath 1999; Oakes 2005). Tracking and ability grouping involves a process of "sorting" students for purposes of instruction based, in large part, on specific measures of prior performance (Oakes 2005; Wheelock 1993). Proponents of tracking suggest that it maximizes the learning potential of all students because both advanced and slower learners are matched with appropriate instruction (Lucas 1999; Oakes 2005). In contrast, critics argue that tracking functions as a major source of unequal opportunities to learn, primarily among ethnic minorities and economically disadvantaged students (Lucas 1999; Mickelson and Heath 1999; Oakes 2005). Because students primarily learn what they are taught or exposed

to in schools, the differentiated learning opportunities created by tracking have important implications for equality of educational opportunity.

Tracking begins at the elementary school level, but becomes more identifiable and rigid during the middle grades and high school years (Braddock, 1990; Dauber et al. 1996). Although students may enter school with preexisting differences in abilities and knowledge, these differences become more pronounced as they matriculate through school as a result of ability grouping and academic tracking. As early as elementary school, teachers routinely seek to identify and sort students into ability groups geared toward providing appropriate instruction to match their levels of prior academic achievement. For example, research on reading instruction in the early grades has shown that classroom teachers teach good readers and poor readers differently in several important ways: Silent reading tasks are much more often assigned to more competent readers who are monitored orally less often than poor readers. However, because students who are reading silently spend more time actually engaged in reading than students who are involved in oral reading groups, the better readers, in fact, receive more practice time than the poorer readers (Davidson and Koppenhaver 1988). Moreover, as Allington (1980) points out, teacher interruptions of good readers are more often directed toward meaning and understanding, whereas, interruptions of poor readers are aimed at correcting punctuation errors.

Such routinely differentiated classroom organization and pedagogical practice can impact students' learning opportunities in very significant ways. For

example, students placed into either higher or lower ability groups in elementary school will have different exposures to formal and informal curricula, and, therefore, learn more or less depending on the group into which they are assigned. Thus, ability grouping (in reading or mathematics instruction, for example) in the early grades can cause (or exacerbate) disparities in student achievement. These elementary grade achievement disparities often lead later to placement in different tracks in middle school (honors versus general) and high school (college preparatory versus vocational or general). During the middle school and high school years, gaps in student achievement levels become increasingly larger as a consequence of not only the differentiated early instruction and curriculum exposure, but also because of the vast differences in learning opportunities associated with participation in the honors and college preparatory programs in the middle grades and high schools, respectively. For example, Slavin and Braddock (1994) found that low-track eighth graders were less likely to end up in college bound courses in the tenth grade than were higher tracked students. Put differently, students who receive less academic preparation in low level ability groups during the early grades get assigned to lower tracks in middle and high school where they continue to learn less, while their counterparts in higher ability groups and tracks continue to learn more. In this sense, tracking and ability grouping can operate as a “mediator” through which early individual differences in learning lead to more pronounced differences in both academic achievement during the school years and subsequent career attainments in early adulthood. .

There are also other structural components related to academic tracking which affect student achievement. For example, such classroom characteristics as quality of instruction, teachers' pedagogical style, teacher experience and credentials are considered key components that contribute to student achievement (Anyon 1997). These characteristics are also strongly associated with school resources. Poorly funded schools are characterized by disproportionate numbers of inexperienced teachers, high student-teacher ratios, and shortages of instructional tools/materials. This resource disparity is compounded by the fact that the very teachers dealing with lack of resources, and challenged by a lack of experience, are often the primary instructors of students in lower-tracked courses. In contrast, teachers with more experience and advanced degrees/credentials are often assigned to more advanced classes (Anyon 1997; Elliot 1998; Wenglinsky 1997).

Students who are affected by the negative effects of academic tracking confront significant obstacles as they matriculate though the latter stages of their educational careers. Many of these students may find solace in deciding to pursue vocational education because their early educational preparedness did not make post-secondary education at 4-year institutions a viable option. This suggests that, not only are students' academic trajectories, to a great extent, predetermined by the time they enter high school, but the process of academic tracking can also predetermine students' career paths. Students who enroll in non-college bound classes and/or vocational programs are prepared for the school-to-work transition, while students in more rigorous academic courses are

being groomed for post-secondary education and subsequent employment in white-collar and professional fields. The vocational program provides students with alternative post high school opportunities if they are not academically prepared for post-secondary education. However, the vocational program constrains, as well as enhances, students' educational and occupational opportunities. On one hand, the vocational program provides students with specific occupational skills that can make them competitive in the labor market. Research suggests that participation in a vocational program can reduce the likelihood of unemployment, increase earning potential, and decrease the likelihood of dropping out of school (Arum 1998; Arum and Shavit 1995; Gamoran 1998; Harvey 2001; Mupinga and Livesay 2004; Wan Mohamed 1998). On the other hand, the vocational program can steer students away from post-secondary education and lock them into low-level menial jobs that offer little career mobility, inadequate job security, and low wages (Ainsworth and Roscigno 2005; Royster 2003).

Along with disparities in special education program assignments, studies consistently show that ethnic minorities are also over-represented in the vocational program (Ainsworth and Roscigno 2005; Lewis and Cheng 2006). However, based on the structure of tracking within the vocational program, Royster (2003) suggests that, when White students are enrolled in the vocational program, they are more likely to benefit from taking courses that lead to high-status blue collar occupations, participate in work study/apprenticeships, and develop stronger social networks that ensure employment after high school.

Vocational Education and Academic Achievement

Although some empirical evidence supports the benefits of vocational programs, findings also indicate that these programs may perpetuate racial and social inequalities (Adams 2001; Ainsworth and Roscigno 2005; Gunderson 2004). Just as importantly, some evidence points to significant academic disparities between vocational students and non-vocational students (Adams 2001; Kang and Bishop 1989; Rasinksi and Pedlow 1998). For example, Adams (2001) found that, when comparing vocational students and college prep students' reading and math achievement, college prep students had significantly higher mean scores on statewide standardized exams than the sample of vocational students. Adams (2001) also observed significant gender differences. In academic programs, females scored significantly higher than males on standardized tests. Also, when comparing students across programs, both males and females in the academic program scored higher than males and females in the vocational program (Adams 2001). Rasinski and Pedlow (1998) also found that vocational course taking has a negative impact on academic achievement. Specifically, comparing vocational, general, and academic programs, they found that students in the vocational program scored significantly lower in 10^{th}-grade math achievement, and 10^{th} and 12^{th} grade reading achievement.

Other research found that vocational participation had a small effect on the mastery of basic academic skills and vocational students did not score significantly higher than general-track students (Kulik 1998). Kulik's (1998)

review of studies that compare the achievement outcomes of students in different academic tracks notes that Gamoran (1987) found that students' performance on achievement tests differed considerably across the academic, general, and vocational tracks. Controlling for students' background characteristics, Gamoran (1987) found that students in the academic track score 0.10 standard deviations above the population mean on achievement tests, while students in the vocational track score 0.13 standard deviations below the mean. By comparison, students in the general track scored 0.06 standard deviations below the mean.

Similarly, Gunderson (2004) and Adams (2001) compared the achievement levels of vocational and non-vocational students. Comparing students who took some vocational courses with those who took no vocational credits, Gunderson (2004) found that, for the cohort that began high school in the 1999-2000 school year, there were no significant differences in grade point averages and standardized test scores between the two groups. However, among the cohort that completed high school, only 64% reported taking vocational courses. Adams (2001) sought to determine if there were significant differences in academic achievement between students enrolled in college preparatory programs and students enrolled in vocational programs. By examining student performance on the Basic Skills Assessment Program (BSAP) test for reading and mathematics in the 10^{th} grade, findings revealed significant differences for both mean reading and math scores. After controlling for social class and race, findings showed that White students enrolled in college preparatory programs scored significantly higher in reading than both Whites and

Blacks enrolled in vocational programs. White students in college preparatory programs also scored significantly higher than Black students in college preparatory programs. In addition, high SES college preparatory students had significantly higher mean math scores than both high and low SES students in vocational programs.

There are considerable gender disparities in academic achievement. Females consistently have higher GPAs, higher graduation rates, and higher enrollment in post-secondary education. Ironically, females are generally tracked in higher academic programs than males (Jencks and Phillips 1998; Mickelson and Heath 1999; Oakes 2005). However, there remain a large number of women who take courses in the vocational program. Although the vocational program is disproportionately male, when females are enrolled they are more often than not tracked into “female” dominated vocations -- i.e. cosmetology, home economics, and health occupations (National Assessment of Vocational Education (NAVE 1998]). The current project will examine gender enrollment patterns in vocational programs.

In summary, studies have concluded that, when comparing curricular programs, students enrolled in upper-level courses tend to score higher on performance exams than students in lower-level courses. Also, students in the vocational program tend to score the lowest on standardized exams, mainly, because of the different preparation that these students receive in basic academic areas. Because non-college bound, low tracked students are not exposed to a broad depth and breadth of curriculum like their upper level peers it

is not surprising that these students' academic performance levels are significantly lower than college-prep students. However, only the Ainsworth and Roscigno (2005) study disaggregated students across specific levels or "tracks" within the vocational program. Nevertheless, because the vocational program offers such a wide range of courses, minority and non-minority students may be systematically assigned to specific courses that differentially affect academic performance and occupational outcomes.

Vocational Education and Labor Market Outcomes

The U.S. Congress' mission for vocational education was to (1) create a program that reflects the local labor market's segmentation in terms of race and gender, and (2) to reduce unemployment rates by matching workers to jobs (Werum 2002). In general, the vocational program has provided a smooth transition of non-college bound students from high school to the labor market. The school-to-work transition process is designed to provide these vocational students a source of stability as they matriculate from high school to the workforce (Ainsworth and Roscigno 2005; Arum 1998; Mupinga and Livesay 2004; Royster 2003). For example, the National Assessment of Vocational Education (1998) concluded from an extensive literature review that wage and employment outcomes are higher for students who work in areas that they studied during high school. Also, students who complete at least two credits in "occupation specific fields" and find employment in those specific fields have

higher earnings and less unemployment over time than students who are enrolled in the general track in high school (NAVE 1998).

Kulik's (1998) review found that vocational program students were more satisfied with their jobs than comparable students from other high school programs. Kulik argues that vocational students are more likely to be satisfied with their jobs because they are more likely to find jobs that match their skills. Kulik's (1998) meta-analytic review of six classic studies supports this claim. For example, Kulik notes that Conroy and Diamonds' (1976) survey of Massachusetts students found that approximately 59% of occupational students reported being very satisfied with their jobs compared to only 52%of non occupational students. Also, Woods and Haney's (1981) analysis of the National Labor Force Behavior (NLS-Youth) survey found that 27% percent of the vocational students compared to 21% of general students reported that they were satisfied with their current jobs. It is likely that when students choose their specific occupational oriented courses it is because of their interests in a particular vocation. As a result, it is not surprising that acquiring a job in the students' field of choice enhances the likelihood of them being satisfied with their career choice.

Other research found varying outcomes associated with race that might affect labor market opportunities of vocational graduates. For example, Royster's (2003) case study consistently found that White males were the main beneficiaries of vocational program placements. Royster found that White males experienced greater success than Black males in the transition from school to

work in several ways. Even when Black males had more academic success than their White male counterparts, they were less likely to find jobs in their field and more likely to have lower wages. Moreover, White males were more likely to develop the social networks needed to establish relationships with potential employers. Royster (2003) also observed racial differences in ways reflecting that teachers and other school administrators (i.e. vocational counselors) tended to be more involved with establishing internships and apprenticeships for White male students than for Black male students. Royster stated that it was through these work study programs that students were able to secure employment after high school. However, Black males were, in effect, excluded from acquiring these formal connections.

Kerckhoff and Bell (1998) suggest that individuals with postsecondary vocational credentials tend to fare better than those with just high school credentials. They found that in some cases, persons with postsecondary vocational credentials may have higher earnings than other individuals with some college and high school backgrounds. Kerckhoff and his colleagues explain further that individuals with postsecondary vocational skills are able to enter the workforce sooner than those pursuing a 4-year degree, and have better credentials than individuals with just a high school diploma. As a result, postsecondary vocational graduates fill a void in the job market by having an earned credential, unlike high school graduates, and job experience, unlike many college graduates. In addition, Rumberger and Daymont (1984) found that the combination of both vocational and academic programs increased the chances of

employment and higher wages. Overall, having earned some type of vocational credential has varied effects on early labor market outcomes.

In summary, students who take vocational courses are more likely to find employment and earn higher wages. However, the effects of race, the structure of tracking within the vocational program, and other demographic characteristics (i.e. social class and gender), continue to interact in ways that determine students' school-to-work transition placement in the occupational hierarchy. Even though graduates of vocational programs are generally sorted into the blue collar sector of the workforce tracking within the vocational program predetermines the placement *within* the blue collar sector.

CHAPTER 3

METHODOLOGY

DATA

The National Educational Longitudinal Study (NELS), a large, nationally representative data set, will be utilized for the analysis of this project. The U.S. Department of Education's National Center for Educational Statistics (NCES) used a cluster sampling technique to draw random samples of students in the 8th grade and employed a two-stage, stratified random sample of 25,000 eighth graders in some 1,000 schools. The initial survey (base year) was conducted in 1988. Students were followed up at two-year intervals throughout high school (1990 and 1992). The final follow-up took place in 1994, when students were two years removed from high school. Estimated response rates varied by collection wave, but remained consistently around or over 90% (see National Center for Educational Statistics 1994).

In addition to student-level data, NELS utilized various teacher, school, and parent level educational measures that are well suited for investigating the role of tracking *within* the vocational program and factors that influence educational and occupational outcomes. NELS contains variables representing the basic structure of academic tracking (i.e., college bound, academic, general, etc.) and several vocational measures that capture the diversity of the vocational program (i.e., industrial arts, agriculture, health occupations, home economics, consumer education, and business/marketing). Because not all schools and school districts offer the same vocational courses and students are not always

familiar with their specific academic program, the use of transcript data allows for a more accurate measure than student self-reports. This study will divide the vocational program into three categories: (1) consumer/homemaking, (2) general labor, and (3) specific occupations (Gale Research Group 1998). Courses in consumer track include home economics, cosmetology, health care, and consumer education. The general labor track includes courses in manual labor (e.g. agricultural, industrial arts, construction, etc.) and administrative occupations (e.g. secretarial). Specific occupation courses focus on job-specific classes such as business, marketing, and technical occupations (laboratory- and medical-technology). These courses tend to lead to occupations in the upper tier of the labor market queue within the blue-collar sector. They also tend to provide higher wages, better benefits, and career mobility (i.e. promotions) than general labor and consumer and homemaking careers (Gunderson 2004).

STUDY SAMPLE

The sample is drawn from a subset of the 14,915 students collected between 1990 and 1994. The final sample only includes 12th grade vocational students who attended public schools in 1992 (N = 749) and in 1994 when they were out of high school for at least two years (N=749). The sample includes 49% male and 51% female. For this study, the sample will only consist of White (69%), Hispanic (17%), and Black students (14%). Native Americans, who account for less than 1% and Asians, who account for approximately 5% of the

total sample, are excluded from the analysis because of the their small sample size.

MEASURES

Educational and Occupational Outcomes

The dependent variables are indexes of students' educational and career outcomes. Students' 12th grade math/reading composite (**Stdcmp12**) standardized test scores will serve as the achievement outcome measure. Math/reading composite of standardized test scores is a continuous variable that ranges from 29.37 to 99.99. The dependent variables for the occupational outcomes are **employment status** (currently employed: 0 = yes and 1 = no); **occupational type** (**Consumer**: 0 = other and 1 = consumer; **General**: 0 = other and 1 = general; **Specific Occupation**: 0 = other and 1 = specific occupation).

Level-1 Variables for Achievement and Occupational Models

Ethnicity, Gender and Social Class

Race/ethnicity is represented by dichotomous variables for Black and Hispanic, with non-Hispanic Whites as the reference category (**Black**: 0 = White and 1 = Black; **Hispanic**: 0 = White and 1 = Hispanic). **Gender** is a dichotomous variable where males are the reference category (male = 0, female = 1). **Socioeconomic status (SES)** is a composite index of parents' education, occupation, and income created by NCES for the NELS data set (0 = high SES, 1

= low SES). In addition, the percent of students receiving free lunch (**Perfree**) serves as the school-level SES measure.

Educational Aspirations and Prior Achievement

NELS measure of educational aspirations (**Edasp12**) for students asks "how far in school do you think you will go" where 1 = HS or less and 0 = College or more. Parents' educational aspirations for their child (**Pedasp12**) is 1 = HS or less and 0 = College or more. Students' tenth grade achievement (**Stdcmp10**) on the math/reading exam will serve as the measure of prior academic achievement (math/reading standardized scores) where scores range from 31.32 to 99.99.

Parental Involvement

Family background characteristics are also included in the hierarchical linear models. NELS offers several parent-level measures that account for parental involvement. For the purposes of this project, I employ the measure that asks whether parents are involved in helping their children with the course selection process specifically (**Choice12**): Who decides which classes the student will take, where 1 = student decides by themselves and 0 = parents help decide courses.

Teacher Quality, Experience, and Pedagogy

The role of teachers is critical in the success of all students. The analysis includes measures of teacher quality (**Tchqty12**) and teacher experience (**Tchexp12**). These two measures are evaluated by school administrators about the quality and experience of teachers. Teacher quality is a factor analytic scale that measures whether teachers are poor, fair, good, or excellent. The survey asks school administrators 'what percentage of teachers in the school is poor, fair, good, or excellent. A positive direction would measure teacher quality as good-excellent, while a negative direction would measure teacher quality as poor-fair. Teacher experience is coded 0 = seven or more years teaching and 1 = 0-6 years teaching. Also, teacher pedagogy was measured by teachers' identification of what were considered significant components that affect students' grades (e.g. participation in class, student effort, attendance, completion homework assignments, etc.). For example, items asked "How important is class participation to grading" (6 items, $\alpha = 0.98$). This item is from the teacher-level survey.

Peer Relations/Influence

Identifying items that support the evidence of the correlation between student achievement and peers were used to evaluate the variable peer influence (**Peers**). Peer influence is a factor analytic variable that is comprised of questions focused on the relevance of peer relations as it relates to popularity, significance of good grades, importance of continuing education, etc. (i.e.

"Among friends, how important is it to continue education after high school?") (6 items, α = 0.79).

Level-2 Variables (School Level)

The percent of students receiving free lunch serves as the school SES measure, and school urbanicity (1 = **Urban** and 0 = Suburban; 1 = **Rural** and 0 = Suburban) is utilized to determine a schools' residential location. School region (**Region**) is coded 1 = other and 0 = South. Student 10th grade track placement (**Voc10**) will also operate as a Level-2 predictor, where 1 = Vocation and 0 = Academic. School racial composition (**Perminor**) is used as a Level-2 measure where 0 = 0-40% minority enrollment and 1 = 41%-100% minority enrollment. Empirical evidence finds that school racial composition influences academic outcomes where the percent of minority enrollment can suppress overall student achievement (see Anyon 1997; Bankston and Caldas 2000; Lee 2007).

Research Question and Hypotheses

The purpose of this project is to determine how students are tracked within vocational programs and the race-effects of intra-program tracking and its implications for academic and employment outcomes. Studies examining curriculum tracking often identify academic tracks in one of the following categories: academic/honors, general, and vocational (Lucas 2001; Oakes 2005). However, only two studies have analyzed intra-program tracking *within* the vocational program (Ainsworth and Roscigno 2005; Royster 2003). The present analyses address the race-ethnic effects of intra-program tracking in the

vocational program and the processes that lead to differential placement and its effects on academic achievement and labor market outcome differences. The overarching research question is: Does race-ethnicity affect the likelihood of placement in specific vocational tracks, academic experiences within those tracks, if so, what are the consequences of those experiences (i.e. employment status, job placement)? The following are hypotheses developed to address the research question.

Hypothesis 1:

The project begins by highlighting the enrollment patterns within consumer, general labor, and specific occupation tracks and determines whether there are racial and gender differences. Empirical data suggest that ethnic minority males and females are more likely to enroll in lower tracked courses (Lewis and Cheng 2006). Consequently, Black and Hispanic males will be over-represented in the general labor track while under-represented in the specific occupation track. Also, I anticipate that Black and Hispanic females will be over-represented in the consumer track while under-represented in the general labor and specific occupation track.

Hypothesis 2:

After determining students' likelihood of enrolling in specific vocational tracks, I will control for these tracks in order to compare the racial-ethnic effects on achievement and occupational outcomes. Previous scholarship identified a number of demographic variables (i.e. race-ethnicity, gender, social class) that

affect student achievement and occupational outcomes. Other variables such as students' aspirations, students' prior academic achievement levels, parent involvement, residential location and school racial composition have also been identified to influence student outcomes. Therefore, race-ethnicity will negatively affect student's performance on standardized achievement test while accounting for the effects of school urbanicity, school racial composition, and school region. Similarly, the effects of race-ethnicity will increase the likelihood of students enrolling into consumer and general labor tracks, but reduce the likelihood of race-ethnic students enrolling in the specific occupation track. Gender is likely to affect the placement of females in gendered segregated vocational tracks (i.e. consumer track).

Hypothesis 3:

Finally, because participation in the vocational program is found to reduce unemployment and increase earning potential (Arum and Shavit 1995), it is critical to examine whether there are racial-ethnic effects among labor market outcomes. Black and Hispanic vocational students are less likely than their White counterparts to be employed two years after high school. When employed, Blacks and Hispanics are more likely to have occupations in the consumer and general labor field than their White counterparts.

Analytical Approach

Three separate analyses are conducted to address the above hypotheses. First, to describe the enrollment patterns of vocational students, I will calculate

parity measures to determine whether there is an over- or under-representation of Black and Hispanic students in the specific vocational courses compared to Whites. Three different indices are used to describe parity measures: *risk index, odds ratio, and composition index* (Donovan and Cross 2002). A *risk index* would divide the number of Black, Hispanic, and White students enrolled in the specific vocational courses by the total vocational student enrollment across schools. The risk index would then represent the proportion of students (by race) in the schools' vocational track. An *odds ratio* would be calculated by dividing the risk indexes for Black and Hispanics by the risk index of White students in the vocational tracks. If the risk index for Black or Hispanic vocational students is identical to Whites, then it is said to be even parity or 1.0. Odds ratios that are under 1.0 represents under-representation and odds ratios over 1.0 indicate an overrepresentation in the vocational tracks. A *composition index* is calculated by dividing the number of Black, Hispanic, and White students enrolled in specific vocational programs by the total enrollment within the track in question. This measure would represent the proportion of vocational students within each ethnic group who are in each track.

In this project, the odds ratio parity measure will be used to ascertain racial enrollment patterns within the vocational program among 12th graders. Because of the racial disparity in the numbers of students enrolled in the various tracks, an alternative method was used to calculate parity measures. The total percent in vocational track for males and females was initially calculated. After

which, each race percent was divided by the total category percent. This calculation determined parity odds ratios.

To examine the race-ethnic effects on academic and occupations outcomes, the analyses used hierarchical linear modeling (HLM) techniques (Fahmy 2004; Raudenbush and Bryk 2002; Tate 2004). HLM is quickly becoming the analysis of choice over OLS regression because much of the social science data collection has a nested structure (i.e. longitudinal data). When there are repeated observations collected on the same sample and the measurements are not all the same for everyone, observations are said to be in a nested format. NELS is longitudinal data that have multiple follow-up waves where students are nested within schools and schools are nested within school districts/neighborhoods. The use of HLM is determined by the calculation of the interclass correlation coefficient (ICC). The (ICC) refers to the proportion of variance that is at Level 2 (in this case, between-school variability), therefore if the ICC is significant, this means that there is enough variability at Level 2 that makes multilevel modeling necessary (ICC = 0.124).

In the achievement model, Level -1 data will include student level data: race-ethnicity, gender, prior achievement, and educational aspirations. Level -1 data also includes family-level variables parental involvement, parent education and educational aspirations for the child, and socioeconomic status. Level-1 predictors also include variables that capture teacher-student classroom dynamics, as well as those that index teacher pedagogy and quality of instruction.

School-level variables will operate as Level -2 predictors. These variables include 10th grade track placement (vocational vs. academic); school SES (measured by the percentage of students receiving free lunch), school racial composition (percent minority enrollment), and schools' residential location (urban and rural vs. suburban). Because the central premise of this project is to identify how the tracking process operates within the vocational program, it is imperative to first determine the factors that influence enrollment in the specific vocational tracks (Consumer, General Labor, and Specific Occupations). These models use logistical analysis that predicts students' likelihood of enrolling into particular vocational courses. All Level-1 and Level-2 models are similar to the achievement model.

Predictors of Academic Performance on 12th Grade Math/Reading Standardized Exam[2]

[3]Level 1:

$$ACH_{ij} = \beta_{0j} + \beta_{1j}(\mathrm{Pr}\,iorAchv)\beta_{2j}(Hispanic) + \beta_{3j}(Black) + \beta_{4j}(Gender) + \beta_{5j}(Edasp) + \beta_{6j}(SES) + \beta_{7j}(PeerInfluence) + \beta_{8j}(ParentInvolvement) + \beta_{9j}(ParentAspirations) + \beta_{10j}(TeacheInfluence) + \beta_{11j}(TeacherQuality) + B_{12j}(Consumer/General) + r_{ij}$$

[2] Separate models were also estimated where Math Standardized Scores and Reading Standardized Scores were used as dependent variables.

[3] At Level-1, HLM restricts the number of variables that can be used. As a result, my models include the five most salient Level-1 variables and then one additional variable is subsequently added. This process allows the models to run without overloading Level-1, however results in multiple smaller HLM models.

Level 2:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\%Free) + \gamma_{02}(Urban) + \gamma_{03}(Rural) + \gamma_{04}(\mathrm{Re}gion) + \gamma_{05}(10thTrack) + \gamma_{06}(\%Minor) + u_0$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\%Free) + \gamma_{12}(Urban) + \gamma_{13}(Rural) + \gamma_{14}(\mathrm{Re}gion) + \gamma_{15}(10thTrack) + \gamma_{16}(\%Minor) + u_1$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21}(\%Free) + \gamma_{22}(Urban) + \gamma_{23}(Rural) + \gamma_{24}(\mathrm{Re}gion) + \gamma_{25}(10thTrack) + \gamma_{26}(\%Minor) + u_2$$

$$\beta_{3j} = \gamma_{30} + \gamma_{31}(\%Free) + \gamma_{32}(Urban) + \gamma_{33}(Rurual) + \gamma_{34}(\mathrm{Re}gion) + \gamma_{35}(10thTrack) + \gamma_{36}(\%Minor) + u_3$$

$$\beta_{4j} = \gamma_{40} + \gamma_{41}(\%Free) + \gamma_{42}(Urban) + \gamma_{43}(Rural) + \gamma_{44}(\mathrm{Re}gion) + \gamma_{45}(10thTrack) + \gamma_{46}(\%Minor) + u_4$$

$$\beta_{5j} = \gamma_{50} + \gamma_{51}(\%Free) + \gamma_{52}(Urban) + \gamma_{53}(Rural) + \gamma_{54}(\mathrm{Re}gion) + \gamma_{55}(10thTrack) + \gamma_{56}(\%Minor) + u_5$$

$$\beta_{6j} = \gamma_{60} + \gamma_{61}(\%Free) + \gamma_{62}(Urban) + \gamma_{63}(Rural) + \gamma_{64}(\mathrm{Re}gion) + \gamma_{65}(10thTrack) + \gamma_{66}(\%Minor) + u_6$$

$$\beta_{7j} = \gamma_{70} + \gamma_{71}(Urban) + \gamma_{72}(Rural) + \gamma_{73}(\mathrm{Re}gion) + u_7$$

$$\beta_{8j} = \gamma_{80} + \gamma_{81}(Urban) + \gamma_{82}(Rural) + \gamma_{83}(\mathrm{Re}gion) + u_8$$

$$\beta_{9j} = \gamma_{90} + \gamma_{91}(\%Free) + \gamma_{92}(Urban) + \gamma_{93}(Rural) + \gamma_{94}(\mathrm{Re}gion) + \gamma_{95}(10thTrack) + \gamma_{96}(\%Minor) + u_9$$

$$\beta_{10j} = \gamma_{10} + \gamma_{101}(\%Free) + \gamma_{102}(Urban) + \gamma_{103}(Rural) + \gamma_{104}(\mathrm{Re}gion) + \gamma_{105}(10thTrack) + \gamma_{106}(\%Minor) + u_{10}$$

$$\beta_{11j} = \gamma_{11} + \gamma_{111}(\%Free) + \gamma_{112}(Urban) + \gamma_{113}(Rural) + \gamma_{114}(\mathrm{Re}gion) + \gamma_{115}(10thTrack) + \gamma_{116}(\%Minor) + u_{11}$$

$$B12_j = y_{12} + y_{121}(\%Free) + y_{122}(Urban) + y_{123}(Rural) + y_{124}(\mathrm{Re}gion) + y_{125}(10thTrack) + y_{126}(\%Minor) + u_{12}$$

$$B13_j = y_{13} + y_{131}(\%Free) + y_{132}(Urban) + y_{133}(Rural) + y_{134}(\mathrm{Re}gion) + y_{135}(10thTrack) + y_{136}(\%Minor) + u_{13}$$

Predictors of Vocational Program Enrollment: Consumer/General Labor Track

Level 1:

$$Consumer/General_{ij} = \beta_{0j} + \beta_{1j}(\mathrm{Pr}iorAchv) + \beta_{2j}(Hispanic) + \beta_{3j}(Black) +$$
$$\beta_{4j}(Gender) + \beta_{5j}(Edasp) + \beta_{6j}(SES) + \beta_{7j}(PeerInfluence) + \beta_{8j}(ParentInvolve) +$$
$$\beta_{9j}(ParentAspirations) + \beta_{10j}(TeacherExperience) + \beta_{11j}(TeacherQualtiy) + r_{ij}$$

Level-2:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\%Free) + \gamma_{02}(Urban) + \gamma_{03}(Rural) + \gamma_{04}(\text{Re}gion) + \gamma_{05}(10thTrack) + \gamma_{06}(\%Minor) + u_0$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\%Free) + \gamma_{12}(Urban) + \gamma_{13}(Rural) + \gamma_{14}(\text{Re}gion) + \gamma_{15}(10thTrack) + \gamma_{16}(\%Minor) + u_1$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21}(\%Free) + \gamma_{22}(Urban) + \gamma_{23}(Rural) + \gamma_{24}(\text{Re}gion) + \gamma_{25}(10thTrack) + \gamma_{26}(\%Minor) + u_2$$

$$\beta_{3j} = \gamma_{30} + \gamma_{31}(\%Free) + \gamma_{32}(Urban) + \gamma_{33}(Rurual) + \gamma_{34}(\text{Re}gion) + \gamma_{35}(10thTrack) + \gamma_{36}(\%Minor) + u_3$$

$$\beta_{4j} = \gamma_{40} + \gamma_{41}(\%Free) + \gamma_{42}(Urban) + \gamma_{43}(Rural) + \gamma_{44}(\text{Re}gion) + \gamma_{45}(10thTrack) + \gamma_{46}(\%Minor) + u_4$$

$$\beta_{5j} = \gamma_{50} + \gamma_{51}(\%Free) + \gamma_{52}(Urban) + \gamma_{53}(Rural) + \gamma_{54}(\text{Re}gion) + \gamma_{55}(10thTrack) + \gamma_{56}(\%Minor) + u_5$$

$$\beta_{6j} = \gamma_{60} + \gamma_{61}(\%Free) + \gamma_{62}(Urban) + \gamma_{63}(Rural) + \gamma_{64}(\text{Re}gion) + \gamma_{65}(10thTrack) + \gamma_{66}(\%Minor) + u_6$$

$$\beta_{7j} = \gamma_{70} + \gamma_{71}(Urban) + \gamma_{72}(Rural) + \gamma_{73}(\text{Re}gion) + u_7$$

$$\beta_{8j} = \gamma_{80} + \gamma_{81}(Urban) + \gamma_{82}(Rural) + \gamma_{83}(\text{Re}gion) + u_8$$

$$\beta_{9j} = \gamma_{90} + \gamma_{91}(\%Free) + \gamma_{92}(Urban) + \gamma_{93}(Rural) + \gamma_{94}(\text{Re}gion) + \gamma_{95}(10thTrack) + \gamma_{96}(\%Minor) + u_9$$

$$\beta_{10j} = \gamma_{10} + \gamma_{101}(\%Free) + \gamma_{102}(Urban) + \gamma_{103}(Rural) + \gamma_{104}(\text{Re}gion) + \gamma_{105}(10thTrack) + \gamma_{106}(\%Minor) + u_{10}$$

$$\beta_{11j} = \gamma_{11} + \gamma_{111}(\%Free) + \gamma_{112}(Urban) + \gamma_{113}(Rural) + \gamma_{114}(\text{Re}gion) + \gamma_{115}(10thTrack) + \gamma_{116}(\%Minor) + u_{11}$$

$$B_{12j} = y_{12} + y_{121}(\%Free) + y_{122}(Urban) + y_{123}(Rural) + y_{124}(\text{Re}gion) + y_{125}(10thTrack) + y_{126}(\%Minor) + u_{12}$$

Predictors of Vocational Program Enrollment: Specific Occupation Track

Level 1:

$$SpecificOccupation_{ij} = \beta_{0j} + \beta_{1j}(\text{Pr}iorAchv) + \beta_{2j}(Hispanic) + \beta_{3j}(Black) + \beta_{4j}(Gender) + \beta_{5j}(Edasp) +$$
$$\beta_{6j}(SES) + \beta_{7j}(PeerInfluence) + \beta_{8j}(ParentInvolve) + \beta_9 j(ParentAspirations) +$$
$$+ \beta_{10j}(TeacherExperience) + \beta_{11j}(TeacherQualtiy) + r_{ij}$$

Level 2:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\%Free) + \gamma_{02}(Urban) + \gamma_{03}(Rural) + \gamma_{04}(\mathrm{Re}gion) + \gamma_{05}(10thTrack) + \gamma_{06}(\%Minor) + u_0$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\%Free) + \gamma_{12}(Urban) + \gamma_{13}(Rural) + \gamma_{14}(\mathrm{Re}gion) + \gamma_{15}(10thTrack) + \gamma_{16}(\%Minor) + u_1$$
$$\beta_{2j} = \gamma_{20} + \gamma_{21}(\%Free) + \gamma_{22}(Urban) + \gamma_{23}(Rural) + \gamma_{24}(\mathrm{Re}gion) + \gamma_{25}(10thTrack) + \gamma_{26}(\%Minor) + u_2$$
$$\beta_{3j} = \gamma_{30} + \gamma_{31}(\%Free) + \gamma_{32}(Urban) + \gamma_{33}(Rurual) + \gamma_{34}(\mathrm{Re}gion) + \gamma_{35}(10thTrack) + \gamma_{36}(\%Minor) + u_3$$
$$\beta_{4j} = \gamma_{40} + \gamma_{41}(\%Free) + \gamma_{42}(Urban) + \gamma_{43}(Rural) + \gamma_{44}(\mathrm{Re}gion) + \gamma_{45}(10thTrack) + \gamma_{46}(\%Minor) + u_4$$
$$\beta_{5j} = \gamma_{50} + \gamma_{51}(\%Free) + \gamma_{52}(Urban) + \gamma_{53}(Rural) + \gamma_{54}(\mathrm{Re}gion) + \gamma_{55}(10thTrack) + \gamma_{56}(\%Minor) + u_5$$
$$\beta_{6j} = \gamma_{60} + \gamma_{61}(\%Free) + \gamma_{62}(Urban) + \gamma_{63}(Rural) + \gamma_{64}(\mathrm{Re}gion) + \gamma_{65}(10thTrack) + \gamma_{66}(\%Minor) + u_6$$
$$\beta_{7j} = \gamma_{70} + \gamma_{71}(\%Free) + \gamma_{72}(Rural) + \gamma_{73}(\mathrm{Re}gion) + u_8$$
$$\beta_{8j} = \gamma_{80} + \gamma_{81}(\%Free) + \gamma_{82}(Rural) + \gamma_{83}(\mathrm{Re}gion) + u_8$$
$$\beta_{9j} = \gamma_{90} + \gamma_{91}(\%Free) + \gamma_{92}(Urban) + \gamma_{93}(Rural) + \gamma_{94}(\mathrm{Re}gion) + \gamma_{95}(10thTrack) + \gamma_{96}(\%Minor) + u_9$$
$$\beta_{10j} = \gamma_{10} + \gamma_{101}(\%Free) + \gamma_{102}(Urban) + \gamma_{103}(Rural) + \gamma_{104}(\mathrm{Re}gion) + \gamma_{105}(10thTrack) + \gamma_{106}(\%Minor) + u_{10}$$
$$\beta_{11j} = \gamma_{11} + \gamma_{111}(\%Free) + \gamma_{112}(Urban) + \gamma_{113}(Rural) + \gamma_{114}(\mathrm{Re}gion) + \gamma_{115}(10thTrack) + \gamma_{116}(\%Minor) + u_{11}$$
$$\beta_{12j} = y_{12} + y_{121}(\%Free) + y_{122}(Urban) + y_{123}(Rural) + y_{124}(\mathrm{Re}gion) + y_{125}(10thTrack) + y_{126}(\%Minor) + u_{12}$$

The final portion of the analysis examines the implications of participation in vocational courses and its influence on employment status and the types of occupations students hold. The vocational program is argued to reduce unemployment rate and to increase students' income potential. However, differences in retention and in success in postsecondary educational programs and occupational/income attainment may be the direct result of the racial disparity in the tracking process *within* the vocational program (Royster 2003). Similar to Ainsworth and Roscigno (2005), this project reports on whether *intra*-program tracking affects the job placement and employment status of students.

Predictors of Employment Status [4]

Level 1:

$$Employed_{ij} = \beta_{0j} + \beta_{2j}(Black) + \beta_{3j}(Hispanic) + \beta_{4j}(Gender) + \beta_{5j}(SES) + \beta_{6j}(Consumer/General) + \beta_{7j}(SpecificOccupation) + r_{ij}$$

Level-2:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\%Free) + \gamma_{02}(Urban) + \gamma_{03}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_0$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\%Free) + \gamma_{12}(Urban) + \gamma_{13}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_1$$
$$\beta_{2j} = \gamma_{20} + \gamma_{21}(\%Free) + \gamma_{22}(Urban) + \gamma_{23}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_2$$
$$\beta_{3j} = \gamma_{30} + \gamma_{31}(\%Free) + \gamma_{32}(Urban) + \gamma_{33}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_3$$
$$\beta_{4j} = \gamma_{40} + \gamma_{41}(\%Free) + \gamma_{42}(Urban) + \gamma_{43}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_4$$
$$\beta_{5j} = \gamma_{50} + \gamma_{51}(\%Free) + \gamma_{52}(Urban) + \gamma_{53}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_5$$
$$\beta_{6j} = \gamma_{60} + \gamma_{61}(\%Free) + \gamma_{62}(Urban) + \gamma_{63}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_6$$
$$\beta_{7j} = \gamma_{70} + \gamma_{71}(\%Free) + \gamma_{72}(Urban) + \gamma_{73}(Rural) + \gamma_{74}(\mathrm{Re}\,gion) + u_7$$

Types of Jobs

(A) Level 1:

$$Consumer_{ij} = \beta_{0j} + \beta_{2j}(Black) + \beta_{3j}(Hispanic) + \beta_{4j}(Gender) + \beta_{5j}(SES) + \beta_{6j}(12thConsumerTrack) + r_{ij}$$

Level 2:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\%Free) + \gamma_{02}(Urban) + \gamma_{03}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_0$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\%Free) + \gamma_{12}(Urban) + \gamma_{13}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_1$$
$$\beta_{2j} = \gamma_{20} + \gamma_{21}(\%Free) + \gamma_{22}(Urban) + \gamma_{23}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_2$$
$$\beta_{3j} = \gamma_{30} + \gamma_{31}(\%Free) + \gamma_{32}(Urban) + \gamma_{33}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_3$$
$$\beta_{4j} = \gamma_{40} + \gamma_{41}(\%Free) + \gamma_{42}(Urban) + \gamma_{43}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_4$$
$$\beta_{5j} = \gamma_{50} + \gamma_{51}(\%Free) + \gamma_{52}(Urban) + \gamma_{53}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_5$$
$$\beta_{6j} = \gamma_{60} + \gamma_{61}(\%Free) + \gamma_{62}(Urban) + \gamma_{63}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_6$$
$$\beta_{7j} = \gamma_{70} + \gamma_{71}(\%Free) + \gamma_{72}(Urban) + \gamma_{73}(Rural) + \gamma_{74}(\mathrm{Re}\,gion) + u_7$$

(B) Level 1:

$$GeneralLabor_{ij} = \beta_{0j} + \beta_{2j}(Black) + \beta_{3j}(Hispanic) + \beta_{4j}(Gender) + \beta_{5j}(SES) + \beta_{6j}(12thGeneralTrack) + r_{ij}$$

[4] The occupational models use dichotomous independent variables. Also, each model will only include one vocational track at a time while running the analysis predicting employment status.

Level 2:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\%Free) + \gamma_{02}(Urban) + \gamma_{03}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_0$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\%Free) + \gamma_{12}(Urban) + \gamma_{13}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_1$$
$$\beta_{2j} = \gamma_{20} + \gamma_{21}(\%Free) + \gamma_{22}(Urban) + \gamma_{23}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_2$$
$$\beta_{3j} = \gamma_{30} + \gamma_{31}(\%Free) + \gamma_{32}(Urban) + \gamma_{33}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_3$$
$$\beta_{4j} = \gamma_{40} + \gamma_{41}(\%Free) + \gamma_{42}(Urban) + \gamma_{43}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_4$$
$$\beta_{5j} = \gamma_{50} + \gamma_{51}(\%Free) + \gamma_{52}(Urban) + \gamma_{53}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_5$$
$$\beta_{6j} = \gamma_{60} + \gamma_{61}(\%Free) + \gamma_{62}(Urban) + \gamma_{63}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_6$$
$$\beta_{7j} = \gamma_{70} + \gamma_{71}(\%Free) + \gamma_{72}(Urban) + \gamma_{73}(Rural) + \gamma_{74}(\mathrm{Re}\,gion) + u_7$$

(C) Level 1:

$$SpecificOccupation_{ij} = \beta_{0j} + \beta_{2j}(Black) + \beta_{3j}(Hispanic) + \beta_{4j}(Gender) + \beta_{5j}(SES) + \beta_{6j}(12thOccupationalTrack) + r_{ij}$$

Level 2:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\%Free) + \gamma_{02}(Urban) + \gamma_{03}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_0$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\%Free) + \gamma_{12}(Urban) + \gamma_{13}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_1$$
$$\beta_{2j} = \gamma_{20} + \gamma_{21}(\%Free) + \gamma_{22}(Urban) + \gamma_{23}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_2$$
$$\beta_{3j} = \gamma_{30} + \gamma_{31}(\%Free) + \gamma_{32}(Urban) + \gamma_{33}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_3$$
$$\beta_{4j} = \gamma_{40} + \gamma_{41}(\%Free) + \gamma_{42}(Urban) + \gamma_{43}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_4$$
$$\beta_{5j} = \gamma_{50} + \gamma_{51}(\%Free) + \gamma_{52}(Urban) + \gamma_{53}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_5$$
$$\beta_{6j} = \gamma_{60} + \gamma_{61}(\%Free) + \gamma_{62}(Urban) + \gamma_{63}(Rural) + \gamma_{04}(\mathrm{Re}\,gion) + u_6$$
$$\beta_{7j} = \gamma_{70} + \gamma_{71}(\%Free) + \gamma_{72}(Urban) + \gamma_{73}(Rural) + \gamma_{74}(\mathrm{Re}\,gion) + u_7$$

CHAPTER 4

FINDINGS

This chapter presents finding that address the proposed hypotheses raised in the previous chapters. First, descriptive statistics for all variables are presented for each of the dependent variables (see Table 1). Also, preliminary parity measures were used to determine whether there was over- and/or under representation in vocational track enrollment among White, Black, and Hispanic students (by race and gender). Next, multilevel regression results for factors that influence academic achievement are presented. These results addressed how social class background, race, gender, and other covariates influenced students' standardized academic achievement test outcomes. I then present analyses from multilevel logistic models predicting high school seniors' vocational track placement. The final set of analyses examined whether students were employed after high school. If employed, did their vocational track have any influence on their occupational placement? Predictor variables in the final analyses also included race-ethnicity, social class background, and the vocational tracks students were enrolled in during their senior year.

DESCRIPTIVE ANALYSIS

Table 1 presents descriptive statistics of the variables used in the analysis. The sample included only Black (14%), Hispanic (17%) and White (69%) vocational students. Native Americans, who accounted for less than 1%

and Asians, who accounted for approximately 5% of the total sample, were excluded from the analysis because of the their small sample size. Approximately 49% of the sample was males and 51% were female. Seventy-five percent of the total sample was from low social class backgrounds. This is consistent with prior literature that indicate a disproportionate number of vocational students are from working class and/or poor backgrounds (Ainsworth and Roscigno 2005; Royster 2003).

Like most students, 52% of the vocational students responded that they wanted to attain at least a bachelors degree. Because these are vocational students, some students may view a two-year vocational degree and a bachelors degree as the same. Only 32% of students indicated that their parents assisted them with choosing their courses, but 64% of parents stated they wanted their child to get a minimum of a bachelors degree.

When controlling for each individual vocational track, 35% of students were enrolled in the consumer track, 25% were enrolled in the general labor track, and 40% were enrolled in the specific occupation track. Among them, approximately 86% reported enrollment in the vocational track in the 10th grade. Many students (44%) were from the South, while 37% lived in rural, 25% lived in urban, and 38% reside in suburban areas. Approximately 82% of the population attended schools where the percent of students receiving free/reduced lunch was between 51-100% and 31% attended schools that had a minority student enrollment between 41-100%.

Vocational students in this sample had an average 10th grade standardized score of 49.35 (16.87 s.d.) and a 12th grade standardized test score of 56.23 (23.73 s.d.). Teacher experience is a significant predictor of student achievement (citation). This sample included nearly 43% of its teachers having 0-6 years of experience, while 57% had 7 or more years of experience.

After two years removed from high school, 71% of the respondents reported being employed. Among them, 50% reported working in the consumer field, 22% in the general labor field, and 28% in the specific occupation field.

PARITY ANALYSIS

Table 2 presents the parity measures of various tracks within the vocational program by race and gender. Prior empirical findings suggest vocational track placement produce racial and gender inequalities within the labor market. The study's first hypothesis proposed that Blacks and Hispanics would be over-represented in consumer and general labor vocational tracks and under-represented in the specific occupation vocational track. Even further, Hispanic and Black females would be overrepresented in the consumer track while Hispanic and Black males' would be overrepresented in the general labor track. According to Donovan and Cross (2001), and odds ratio under 1.0 represents an under-representation of enrollment patterns, whereas an odds ratio above 1.0 represents an over-representation.

Among males, Hispanic males' rate of enrollment patterns was 119% more (parity indicator = 1.19) of the corresponding rate for White males'

enrollment in the consumer track (or 19% higher than White males), 51% (parity indicator = 0.51) of the corresponding rate for White males' enrollment in the general labor track (or 49% lower than White males), and 152% (parity indicator = 1.52) of the corresponding rate for White males' enrollment in the specific occupation track (or 52% higher than White males). Among Hispanic females, their rate of enrollment in the consumer track was 105% (parity indicator = 1.05) of the corresponding rate for White females' enrollment (or 5% higher than White females), even parity with White females' enrollment in the general track; and 98% (parity indicator = 0.98 or 2% lower than White females) of the corresponding rate for White females' enrollment in the specific occupation track.

Hispanic males were overrepresented in the consumer and specific occupation track, while under-represented in the general labor track. Their enrollment patterns in the consumer and specific occupation does not support the first hypothesis. Hispanic females were over-represented in the consumer track, but under-represented in the specific occupation track. Hispanic females' enrollment patterns support the first hypothesis that they are disproportionately placed in courses that are largely segregated by gender (i.e. domestic, home economics, etc.), while accounting for few of the total number of students in specific occupation courses.

Black students' rate of vocational track enrollment differed slightly from Hispanic students. Black males' rate of enrollment patterns in the consumer track was 72% (parity indicator = 0.72) of the corresponding rate for White males' enrollment (or 28% lower than White males), 105% (parity indicator = 1.05) of the

corresponding rate for White males' enrollment in the general labor track (or 5% higher than White males); and 130% (parity indicator = 1.30) of the corresponding rate for White males' enrollment in the specific occupation track (or 30% higher than White males). Black females' rate of enrollment patterns into the consumer track was 122% more than that of White females' corresponding rate of enrollment (parity indicator = 1.22 or 22% higher than White females). Also, Black females' rate of enrollment into the general labor track was 88% of White females' corresponding rate of enrollment (parity indicator = 0.88 or 12% lower than White females). In the specific occupation track, Black females' rate of enrollment was 89% of White females' rate enrollment (parity indicator = 0.89 or 11% of White females' enrollment).

Black students vocational track enrollment patterns support and refute Hypothesis 1. Black males are over-represented in the general labor track, which supports Hypothesis 1. Previous empirical work found that race-ethnic males have a higher probability of enrolling in courses that lead to occupations in industrial areas (i.e. construction). Black males' over-representation in the specific occupation track does not support Hypothesis 1. Nonetheless, their over-representation in the specific occupation track may suggest that they, like Hispanic males, are beginning to enroll in vocational courses that are leading to occupations that are higher in status and wages. Among Black females, they are over-represented in the consumer track, similar to Hispanic females. This finding supports the hypothesis that race-ethnic minority females are disproportionately

placed in the consumer track. Black females are under-represented in the general labor and specific occupation track, which supports Hypothesis 1.

Table 2 Vocational Track Parity Measures of Enrollment by Race and Gender

	*Hispanics		Blacks		Whites		Total	
	Males (n=49)	**Females (n=56)**	**Males (n=47)**	**Females (n=51)**	**Males (n=248)**	**Females (n=247)**	**Males (n=344)**	**Females (n=354)**
Total %	**(0.47)**	**(0.53)**	**(0.48)**	**(0.52)**	**(0.50)**	**(0.49)**	**(0.49)**	**(0.51)**
Odds Ratios								
Consumer	**1.19****	**1.05**	**0.72**	**1.22**	**0.92**	**0.95**	**1.00**	**1.00**
	(0.43)***	(0.39)	(0.26)	(0.45)	(0.33)	(0.35)	(0.36)	(0.37)
General	**0.51**	**1.00**	**1.05**	**0.88**	**1.09**	**1.11**	**1.00**	**1.00**
	(0.22)	(0.09)	(0.45)	(0.08)	(0.47)	(0.10)	(0.43)	(0.09)
Occup	**1.52**	**0.98**	**1.30**	**0.89**	**0.87**	**1.04**	**1.00**	**1.00**
	(0.35)	(0.52)	(0.30)	(0.47)	(0.20)	(0.55)	(0.23)	(0.53)

*The total sample (N = 749). The sample is based on recoding the student-level response of 'describe your present high school program.' If student responses could not be categorized in one of the three vocational tracks (i.e. consumer, general labor, or specific occupation) they were not included.

Note:
An odds ratio under 1.0 represent an under-representation of enrollment patterns and an odds ratio above 1.0 represent an over-representation in the vocational program, where Whites are the reference category. **Data Source: National Educational Longitudinal Study (NELS: 1988).

***To calculate parity measures, I first calculated (for males and females) the total percent in each vocational track. I then divided each race percent by the total category percent to determine parity ratios.
Numbers in parentheses represent the total race percent by gender.

HLM REGRESSION ANALYSIS (ACADEMIC ACHIEVEMENT)

The following analyses display the results of the multilevel regression model predicting vocational students' performance on standardized academic achievement tests. In the HLM models constructed, the number of level-1 units only allows five predictors at a time. As a result, I only include four control variables and subsequently add one other predictor in each model. Tables 3-9 present the Level-1 and Level-2 regression coefficients and their associated standard errors for the HLM analysis of academic achievement. The coefficients refer to the effect of the Level-2 predictor on the slope of the Level-1 predictor. A detailed discussion of each model follows.

The base model included demographic predictors of academic achievement (e.g. race, social class, gender), as well as 10th grade achievement scores. Numerous studies have shown that students' performance on standardized achievement tests is strongly associated with race, social class, gender, and prior academic achievement (Farkas 2003; Jencks and Phillips 1998; Oakes 2005). As shown in the upper panel of Table 3, there were no effects of race on female's performance on standardized academic achievement tests. Unlike prior empirical evidence that find relationships between females and academic achievement, this analysis specifically examines female vocational students. Female vocational students' academic performance may not be affected because vocational programs emphasize technical and skilled training as opposed to success in core curriculum subjects (e.g. math, science, English, history).

The bottom panel of Table 3 reveals that among males, performance on standardized academic achievement tests was significantly influenced by race, social class, and prior academic achievement. As shown in Table 3, the Level-2 results for this model indicated a significant negative association between performance on standardized academic achievement tests while attending high minority schools among Black males (B = -33.00, p < .05). This pattern is consistent with prior studies showing that Black males disproportionately perform lower on standardized tests than their White counterparts (Jencks and Phillips 1998; Polite and Jordan 1999). Also, it has been found that Black students' academic performance suffers even greater when attending high minority

schools (Lee 2007; Southworth and Mickelson 2007). These findings support Hypothesis 2 that suggests race-ethnicity with negatively affect students' academic outcomes. In addition, males from lower social class backgrounds attending high minority schools scored well on standardized achievement test ($B = 44.20$, $p < .05$). Because most students in vocational programs tend to be from lower social class backgrounds, their enrollment may enhance their overall performance in school because the learning environment caters to their specific talents/interests, thus increasing their overall performance. Also, males that had strong levels of 10th grade achievement and enrolled in the 10th grade vocational track did well academically ($B = 0.90$, $p < .05$). This is not all that surprising since prior research suggests that past performance on standardized achievement tests is the best predictor of future performance on such tests. However, one might expect that being in the vocational track in 10th grade could restrict learning opportunities and thus constrain subsequent test performance.

Table 3. Multilevel HLM Regression Model Predicting Academic Achievement (Base Model)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES
	Coefficient (s.e.)	Coefficient (s.e.)	Coefficient (s.e.)	Coefficient (s.e.)	Coefficient (s.e.)
Females					
Level-2					
Intercept	**64.68(6.23) *****	-0.35(1.26)	26.10(17.16)	-18.85(16.65)	-13.07(11.70)
10th Track	-5.88(5.72)	0.99(1.28)	-21.88(18.87)	14.92(14.40)	4.30(11.45)
Region	0.99(6.03)	-0.51(0.39)	-10.233(12.36)	11.79(11.80)	5.39(7.58)
% Free	**-26.36(10.31)***	0.42(0.46)	-9.55(11.13)	7.99(10.20)	36.13(11.42)
Urban	-0.24(5.73)	-0.89(0.64)	0.82(11.36)	1.70(23.44)	2.77(9.31)
Rural	-9.62(9.17)	-0.15(0.42)	-5.39(10.67)	15.37(16.25)	10.27(10.27)
% Minor	-11.30(6.96)	0.87(0.0.86)	0.74(12.11)	9.81(20.77)	10.54(9.84)
*Level-1: N = 240, Level-2: j =125; X^2 = 168.69***					
Males					
Level-2					
Intercept	**60.54(12.06)*****	-0.09(0.51)	16.72(18.77)	-2.31(25.04)	-6.91(14.22)
10th Track	-9.87(11.48)	**0.90(0.45)***	-9/02(16.53)	1.22(20.30)	7.23(13.31)
Region	-0.06(7.14)	-0.70(0.36)	-5.16(10.04)	2.39(12.18)	9.13(8.34)
% Free	6.08(13.98)	0.35(0.33)	20.17(13.47)	-21.04(14.23)	-12.49(15.14)
Urban	16.91(17.06)	0.33(0.44)	-1.47(14.36)	-3.64(16.63)	-15.21(17.63)
Rural	-3.33(7.34)	-0.41(0.31)	-2.54(11.29)	-14.50(14.38)	1.54(8.22)
% Minor	-36.23(21.75)	-0.22(0.36)	-16.18(15.36)	**-33.00(15.20)***	**44.20(21.82)***
*Level-1: N = 232, Level-2: j =13; X^2 = 186.11****					

*p < .05 **p < .001 ***p < .0001

The next model included students' educational aspirations. The addition of educational aspirations resulted in significant predictors of females' academic performance unlike, the base model. Table 4 shows the addition of educational aspirations resulted in a negative association with females' performance of academic achievement tests. By adding educational aspirations, race effects were continued to have negative effects on race-ethnic groups' academic performance. Hispanic females previously enrolled in the10th grade vocational track grade resulted in lower achievement test outcomes (B = -27.63, p < .05). The addition of educational aspirations positively influenced females' achievement outcomes among those from lower social class backgrounds (B =

41.26, $p < .001$), while negatively affecting females aspiring post-secondary education ($B = -25.74$, $p < .001$).

The bottom panel of Table 4 reveals that the addition of educational aspirations negatively affected ethnic minority males' performance on standardized achievement tests. Hispanic males ($B = -34.46$, $p < .001$) and Black males ($B = -48.50$, $p < .001$) attending high minority schools scored considerably lower on standardized achievement tests than non-Hispanic and Black males. However, Hispanic males attending urban schools increased scores on achievement tests ($B = 18.70$, $p < .05$). The Hispanic population in public schools has increased in rapid fashion changing the landscape of American education (Fry 2006). Consequently, there is a growing achievement gap among Hispanics due to language barriers, prior formal schooling, and lower prior academic achievement levels (Portes and MacLeod 1996; Portes and Rumbaut 2001). The research on the educational experiences and academic outcomes of Hispanics, particularly Hispanic males, consistently find that their academic performance in schools is among the lowest, whereas outcomes such as suspensions are among the highest (Valenzuela 1999). These patterns are similar to Black male school outcomes, which again supports the hypothesis that race-ethnicity negatively affects student achievement.

Unlike females, males aspiring college and enrolled in the 10^{th} grade vocational track did well academically ($B = 26.44$, $p < .001$). Participation in the vocational program may provide opportunities for many students to attend some form of post-secondary education, most often community college. So males,

who primarily make up vocational programs, may see future opportunities to acquire at least a 2 year degree/certificate as a result of enrolling in vocational programs during high school. The association between social class and performance on achievement tests continued to be significant among males (*B* = 39.33, *p* < .05). What is more, attending schools in the South were positively associated with achievement outcomes among males from lower social class backgrounds (*B* = 19.52, *p* < .05).

Table 4. Multilevel Regression Model Predicting Academic Achievement in HLM (Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Aspirations
	Coeff (s.e.)	Coeff (s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff (s.e.)
Females						
Level-2						
Intercept	**60.36(6.96)*****	-0.15(1.06)	**29.11(10.09)****	-22.93(16.54)	-19.55(10.76)	**27.32(10.64)***
10th Track	1.95(5.33)	0.77(0.87)	**-27.63(12.42)***	20.98(14.00)	9.17(8.94)	**-25.74(9.01)****
Region	**2.19(6.06)****	-0.03(0.40)	-6.93(10.79)	18.38(14.92)	9.91(7.91)	-12.21(6.47)
% Free	-42.79(13.78)	-1.27(0.72)	-22.34(11.47)	-1.36(11.93)	**41.26(15.03)***	18.58(11.52)
Urban	0.69(5.64)	-1.32(0.89)	-3.38(10.95)	-8.48(21.91)	-3.16(11.20)	3.79(8.59)
Rural	**-19.85(8.25)***	-0.64(0.49)	-1.09(14.78)	2.60(14.56)	12.03(10.77)	9.67(7.98)
%Minor	-2.91(9.07)	-0.08(0.95)	-13.35(13.28)	12.10(19.16)	9.56(14.19)	-4.91(11.52)
*Level-1: N = 240, Level-2: j =125; X^2 = 164.70****						
Males						
Level-2						
Intercept	**90.41(10.75)*****	-0.50(1.00)	0.66(14.49)	-2.16(15.94)	-18.04(11.17)	**-28.17(11.58)***
10th Track	**-22.92(9.62)***	1.54(0.87)	3.30(13.75)	-2.70(0.34)	12.76(9.34)	**26.44(9.87)****
Region	-8.02(7.25)	-0.36(0.46)	**-14.28(7.18)***	10.58(12.96)	**19.52(8.36)***	2.80(6.25)
%Free	21.22(12.10)	0.29(0.44)	8.62(9.96)	-22.09(13.49)	-21.50(12.64)	-11.23(8.16)
Urban	1.19(13.42)	0.39(1.02)	**18.70(9.09)***	4.33(14.82)	-9.55(13.55)	-1.54(9.54)
Rural	0.58(8.13)	-0.08(0.27)	0.14(10.20)	-5.15(12.15)	-1.89(8.90)	-0.77(6.66)
%Minor	-27.35(15.29)	1.76(1.15)	**-34.46(12.65)****	**-48.50(13.38)****	**39.33(15.46)***	14.25(8.51)
*Level-1: N = 232, Level-2: j =133; X^2 = 156.34***						

*p < .05 **p < .001 ***p < .0001

Next, variable peer influence was added. As shown in the upper panel of Table 5, there were no effects of race among females and their performance on standardized academic achievement tests, which do not support Hypothesis 2 that suggests there are gender variations in the effects of race-ethnicity and students' academic outcomes.. Social class remained a significant predictor of female's performance on standardized achievement tests (*B* = 33.93, *p* < .05).

Also, females enrolled in the 10th grade vocational track with strong peer affiliations increased their standardized test scores considerably (B = 22.01, p < .001). The bottom panel of Table 5 highlights several significant predictors of male achievement. Most notably, there are several effects of race among males and their performance on academic achievement tests. A negative association remained between attending high minority schools and Black males (B = -50.15, p < .0001). Also, Black males attending schools with a high percent of its students receiving free/reduced lunch scored lower on standardized achievement tests (B = -25.86, p <.05). Among Hispanic males, attending Southern schools negatively affected their performance on standardized tests (B = -15.00, p < .05). Hispanic males attending schools with a high percent of its students receiving free/reduced lunch did well academically (B = 27.34, p < .05). Black and Hispanic males on average score lower on standardized tests than any other group of students. A part of the problem results from the disproportionate attendance at poor schools. Anyon (1997) noted that the lack of financial resources for schools in disparate areas result in negative social and educational outcomes among students who attend such schools. Anyon further noted these schools are riddled with inadequacies ranging from overcrowded classrooms, limited technological resources, to students using out-dated curriculum materials. Unfortunately, poorly funded schools house a disproportionate number of disadvantaged racial-ethnic minority students. As a result, these schools often have low performances on state-wide standardized tests. When unraveling personal and systemic factors that contribute to low academic performances

among students most affected by these social and educational ills, racial-ethnic males are significantly overrepresented.

The level-2 results for this model show significant positive associations between performance on academic achievement tests and peer influence among males. Males' peer affiliations toward academics attending schools with a high percent of its students receiving free/reduced lunch scored higher on their standardized achievement tests (B = 15.88, p < .05). Prior evidence shows that peers have a considerable impact on the social, educational, and behavioral development among adolescents (Fordham and Ogbu 1986; Kennedy 1995; Mickelson 1990). Empirical evidence finds that peer affiliation among some minority students increase their likelihood of socially embracing school, despite the negative connotations attached (Ford 1992; Jencks and Phillips 1998).

A positive association existed between social class and performance on standardized tests. Males from lower social class backgrounds attending high minority schools (B = 102.78, p < .0001) and attending Southern schools (B = 16.89, p < .05) did well academically. However, males from lower social class backgrounds attending urban school districts (B = -63.36, p < .0001) or schools with a high percent of its students receiving free/lunch (B = -37.81, p < .001) scored lower on standardized achievement tests. This finding is consistent with prior evidence (Parcel and Dufur 2001). Social class brings in several elements that increase or suppress student achievement. Social capital, particularly cultural capital, operates by providing certain groups of students with exposure to cultural norms that are reinforce in the school system. If students' cultural capital

does not match that of the school then students do not have high levels of achievement (Bourdieu 1987; Lareau and Horvat 2001).

The addition of peer influence as a predictor resulted in significant associations between males' prior achievement levels and academic performance. Males with strong levels of prior achievement who enrolled in the 10th grade vocational track (B = 0.90, p < .001) or attending schools with a high percent of its students receiving free/reduced lunch (B = 2.11, p < .001) did well academically. Yet, when attending Southern schools, males with strong levels of prior achievement scored poorly on standardized achievement tests (B = -1.62, p <.001).

Table 5. Multilevel Regression Model Predicting Academic Achievement in HLM (Peers)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Peers
	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coefficient (s.e.)
Females						
Level-2						
Intercept	**64.11(5.62)*** **	-0.60(1.40)	19.90(14.19)	-24.46(18.06)	-11.28(10.00)	**-26.95(9.07)** **
10th Track	-6.16(4.55)	0.83(1.32)	-17.67(17.55)	24.85(15.42)	4.18(9.47)	**22.01(8.00)** **
Region	-0.53(5.36)	0.15(0.71)	-7.30(12.27)	21.73(14.64)	5.92(7.02)	8.96(5.71)
% Free	-22.68(12.40)	-1.20(0.68)	-28.33(14.81)	-1.77(11.88)	**33.93(13.12)***	-7.02(12.83)
Urban	6.57(5.89)	-1.28(0.97)	0.31(15.12)	-14.23(23.99)	-5.60(10.08)	1.08(11.30)
Rural	-5.99(8.18)	-0.13(0.70)	-0.002(16.74)	2.72(13.93)	5.53(9.63)	-0.29(5.60)
%Minor	-3.06(6.39)	-0.19(1.00)	-9.13(14.26)	25.93(21.07)	3.34(9.31)	-3.43(15.09)
*Level-1: N = 240, Level-2: j = 125; X^2 = 146,60***						
Males						
Level-2						
Intercept	**51.87(8.32)*** **	0.16(0.36)	24.08(18.11)	-7.82(11.99)	6.44(10.86)	12.06(8.09)
10th Track	**-17.86(8.17)***	**0.90(0.12)*** **	-13.40(18.72)	3.33(8.69)	10.20(10.94)	-9.61(7.94)
Region	-4.69(6.57)	**-1.62(0.41)*** **	**-15.00(7.19)***	11.23(9.51)	**16.89(7.77)***	-5.81(6.25)
%Free	**24.90(10.46)***	**2.11(0.44)*** **	**27.34(13.19)***	**-25.86(10.81)***	**-37.81(12.73)** **	**15.88(7.85)***
Urban	**59.99(14.14)*** **	0.69(0.77)	6.84(10.06)	-17.28(12.43)	**-63.36(15.58)*** **	-4.88(10.01)
Rural	-1.05(7.16)	0.16(0.16)	-2.60(12.00)	-13.76(9.35)	-2.59(8.11)	-2.06(3.35)
%Minor	**-88.07(17.62)*** **	-1.11(0.89)	-26.49(14.01)	**-50.15(11.74)*** **	**102.78(19.34)*** **	-6.62(9.24)
*Level-1: N = 232, Level-2: j = 133; X^2 = 205.99*** **						

*p < .05 **p < .001 ***p < .0001

Tables 6-9 included parent and teacher level predictors. Shown in the upper panel of Table 6, only one of the level-1 predictors influenced females' performance on standardized academic achievement with the inclusion of variable parent involvement. There were no race effects among females with the addition of parent involvement. Social class continued to have a positive association with academic achievement (B = 23.47, p < .05) among females. Also, there was a positive association between performance on standardized academic achievement tests and parent involvement. Females whose parents were involved in the course selection process while attending schools with a high percent of its students receiving free/reduced lunch students scored higher on standardized achievement test (B = 38.08, p < .05). Parents' involvement in their child's education has been found to increase students' academic performance (Sui-Chi and Wilms 1996). Sui-Chi and Wilms (1996) identify that home and school involvements are equally significant in the success of students. The bottom portion of Table 6 reveals consistent patterns of significance among males. Similar to females, there were no race effects with the inclusion of parent involvement among males.

Positive associations between social class and academic achievement continue to exist among males (see Table 6). Also, like females, parent involvement significantly influenced males' performance on standardized academic achievement tests. Males enrolled in the 10th grade vocational track whose parents assisted in the course selection process (B = 25.36, p < .05) or

attending high minority schools (B = 43.13, p < .05) scored higher on standardized achievement tests.

Table 6. Multilevel Regression Model Predicting Academic Achievement in HLM (Parent Involvement)

Level-1	Intercept	Prior	Hispanic Achieve	Black	SES	Parent Involvement
	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)
Females						
Level-2						
Intercept	**66.24(13.12)*** **	-1.23(1.55)	31.05(18.15)	-16.06(19.65)	-2.29(7.26)	-20.63(13.95)
10th Track	-7.94(9.36)	1.45(1.28)	-17.04(19.52)	26.08(16.05)	----	11.11(11.43)
Region	5.02(10.42)	0.34(0.82)	-13.92(12.40)	23.36(12.56)	-0.23(8.09)	3.26(9.30)
%Free	-28.32(16.22)	-3.79(2.70)	-13.96(17.16)	-8.14(16.84)	----	**38.08(18.02)***
Urban	6.35(11.83)	-1.17(1.01)	-8.66(13.01)	-36.26(28.04)	-3.98(11.48)	1.20(12.76)
Rural	**-23.10(10.60)***	0.07(0.77)	-13.60(15.99)	3.42(15.60)	**23.47(9.29)***	3.83(10.72)
% Minor	-2.69(13.19)	-1.88(2.62)	-6.69(16.17)	46.40(27.46)	----	1.42(15.97)
*Level-1: N = 240, Level-2: j =125; X^2 = 152.32***						
Males						
Level-2						
Intercept	**122.25(27.38)*** **	-0.61(0.40)	22.66(23.47)	-7.95(29.46)	-18.12(16.20)	-21.08(12.46)
10th Track	**-105.95(26.65)*** **	**1.20(0.34)** **	-0.63(21.81)	14.79(24.28)	14.12(15.74)	**25.36(12.40)***
Region	23.29(17.06)	**-0.73(0.29)***	-14.58(12.46)	-5.61(18.91)	**18.01(8.24)***	5.59(8.77)
%Free	-24.41(18.57)	0.54(0.31)	4.84(18.53)	-25.00(22.38)	-17.52(12.83)	7.74(11.02)
Urban	1.45(38.87)	0.33(0.64)	-8.00(16.52)	-13.62(22.70)	-16.97(7.26)	-15.80(13.46)
Rural	-4.15(12.86)	0.13(0.21)	-22.86(14.36)	-16.37(17.07)	-5.55(7.26)	2.06(7.03)
%Minor	-79.20(42.52)	-0.18(0.65)	-3.83(14.80)	-27.34(21.58)	**47.56(20.57)***	**43.13(16.26)***
*Level-1: N = 232, Level-2: j =133; X^2 = 396.23*** **						

*p < .05 **p < .001 ***p < .0001

Table 7 included variable parent educational aspirations for their children. No race effects were evident when adding parent educational aspirations. The table did reveal a positive association between female academic achievement and parent aspirations. Females attending Southern schools did well academically when their parents aspired for them to attend college and beyond (B = 19.59, p < .001). Females' social class background was the only other significant predictors of academic performance. Females from lower social class backgrounds attending urban schools (B = 20.85, p < .05) or attending schools with a high percent of free/reduced lunch students (B = 29.07, p < .001) did well. Females continue to outperform males academically across the board,

particularly among Black and Hispanic students (Ford 1992; Jencks & Phillips 1998). Females of all racial-ethnic backgrounds are more likely to have higher GPAs, graduate from high school, and enroll in college (Mickelson and Heath 1999).

As shown in the bottom half of Table 7, performance on standardized academic achievement tests was significantly influenced by race and prior achievement among males. Black males attending high minority schools performed poorly on academic achievement tests (B = -38.53, p < .05). This finding is consistent with prior empirical evidence (Polite and Davis 1999). Males that had strong levels of prior achievement while attending Southern schools did poorly academically also (B = -0.80, p < .05). These findings support Hypothesis 2 that suggests race-ethnicity with negatively affect students' academic outcomes. There is a long history of school inequality in the South. Traditional sentiment suggests that discriminatory practices were more widespread in Southern schools. The implementation of school desegregation plans was slower in the South during the post Brown era. However, other structured forms of discriminatory practices began to take shape. Tracking became prevalent during this time period. Therefore, despite minority students, particularly males, having school success early on they were more likely to be placed in lower level academic programs. As a result, Black and Hispanic males faced discrimination on a personal level because of their race-ethnic status, but also faced structural discrimination within the schools through tracking mechanisms (Oakes 2005).

Table 7. Multilevel Regression Model Predicting Academic Achievement in HLM (Parent Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Aspirations
	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)
Females						
Level-2						
Intercept	**57.11(6.50)*** **	0.50(1.11)	17.55(13.73)	-29.24(17.47)	-0.55(10.29)	-9.74(5.10)
10th Track	8.11(6.26)	0.18(1.17)	-16.05(17.17)	26.85(15.16)	-12.84(10.48)	----
Region	1.58(6.62)	-0.53(0.42)	-8.01(11.93)	12.76(12.33)	-3.14(8.67)	**19.59(6.55)** **
%Free	-14.17(8.37)	0.24(0.48)	-18.62(12.05)	4.58(10.22)	**29.07(9.42)** **	----
Urban	-11.79(6.66)	0.99(0.86)	-9.28(11.09)	-3.44(24.79)	**20.85(8.51)***	-5.49(7.94)
Rural	-12.13(9.79)	0.20(0.42)	-10.51(11.16)	3.07(15.19)	17.12(10.52)	-3.47(7.40)
%Minor	-3.01(4.99)	0.99(1.09)	-2.55(10.63)	13.47(22.20)	9.98(7.03)	----
*Level-1: N = 240, Level-2: j =125; X^2 = 132.46**						
Males						
Level-2						
Intercept	30.19(34.99)	0.71(0.53)	-4.16(29.13)	10.82(26.66)	-11.10(16.75)	-20.01(13.68)
10th Track	-9.40(32.59)	-0.06(0.47)	11.27(27.80)	-5.29(21.64)	11.55(16.08)	12.21(12.14)
Region	**37.42(17.60)***	**-0.80(0.31)***	0.70(10.65)	3.54(13.04)	3.21(9.42)	7.566(8.51)
%Free	-7.22(19.59)	0.45(0.31)	9.16(14.89)	-33.27(17.27)	-10.42(14.79)	-13.61(11.60)
Urban	27.90(27.92)	-0.17(0.46)	-4.72(16.51)	-8.45(19.48)	-14.36(18.27)	5.79(12.50)
Rural	8.01(15.96)	-0.28(0.28)	0.11(12.13)	-21.07(17.00)	2.91(8.71)	6.39(8.35)
%Minor	-22.61(28.90)	-0.10(0.34)	-22.28(17.94)	**-38.53(16.62)***	40.83(23.97)	-11.57(13.24)
*Level-1: N = 232, Level-2: j =133; X^2 = 149.71** **						

*p < .05 **p < .001 ***p < .0001

In the upper section of Table 8, the effects of race were evident. Black females attending rural schools districts did well academically (B = 72.32, p < .001). This finding indicates that regardless of the school, its location, and tracking processes, many females continue to perform academically.

Social class continued to be a significant predictor of female's performance on standardized academic achievement tests; however, unlike previously there was a negative relationship. Females from lower social class backgrounds attending urban schools scored lower on their standardized performance tests (B = -43.69, p < .05). Teacher quality, however, was not a significant predictor for females. Results also show significant associations between prior achievement and academic performance on standardized exams among females. Females with strong levels of prior achievement enrolled in the 10th grade vocational track (B = -8.10, p < .001) or attending Southern schools

(B = -8.63, p < .0001) or attending rural schools (B = -7.50, p < .0001) scored lower on standardized achievement tests. However, females with strong levels of prior achievement attending schools with a high percent of its students receiving free/reduced lunch performed well academically (B = 9.14, p < .05).

As shown in Table 8, the Level-2 results highlight the significant associations among males. Race continued to be a significant predictor of academic performance among males. Black males attending Southern schools scored significantly higher than non-black males on standardized academic achievement tests (B =161.79, p < .01). Also, males from lower social class backgrounds attending schools with a high percent of its students receiving free/reduced lunch scored lower on standardized academic achievement tests (B = -51.14, p < .05). Again, a disproportionate number of students attend poorly funded schools which result in several negative school outcomes (Anyon 1997; Wenglinsky 1997). However, males from lower social class backgrounds attending urban schools did well academically (B =29.09, p < .05).

A significant negative association emerged between teacher experience and performance of standardized academic achievement tests among males. Males attending schools with teachers having little experience performed poorly on standardized academic achievement tests (B = -18.19, p < .05).

Table 8. Multilevel Regression Model Predicting Academic Achievement in HLM (Teacher Experience)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Experience
	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)
Females						
Level-2						
Intercept	**60.98(25.78)***	**16.52(2.16)*****	**39.78(18.63)***	-1.84(46.61)	-31.82(21.36)	2.61(3.44)
10th Track	-11.95(20.57)	**-8.10(2.18)****	0.74(18.39)	-23.66(44.64)	27.59(19.70)	-2.25(2.99)
Region	15.44(21.59)	**-8.63(1.49)*****	-151.16(74.81)	-21.43(19.27)	9.45(17.55)	-1.50(2.97)
%Free	-38.47(35.18)	**9.14(3.77)***	159.95(80.06)	43.98(34.65)	7.99(32.28)	-1.11(5.41)
Urban	21.81(18.83)	-0.17(0.72)	12.77(17.22)	81.05(64.20)	**-43.69(16.03)***	-1.17(4.76)
Rural	-35.24(32.01)	**-7.50(1.80)*****	-95.56(48.02)	**72.32(25.24)****	22.46(27.65)	0.71(2.72)
%Minor	-22.23(40.94)	1.73(2.97)	121.88(90.86)	-43.15(40.87)	6.25(38.79)	-0.13(4.42)
*Level-1: N = 240, Level-2: j =125; X^2 = 308.99****						
Males						
Level-2						
Intercept	**129.77(55.42)***	-1.26(0.98)	7.29(32.04)	-59.45(35.77)	-2.28(13.27)	0.13(4.22)
10th Track	**-147.91(52.64)****	2.28(0.93)	7.79(28.64)	48.82(28.33)	-----	3.26(3.43)
Region	**46.12(17.68)***	-0.78(0.29)	-25.14(12.71)	**161.79(55.55)****	10.33(13.12)	-3.28(2.38)
%Free	-2.34(33.25)	0.22(0.44)	4.22(39.58)	-14.40(37.26)	**-51.14(22.59)***	5.66(8.15)
Urban	24.67(34.31)	0.57(0.71)	-13.02(28.50)	-20.90(37.36)	**29.09(13.12)***	**-18.19(6.81)***
Rural	51.93(30.48)	-0.79(0.60)	-5.74(17.25)	-3.81(22.90)	-5.35(10.21)	-0.95(2.00)
%Minor	**-79.28(32.69)***	0.71(0.63)	11.74(29.22)	-----	-----	4.10(6.48)
*Level-1: N = 232, Level-2: j =133; X^2 = 2084.33****						

*p < .05 **p < .001 ***p < .0001

Table 9 highlights the results of the predictor variables with teacher quality. Shown in the upper panel of Table 9, no effects of race were evident among females. However, social class was the only significant predictor that influenced female's performance on standardized academic achievement tests. A significant positive association existed between academic achievement and social class among females. Females from lower social class backgrounds attending schools with a high percent of its students receiving free/reduced lunch scored higher on standardized academic achievement tests (B = 38.69, p < .001).

The bottom panel of Table 9 reveals that among males, performance on standardized academic achievement tests was significantly influenced by race-ethnicity. Hispanic males (B = -21.68, p < .05) and Black males (B = -34.92, p < .001) attending high minority schools performed poorly on standardized

academic achievement tests. This finding is consistent with previous evidence (Rumberger and Palardy 2005). Teacher quality, however, was not a significant predictor for either males or females performance on standardized academic achievement tests.

Table 9. Multilevel Regression Model Predicting Academic Achievement in HLM (Teacher Quality)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Quality
	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)
Females						
Level-2						
Intercept	**65.49(5.97)*** **	-0.28(1.19)	14.50(20.57)	-36.94(20.69)	-10.40(12.53)	-2.59(2.12)
10th Track	-7.21(5.76)	0.35(0.98)	-7.16(23.07)	29.59(16.31)	4.03(12.33)	----
Region	1.89(6.33)	0.13(0.90)	-16.19(11.96)	17.86(12.89)	2.78(7.58)	----
%Free	**7.07(13.39)***	-0.22(0.54)	-7.82(11.57)	-4.28(12.99)	**38.69(14.62)****	5.18(6.15)
Urban	-2.17(5.78)	-0.20(0.86)	1.85(11.02)	7.27(25.63)	2.99(8.96)	0.50(2.42)
Rural	-9.38(8.83)	0.24(0.71)	-0.43(10.58)	13.44(15.56)	9.17(9.95)	----
%Minor	-10.97(7.66)	1.11(1.17)	-5.22(12.49)	6.93(23.53)	10.34(9.15)	----
*Level-1: N = 240, Level-2: j =125; X^2 = 156.23**						
Males						
Level-2						
Intercept	23.25(34.64)	0.77(0.59)	16.71(12.69)	3.22(14.48)	-6.60(14.93)	-7.46(3.84)
10th Track	-10.70(32.13)	0.003(0.55)	-6.70(11.27)	-1.59(11.27)	7.48(13.51)	5.09(3.02)
Region	42.15(21.75)	**-0.82(0.38)***	-5.61(8.29)	3.58(8.02)	5.42(905)	4.27(2.34)
%Free	-20.74(22.72)	0.65(0.40)	15.29(12.22)	-18.56(9.82)	-14.92(15.43)	-2.72(3.29)
Urban	31.65(35.13)	-0.33(0.49)	-1.51(10.74)	-2.98(12.36)	-11.16(26.67)	-0.03(2.76)
Rural	15.98(22.24)	-0.37(0.39)	-4.50(9.42)	-20.26(10.76)	2.45(9.14)	1.85(2.54)
%Minor	-34.31(35.98)	0.04(0.45)	**-21.62(8.25)***	**-34.94(9.92)****	41.20(28.20)	0.37(3.21)
*Level-1: N = 232, Level-2: j =133; X^2 = 151.99**						

*p < .05 **p < .001 ***p < .0001

The overall findings show that males' performance on standardized academic achievement tests is significantly associated with race. Females' performance on standardized academic achievement tests, however, was not associated with race-ethnicity. There was some variation among Hispanic males and their achievement patterns. In some cases, Hispanic males performed well academically while other cases they performed poorly. These findings identify school level factors as significant predictors of students' academic performance levels. For example, attendance at Southern schools was negatively associated

with test performance while attendance at urban schools was positively associated with Hispanic males' academic performance.

HLM LOGISTIC ANALYSIS

Predictors of Consumer Track

The main premise of the study was to uncover the structural and social processes that contribute to the various vocational routes that students either choose or are placed into. The following analyses focus on the factors that contribute to students' placement into specific vocational tracks (Tables 10-16). Similarly to the model predicting academic achievement, the analysis includes four control variables and one other predictor variable is added in each subsequent model. The coefficients refer to the effect of the Level-2 predictor on the slope of the Level-1 predictor. The tables present the standardized regression coefficients and their associated standard errors.

The consumer model first included demographic variables and prior achievement. In the base model, the upper section of Table 10 revealed that there were significant race effects among females. Race was negatively associated with females' placement into the consumer track. Black females (odds ratio = 0.07, $p < .05$) and Hispanic females (odds ratio = 0.09, $p < .001$) attending Southern schools were less likely than non-Black and non-Hispanic females to enroll in the consumer track. This finding does not support Hypothesis 2 that suggest gender variations exist in vocational track placement. Also, this finding is not consistent with some recent empirical evidence that found

females overall, but specifically race-ethnic females, were more likely to enroll in courses geared towards domestic and low-skilled occupations; occupations that are primarily gendered segregated (Ainsworth and Roscigno 2005). The lower panel of Table 10 shows race and social class were significant predictors of consumer track placement among males. Race was negatively associated with males' placement into the consumer track. Black males (odds ratio = 0.07, $p <$ .05) and Hispanic males (odds ratio = 0.03, $p < .05$) attending urban schools were not as likely to enroll in the consumer track.

Also, Black males attending schools with a high percent of its students receiving free/reduced lunch were less likely to enroll in the consumer track (odds ratio = 0.02, $p < .05$). Interestingly, Black males from lower social class backgrounds attending high minority schools (odds ratio = 200.81, $p < .05$) or schools with a significant percentage of its students receiving free/reduced lunch (odds ratio = 260.26, $p <.05$) had a higher probability of enrolling in the consumer track.

Table 10. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Base Model)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females					
Level-2					
Intercept	0.88(0.66)	1.19 (0.13)	2.91 (0.66)	4.69 (1.58)	0.61(1.08)
10th Track	0.55(0.63)	0.80 (0.12)	----	0.61(1.58)	1.53(0.96)
Region	0.66(0.67)	1.01(0.04)	**0.09(0.86)****	**0.07(1.31)***	2.37(0.81)
% Free	----	----	----	----	----
Urban	0.48(0.70)	1.12(0.05)	0.49(1.04)	----	3.02(1.00)
Rural	0.22(1.27)	0.96(0.05)	2.60(1.22)	3.51(1.14)	4.12(1.34)
%Minor	----	----	----	----	----
Level-1: N = 240, Level-2: j =125; X^2 = 188.04					
Males					
Level-2					
Intercept	4.48(1.38)	1.11(0.06)	4.10(1.47)	1.61(0.68)	0.09(1.62)
10th Track	0.23(1.45)	0.991(0.05)	1.10(1.13)	-----	2.20(1.61)
Region	0.57(0.77)	1.01(0.05)	0.47(1.01)	1.15(0.99)	2.64(0.88)
%Free	0.03(2.06)	0.85(0.06)	0.08(1.42)	**0.02(1.47)***	**259.82 (2.35)***
Urban	0.06(2.28)	0.85(0.09)	**0.03(1.48)***	**0.07(1.30)***	**200.34 (2.42)***
Rural	**4.42(0.74)***	0.92(0.04)	1.84(1.30)	-----	0.21(0.86)
%Minor	6.88(3.48)	0.95(0.07)	8.98(1.37)	-----	0.03(3.42)
Level-1: N = 232, Level-2: j =133; X^2 = 127.60					

*p < .05 **p < .001 ***p < .0001

When variable student educational aspirations were added to the model, race effects continue to exist among females' likelihood to enroll in the consumer track (Table 11). Black females attending Southern schools were less likely to enroll in the consumer track (odds ratio = 0.04, p <.001). However, Black females attending urban schools had a much higher probability of enrolling in the consumer track (odds ratio = 188.67, p < .0001). Also there was a positive association between prior achievement and consumer track placement among females. Females with strong levels of prior achievement attending urban schools were more likely to enroll in the consumer track (odds ratio = 1.25, p < .001). These findings suggest that urban schools factor into females' placement into the consumer track. Compared to schools in suburban areas where course offerings are expansive, urban and rural schools offer a limited number of courses both at the high and low ends of the academic spectrum. Consequently,

females enrolled in vocational courses confront having limited options within the vocational program. Also, with continued gendered segregation, they are much more likely to enroll in the consumer track despite having strong academic backgrounds.

The lower half of Table 11 revealed that the effects of race in predicting males' likelihood of enrolling in the consumer track. Black males (odds ratio = 0.01, $p < .001$) and Hispanic males (odds ratio = 0.02, $p < .001$) attending schools with a high percentage of students receiving free/reduced lunch were less likely to enroll in the consumer track. Also, Hispanic males attending urban schools were less likely to enroll in the consumer track (odds ratio = 0.02, $p < .05$).

Males aspiring to attend college but attending rural schools were more likely to enroll in the consumer track (odds ratio = 7.24, $p < .01$). However, males aspiring college attending high minority schools were less likely to enroll the consumer (odds ratio = 0.04, $p < .05$). This finding highlights that when males are attending rural schools their college aspirations may be suppressed and result in their increased likelihood of enrolling a vocational program that leads to the lower-tiered service sector of the labor market.

There was an association between social class and consumer track placement among males. Males from lower social class backgrounds attending schools with a high percent of its students receiving free/reduced lunch were more likely to enroll in the consumer track (odds ratio = 632.70, $p < .05$). However, males from lower social class backgrounds attending rural schools

were less likely to enroll in the consumer track (odds ratio = 0.14, $p < .05$). Prior achievement also had a negative association with consumer track placement among males (odds ratio = 0.78, $p < .001$). Also, males attending rural schools (odds ratio = 0.90, $p < .05$) were less likely to enroll in the consumer track. This pattern is consistent with prior studies that suggest males overall, are less likely to enroll in the consumer track (Ainsworth and Roscigno 2005; Royster 2003).

Table 11. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Aspirations
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.50(1.14)	0.90(0.10)	1.19(1.69)	0.14(1.34)	2.00(1.19)	0.98(1.11)
10th Track	1.19(0.99)	1.09(0.09)	1.72(1.69)	5.62(1.17)	0.52(1.02)	0.97(.093)
Region	0.71(0.67)	0.97(0.05)	0.17(0.04)	**0.04(1.03)****	1.50(0.70)	0.85(0.66)
%Free	----	----	----	----	----	----
Urban	0.20(0.92)	**1.25(0.07)****	2.26(0.94)	**188.67(1.35)*****	0.97(0.91)	2.03(0.96)
Rural	0.45(0.93)	0.97(0.05)	0.89(0.94)	7.97(1.16)	1.58(0.92)	1.59(0.70)
%Minor	----	----	----	----	----	-----
Level-1: N = 358, Level-2: j =184; X^2 = 148.51						
Males						
Level-2						
Intercept	13.09(1.54)	1.02(0.10)	8.15(1.83)	1.63(0.76)	0.02**(1.71)***	0.30(1.35)
10th Track	0.11(1.32)	1.09(0.10)	0.81(1.42)	-----	10.05(1.43)	1.04(1.19)
Region	0.60(0.98)	1.03(0.07)	0.25(1.18)	0.20(1.32)	4.39(1.00)	0.88(0.84)
%Free	0.09(3.05)	**0.78(0.08)****	**0.02(1.40)****	**0.01(1.58)****	**632.70 (3.22)***	0.14(1.10)
Urban	0.06(1.96)	0.82(0.13)	**0.02(1.89)***	0.15(1.59)	32.01(1.90)	13.45(1.64)
Rural	1.77(0.94)	**0.90(0.04)***	1.29(1.51)	-----	**0.14(0.96)***	**7.24(0.91)***
%Minor	7.06(2.98)	0.99(0.11)	9.79(1.64)	-----	0.35(2.85)	0.04**(1.36)***
Level-1: N = 232, Level-2: j =133; X^2 = 112.56						

*p < .05 **p < .001 ***p < .0001

Table 12 includes peer influences as a predictor of students' consumer track placement. Among females, race continued to be significant predictor of female's likelihood of consumer track placement. Hispanics attending Southern schools (odds ratio = 0.06, $p <.001$) were less likely to enroll in the consumer track than non-Hispanic females. Also, females with strong levels of prior achievement were less likely to enroll in the consumer track (odds ratio = 0.90, p

< .05). Females continue to outnumber males in their academic performance which may result in their placement in challenging, more rigorous courses (Jencks and Phillips 1998; Mickelson and Greene 2006).

The lower panel of Table 12 shows that social class, race, and prior achievement remain significant predictors of consumer track placement, among males (see Table 12). Student's peer affiliations did not produce any significant associations among males or females. The race effects were only evident among Hispanic males. Hispanic males attending Southern schools had a lower probability of enrolling in the consumer track (odds ratio = 0.03, $p < .05$). Although males are overall less likely to enroll in the consumer track, the South may present more vocational options to Hispanic males (i.e. mechanical, agricultural, construction, etc.).

Table 12. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Peer Influence)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Peer Influence
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.78(0.69)	1.03(0.10)	2.57(0.66)	5.20(1.72)	0.89(0.91)	0.62(0.94)
10th Track	0.58(0.61)	1.01(0.09)	----	0.68(1.71)	1.33(0.79)	2.61(0.63)
Region	0.65(0.61)	0.92(0.05)	**0.06(0.96)****	0.08(1.61)	1.71(0.70)	1.63(0.63)
%Free	-----	-----	----	----	----	----
Urban	0.62(0.66)	1.13(0.08)	0.87(0.95)	----	1.19(0.84)	1.30(0.80)
Rural	0.50(0.88)	**0.90(0.05)***	3.34(1.06)	1.22(1.25)	2.09(0.96)	0.64(0.60)
%Minor	----	----	----	----	----	----
Level-1: N = 358, Level-2: j = 184; X^2 = 160.51						
Males						
Level-2						
Intercept	0.99(1.24)	1.00(0.06)	10.15(2.15)	0.77(0.63)	0.56(1.47)	1.14(0.99)
10th Track	0.17(1.26)	1.04(0.04)	0.09(2.10)	-----	4.43(1.51)	2.03(1.09)
Region	0.36(0.81)	1.08(0.06)	0.18(1.14)	1.14(1.11)	4.15(0.91)	0.92(0.66)
%Free	3.28(1.03)	**0.88(0.06)***	0.10(1.33)	0.17(1.68)	-----	6.62(1.00)
Urban	6.74(1.03)	0.91(0.11)	**0.03(1.41)***	0.35(1.82)	-----	0.41(1.45)
Rural	**6.24(0.76)***	**0.87(0.04)****	10.33(1.37)	-----	**0.12(0.90)***	0.46(0.64)
%Minor	0.07(2.85)	0.91(0.18)	13.38(1.56)	-----	4.53(2.68)	5.04(1.18)
Level-1: N = 232, Level-2: j = 133; X^2 = 119.85						

*p < .05 **p < .001 ***p < .0001

Parent involvement in their child's educational careers impacts student outcomes such grades, SAT scores, lower dropout rates, etc. Involvement at home has been found to also influence such things as course placement (Mickelson et al. 2002). However, in this model, the addition of variable parent involvement did not result in any significance among males and females. Still, race effects were evident. Hispanic females attending Southern schools were less likely than non-Hispanic females to enroll in the consumer track (see Table 13). This finding debunks the perception that Hispanic females are more likely to enroll, and eventually work, in consumer occupations, especially those residing in Southern states.

The bottom section of Table 13 continues to reveal the significant race effects among males' likelihood of placement in the consumer track. This section

also continues to highlight students' prior achievement and social class as significant predictors of males' consumer track placement. Hispanic males attending schools with a high percent of students receiving free/reduced lunch were less likely to enroll in the consumer track (odds ratio = 0.03, p < .05). Also, males from lower social class backgrounds attending schools with a high percent of its students receiving free/reduced lunch (odds ratio = 138.21, $p < .05$) or attending urban schools (odds ratio = 87.29, $p < .05$) were more likely to enroll in the consumer track than males from higher social class backgrounds.

Table 13. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Parent Involvement)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Involvement
	Odds(s.e.) Ratio	Odds (s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	1.30(1.07)	1.001(0.10)	2.37(.075)	8.73(1.36)	0.51(1.18)	0.63(0.48)
10th Track	0.29(0.81)	1.08(0.07)	----	0.46(1.36)	2.91(0.95)	----
Region	0.46(0.80)	0.93(0.06)	**0.07(1.19)***	0.09(1.24)	1.76(0.81)	1.83(0.59)
%Free	----	----	----	----	----	----
Urban	0.24(1.17)	1.13(0.07)	0.77(1.20)	----	1.29(1.01)	3.60(0.99)
Rural	0.39(1.05)	0.87(0.06)	3.73(1.30)	1.10(1.15)	1.15(1.05)	3.74(0.68)
%Minor	----	----	----	----	----	----
Level-1 N = 358, Level-2 j=184; X^2 = 153.88						
Males						
Level-2						
Intercept	2.40(2.01)	1.05(0.08)	68.59(2.58)	1.05(0.65)	0.14(2.21)	0.63(2.06)
10th Track	0.58(1.96)	1.10(0.07)	0.01(2.31)	-----	2.84(2.29)	0.70(2.08)
Region	0.69(1.06)	1.09(0.08)	0.16(1.31)	0.88(1.62)	2.65(0.92)	0.77(1.01)
%Free	0.07(1.87)	**0.79(0.09)****	**0.03(1.50)***	0.03(1.93)	**138.21(2.08)***	-----
Urban	0.02(1.94)	**0.76(0.13)***	0.11(2.00)	0.42(2.42)	**87.29(2.16)***	4.39(1.49)
Rural	5.01(1.00)	**0.84(0.06)****	7.76(1.53)	-----	**0.11(0.98)***	1.66(0.93)
%Minor	14.54(3.14)	1.06(0.12)	2.95(1.71)	-----	0.01(3.07)	-----
Level-1 N = 232, Level-2 j=133; X^2 = 97.23						

*p < .05 **p < .001 ***p < .0001

The next table examines consumer track placement with the inclusion of parent's educational aspirations for their children (Table 14). The upper panel shows that there were negative race effects in predicting females' consumer track placement. Black females attending Southern schools were less likely than

non-Black females to enroll in the consumer track (odds ratio = 0.10, $p < .05$). Parent aspirations were not a significant predictor of female's consumer track placement.

The lower panel of Table 14 reveals significant negative associations between race and consumer track placement among males. Also, prior achievement significantly influenced males' likelihood of consumer track placement. Black males (odds ratio = 0.01, $p < .001$) and Hispanic males (odds ratio = 0.04, $p < .05$) who attended schools with a higher percent of its students receiving free/reduced lunch were less likely to enroll in the consumer track. Also, Hispanic males attending urban schools were less likely to enroll in he consumer track (odds ratio = 0.03, $p < .05$). Males from lower social class backgrounds attending schools with a high percent of its students receiving free/reduced lunch (odds ratio = 225.76, $p < .05$) or attending urban schools (odds ratio = 122.81, $p < .05$) were more likely to enroll in the consumer track than males from higher social class backgrounds. Parent aspirations were not a significant predictor of male's consumer track placement.

Table 14. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Parent Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Aspirations
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.90(0.69)	0.90(0.10)	3.02(0.70)	0.51(1.11)	0.80(0.97)	1.11(0.75)
10th Track	0.54(0.67)	1.08(0.09)	----	3.69(1.10)	1.30(0.85)	-----
Region	0.67(0.66)	1.00(0.05)	0.13(0.99)	**0.10(0.94)***	1.65(0.81)	0.58(0.72)
%Free	----	----	----	----	----	-----
Urban	0.94(0.77)	1.12(0.05)	0.14(1.45)	----	6.48(1.12)	0.14(1.42)
Rural	0.64(0.88)	0.97(0.05)	0.89(1.28)	3.82(1.02)	1.92(0.92)	1.16(0.67)
%Minor	-----	-----	-----	-----	-----	-----
Level-1 N = 358, Level-2 j=184; X^2 = 145.20						
Males						
Level-2						
Intercept	6.51(1.50)	1.08(0.11)	2.39(0.95)	1.90(0.66)	0.07(1.67)	0.83(1.34)
10th Track	0.23(1.42)	1.03(0.09)	-----	-----	3.61(1.62)	0.38(1.31)
Region	0.66(1.10)	1.03(0.07)	0.76(1.15)	1.28(0.94)	1.47(1.08)	1.11(0.86)
%Free	0.04(2.14)	0.84(0.09)	**0.04(1.28)***	**0.01(1.42)****	**225.76(2.13)***	1.52(1.35)
Urban	0.05(1.92)	**0.76(0.11)***	**0.03(1.46)***	0.04(1.39)	**122.81(2.00)***	11.11(1.37)
Rural	1.22(0.99)	0.93(0.04)	3.23(1.47)	-----	0.14(0.96)	**10.26(0.86)****
%Minor	8.44(2.92)	1.07(0.10)	2.66(1.41)	-----	0.05(2.90)	0.19(1.63)
Level-1 N = 232, Level-2 j=133; X^2 = 107.05						

*p < .05 **p < .001 ***p < .0001

Table 15 included variable teacher experience. Race continued to influence females' likelihood of enrolling in the consumer track. Hispanic females attending Southern schools were less likely to enroll in the consumer track (odds ratio = 0.0001, p < .0001). Females with strong levels of prior achievement who attended urban schools were more likely to enroll in the consumer track (odds ratio = 1.62, *p* <.05). Teacher experience was not a significant predictor of female's consumer track placement.

The lower section of Table 15 reveals that among males, negative associations continued to exist between prior achievement and consumer track placement (see Table 15). However, a positive association existed between Hispanic males attending rural schools (odds ratio = 33.73, *p* <.05) and males attending schools with less experienced teachers (odds ratio = 3.78, *p* < .001)

and consumer track placement. Anyon (1997) and Kozol's (1991) work on disparities among schools and school resources highlight that teachers with the fewest years of experience often teach in the most disadvantaged schools, where lack of funding negatively affects school resources and student outcomes. Consequently, this finding aligns with their theory of how countless students, particularly males, who attend disadvantaged schools suffer even greater due to classroom overcrowding, lack of technological resources, and inexperienced teachers.

Table 15. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Teacher Experience)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Experience
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.83(1.82)	0.83(0.23)	2.44(1.03)	1.02(1.41)	0.57(0.66)	1.13(0.31)
10th Track	1.10(.42)	1.29(0.18)	----	----	----	0.98(0.29)
Region	1.41(1.20)	0.99(0.18)	**1.14(0.92)*** **	----	----	0.73(0.24)
%Free	----	----	----	----	----	----
Urban	**0.04(1.46)***	**1.62(0.24)***	14.51(1.71)	21.62(2.08)	----	0.88(0.28)
Rural	1.22(1.20)	0.85(0.17)	----	2.72(1.78)	----	0.94(0.23)
%Minor	----	----	----	-----	----	----
Level-1 N = 358, Level-2 j = 184; X^2 = 60.06						
Males						
Level-2						
Intercept	**44.42(1.64)***	**3.81(0.27)*** **	0.31(1.16)	25.73(1.65)	0.11(1.29)	**0.27(0.36)** **
10th Track	1.20(1.27)	-----	-----	-----	-----	-----
Region	**0.01(1.40)** **	**0.28(0.27)*** **	0.90(1.63)	-----	7.84(1.69)	**3.78(0.38)** **
%Free	0.20(1.20)	-----	-----	-----	-----	-----
Urban	3.23(1.79)	**0.84(0.08)***	-----	-----	-----	1.26(0.42)
Rural	0.33(1.38)	**0.06(0.65)*** **	**33.73(1.59)***	0.08(2.00)	-----	1.22(0.28)
%Minor	0.45(1.34)	-----	-----	-----	-----	-----
Level-1 N = 232, Level-2 j=133; X^2 = 44.27						

*p < .05 **p < .001 ***p < .0001

The addition of teacher quality as a predictor of consumer track placement produced several significant predictors among females. However, there were no significant associations with consumer track placement among males (see Table 16). Race continued to be a significant predictor of female's consumer track

placement. Black females attending schools in either urban (odds ratio = 57.10, $p < .05$) or rural districts (odds ratio = 5.89, $p < .001$) were more likely to enroll in the consumer track than non-Black females. Also, females with strong levels of prior achievement attending urban schools were more likely than males to enroll in the consumer track (odds ratio = 1.17, $p < .01$). Race and school location appear to be salient factors that increase females' likelihood of enrolling in the consumer. Also, gender biases may affect the placement of male and female students in the vocational program, despite levels of prior academic success. Females attending schools with high quality teaching in urban districts were more likely to enroll in the consumer track (odds ratio = 2.53, $p < .05$).

Table 16. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Teacher Quality)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Quality
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.64(0.82)	0.92(0.10)	1.72(0.53)	0.70(0.60)	1.26(0.98)	**0.36(0.40)***
10th Track	1.07(0.75)	1.07(0.09)	----	----	0.80(0.91)	----
Region	0.52(0.58)	0.93(0.06)	0.14(1.04)	0.04(1.29)	1.78(0.63)	----
%Free	----	----	----	----	----	----
Urban	0.32(0.70)	**1.17(0.06)****	2.02(0.88)	**57.10(1.40)***	1.24(0.79)	**2.53(0.40)***
Rural	0.65(0.73)	0.99(0.06)	1.30(1.01)	**5.89(1.07)****	1.54(0.81)	----
%Minor	----	----	----	----	----	----
Level-1 N = 358, Level-2 j=184, X^2 = 155.69						
Males						
Level-2						
Intercept	0.84(1.46)	0.98(0.14)	4.99(2.26)	1.82(0.78)	0.73(1.69)	0.08(10.21)
10th Track	0.33(1.43)	1.04(0.13)	1.02(2.02)	-----	1.14(1.62)	-----
Region	0.68(0.86)	0.99(0.07)	0.55(1.24)	-----	2.32(1.01)	9.59(10.21)
%Free	0.47(1.58)	0.79(0.16)	0.28(1.63)	-----	5.26(1.74)	-----
Urban	1.26(2.27)	1.14(0.16)	0.03(1.75)	0.32(1.43)	4.91(2.40)	0.26(1.62)
Rural	4.43(0.87)	0.97(0.08)	1.46(1.51)	-----	0.22(1.02)	1.18(1.40)
%Minor	0.57(2.89)	0.82(0.18)	3.23(1.80)	-----	0.90(2.98)	-----
Level-1 N = 232, Level-2 j=133; X^2 = 192.37						

*p < .05 **p < .001 ***p < .0001

There were no race effects in the base model that predicted the likelihood of students enrolling in the consumer track. The models do show that Black females were most likely to enroll in the consumer track, thus supporting the Hypothesis 2 that stated race and gender variations are factors that contribute the probable placement in the consumer track. Among males, there were some race-effects evident with the inclusion of Level-1 variables. Overall, males were less likely to enroll in the consumer track, thus supporting the hypothesis that males are not as likely as females to enroll in the consumer track. However, Hispanic males attending rural schools with inexperienced teachers had a higher probability of enrolling in the consumer track. This finding does not support Hypothesis 2.

Predictors of General Labor Track

The following analysis addressed the predictors of students enrolling in the general labor track. Students enrolled in this track receive training in manual and skilled trade occupations. In Table 17, race effects were evident in predicting females' likelihood of enrolling in the general labor track. Hispanic females attending rural schools were less likely than non-Hispanic females to enroll in the general labor track (odds ratio = 0.001, $p < .0001$). There were no other significant associations among females. Females enrolled in the vocational program are likely to enroll in consumer tracks, but are also more likely to take secretarial courses. Attending schools in rural areas can have a lasting affect on job opportunities. Residing in disadvantaged urban and rural areas may

therefore hinder the pursuit of social, economic, and educational opportunities. Where individuals live is a function of the types of schools they attend, job opportunities available, as well as other resources (Massey 1988; Massey and Denton 1993). Consequently, males and females who attend rural schools confront restrictive occupational options, especially with the recent trend of industries relocating away from rural and urban areas (Wilson 1996).

The lower section of Table 17 reveals among males, general track placement was significantly influenced by race, social class, and prior achievement. The effects of race were more evident among males than females in predicting the likelihood of general labor track placement. Black males (odds ratio = 21.12, $p < .05$) and Hispanic males (odds ratio = 76.36, $p < .05$) attending schools with a high percent of its students receiving free/reduced lunch had a stronger probability of enrolling in the general labor track. At the same time, Black males (odds ratio = 0.04, $p < .05$) and Hispanic males (odds ratio = 0.03, $p < .05$) attending rural schools were less likely than non-Blacks and non-Hispanics to enroll in the general labor track. It appears that attending rural schools has an adverse affect on students enrolling into the general labor track. However, with the impact of globalization, urban and rural areas are most affected by the relocation of their primary labor market (textiles, manufacturing, etc.). Therefore, in rural areas it makes sense that students are not enrolling in the vocational courses that lead to general labor occupations.

Males from lower socioeconomic backgrounds attending urban schools (odds ratio = 0.15, $p < .05$) or schools with a high percent of its students

receiving free/reduced lunch (odds ratio = 0.002, $p < .001$) were less likely than males from higher social class backgrounds to enroll in the general labor track. Royster's case study discussed how social class combined with race played a role in the dispersion of males in specific vocational course tracks. Although the school system she studied housed primarily low-income White and Black students, it was disproportionately Black students. Low-income Black males most often were regulated to the lowest level vocational courses offered. More importantly, structural processes in schools regulated Black males to lower level courses and curriculum despite many having stronger academic backgrounds and vocational course success than their White male counterparts (Royster 2003).

Also, males with strong levels of prior achievement who enrolled in the vocational track in the 10^{th} grade (odds ratio = 1.91, $p < .0001$) or attending schools with a high percent of its students receiving free/reduced lunch (odds ratio = 1.13, $p < .001$) were more likely to enroll in the general labor track.

Table 17. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Base Model)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females					
Level-2					
Intercept	0.29(0.97)	0.92(0.12)	0.46(1.19)	0.13(1.06)	0.23(1.13)
10th Track	----	----	----	----	----
Region	0.37(0.98)	1.09(0.11)	1.22(1.42)	----	2.84(1.19)
%Free	**5.98(0.89)***	1.19(0.15)	----	----	----
Urban	1.82(1.03)	0.91(0.13)	----	----	2.21(1.41)
Rural	0.78(0.99)	1.10(0.10)	**1.77(1.77)*****	6.52(1.51)	2.23(1.20)
%Minor	3.66(0.69)	1.05(0.14)	----	----	----
Level-1: N = 240, Level-2: j = 125; X^2 = 81.74					
Males					
Level-2					
Intercept	0.06**(0.77)*****	**0.47(0.16)*****	1.25(1.89)	10.73(1.29)	1.82(1.24)
10th Track	2.37(0.67)	**1.91(0.16)*****	-----	-----	2.91(1.15)
Region	0.47(0.61)	0.98(0.04)	1.67(1.35)	0.78(1.35)	1.62(0.75)
%Free	40.71(1.64)	**1.13(0.05)****	**76.36(1.79)***	**21.12(1.47)***	**0.002(1.85)****
Urban	4.90(1.06)	1.21(0.09)	0.31(1.57)	0.22(1.63)	**0.15(0.95)***
Rural	2.13(0.68)	1.06(0.04)	**0.03(175)***	**0.04(1.24)***	1.40(0.80)
%Minor	0.26(0.86)	0.01(0.08)	2.30(1.65)	0.42(1.57)	-----
Level-1: N = 232, Level-2: j =133; X^2 = 126.25					

*p < .05 **p < .001 ***p < .0001

When variable educational aspirations were added to the model, there continued to be race effects when predicting general track placement. Hispanic females attending rural schools were less likely than non-Hispanic females to enroll in the general labor track (odds ratio = 0.001, $p < .0001$) (Table 18). There were no other significant predictors of general track placement among females.

Among males, race and prior achievement were significant predictors of general track placement. Black males attending schools in rural districts were less likely to enroll in the general labor track (odds ratio = 0.02, $p < .001$). Unlike the prior model, race was not a significant predictor of general track placement among the males. Also, males with strong levels of prior achievement who were enrolled in the vocational track in the 10th grade were more likely to enroll in the general labor track (odds ratio = 1.73, $p < .001$).

Table 18. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Aspirations
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.39(1.03)	0.93(0.10)	0.49(0.90)	0.44(1.08)	0.35(1.07)	0.32(1.13)
10th Track	----	----	----	----	----	----
Region	0.30(1.22)	1.10(0.10)	2.58(1.40)	----	1.68(1.25)	1.68(1.06)
%Free	----	----	----	----	-----	----
Urban	1.59(1.59)	0.66(0.22)	----	0.10(3.14)	22.69(3.01)	2.76(2.76)
Rural	0.53(1.63)	1.10(0.09)	**1.48 (1.55)*** **	----	1.86(1.16)	1.26(1.26)
%Minor	----	----	----	----	----	-----
Level-1: N = 240, Level-2: j =125; X^2 = 106.17						
Males						
Level-2						
Intercept	0.07**(0.92)****	**0.53(0.11)*****	1.44(2.27)	**40.24(1.34)****	1.43(1.14)	0.80(1.08)
10th Track	2.46(0.85)	**1.73(0.11)*****	-----	-----	0.74(0.94)	3.73(0.96)
Region	0.55(0.78)	0.99(0.05)	2.22(1.49)	0.56(1.43)	1.28(0.93)	1.08(0.77)
%Free	1.89(1.33)	-----	-----	-----	-----	0.38(1.38)
Urban	1.59(1.09)	1.21(0.10)	0.98(1.72)	0.05(1.73)	-----	-----
Rural	2.09(0.82)	1.06(0.04)	0.12(2.37)	**0.02(1.34)****	0.25(0.88)	0.48(0.86)
%Minor	0.25(1.74)	1.02(0.15)	2.80(2.62)	1.16(1.52)	0.20(1.41)	11.08(1.26)
Level-1: N = 232, Level-2: j =133; X^2 = 103.19						

*p < .05 **p < .001 ***p < .0001

The addition of variable peer influence resulted in the continued effects of race. Table 19 shows a continued negative association between race and general labor track placement among Hispanic females (odds ratio = 0.001, p < .001). Peer influence was not a significant predictor of female's general labor track placement. The bottom panel of Table 19 reveals that among males, race and prior achievement were significant predictors of general track placement. Hispanic males who attend Southern schools had a higher probability of enrolling in the general labor track (odds ratio = 7.34, p < .05). However, Hispanic males who attended rural schools were less likely to enroll in the general labor track (odds ratio = 0.02, p < .05). Vocational programs in Southern schools are likely to provide several curricular options that are geared towards general labor occupations. Southern states generally have a large agricultural economy. Also,

a tremendous amount of residential and commercial development continues to take place in Southern states which has spawned a considerable need for individuals with training in areas of construction, maintenance, and landscaping.

There also was a negative association between peer affiliation and general track placement among males. Males' peer affiliation at high minority schools were less likely to enroll in the general labor track (odds ratio = 0.04, $p < .05$).

Table 19. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Peer Influence)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Peer Influence
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.23(1.03)	0.91(0.12)	0.57(1.13)	0.41(1.08)	0.34(1.16)	3.32(0.93)
10th Track	----	----	-----	-----	----	-----
Region	0.45(1.08)	1.13(0.11)	2.85(1.45)	-----	1.67(1.25)	0.44(0.96)
%Free	----	----	-----	-----	-----	-----
Urban	1.61(1.16)	0.96(0.16)	----	0.55(1.75)	3.23(1.57)	0.45(1.28)
Rural	0.89(1.20)	1.14(0.10)	**2.58 (1.63)*****	-----	-----	0.46(0.94)
%Minor	----	----	-----	-----	-----	-----
Level-1: N = 240, Level-2: j = 125; X^2 = 159.82						
Males						
Level-2						
Intercept	**0.06(0.97)****	**0.48(0.30)***	1.67(1.27)	3.37(1.57)	**5.06(0.80)***	0.53(0.56)
10th Track	4.02(0.77)	1.91(0.37)	-----	-----	-----	-----
Region	0.70(0.69)	**0.87(0.04)****	**7.34(0.84)***	4.42(2.45)	0.44(0.80)	0.71(0.53)
%Free	3.41(1.46)	**1.19(0.05)****	-----	0.67(2.44)	0.28(1.74)	0.53(1.27)
Urban	6.39(1.59)	1.11(0.29)	0.86(1.53)	0.03(2.92)	0.10(1.43)	53.05(2.19)
Rural	2.23(0.71)	**1.16(0.04)*****	**0.02(1.65)***	0.06(1.67)	1.32(0.83)	1.73(0.45)
%Minor	0.96(1.14)	0.93(0.45)	0.31(1.77)	0.35(2.45)	-----	**0.04(1.50)***
Level-1: N = 232, Level-2: j = 133; X^2 = 116.60						

*p < .05 **p < .001 ***p < .0001

The next set of analysis included parent-level predictors. When variable parent involvement was added to the model (Table 20), race only had an impact on Hispanic females' likelihood of general labor track placement. Hispanic females who attended rural schools were less likely to enroll in the general labor track (odds ratio = 0.001, $p < .0001$). Among males, there were not effects of

race with the inclusion of peer influence in the model. However, significant associations continued to exist between prior achievement and general track placement. Males with strong levels of prior achievement enrolled in the vocational track in the 10^{th} grade (odds ratio = 1.46, $p < .05$) or attending urban schools (odds ratio = 1.22, $p < .001$), or attending rural schools (odds ratio = 2.25, $p < .05$) were more likely to enroll in the general labor track than males with weak levels of prior achievement. Conversely, males with strong levels of prior achievement attending high minority schools were less likely to enroll in the general labor track (odds ratio = 0.62, $p < .001$).

Table 20. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Parent Involvement)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Involvement
	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds Ratio (s.e.)
Females						
Level-2						
Intercept	0.47(1.24)	0.92(0.13)	0.55(1.17)	0.65(1.40)	0.50(0.93)	0.28(1.09)
10th Track	-----	-----	-----	-----	-----	-----
Region	0.17(1.32)	1.09(0.13)	5.04(1.33)	-----	4.04(1.16)	1.17(1.17)
%Free	-----	-----	-----	-----	-----	-----
Urban	0.84(1.26)	0.86(0.17)	-----	0.63(1.73)	1.21(1.25)	5.80(1.69)
Rural	1.00(1.27)	1.21(0.14)	**2.23(4.24)*****	-----	-----	1.56(1.54)
%Minor	----	----	-----	-----	-----	-----
Level-1 N = 240, Level-2 j=125; X^2 = 84.25						
Males						
Level-2						
Intercept	0.16(1.22)	**0.49(0.15)*****	7.14(1.72)	14.21(2.39)	0.33(1.39)	2.98(1.05)
10th Track	0.86(0.82)	**1.46(0.16)***	-----	-----	3.85(1.32)	-----
Region	0.99(0.98)	1.01(0.04)	1.13(0.98)	3.24(3.06)	1.80(0.79)	0.45(1.09)
%Free	1.33(0.66)	-----	-----	-----	-----	-----
Urban	0.23(2.38)	**1.22(0.07)****	0.47(1.88)	0.14(3.12)	0.79(1.27)	3.33(2.27)
Rural	1.40(0.83)	**1.15(0.05)***	0.11(1.75)	0.04(2.40)	1.50(0.89)	1.10(0.95)
%Minor	2.16(3.38)	**0.62(0.15)****	2.08(1.48)	0.09(1.59)	-----	0.17(2.24)
Level-1 N = 505, Level-2 j=192; X^2 = 138.11						

*p < .05 **p < .001 ***p < .0001

When variable parent educational aspirations for their children were added to the model, race continued to be associated with Hispanic females and general track placement and Hispanic females (odds ratio = 0.001, $p < .0001$). The bottom panel of Table 21 shows that race continued to impact males' likelihood of general track placement. Black males (odds ratio = 117.28, $p < .001$) and Hispanic males (odds ratio = 236.32, $p < .001$) attending schools with a high percent of its students receiving free/reduced lunch were more likely to enroll in the general labor track. Yet, Black males (odds ratio = 0.04, $p < .05$) and Hispanic males (odds ratio = 0.01, $p < .05$) attending rural schools were less likely to enroll in the general track. Also, Hispanic males attending high minority schools were more likely to enroll in the general labor track (odds ratio = 49.42, $p < .001$).

Social class status also played a significant role in males' general labor track placement. Males from lower social class backgrounds enrolled in the 10th grade vocational track were more likely to enroll in the general track (odds ratio = 10.05, p <.05). Yet, attending schools with a high percent of its students who received free/reduced lunch and from lower social class backgrounds, they were less likely to enroll in the general labor track (odds ratio = 0.002, p < .001). Also, males with strong levels of prior achievement enrolled in the 10th grade vocational track (odds ratio = 1.38, p < .001) or attending schools with a high percent of its students receiving free/reduced lunch (odds ratio = 1.17, p < .05) were more likely to enroll in the general labor track. The link between early enrollment in the vocational track and enrollment later in the vocational track in high school makes sense. The movement between high school tracks is extremely rigid; therefore once a student is placed in a particular academic track early on in their educational career they usually remain in that track throughout high school (Oakes 2005).

Table 21. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Parent Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Aspirations
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.19(0.99)	0.91(0.08)	0.82(0.92)	0.45(1.08)	0.27(1.30)	1.69(1.52)
10th Track	-----	-----	-----	-----	-----	-----
Region	0.61(1.19)	1.03(0.06)	-----	-----	143(1.34)	1.30(1.38)
%Free	-----	-----	-----	-----	-----	-----
Urban	3.41(1.24)	0.94(0.08)	-----	0.68(1.70)	1.04(1.61)	0.76(1.64)
Rural	0.55(1.66)	1.17(0.09)	**1.34 (1.39)*** **	-----	2.25(1.49)	1.56(1.36)
%Minor	-----	-----	-----	-----	-----	----
Level-1 = 240, Level-2 j=125; X^2 = 79.77						
Males						
Level-2						
Intercept	0.20(0.89)	**0.86(0.05)****	1.79(1.72)	6.31(1.16)	1.64(0.94)	3.02(1.00)
10th Track	0.46(1.14)	**1.38(0.10)****	-----	-----	**10.05(1.17)***	0.38(1.13)
Region	**0.07(0.91)****	0.94(0.06)	2.51(1.45)	1.29(1.21)	5.00(0.92)	2.65(1.04)
% Free	28.72(1.99)	**1.17(0.06)***	**237.46 (1.48)****	**116.75(1.61)****	**0.002(2.12)****	1.61(1.19)
Urban	3.21(1.43)	1.18(0.12)	0.07(1.49)	0.16(1.63)	0.97(1.40)	0.17(1.37)
Rural	5.60(0.94)	1.04(0.05)	0.01**(1.69)***	**0.04(1.28)***	3.39(0.96)	**0.08(1.08)***
%Minor	**0.11(0.91)***	0.88(0.11)	**48.42(1.42)****	4.49(1.44)	-----	5.94(1.52)
Level-1 = 232, Level-2 j=133; X^2 = 114.04						

*p < .05 **p < .001 ***p < .0001

Table 22 highlights the results from the addition of variable teacher experience. There were no significant predictors of female's likelihood of general labor track placement. However, the bottom panel of the table shows that the addition of teacher experience resulted in race effects on general track placement among Hispanic males only. Hispanic males attending rural schools were not as likely to enroll in the general labor track (odds ratio = 0.001, p < .001).

Males attending schools with less experienced teachers in the South were less likely to enroll in the general labor track (odds ratio = 0.22, p < .05). General track placement among males appears not to be affected by teacher experience. The lack of enrollment in the general labor track among males attending rural schools continues to highlight that the need for a young workforce

in rural areas may be dissipating. Finally, males with strong levels of prior achievement attending rural schools (odds ratio = 1.30, $p < .001$) or attending high minority schools (odds ratio = 1.41, $p < .001$) were more likely to enroll in the general labor track.

Table 22. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Teacher Experience)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Experience
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.24(3.69)	0.98(0.07)	1.83(1.22)	1.38(1.01)	0.91(1.37)	1.11(0.28)
10th Track	-----	-----	-----	-----	-----	-----
Region	0.10(4.66)	1.07(0.09)	4.46(2.19)	-----	1.53(1.91)	0.78(0.32)
%Free	----	-----	-----	-----	-----	-----
Urban	-----	-----	-----	-----	-----	-----
Rural	1.26(4.69)	0.99(0.09)	-----	-----	-----	0.95(0.33)
%Minor	-----	-----	-----	-----	-----	----
Level-: N =240, Level-2: j =125; $X^2 = 33.15$						
Males						
Level-2						
Intercept	0.17(4.36)	0.91(0.08)	**43.09(0.81)*** **	0.34(0.78)	**8.66(0.78)** **	**4.86(0.45)** **
10th Track	4.72(4.51)	0.95(0.09)	-----	-----	-----	-----
Region	**89.28(1.53)** **	-----	0.14(1.17)	-----	-----	**0.22(0.58)***
%Free	39.46(2.17)	-----	-----	-----	-----	0.54(0.63)
Urban	28.18(5.09)	0.90(0.08)	-----	-----	-----	0.62(0.58)
Rural	**7.34(4.67)***	**1.30(0.09)** **	**0.001(0.97)*** **	-----	-----	0.90(0.25)
%Minor	**1.97(4.27)** **	**1.41(0.10)** **	-----	-----	-----	-----
Level-1 N= 232, Level-2: j =133; $X^2 = 37.26$						

*p < .05 **p < .001 ***p < .0001

There were no significant predictors of females' likelihood of enrolling in the general labor track (Table 23). However, among males, race continued to be an influential factor in the placement of Hispanic males. Hispanic males attending schools with a high percent of its students receiving free/reduced lunch were more likely to enroll in the general labor track (odds ratio = 298.87, $p < .05$). However, if Hispanic males attended rural schools they were less likely to enroll in the general labor track (odds ratio = 0.02, $p < .05$).

Males from lower social class backgrounds attending schools with a high percent of its students receiving free/reduced lunch (odds ratio = 0.01, $p < .05$) was less probable of enrolling in the general labor track.

Table 23. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Teacher Quality)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Quality
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.25(0.89)	1.05(0.11)	0.53(0.93)	0.30(0.97)	0.14(1.10)	657.89(55.12)
10th Track	----	-----	----	----	----	-----
Region	0.39(0.96)	1.00(0.10)	1.80(1.51)	----	4.61(1.11)	0.004(55.13)
%Free	-----	-----	----	-----	----	-----
Urban	2.13(1.08)	0.83(0.12)	----	-----	3.81(1.30)	-----
Rural	0.88(1.22)	1.03(0.13)	----	4.40(1.59)	2.37(1.41)	-----
%Minor	-----	-----	----	-----	-----	-----
Level-1 = 240, Level-2 j=125; X^2 = 87.68						
Males						
Level-2						
Intercept	0.34(1.52)	0.71(0.22)	0.92(1.31)	8.23(1.81)	0.56(1.86)	0.06(2.27)
10th Track	0.78(1.41)	1.48(0.21)	-----	-----	6.90(1.73)	-----
Region	0.44(0.82)	0.93(0.07)	1.66(1.41)	0.76(1.54)	1.48(0.99)	27.72(1.80)
%Free	6.89(1.75)	1.27(0.18)	**298.87(2.21)***	32.62(2.13)	**0.01(2.20)***	-----
Urban	1.64(1.48)	0.81(0.18)	0.23(1.98)	0.13(2.12)	0.48(1.39)	17.19(2.19)
Rural	1.58(0.90)	0.94(0.08)	**0.02(1.83)***	0.05(1.81)	1.71(1.06)	-----
%Minor	0.22(1.21)	1.17(0.18)	17.35(2.13)	1.40(2.11)	-----	-----
Level-1 = 232, Level-2 j=133; X^2 = 141.77						

*p < .05 **p < .001 ***p < .0001

Hypothesis 2 suggested that Black and Hispanic males had a higher probability of enrolling in the general labor track and females would not likely enroll in the general labor track. The base model and the model that included parent aspirations (parents' aspirations for their child to attend college) highlighted Black and Hispanic males were most likely to enroll in the general labor track. Race-ethnic females were not as likely to enroll in the general labor track, except for the model that included teacher quality as a Level-1 variable. Black female's likelihood of enrolling in the general labor track increased if

attended schools with good or excellent teachers. This finding does not support Hypothesis 2.

Predictors of Occupational Track

The following analysis addressed the predictors of students enrolling in the specific occupation track. These courses focus on job-specific classes such as business, marketing, and technical occupations (i.e. laboratory- and medical-technology). Table 24 shows the results from the base model. Social class and race were significant predictors of male and females' placement in the specific occupation track. The top section of Table 24 reveals that Black females attending high minority schools decreased the likelihood of enrolling the specific occupation track (odds ratio = 0.002, $p < .001$). Also, Black females enrolled in the 10th grade vocational track were less likely to enroll in the specific occupation track (odds ratio = 0.01, $p < .001$). This finding supports the hypothesis that Blacks and females have a lower likelihood of enrolling in the specific occupation track.

The bottom section of Table 24 shows race effects among Black males only. Black males attending high minority schools had a higher likelihood of enrolling in the specific occupation track (odds ratio = 51.93, $p < .05$). This finding is inconsistent with previous research that finds Black males are more likely to enroll in vocational programs that lead to lower-tiered occupations, whereas White males are primarily in the programs that result in occupations in the upper-tier of the blue collar labor market.

Also, males from lower social class backgrounds enrolled in the 10th grade vocational track (odds ratio = 0.07, $p < .05$) or attending urban schools (odds ratio = 0.07, $p < .05$) were less likely to enroll in the specific occupation track.

Table 24. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Base Model)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES
	Odds Ratio(s.e.)	Odds Ratio(s.e.)	Odds Ratio(s.e.)	Odds Ratio(s.e.)	Odds Ratio(s.e.)
Females					
Level-2					
Intercept	0.54(0.93)	1.03(0.16)	1.07(0.75)	**91.10(1.40)****	1.11(1.29)
10th Track	0.86(0.74)	1.06(0.14)	-----	**0.01(1.38)*****	1.92(1.11)
Region	4.39(0.83)	0.93(0.05)	3.85(0.96)	3.83(1.06)	0.24(0.96)
%Free	0.65(0.74)	0.96(0.07)	6.19(1.31)	5.16(1.24)	-----
Urban	**5.59(0.78)***	0.94(0.08)	0.18(0.97)	-----	0.17(1.01)
Rural	3.17(0.87)	1.01(0.04)	0.20(0.82)	0.07(1.58)	0.38(0.96)
%Minor	1.26(1.11)	0.92(0.09)	4.65(1.40)	**0.02(1.64)****	1.01(1.20)
Level-1: N = 240, Level-2: j =125; X^2 = 119.13					
Males					
Level-2					
Intercept	**0.05(1.22)***	1.01(0.06)	1.40(1.24)	0.63(1.58)	9.71(1.50)
10th Track	7.92(1.18)	0.94(0.04)	-----	-----	**0.07(1.32)***
Region	2.06(0.72)	1.05(0.05)	1.67(1.11)	0.38(1.78)	0.37(1.02)
%Free	1.79(0.85)	1.06(0.05)	0.51(1.52)	6.04(2.21)	-----
Urban	**13.20(1.21)***	1.09(0.08)	2.08(1.25)	-----	**0.07(1.23)***
Rural	**0.11(0.81)****	1.09(0.04)	0.60(1.41)	2.91(1.43)	3.90(1.19)
%Minor	0.13(1.90)	1.05(0.04)	-----	**51.93(1.83)***	14.58(2.00)
Level-1: N = 232, Level-2: j =133; X^2 = 113.57					

*p < .05 **p < .001 ***p < .0001

The next model included student educational aspirations as a predictor of specific occupational track placement (Table 25). Race was significantly associated with females' likelihood of enrolling in the specific occupation track. Black females attending urban schools (odds ratio = 0.004, $p < .001$) or enrolled in the 10th grade vocational track (odds ratio = 0.01, $p < .001$) had a lower likelihood of enrolling in the specific occupation track. Black females attending rural schools (odds ratio = 5.50, $p < .0001$) had a higher probability of enrolling in

the specific occupation track. On the other hand, Hispanic females attending urban schools (odds ratio = 0.06, $p < .05$) or attending rural schools (odds ratio = 0.03, $p < .001$) were less likely to enroll in the specific occupation track. At the same time, Hispanic females attending Southern schools had a higher likelihood of enrolling in the specific occupation track (odds ratio = 16.81, $p < .05$).

Females from lower social class backgrounds attending urban schools were less likely to enroll in the specific occupation track (odds ratio = 0.06, $p < .05$). Among males, social class and prior achievement were significant predictors of specific occupation track placement. Males from lower social class backgrounds who enrolled in the 10th grade vocational track were less likely to enroll in the specific occupation track (odds ratio = 0.10, $p < .05$). Also, males with strong levels of prior achievement who enrolled in the 10th grade vocational track were not as likely to enroll in the specific occupation track (odds ratio = 0.56, $p < .001$).

Table 25. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Aspirations
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	1.05(1.51)	0.96(0.13)	1.05(0.97)	**1233.41(1.88)*** **	0.31(1.69)	0.53(1.33)
10th Track	0.66(1.15)	1.07(0.11)	-----	0.01**(1.70)** **	2.75(1.38)	3.98(1.11)
Region	5.38(1.12)	0.99(0.05)	16.81**(1.30)***	-----	0.67(1.12)	0.30(0.98)
%Free	0.28(1.26)	0.90(0.10)	1.85(1.33)	-----	-----	10.54(0.98)
Urban	3.83(1.16)	1.10(0.10)	0.06**(1.17)***	**0.004(1.74)** **	**0.06(1.41)***	9.59(1.47)
Rural	1.51(1.32)	1.08(0.06)	0.03**(1.10)** **	**5.50(1.31)*** **	0.25(1.33)	8.00(1.23)
%Minor	2.10(1.39)	0.88(0.12)	3.28(1.74)	-----	0.28(1.72)	12.73(1.44)
Level-1: N = 240, Level-2: j =125; X^2 = 113.07						
Males						
Level-2						
Intercept	0.19(1.04)	**1.65(0.21)***	0.51(0.88)	0.61(1.18)	4.70(1.40)	0.37(0.80)
10th Track	**7.39(0.85)***	**0.56(0.22)** **	-----	-----	**0.10(1.11)***	-----
Region	1.87(0.80)	1.08(0.05)	3.44(1.03)	-----	0.30(0.94)	1.47(0.78)
%Free	0.62(0.87)	1.08(0.05)	2.05(1.18)	-----	-----	4.56(0.97)
Urban	0.87(0.91)	0.99(0.09)	-----	1.84(1.52)	0.80(1.32)	0.58(1.04)
Rural	0.17(0.91)	1.09(0.05)	4.56(1.56)	2.51(1.33)	5.30(1.13)	0.44(0.96)
%Minor	3.27(0.73)	-----	-----	-----	-----	-----
Level-1: N = 232, Level-2: j =133; X^2 = 102.03						

*p < .05 **p < .001 ***p < .0001

When variable peer influence was added to the model, race continued to have a negative association with female's specific occupation track placement (Table 26). Hispanic females attending rural schools were less likely to enroll in the specific occupation track (odds ratio = 0.15, p < .05). There were no specific predictors of track placement among Black females. However, female's with strong levels of prior achievement who enrolled in the 10th grade vocational track was positively associated with their specific occupation track placement (odds ratio = 1.12, *p* < .05). There were no race effects with the addition of variable peer influence. However, males' peer affiliations were negative associated with their specific occupation track placement (odds ratio = 0.03, *p* < .05). Student's educational aspirations were not significant predictors of males' and females' placement in the specific occupation track.

Table 26. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Peer Influence)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Peer Influence
	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)
Females						
Level-2						
Intercept	1.90(0.99)	0.92(0.17)	1.18(0.95)	1.68(0.63)	0.95(1.47)	0.39(0.91)
10th Track	0.43(0.91)	1.09(0.14)	-----	-----	1.24(1.21)	1.31(0.79)
Region	3.86(0.88)	0.99(0.60)	5.18(1.22)	-----	0.40(1.02)	0.95(0.49)
%Free	0.50(0.76)	0.94(0.10)	6.57(1.48)	-----	-----	0.85(1.00)
Urban	1.11(0.94)	0.95(0.07)	0.20(1.02)	6.34(1.26)	1.23(1.11)	1.72(0.76)
Rural	2.02(1.01)	**1.12(0.06)***	**0.15(0.92)***	-----	0.35(1.01)	1.49(0.54)
%Minor	1.87(0.79)	0.94(0.13)	6.34(1.50)	-----	-----	0.23(1.01)
Level-1: N = 240, Level-2: j = 125; X^2 = 128.42						
Males						
Level-2						
Intercept	**0.07(1.08)***	1.05(0.07)	2.20(1.16)	0.66(1.43)	2.57(1.31)	19.85(1.62)
10th Track	**12.16(0.89)****	1.01(0.03)	-----	-----	**0.06(.11)***	**0.03(1.54)***
Region	3.25(0.72)	1.07(0.07)	0.83(1.04)	-----	0.45(0.94)	0.45(1.41)
%Free	0.82(0.58)	1.06(0.07)	0.86(1.32)	-----	-----	20.38(1.73)
Urban	0.21(1.12)	1.01(0.10)	-----	3.89(1.69)	3.50(1.21)	31.82(2.21)
Rural	**0.10(0.87)****	1.05(0.04)	1.86(1.76)	5.72(1.53)	7.64(1.28)	1.49(0.91)
%Minor	3.51(0.74)	1.42(0.22)	0.62(1.42) -	----	-----	2.18(1.65)
Level-1: N = 232, Level-2: j = 133; X^2 = 98.95						

*p < .05 **p < .001 ***p < .0001

Table 27 included the variable parent involvement. Race and prior achievement continued to be significant predictors of females' specific occupation track placement. Black females attending urban schools (odds ratio = 0.02, p < .05) were less likely to enroll in the specific occupation track. However, when attending rural schools they are more likely to enroll in the specific occupation track or rural schools (odds ratio = 4.23, p < .0001). Consistent with other findings (Ainsworth and Roscigno 2005), race-ethnic females are much less likely to enroll in vocational tracks that lead to upper tiered occupations. Due to gender biases, vocational programs remain segregated. Females disproportionately enroll in low skilled, administrative, and consumer courses. The bottom panel of Table 27 shows only prior achievement was a significant predictor of male's specific occupation track placement. Males with strong levels of 10th grade

achievement attending high minority schools were more likely to enroll in the specific occupation track (odds ratio = 1.48, $p < .05$). The addition of parent level predictors produced no significant associations with males' or females' specific occupation track placement (Table 27).

Table 27. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Parent Involvement)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Involvement
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.08(1.46)	0.82(0.23)	3.01(0.96)	8.33(1.15)	2.73(1.60)	6.37(1.03)
10th Track	1.08(0.91)	1.07(0.20)	----	-----	0.71(1.24)	-----
Region	**23.18(1.23)***	1.06(0.07)	1.88(1.41)	-----	0.27(1.02)	0.21(1.07)
%Free	0.78(0.82)	**0.47(0.20)****	5.29(1.52)	-----	-----	-----
Urban	**15.32(1.21)***	1.10(0.11)	0.11(1.19)	**0.02(1.67)***	0.30(1.25)	0.22(1.16)
Rural	2.25(1.24)	1.17(0.08)	0.10(1.32)	**4.23(1.27)*****	0.47(1.15)	1.18(1.17)
%Minor	0.65(1.09)	**0.45(0.20)*****	4.43(1.53)	-----	2.04(1.29)	-----
Level-1 = 240, Level-2 j=125; X^2 = 109.14						
Males						
Level-2						
Intercept	1.36(1.62)	1.06(0.09)	2.17(1.29)	1.09(1.17)	0.27(1.00)	0.21(1.83)
10th Track	0.45(1.48)	1.01(0.05)	-----	-----	-----	8.23(1.72)
Region	2.40(1.05)	1.03(0.11)	1.08(1.00)	-----	0.36(0.99)	1.11(1.10)
%Free	0.52(0.59)	1.06(0.09)	0.38(1.40)	-----	-----	-----
Urban	0.59(1.29)	0.90(0.10)	-----	0.34(1.91)	2.28(1.09)	0.78(1.17)
Rural	0.26(1.10)	1.08(0.05)	0.50(1.18)	2.13(1.38)	6.53(1.39)	0.31(0.93)
%Minor	2.07(1.39)	**1.48(0.15)***	0.19(1.41)	----	-----	2.52(1.52)
Level-1 = 232, Level-2 j=133; X^2 = 92.29						

*p < .05 **p < .001 ***p < .0001

When variable parents' educational aspirations for their child were added to the model race continued to be a significant predictor of specific occupation track placement among females. Black females attending urban schools (odds ratio = 0.01, p < .001) or who were enrolled in the 10th grade vocational track (odds ratio = 0.01, p < .001). There continued to be a positive association with male's prior achievement and their specific occupation track placement (odds ratio = 1.09, $p < .05$). Parent's educational aspirations did not produce any

significant associations with males' or females' specific occupation track placement.

Table 28. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Parent Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Aspirations
	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e)
Females						
Level-2						
Intercept	0.38(1.06)	1.01(0.15)	0.79(0.95)	**862.28(1.77)*** **	1.68(1.45)	0.65(1.00)
10th Track	1.36(0.94)	1.08(0.13)	----	**0.01(1.60)** **	0.94(1.30)	-----
Region	4.06(0.99)	0.96(0.05)	0.91(1.16)	-----	0.41(1.20)	1.20(0.99)
%Free	0.95(0.79)	0.98(0.07)	----	2.66(1.55)	-----	-----
Urban	2.86(1.13)	0.90(0.06)	1.55(1.47)	**0.01(1.97)** **	0.20(1.36)	3.23(1.26)
Rural	3.04(1.16)	0.98(0.05)	1.62(1.33)	0.001(1.43)	0.24(1.20)	2.02(0.94)
%Minor	1.43(0.84)	0.97(0.10)	-----	----	-----	-----
Level-1 = 240, Level-2 j=125; X^2 = 115.42						
Males						
Level-2						
Intercept	0.21(1.13)	0.94(0.04)	0.27(1.20)	0.61(1.05)	1.81(1.24)	1.20(1.16)
10th Track	-----	-----	-----	-----	------	------
Region	14.24**(1.08)***	**1.09(0.04)***	0.94(1.10)	-----	0.12(1.23)	0.32(1.18)
%Free	1.13(0.50)	-----	-----	-----	-----	-----
Urban	0.36(1.37)	1.02(0.11)	33.74(1.27)	7.56(1.62)	0.36(1.45)	0.44(1.26)
Rural	0.18(0.97)	1.07(0.04)	12.65(1.64)	3.33(1.36)	2.17(1.50)	0.60(1.34)
%Minor	3.16(0.66)	-----	-----	------	-----	-----
Level-1 = 232, Level-2 j=133; X^2 = 172.73						

*p < .05 **p < .001 ***p < .0001

Teacher quality[4] was a part of the final set of analyses. There were significant effects of race as a predictor of specific occupation track placement among females (Table 29). Black females (odds ratio = 11.76, $p < .001$) and Hispanic females (odds ratio = 13.62, $p < .001$) attending Southern schools were more likely to enroll in the specific occupation track. However, Black females enrolled in 10th grade vocational track (odds ratio = 0.03, $p < .001$) or attending urban schools (odds ratio = 0.002, $p < .0001$) or attending rural schools (odds ratio = 0.03, $p < .05$) were less likely to enroll in the specific occupation track.

There were no effects of race among males' likelihood of enrolling in the specific occupation track.

Table 29. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Teacher Quality)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Quality
	Odds (s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.66(0.89)	1.04(0.17)	0.92(0.75)	**85.09(1.59)****	1.00(1.28)	**1.940.33)***
10th Track	0.83(0.73)	0.95(0.15)	-----	**0.03(1.37)****	2.01(1.13)	-----
Region	3.52(0.86)	1.08(0.09)	**1.62(0.91)****	**11.76(0.92)****	0.24(0.95)	-----
%Free	1.54(0.63)	0.89(0.10)	-----	-----	-----	-----
Urban	3.55(0.80)	1.01(0.09)	0.29(1.15)	**0.002(1.54)*****	0.31(0.94)	0.001(1.05)
Rural	2.96(0.97)	0.94(0.10)	0.09(1.18)	**0.03(1.46)***	0.42(1.04)	-----
%Minor	2.01(0.73)	1.05(0.12)	-----	-----	-----	-----
Level-1 = 240, Level-2 j=125; X^2 = 124.24						
Males						
Level-2						
Intercept	0.11(1.60)	1.33(0.23)	0.87(0.78)	0.74(1.60)	4.15(1.84)	1.07(1.19)
10th Track	7.79(1.51)	0.69(0.22)	-----	-----	0.08(1.71)	-----
Region	2.94(0.79)	1.10(0.08)	1.62(1.27)	0.54(1.43)	0.25(0.96)	-----
%Free	1.27(0.65)	1.22(0.12)	-----	-----	-----	-----
Urban	0.77(1.09)	1.02(0.13)	-----	4.07(1.71)	0.74(1.20)	1.49(1.35)
Rural	**0.09(1.01)***	1.17(0.10)	-----	2.10(1.67)	6.73(1.17)	-----
%Minor	3.59(0.8)	1.17(0.13)	-----	-----	-----	-----
Level-1 = 232, Level-2 j=133; X^2 = 110.90						

*p < .05 **p < .001 ***p < .0001

The specific occupation model highlights the factors that contribute to the likelihood of enrollment in the specific occupation track. Findings are consistent with Hypothesis 2 that females have a lower probability of enrolling in specific occupation tracks. However, the inclusion of Level-1 variables revealed significance differences for Black and Hispanic females. There were a few occasions where Black and Hispanic females had a high probability of enrolling in the specific occupation track. Those findings do not support Hypothesis 2. Black and Hispanic females who attended Southern schools with high teacher quality were more likely to enroll in the specific occupation track. Because

national trends show that females are outperforming males academically, graduating from high school and entering college at higher rates than males, it does seem reasonable that females are beginning to enroll in vocational tracks that lead to higher blue collar positions.

Predictors of Employment Status

The ensuing analysis examined the implications of participation in a particular vocational track and its influence on students' employment status two years after high school. The models included predictors that previous evidence suggested contribute to students' school-to-work transition (e.g. race/ethnicity, social class, school success and training). Three separate analyses were conducted to include each vocational track students were enrolled in as high school seniors.

Consumer Track

The first model included students' consumer track placement while in the 12th grade (see Table 30). There were significant race effects in predicting employment status among females. Hispanic females attending schools with a high percent of its students receiving free/reduced lunch were more likely to be employed than non-Hispanic females (odds ratio = 9.28, $p < .001$). This finding is consistent with prior research that many Hispanic women are employed in consumer/homemaking jobs. However, Hispanic females, like Black females, are performing much better academically than their male counterparts, which continue to increase the rates of graduation and college enrollment. This

consistent pattern of academic success may result in the decline of their participation in the consumer job market, as well as the blue collar job market altogether (see Portes and Rumbaut 2001). There were no significant predictors of employment status among males.

Table 30. Multilevel Logistic Regression Model Predicting Employment Status having HS Training in the Consumer Track

Level-1	Intercept	Hispanic	Black	SES	Consumer Track (12^{th})
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females					
Level-2					
Intercept	0.40(0.56)	4.63(0.66)	1.79(0.90)	0.59(0.61)	1.75(0.48)
Region	1.92(0.61)	0.66(0.78)	1.01(0.71)	0.60(0.64)	0.67(0.67)
%Free	0.16(1.39)	**9.28(0.78)****	2.30(0.85)	1.62(1.36)	2.34(0.78)
Urban	1.13(0.67)	0.81(0.88)	0.24(1.01)	0.81(0.72)	1.67(0.76)
Rural	0.29(0.84)	0.82(0.84)	0.62(1.12)	4.63(0.82)	0.30(0.64)
Level-1: N = 349, Level-2: j = 190; X2 = 163.98					
Males					
Level-2					
Intercept	**0.17(0.60)****	2.43(1.06)	0.75(0.89)	0.39(0.64)	2.97(0.62)
Region	2.24(0.63)	0.79(1.36)	0.67(0.88)	0.74(0.63)	0.93(0.58)
%Free	-----	-----	-----	-----	-----
Urban	0.77(0.91)	-----	1.86(1.08)	3.30(0.88)	0.98(0.84)
Rural	1.55(0.61)	-----	0.71(1.34)	2.54(0.66)	0.32(0.63)
Level-1: N = 336, Level-2: j = 200; X^2 = 184.32					

*p < .05 **p < .001 ***p < .0001

General Labor Track

Table 31 included students' general labor track placement to determine their employment status. The upper section of Table 31 reveals that among females, employment status was significantly influenced by race-ethnicity. Hispanic females who attended schools with a high percent of its students receiving free/reduced lunch had a stronger probability of being employed than non-Hispanic females (odds ratio = 8.26, $p < .001$). Again, there were no significant predictors of employment status among males.

Table 31. Multilevel Logistic Regression Model Predicting Employment Status having HS Training in the General Labor Track

Level-1	Intercept	Hispanic	Black	SES	General Labor Track (12^{th})
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females					
Level-2					
Intercept	0.56(0.52)	**3.71(0.64)***	1.48(0.87)	0.66(0.59)	0.29(1.14)
Region	1.39(0.58)	0.66(0.76)	0.82(0.75)	0.56(0.63)	4.19(1.05)
%Free	0.20(1.28)	**8.26(0.78)****	2.51(0.91)	1.80(1.24)	2.45(1.61)
Urban	1.07(0.63)	0.94(0.84)	1.29(1.01)	0.76(0.71)	3.83(1.25)
Rural	0.26(0.81)	0.97(0.82)	1.84(1.14)	4.06(0.84)	1.56(1.32)
Level-1: N = 349, Level-2: j = 190, X^2 = 166.04					
Males					
Level-2					
Intercept	**0.35(0.49)***	3.51(1.02)	0.63(0.97)	0.53(0.66)	**0.18(0.69)***
Region	1.82(0.53)	0.35(1.40)	0.60(0.98)	0.65(0.65)	2.73(0.60)
%Free	0.77(0.38)	-----	-----	-----	-----
Urban	0.72(0.73) -----		2.20(1.20)	2.40(0.88)	2.33(0.86)
Rural	0.88(0.57) -----		0.68(1.40)	2.13(0.66)	2.31(0.61)
Level-1: N = 336, Level-2: j = 200, X^2 = 185.22					

*p < .05 **p < .001 ***p < .0001

Occupational Track

Table 32 included students' specific occupation track placement as a predictor of students' employment status. The results indicate that race-ethnicity is the only significant predictor of employment status among females. Hispanic females who attended schools with a disproportionate number of students receiving free/reduced lunch were more likely to be employed than non-Hispanic females (odds ratio = 9.20, $p < .001$). There were no significant predictors of employment status among males. Although there were no significant predictors of males' employment status, the employment rates among Black and Hispanic men remains significantly lower than their White male counterparts of similar background characteristics (US Census 2000). Also, employment rates of males, specifically disadvantaged minority males, are considerably affected by their overrepresentation in the penal system (Free 1996). Prior research on this

population consistently finds a strong association between incarceration rates and poor academic success in school (Arum and Beattie 1999).

Table 32. Multilevel Logistic Regression Model Predicting Employment Status having HS Training in the Specific Occupation Track

Level-1	Intercept	Hispanic	Black	SES	Specific OccupTrack (12th)
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females					
Level-2					
Intercept	0.50(0.59)	**4.77(0.66)***	1.86(0.90)	0.67(0.62)	0.80(0.45)
Region	1.98(0.68)	0.62(0.81)	1.05(0.74)	1.05(0.65)	0.93(0.59)
%Free	0.36(1.52)	**9.20(0.82)****	2.03(0.90)	2.02(1.34)	0.34(0.69)
Urban	2.50(0.78)	0.74(0.91)	0.73(1.03)	0.72(0.78)	0.32(0.70)
Rural	0.23(0.78)	0.82(0.85)	1.84(1.14)	1.84(0.83)	1.20(0.63)
Level-1: N = 349, Level-2: j = 190, X^2 = 165.23					
Males					
Level-2					
Intercept	**0.23(0.63)***	3.79(1.06)	0.76(1.03)	0.40(0.72)	1.53(0.71)
Region	3.20(0.63)	0.73(1.41)	0.71(1.05)	0.67(0.68)	0.29(0.74)
%Free	0.74(0.39)	-----	-----	-----	-----
Urban	1.12(0.92)	-----	2.13(1.28)	2.59(0.96)	0.38(1.04)
Rural	0.82(0.66)	-----	0.44(1.54)	2.56(0.72)	2.50(0.82)
Level-1: N = 336 . Level-2: j = 300, X^2 = 192.07					

*p < .05 **p < .001 ***p < .0001

Predictors of Occupational Placement

The final set of analyses examined the implications of participation in vocational courses and its influence on the types of occupations students were employed in after high school. Essentially, after determining the factors that predict the likelihood of employment, analysis examined whether or not students' vocational track placement impacted their occupational placement. Each model included the vocational track that males and females were enrolled in as high school seniors to determine if it had any influence on labor market outcomes.

Consumer Placement

Results from Table 33 show only race-ethnicity as a significant predictor of employment in consumer occupations among females. Minority females[5] who attended high minority schools were more probable of employment in a consumer occupation than non-minority females (odds ratio = 15.32, $p < .05$). However, enrolling in the consumer track in high school was not significant predictor of consumer job placement among females. There were no significant predictors of males' likelihood of employment in the consumer job market. This finding is consistent with previous research that males enrolled in vocational programs are less likely to be employed in a consumer occupations (Ainsworth and Roscigno 2005).

Table 33. Multilevel Logistic Regression Model Predicting Consumer Job Placement in HLM

Level-1	Intercept	Racial/Ethnic Minority	SES	Consumer Track (12^{th})
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females				
Level-2				
Intercept	1.54(0.77)	0.30(0.77)	0.96(0.96)	0.56(0.77)
Region	1.24(0.77)	1.94(0.91)	0.69(1.06)	1.23(0.87)
%Free	0.41(1.03)	27.16(1.19)	---	0.81(1.27)
Urban	0.70(0.89)	1.80(1.19)	3.26(1.16)	0.95(1.05)
Rural	2.47(1.12)	4.73(1.17)	0.43(1.12)	1.24(1.00)
%Minor	0.67(1.04)	**15.32(1.37)***	---	0.65(1.30)
Level-1: N = 277, Level-2: j = 153; X^2 = 91.73				
Males				
Level-2				
Intercept	1.15(1.10)	0.62(1.43)	0.42(1.16)	0.24(0.94)
Region	0.53(1.12)	4.72(1.32)	2.69(1.18)	2.66(1.01)
%Free	0.10(2.23)	0.51(1.29)	47.96(2.44)	0.51(1.31)
Urban	0.43(2.33)	0.95(1.37)	4.68(2.46)	1.33(1.20)
Rural	0.30(1.06)	1.27(1.27)	2.35(1.18)	3.72(0.94)
%Minor	0.14(2.13)	12.95(1.51)	4.76(2.32)	4.77(1.22)
Level-1: N = 261, Level-2: j = 156; X^2 = 171.31				

*p < .05 **p < .001 ***p < .0001

General Labor Placement

The likelihood of employment in a general labor occupation was examined in Table 34. Placement in the general labor track was negatively associated with general labor job placement among males. Males who attended high minority schools were not as likely as females to be employed in a general labor occupation (odds ratio = 0.07, $p < .05$).[5]

Table 34. Multilevel Logistic Regression Model Predicting General Labor Job Placement in HLM

Level-1	Intercept	Racial/Ethnic Minority	SES	General Track (12th)
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Males				
Level-2				
Intercept	0.17(1.21)	1.86(0.97)	3.76(1.28)	7.35(1.49)
Region	1.09(1.23)	0.93(0.88)	0.73(1.29)	0.14(1.42)
%Free	1.14(2.85)	0.39(1.21)	0.75(3.08)	1.26(1.25)
Urban	4.57(2.07)	0.06(1.46)	0.40(2.17)	0.10(1.34)
Rural	1.04(1.30)	0.95(0.97)	0.77(1.53)	0.34(1.33)
%Minor	0.66(2.19)	2.61(1.10)	0.86(2.38)	**0.07(1.14)***

Level-1: N = 261, Level-2: j = 156; $X^2 = 95.98$

*p < .05 **p < .001 ***p < .0001

Occupational Placement

The factors that influence job placement in specific occupation jobs were examined in Table 35. There were significant race effects among females in predicting employment in specific occupation jobs. Racial-ethnic minority females who attended schools in rural districts were less likely than non-minority females to enroll in a specific occupation type of job (odds ratio = 0.001, $p < .0001$). However, the bottom panel of Table 35 reveals that among males, employment in a specific occupation job was positively associated with enrollment in the specific occupation track in high school (odds ratio = 13.11, $p <$

[6] Female vocational students' likelihood of employment in a general

.05). Hypothesis 3 predicted that males were the primary beneficiaries of stratification in the vocational tracks. Although females are continuing to outperform males in schools and have higher graduation rates and college enrollment than males, it is males continue to benefit most in the school-to-work transition when in the vocational program. Despite females' higher probability of enrolling in the general labor track, males are most likely to enroll in the vocational track that leads to upper tiered occupations. Consequently, males are more likely to receive higher pay, better benefits, and overall job satisfaction (Ainsworth and Roscigno 2005).

Table 35. Multilevel Logistic Regression Model Predicting Specific Occupation Job Placement in HLM

Level-1	Intercept	Racial/Ethnic Minority	SES	Specific Occupation Track
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females				
Level-2				
Intercept	**1.20**(0.71)	**5.31(0.79)***	0.28(0.85)	0.77(0.86)
Region	0.27(1.02)	0.29(1.02)	6.26(1.06)	1.17(1.11)
%Free	6.81(1.37)	----	----	0.19(1.82)
Urban	1.66(1.27)	0.05(1.51)	1.10(1.02)	0.22(1.58)
Rural	0.98(0.71)	**0.001(0.64)*****	----	0.49(1.09)
%Minority	3.96(1.21)	-----	----	0.47(1.55)
Level-1: N = 277, Level-2: j = 153; X^2 = 77.79				
Males				
Level-2				
Intercept	0.90(0.76)	0.23(1.55)	0.67(0.92)	0.41(0.92)
Region	2.33(0.93)	1.09(1.20)	0.26(1.08)	0.79(0.99)
%Free Lunch	0.41(0.78)	0.30(1.38)	----	----
Urban	2.03(1.44)	25.43(1.76)	0.14(1.32)	0.33(1.23)
Rural	0.26(1.01)	0.81(1.36)	2.97(1.10)	**13.11(1.20)***
%Minor	1.32(1.09)	0.22(1.57)	----	----
Level-1: N = 261, Level-2: j = 156; X^2 = 84.47				

*p < .05 **p < .001 ***p < .0001

The employment status model only showed Hispanic females as being most likely to be employed two years after high school. Interestingly, placement

labor occupation was not conducted because the HLM model did not run an analysis.

in a vocational track increased student's likelihood of being employed. This finding supports Hypothesis 3 which suggested that there is gender stratification in occupational outcomes among vocational students. More specifically, females are most likely to hold positions that are low-skilled with low wages when having training in the vocational program (Ainsworth and Roscigno 2005).

The models predicting occupational placement had some varying outcomes. The model predicting consumer occupational placement found that race-ethnic females had a higher probability of being employed in the consumer job market. However, being enrolled in the consumer track in high school had no effects. The model predicting general labor placement found no race effects among any of the subgroups measured. However, among males, being enrolled in the general labor track in high school increased their likelihood of employment in the general labor market. These findings do not support Hypothesis 3 which indicated that Black and Hispanic males are more likely to have employment in the general labor market, but it does support prior empirical works that males are more likely employed in the general labor market.

The final model predicting specific occupation job placement found race effects among females only. Race-ethnic females were less likely to have employment in a specific occupation field. This supports Hypothesis 3 which indicates that females are less likely to hold jobs in the specific occupation field. Also, males who were enrolled in the specific occupation track in high school had a higher probability of employment in specific occupation jobs. This does support Hypothesis 3.

CHAPTER 5

DISCUSSION and CONCLUSIONS

This study examined how the structure of tracking "within" the vocational program shapes Black and Hispanic students' academic achievement and career outcomes. One viewpoint suggests that tracking maximizes the learning potential of all students because both advanced and slower learners are matched with appropriate instruction (Lucas 1999; Oakes 2005). Opponents argue that the practice of tracking functions as a major source of unequal opportunities to learn, primarily among racial-ethnic minorities and economically disadvantaged students (Lucas 1999; Mickelson and Heath 1999; Oakes 2005). They all contend that racial-ethnic minority students are disproportionately placed into lower level academic courses and programs including vocational education. Once so placed, their subsequent enrollment patterns in specific vocational courses may have varying effects on their academic and career outcomes.

Academic programs are designed to develop students' more advanced academic skills and knowledge, which are prerequisites for postsecondary schooling prior to labor force entry. For example, vocational programs are designed to develop specific occupational skills that lead to direct entry into the labor market; while general education programs lack the specialized focus of either the college preparatory or the vocational curriculum (Braddock 1995). There are various curricula paths students can take once enrolled in the vocational program. Within the vocational track, students are further assigned to

specific specialty areas such as consumer education, health occupations, technology-communications, with each conferring different status and rewards. These paths are not all parallel and may have different racial and gendered patterns of enrollment and outcomes. Unfortunately, tracking *within* the vocational program has received limited attention from researchers (Ainsworth and Roscigno 2005; Royster 2003). Thus, very little is known about the actual dispersion of African American, Latino, American Indian, Asian, and White students across and within different types and levels of vocational programs or classes. Consequently, the overarching research question this project addressed was: Does race-ethnicity affect the likelihood of placement in specific vocational tracks, academic experiences within those tracks and, if so, what are the consequences of those experiences (i.e., employment status, job placement)?

To address the process of tracking within the vocational program, the project first analyzed the over- and/or under-representation of Black and Hispanic male and female students in each of the vocational tracks (consumer, general labor, specific occupation) by using parity measures. Three different indices are often used to describe parity measures: *risk index, odds ratio, and composition index* (Donovan and Cross 2001). The odds ratio parity measure was used for this project to determine racial enrollment patterns within the vocational program. The project then analyzed the factors that contribute to vocational students' enrollment into the three vocational tracks. The analysis primarily focused on the race effects of students' likelihood to enroll in the various tracks, but also

addressed gender and social class differences, if any. Following vocational student track placement, an analysis also included the factors that contribute to vocational students' academic achievement. Vocational students, although taking courses in specialized areas of interest, must also take core courses to meet graduation requirements (Mickelson and Everett 2007). The final analysis examined students' post-secondary outcomes regarding their employment status and job placement into specific areas of the labor market if employed.

The National Educational Longitudinal Study was a sufficient data source that provided various teacher, school, and parent level educational measures. These indices were well suited for investigating the role of tracking *within* the vocational program and factors that influence educational and occupational outcomes. The data sample included only Hispanic, Black, and White vocational students. The author collapsed the variable that identified an array of vocational course offerings down to three track categories (e.g., consumer, general labor, specific occupation). If students were not categorized in one of these tracks they were deleted from the analysis.

The findings from this project supported prior empirical research that identifies racial-ethnic variations in tracking processes and subsequent student academic and career outcomes. Theories of educational stratification put forth by Bowles and Gintis (2002) reify how education can reproduce social inequalities based on race, gender, and social class. The growth of educational attainment among racial-ethnic minorities and recent immigrants has not translated into academic, occupational and income equity between those groups

and Whites (Ainsworth and Roscigno 2005). Despite the considerable advantages for vocational students (i.e., increased probability of employment, etc.) (Mupinga and Livesay 2004; Wan Mohamed 1998), the tracking structure within the vocational program negatively affects many students, particularly race-ethnic minorities. For instance, race-ethnic minorities were more likely to enroll in lower levels vocational tracks. As a result, race-ethnic minorities were found most often to have lower performances on standardized academic achievement tests. Several of these findings were the result of the effects of school based inequities. For example, vocational students are even more disadvantaged when attending schools that have high minority enrollment, a high percentage of students receiving free/reduced lunch, and those located in urban and rural areas.

Despite advocacy for improved educational conditions, many students continue to perform poorly in schools. Scholars cite that large segments of the most vulnerable students continue to attend the poorest performing and under-funded schools. Additionally, many of these schools remain racially and economically segregated (Orfield, Frankenburg, and Lee 2003; Orfield and Lee 2005). Because the tax base of the local economy primarily finances schools, those in poor rural and urban areas are routinely under-funded (Anyon 1997; Wenglenski 1997). Under-funded schools suffer from several deficiencies such as quality of instruction, up-to-date technological resources, and student-teacher ratios. Moreover, schools in poorer areas tend to have fewer experienced teachers and fewer teachers with degrees beyond the bachelors degree, a major

influence on student achievement (Darling-Hammond 1999, 2000; Rice 2003; Rockoff 2004). Consequently, students who attend these schools are likely to encounter these inadequacies at higher rates than students attending schools located in areas with higher tax bases. Unfortunately, these schools continue to serve many racial-ethnic minorities, resulting in their disproportionate number in negative school outcomes such as dropouts, suspensions, and low graduation rates (Anyon 1997).

Findings also highlight various gender differences. Girls typically enroll in higher academic tracks and consistently outperform boys on several academic measures (Jencks and Phillips 1998; Mickelson and Heath 1999; Oakes 2005). As a result, females now make up the majority of the college population, accounting for approximately 60%. However, gender stratification within the vocational program places females at a considerable disadvantage. The National Assessment of Vocational Education (1998) put forth that, despite the vocational program being disproportionately male, when females enroll, they are often steered into “female” dominated vocations that usually restrict them into the low service sector (i.e. cosmetology, consumer, and home economics, domestic and administrative work). This project found race-ethnic females had a higher probability than males of being employed and were more likely to be found in consumer related fields, but less likely to be in specific occupation fields than males.

The overall findings suggest that vocational track placement, low academic performance, and gender can shape students’ matriculation into the

blue collar labor market. The following sections discuss specific findings and present concluding thoughts and arguments about the association between race effects and vocational program tracking and its subsequent influence of academic and occupational outcomes.

Racial and Gender Enrollment in Vocational Tracks

Racial parity measures determined if Black and Hispanic males and females were over- or under-represented of Black and Hispanic student enrollment in specific vocational courses were conducted. Previous research found that Hispanic and Black students were more likely than Whites to enroll in vocational programs while females, when enrolled, were much more likely than males to enroll in 'gendered' segregated vocational courses (Arum 1995; Arum and Shavit 1995; Lewis and Cheng 2006). Therefore, the first hypothesis put forth suggested that Black and Hispanic males would be over-represented in the general labor track while under-represented in the specific occupation track. Among females, race-ethnic minorities would be over-represented in the consumer track while under-represented in the general labor and specific occupation track.

Parity measure results indicate that there were few race and gender differences in the enrollment patterns within vocational tracks. For example, Hispanic males were not over-represented in the consumer or the general labor track. However, they were closest to parity with White males in the consumer track, but were furthest from parity in the general track. Hispanic females were

not over-represented in any of the vocational tracks. Hispanic females were closest to parity in the occupational track, but were furthest from parity in the general labor track. Black males and females, like Hispanics, were underrepresented in all vocational track classifications. Among Black males, they were closest in parity to White males in the general labor track. Among Black females, they are closest to parity with White females in the consumer and specific occupation track. The disparity in the racial breakdown of the number of students enrolled in the vocational program may contribute to a lack of over-representation.

Overall, the findings do not support the first hypothesis regarding Black, Hispanic, and female overrepresentation in the consumer and general labor tracks. No gender differences were evident in enrollment patterns in any of the vocational tracks. However, Black and Hispanic females' close parity measure in the occupational track suggests that maybe more females are enrolling in vocational courses that are leading toward occupations that have higher status and wages. This pattern is consistent among all academic programs where females continue to dominate graduation rates, GPAs, standardized test scores, and college enrollment rates. If this gender shift continues to take shape, we are likely to see more women in 'male' dominated occupations.

Black and Hispanic Vocational Students' Achievement on Standardized Achievement Tests

There remains a significant difference in student achievement between White and racial-ethnic minority students within academic tracks (Trent 1997). As a result, the Black-White and the Hispanic-White achievement test score gap have remained steady over the last decade. Student achievement is linked to academic tracking processes, whereby students in higher academic tracks tend to perform better on standardized achievement tests than students in lower academic programs (Mickelson and Everett 2007). The gap widens even more when comparing achievement test scores of students in upper level programs and students in vocational programs. Furthermore, when evaluating specific programs, students in the vocational program score the lowest on standardized exams (Adams 2001). This occurs mainly because of the preparation that vocational students receive in basic academic areas. Because vocational students generally are not exposed to the depth and breadth of information that upper level students have, it makes sense that vocational students' academic performance levels not as high as college-prep students. And because there are consistent findings of racial variations in students' achievement (Jencks and Phillips 1999), this project also hypothesized that race-ethnicity will negatively affect vocational student's performance on standardized achievement test. The analysis accounted for the effects of school urbanicity, school racial composition, and school region.

The vocational program has been described by some as a ‘dumping ground’ for low-achieving, non-college bound students. However, within this dumping ground (Adams 2001), Black and Hispanic males continue to face adverse hurdles when pursuing the rewards that accompany the vocational program. According to the academic achievement model, race-ethnic effects were more prevalent among males. Black and Hispanic males performed poorly on standardized academic achievement tests compared to their White and female counterparts. Because of the structure of school’s curriculum, vocational students have to take courses in core subject areas and the annual standardized exams. Because they are not prepared similarly to students in upper-level courses, they overall do not perform as well in comparison. Results show reveal Black and Hispanic males scored the lowest on standardized tests among all vocational students.

Academic performance has severe ramifications when students transition out of high school. Because race-ethnic minority vocational male students continue to have academic difficulties and disproportionately placed in lower level vocational tracks, they most likely to encounter difficulties labor market. Many will likely deal with bouts of unemployment, however, when employed, they are likely to matriculate into low wage, unskilled occupations.

Social and economic upward mobility is largely affected by an individuals’ academic success, particularly among youth who are transitioning out of high school. However, inequality continues to become exacerbated despite ethnic minorities increased presence in post-secondary institutions and acquiring post-

secondary degrees. The current job market is in an economic downturn and it is the individuals who area part of the blue collar market that is most affected. For example, blue collar factory jobs continue to be outsourced, slow housing market has limited construction jobs, and manufacturing employment is down (Van Riper 2007). However, Forbes (2007) has identified the top ten most profitable blue collar occupations (see Forbes.com Top 10 best-paying blue collar occupations). The current structure of vocational programs is likely to have White males and females as likely candidates for these top-level blue collar occupations. Although there were cases where Black and Hispanic males benefitted academically and occupationally from vocational programs, they continue to be at a significant disadvantage when making the school-to-work transition.

Factors that Predicts Vocational Track Placement

The project also focused on factors that contribute to students' placement in vocational tracks (i.e. consumer, general labor, specific occupation). Therefore similar to the Academic Achievement model, the second hypothesis indicated that the effects of race-ethnicity will increase the likelihood of students enrolling into consumer and general labor tracks, but reduce the likelihood of race-ethnic students enrolling in the specific occupation track. Also, gender is likely to affect the placement of females in gendered segregated vocational tracks (i.e. consumer track). Findings suggest that race-ethnicity was indeed a significant predictor of vocational track placement. However, there were several variations within each designated vocational track.

Consumer Track Model

The consumer model revealed that race was a significant predictor of consumer track placement among males and females. With the addition of each Level-1 variable, Blacks and Hispanics had lower probabilities of enrolling in the consumer track with the exception of the teacher variables. This enrollment pattern was consistent with the parity measure findings where race-ethnic male and female students were not over-represented in the consumer and general labor track. However, the addition of teacher variables had interesting results involving Hispanic students. The addition of teacher experience variable indicated that females were less likely to enroll in the consumer track, but males were more likely to enroll in the consumer track. The link between teacher experience, track placement and gender begins with school based inequalities. Most often inexperienced teachers (i.e. new teachers) are recruited into poorly funded, underperforming schools (Anyon 1997). Also, when new teachers begin their careers in more affluent schools, many end up teaching low level courses. Since disadvantaged race-ethnic minorities disproportionately attend poorly funded, underperforming schools and enrolls in lower academic tracks they are most affected by inadequate instruction from inexperienced teachers. These issues are exacerbated among disadvantaged race-ethnic males (Mickelson and Greene 2006; Polite and Davis 1999).

This in part, is not all that surprising because males generally outnumber females in the vocational program. Therefore due to mere numbers, it is feasible that some males would enroll in the consumer track. Also, overall females tend

to be more academically successful than males thus are likely to enroll in higher academic tracks, including within the vocational program (i.e. specific occupation).

The relationship between teacher experience and the likelihood of Hispanic males enrolling in the consumer track also prompted some attention. Here Hispanic males had considerably higher probabilities than non-Hispanic males of enrolling in a consumer track when attending rural schools. Many rural areas have traditionally been hubs for manufacturing and agricultural economies. However, since the 1980s many of these jobs have since relocated leaving a population behind where many do not have the skills, training, or educational background to matriculate into the more advanced, technical jobs that remain (Wilson 1996). These series of events lead to many individuals, males and females alike, competing for primarily low-wage, low-skilled occupations.

General Labor Track Model

The general labor model indicates variation in race effects between male and female placement in the general labor track. The base model provided evidence that race-effects varied by gender and school-based variables. Only Hispanic females had significant predictors of enrolling in the general labor track. Hispanic females were less likely to enroll in the general labor track. Ainsworth and Roscigno (2005) argue that Black and Hispanic females are less likely to enroll in vocational tracks that lead to high wage occupations, but participate in the low-wage service sector where females have are overrepresented.

A constant pattern emerged with males. Race effects varied based on school-level variables. Black and Hispanic males had lower likelihoods of enrolling in the general labor track if they attended rural schools. Prior empirical evidence finds that residential segregation influences access to social and economic options (Massey and Denton 1993). In many urban and rural areas, job options and chances for upward mobility are limited. However, traditionally rural and urban areas were locations for large manufacturing, textile, and agricultural type of jobs. Most recently, these industries have relocated from rural and urban areas. Consequently, developing skills and training in a field with very little future job prospects does not make, primarily because there is little demand for those types of occupations.

Occupational Track Model

Race was a significant predictor of females' placement in the specific occupation model. There is some variation in patterns of race-ethnic females' enrollment in specific occupation tracks. Females are not as likely to enroll in the specific occupation track when attending rural schools; however, Hispanic females from the South are more likely to do so. Females' likelihood of not enrolling in the specific occupation track when attending rural schools (in some cases in urban schools) were consistent with each addition of Level-1 variables thereby supporting the hypothesis that females are less likely to enroll in the specific occupation track. Similar to males, employment opportunities in many rural and urban areas have become minimal due to industries relocating out of

these areas. However, along with race, there are gender issues related to the vocational track placement. The specific occupation track leads to positions that are in the upper end of the blue collar hierarchy. Traditionally, these positions have been dominated by males; however, because females are continuing to outperform and outnumber males in school and in the workplace, it remains foreseeable that females will filtrate into male dominated occupations in the blue collar market. Evidence shows that more and more women are acquiring 'male' dominated occupations. These workplace gender roles continue to shift due to institutional restructuring that allow more women into male dominated jobs, but also because of females' diverse interests and school success.

The base model of the specific occupation model did find evidence of males having a higher probability of enrollment. Black males attending high minority schools were more likely to enroll in the specific occupation than non-Black males. Although, numerous studies find that Black males are most likely to enroll in the lowest academic track (Mickelson and Greene 2006; Mickelson and Heath 1999; Polite and Davis 1999), when attending high minority schools or school districts, it is plausible that Blacks disproportionately make up all academic programs (e.g. DC Public Schools, Baltimore City Schools).

Academic tracking is the process that differentially places students into curricular programs for the purpose of instruction. Proponents argue that tracking matches instruction with student's ability. In other words, higher ability students are matched with instructional methods that match their capabilities, while lower ability students are placed in courses that cater to their abilities.

Opponents suggest that academic tracking reproduces social and educational inequalities between affluent Whites and Asians and disadvantaged ethnic minorities. Numerous scholars have identified academic tracking as a significant contributor to the problem of academic inequality; however, many have presented alternative approaches to academic tracking and student achievement. Some schools have now abolished low tracked courses in favor of regular classes with honors options (Oakes and Wells 1998). In other cases, many middle schools have begun to develop common curriculum while some high schools are requiring all students to pass benchmark classes (Oakes and Wells 1998).

Programs such as Success for All (Madden, Slavin, Karweit, Dolan, and Wasik 1992) have been implemented to offset the negative consequence of academic tracking. Success for All is a school-based achievement-oriented program for disadvantaged students in grades pre-K-5. The program is designed to ensure learning among disadvantaged students by providing instructional and family support resources within regular classrooms. Practices and strategies are implemented to decrease student retention and special education placement by identifying learning deficits early in a students' education.

Although scholars have identified the problem with academic tracking, policies, programs, and practices are in place to restructure the opportunities to learn and academic success of racial-ethnic minority students. Because all students have the ability to learn and achieve schools and everyone involved in a child's life should work to ensure their success.

Predictors of Employment Status and Occupational Placement

Employment Status

The analysis examined the implications of participation in a particular vocational track and its influence on students' employment status two years after high school. The final hypothesis indicated that Black and Hispanic vocational students would be less likely than their White counterparts to be employed two years after high school. However, when employed, Blacks and Hispanics had a higher probability than their White counterparts of being employed in the consumer and general labor field.

There were no significant predictors of employment status among males in any of the three models. Recent data indentifies that males continue to have a considerably higher unemployment rate, particular Blacks and Hispanics, than their female and White counterparts (Pager 2008). Additionally, other social characteristics remain salient and contribute to a disproportionate number of males who are unemployed (i.e. criminal backgrounds). Having a criminal record radically affects the employment options and opportunities, but when adding race-ethnicity to the fold, it becomes even more disheartening. Pager (2008) found that there remain considerable race-effects within the hiring practices regarding individuals with criminal background records. For example, Black and Hispanic males with criminal records are less likely to get hired than White males. Even more, White males with a criminal background are as likely to get hired as Black and Hispanic males without any records.

Among females, race was a significant predictor of their employment status. Within each model only Hispanic females' employment likelihood was significant. For example, Hispanic females who attended schools with a high percent of its students receiving free/reduced lunch were more likely to be employed than non-Hispanic females (odds ratio = 9.28, $p < .001$) in the consumer model. Similar patterns were evident in the general labor and specific occupation track (see Tables 30-32). Evidence points to the idea that even within race-ethnic effects, Blacks are most likely to be unemployed.

Employment status and occupational success are a result of academic success in schools, particularly among young adults. When students are not college-bound, they have the option of enrolling in vocational courses to help prepare them for the school-to-work transition and pursue future social and economic opportunities. Unfortunately, discrimination and the salience of sexism in the workforce are barriers that race-ethnic minorities often confront. For instance, Royster (2003) identify that opportunities for vocational students are racialized. For example, work study and apprenticeships are vital to future opportunities among vocational students. Work study and apprenticeships serve as 'on-the-job' training for students in their fields of interest. More importantly, they foster and develop social and professional networking systems that assist with job opportunities when completing training. She found Whites were much more likely to get recruited and recommended for work study. Interestingly, even when Black and Hispanic males are better students, they were less likely to get recommended for work study and apprenticeship programs.

Although vocational programs are designed to reduce unemployment and enhance students overall livelihood, race remains a significant influence in the type of training students receive and the accompanying rewards associated with participating in the vocational program. Thus, even within the 'dumping ground' program, variations in the training and eventual job market placement of students contribute to the growing gap in occupational stratification.

Occupational Placement

The final set of analyses examined the implications of participation in vocational courses and its influence on the specific occupational placement of students after high school. Each model included the vocational track that males and females were enrolled in as high school seniors to determine if it had any influence on labor market outcomes.

Race-ethnicity was a significant predictor of employment in consumer and specific occupations among females. However, enrolling in the consumer or specific occupation track during high school was not significant among females. There were no significant predictors of males' likelihood of employment in the consumer job market. Males are not as likely as females to enroll in the consumer track, resulting in a decreased likelihood of working in a consumer occupation. However, males' probability of working in a specific field was only significant when they were enrolled in the general labor and specific occupation track. Hypothesis 3 predicted that males were the primary beneficiaries of stratification in the vocational tracks. Despite the growth of women in white

collar, professional occupations, even their emergence in ‘male’ dominated positions (i.e. construction, electrician, etc.), many job and job related tasks largely remain segregated. For example, landscapers and groundskeepers are primarily men, while domestics and housekeepers are primarily women. Although females are continuing to outperform and outnumber males in graduation rates and college enrollment, males continue to benefit most in the school-to-work transition among vocational students. Despite females' continued success in school and regardless of their academic program, males are most likely to enroll in the vocational track that leads to upper tiered occupations. However, there may be race-ethnic variations in these outcomes which should be further examined in future research.

Policy Implications

Vocational education continues to garner support from advocates who argue it provides training and skills for non-college bound students, which, in turn, increases their employment opportunities. These outcomes then boost the economy by reducing the unemployed young adult population. However, opponents continue to argue that vocational education reproduces social, economic, educational, and gender inequalities that continue in the labor market. Policy initiatives need to devise plans to not only alleviate the reproduction of social inequalities produced by vocational education, but implement strategies that diminish the tracking structure within vocational programs.

In the late 1990s there were plans put forth to address vocational education (e.g. Council for Great City Schools 1997 ['A Marshall Plan for Urban Schools']; Chicago Public Schools 1997, 1998). These plans consistently regarded efforts to deconstruct academic and vocational learning by developing a new cooperative structure that would emphasize raising academic expectations and create more career and academic specialty programs (Crowson, Wong, and Aypay 2000). The '*A Marshall Plan for Urban Schools'* called for increased expectations on behalf of teachers and school personnel and that students should explore the working world.

These efforts, among others, continue to fight for exposure in the policy arena for vocational education. However, vocational education continues to receive little attention in the education public policy debate (Crowson et al. 2000). The focus on education usually has been on school desegregation, the achievement gap, and academic tracking. Although these are critical areas that warrant significant attention and discussion, vocational education remains under the educational debate radar. More specifically, tracking within the vocational program, or other broad curricular programs, has not received any attention in the policy arena.

When vocational education reform is discussed in policy much of the debate surrounds the idea that vocational education needs to continue to create strong alliances with local businesses (Gill, Fluitman, and Dar 2000; Mickelson and Smith 1999). Local businesses and business elites has a tremendous influence on the type of vocational courses should be offered in high school.

With these efforts, and others, the tracking processes within vocational education remains a salient piece. Educators must acknowledge and address how race-ethnicity, social class, and gender inequalities exist and manifest in the school structure well before students enter the labor market (Ainsworth and Roscigno 2005). Ainsworth and Roscigno (2005) also suggested that the ascribed characteristics students bring to school will continue to be proliferated in the labor market. Although debate and policy initiatives address labor market inequality, the role of educational inequality and its link to the workforce has received little.

Limitations

The National Educational Longitudinal Study (NELS: 88) remains the most comprehensive data set available to scholars who study education. However, NELS is approximately twenty years old (base-line data) and serves as the primary limitation of this study. The analysis would provide more contemporary findings if used the updated version of NELS upon completion of its final wave, Educational Longitudinal Study. Although it provides the ability to analyze a complex study such as this one, several limitations exist. Most notably, the Hispanic population in public schools in the last twenty years has significantly increased. Fry (2006) states that since the 1990s the growth of the Hispanic student population has changed the landscape of American public education. Fry also reported that between the school years 1993-94 and 2002-03 Hispanics accounted for 64% of all students added to public schools.

The increase in the Hispanic student population, and its diversity, must be taken into account. It is unfair and unwise to lump the lived and educational experiences of Hispanic subgroups into one category. Despite having some negative experiences in schools, the educational experiences of Hispanics in Miami, for example, are very different than those in New York, Texas, and California. Additionally, a similar argument could be made regarding the increasingly diverse Black populations in schools. Over the last twenty years, Blacks from Africa, the Caribbean, Central and South America have increased dramatically in public schools. Therefore, lumping 'Blacks' together and explaining little or no variation in their school experiences is likely to produced biased results (Portes and MacLeod 1996; Portes and Rumbaut 2001). Nevertheless, the data set lumps these populations together because it early waves did not include ethnic variations.

Also, the sample size potentially places limitations on the outcomes. The sample is drawn from a subset of the 14,915 students collected between 1990 and 1994, which produced a significantly lower sample. Accounting for other variables that could increase the sample size may in fact produced different results.

Future Research

Future research projects addressing tracking issues should strongly consider the tracking processes within academic programs. As a follow up to this research project, a future project will address the tracking processes within the

upper-level academic programs. Again, within the academic or college preparatory tracks, some students are further assigned to advanced placement (AP), international baccalaureate (IB) programs with each conferring different status and rewards, and perhaps, access to different colleges for students from different gender, race and class backgrounds (see Daniel v. California 1999).

These differences are exacerbated when examining the unequal offerings of AP and IB programs within school districts. For many racial-ethnic minority students, they have limited access and opportunity to take AP and IB classes. For example, in 1999, students in the Inglewood Unified School District (IUSD) filed a lawsuit that challenged the state board of education over the lack of AP courses offered in their school (Daniel v. California 1999). The suit documented the discrepancy in AP courses that were offered in urban high schools that enrolled predominantly low-income students of color compared to the more affluent suburban schools with predominantly non-Hispanic White students.

Within many urban school districts, the numbers of AP and IB courses (if any) are often not in core subjects such as math and science. By contrast, most affluent district offers a broad range of courses including core subjects and electives (Oakes, et. al. 2000). With a limited number of core-subject AP courses being offered, disadvantaged minority students, particularly in urban school districts, experience a lack of opportunity to take any AP courses, thus restricting not only their exposure to a rigorous curriculum but also the advantages associated with taking AP courses. This disparity has direct implications on

college enrollment, particularly in states such as California that have recently removed race based college admission policies.

Tracking processes within academic programs continues to be an understudied area within the academic tracking literature. Critical examination of the processes that occur within broad academic programs can further identify the structural factors that contribute to student achievement as well as students' school-to-work transition. In an extensive literary search, there were only two studies that closely matched the idea of intra-program tracking, Ainsworth and Roscigno (2005) "Stratification, School Work Linkages and Vocational Education" and Royster (2003) *Race and the Invisible Hand: How White Networks Exclude Black Men from Blue-Collar Jobs*.

The Ainsworth and Roscigno (2005) study found significant racial, class, and gender disparities in vocational placement had predetermined factors that track students into divergent course paths that result in labor market inequalities (Ainsworth and Roscigno 2005). The types of courses vocational students enrolled in during high school lead directly to the types of jobs and/or job opportunities to which students had access. Royster (2003) found that race played a significant part in students' ability (or lack thereof) to develop social networks with school personnel (e.g., teachers and counselors) was a key factor for either their absence in the labor market or their placement in low level blue collar occupations. The differential in access was associated with Black males' failure to develop social networks and working relationships with employers,

which has been found to restrict future employment opportunities among vocational students (Lan 1999; Rosenbaum, DeLuca, Miller, and Roy 1999).

This study advanced the literature by building on Ainsworth and Roscigno and Roysters' work. Ainsworth and colleagues argued that race, class, and gender are sometimes reproduced through the students' participation in the vocational program. As such, the author first identified patterns of within-track placement in vocational programs and documented its racial disparities. Parity measures revealed no evidence of over- or under-representation of race-ethnic minorities in the three designated vocational tracks. However, logistic regression analysis highlighted some variation in the likelihood of race-ethnic minorities enrolling in the three vocational tracks. There were also gendered enrollment patterns among race-ethnic minorities.

Perhaps most importantly, the project identified links between within-track placement and academic achievement and occupational attainment among African American and Hispanic students in vocational programs. Race-ethnic variations were evident among vocational students' performance on standardized achievement tests. Black and Hispanic vocational students, primarily males, had significantly lower scores on standardized academic achievement tests than their female and White counterparts. Numerous studies find that Black and Hispanic males' achievement scores are the lowest of any other subgroup. This persistent academic outcome has been connected to high drop out rates (Ream and Rumberger 2008; Stearns and Glinnie 2006), low college enrollment rates

(Bennett and Xie 2000), high rates of unemployment and incarceration rates (Sampson and Lauritsen 1997; Stratton 1993) among Black and Hispanic males.

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APPENDICES

APPENDIX A

DESCRIPTIVE STATISTICS

Table 1 Descriptive Statistics

Variables	(N)	Range	Min.	Max.	Mean		Std. Deviation
					Statistic	S.E.	
Black	749	1.00	0.00	1.00	0.139	0.013	0.346
Hispanic	749	1.00	0.00	1.00	0.170	0.014	0.376
White	749	1.00	0.00	1.00	0.692	0.017	0.462
Gender	779	1.00	0.00	1.00	0.505	0.018	0.500
SES	764	1.00	0.00	1.00	0.754	0.016	0.431
*Educational Aspirations	4915	1.00	0.00	1.00	0.336	0.007	0.472
Peer Influence	633	3.99	-2.39	1.60	0.445	0.037	0.933
Parent Involvement	569	1.00	0.00	1.00	0.680	0.019	0.467
*Parent Aspirations	5367	1.00	0.00	1.00	0.256	0.010	0.437
Vocational Recode:							
(12th) Consumer	727	1.00	0.00	1.00	0.354	0.018	0.478
(12th) General	727	1.00	0.00	1.00	0.255	0.016	0.436
(12th) Occupation	727	1.00	0.00	1.00	0.392	0.018	0.489
Region	779	1.00	0.00	1.00	0.552	0.018	0.498
Rural	801	1.00	0.00	1.00	0.372	0.017	0.484
Urban	801	1.00	0.00	1.00	0.247	0.015	0.432
Suburban	801	1.00	0.00	1.00	0.381	0.017	0.486
Prior Achievement	771	68.67	31.32	99.99	49.347	0.607	16.87
Math/Reading Achievement	779	70.62	29.37	99.99	56.230	0.850	23.727
%Free Lunch	643	1.00	0.00	1.00	0.818	0.015	0.386
%Minority	584	1.00	0.00	1.00	0.307	0.019	0.461
Teacher Experience	219	1.00	0.00	1.00	0.429	0.034	0.496
Teacher Quality	706	4.29	-0.22	4.07	0.598	0.061	1.619
10th Grade Track	595	1.00	0.00	1.00	0.859	0.014	0.349
Employment Status	841	1.00	0.00	1.00	0.336	0.007	0.472
Vocational Recode:							
(94) Consumer	2703	1.00	0.00	1.00	0.501	0.010	0.500
(94) General	2703	1.00	0.00	1.00	0.220	0.008	0.414
(94) Occupation	2703	1.00	0.00	1.00	0.279	0.009	0.449

APPENDIX B

PARITY MEASURES OF VOCATIONAL TRACK PLACEMENT BY RACE AND GENDER

Table 2 Vocational Track Parity Measures of Enrollment by Race and Gender

	*Hispanics		Blacks		Whites		Total	
	Males (n=49)	**Females (n=56)**	**Males (n=47)**	**Females (n=51)**	**Males (n=248)**	**Females (n=247)**	**Males (n=344)**	**Females (n=354)**
Total %	**(0.47)**	**(0.53)**	**(0.48)**	**(0.52)**	**(0.50)**	**(0.49)**	**(0.49)**	**(0.51)**
Odds Ratios								
Consumer	**1.19****	**1.05**	**0.72**	**1.22**	**0.92**	**0.95**	**1.00**	**1.00**
	(0.43)***	(0.39)	(0.26)	(0.45)	(0.33)	(0.35)	(0.36)	(0.37)
General	**0.51**	**1.00**	**1.05**	**0.88**	**1.09**	**1.11**	**1.00**	**1.00**
	(0.22)	(0.09)	(0.45)	(0.08)	(0.47)	(0.10)	(0.43)	(0.09)
Occup	**1.52**	**0.98**	**1.30**	**0.89**	**0.87**	**1.04**	**1.00**	**1.00**
	(0.35)	(0.52)	(0.30)	(0.47)	(0.20)	(0.55)	(0.23)	(0.53)

*The total sample (N = 749). The sample is based on recoding the student-level response of 'describe your present high school program.' If student responses could not be categorized in one of the three vocational tracks (i.e. consumer, general labor, or specific occupation) they were not included.

Note:
**An odds ratio under 1.0 represent an under-representation of enrollment patterns and an odds ratio above 1.0 represent an over-representation in the vocational program, where Whites are the reference category.
Data Source: National Educational Longitudinal Study (NELS: 1988).

***To calculate parity measures, I first calculated (for males and females) the total percent in each vocational track. I then divided each race percent by the total category percent to determine parity ratios. Numbers in parentheses represent the total race percent by gender.

APPENDIX C

MULTILEVEL REGRESSION MODEL PREDICTING ACADEMIC ACHIEVEMENT AMONG VOCATIONAL STUDENTS

Table 3. Multilevel HLM Regression Model Predicting Academic Achievement (Base Model)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES
	Coefficient (s.e.)	Coefficient (s.e.)	Coefficient (s.e.)	Coefficient (s.e.)	Coefficient (s.e.)
Females					
Level-2					
Intercept	**64.68(6.23) *****	-0.35(1.26)	26.10(17.16)	-18.85(16.65)	-13.07(11.70)
10th Track	-5.88(5.72)	0.99(1.28)	-21.88(18.87)	14.92(14.40)	4.30(11.45)
Region	0.99(6.03)	-0.51(0.39)	-10.233(12.36)	11.79(11.80)	5.39(7.58)
% Free	**-26.36(10.31)***	0.42(0.46)	-9.55(11.13)	7.99(10.20)	36.13(11.42)
Urban	-0.24(5.73)	-0.89(0.64)	0.82(11.36)	1.70(23.44)	2.77(9.31)
Rural	-9.62(9.17)	-0.15(0.42)	-5.39(10.67)	15.37(16.25)	10.27(10.27)
% Minor	-11.30(6.96)	0.87(0.0.86)	0.74(12.11)	9.81(20.77)	10.54(9.84)
Level-1: N = 240, Level-2: j =125; X^2 *= 168.69***					
Males					
Level-2					
Intercept	**60.54(12.06)*****	-0.09(0.51)	16.72(18.77)	-2.31(25.04)	-6.91(14.22)
10th Track	-9.87(11.48)	**0.90(0.45)***	-9/02(16.53)	1.22(20.30)	7.23(13.31)
Region	-0.06(7.14)	-0.70(0.36)	-5.16(10.04)	2.39(12.18)	9.13(8.34)
% Free	6.08(13.98)	0.35(0.33)	20.17(13.47)	-21.04(14.23)	-12.49(15.14)
Urban	16.91(17.06)	0.33(0.44)	-1.47(14.36)	-3.64(16.63)	-15.21(17.63)
Rural	-3.33(7.34)	-0.41(0.31)	-2.54(11.29)	-14.50(14.38)	1.54(8.22)
% Minor	-36.23(21.75)	-0.22(0.36)	-16.18(15.36)	**-33.00(15.20)***	**44.20(21.82)***
Level-1: N = 232, Level-2: j =133; X^2 *= 186.11****					

*p < .05 **p < .001 ***p < .0001

Table 4. Multilevel Regression Model Predicting Academic Achievement in HLM (Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Aspirations
	Coeff (s.e.)	Coeff (s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff (s.e.)
Females						
Level-2						
Intercept	**60.36(6.96)*****	-0.15(1.06)	**29.11(10.09)****	-22.93(16.54)	-19.55(10.76)	**27.32(10.64)***
10th Track	1.95(5.33)	0.77(0.87)	**-27.63(12.42)***	20.98(14.00)	9.17(8.94)	**-25.74(9.01)****
Region	**2.19(6.06)****	-0.03(0.40)	-6.93(10.79)	18.38(14.92)	9.91(7.91)	-12.21(6.47)
% Free	-42.79(13.78)	-1.27(0.72)	-22.34(11.47)	-1.36(11.93)	**41.26(15.03)***	18.58(11.52)
Urban	0.69(5.64)	-1.32(0.89)	-3.38(10.95)	-8.48(21.91)	-3.16(11.20)	3.79(8.59)
Rural	**-19.85(8.25)***	-0.64(0.49)	-1.09(14.78)	2.60(14.56)	12.03(10.77)	9.67(7.98)
%Minor	-2.91(9.07)	-0.08(0.95)	-13.35(13.28)	12.10(19.16)	9.56(14.19)	-4.91(11.52)
*Level-1: N = 240, Level-2: j =125; X^2 = 164.70****						
Males						
Level-2						
Intercept	**90.41(10.75)*****	-0.50(1.00)	0.66(14.49)	-2.16(15.94)	-18.04(11.17)	**-28.17(11.58)***
10th Track	**-22.92(9.62)***	1.54(0.87)	3.30(13.75)	-2.70(0.34)	12.76(9.34)	**26.44(9.87)****
Region	-8.02(7.25)	-0.36(0.46)	**-14.28(7.18)***	10.58(12.96)	**19.52(8.36)***	2.80(6.25)
%Free	21.22(12.10)	0.29(0.44)	8.62(9.96)	-22.09(13.49)	-21.50(12.64)	-11.23(8.16)
Urban	1.19(13.42)	0.39(1.02)	**18.70(9.09)***	4.33(14.82)	-9.55(13.55)	-1.54(9.54)
Rural	0.58(8.13)	-0.08(0.27)	0.14(10.20)	-5.15(12.15)	-1.89(8.90)	-0.77(6.66)
%Minor	-27.35(15.29)	1.76(1.15)	**-34.46(12.65)****	**-48.50(13.38)****	**39.33(15.46)***	14.25(8.51)
*Level-1: N = 232, Level-2: j =133; X^2 = 156.34****						

*p < .05 **p < .001 ***p < .0001

Table 5. Multilevel Regression Model Predicting Academic Achievement in HLM (Peers)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Peers
	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coefficient (s.e.)
Females						
Level-2						
Intercept	**64.11(5.62)*** **	-0.60(1.40)	19.90(14.19)	-24.46(18.06)	-11.28(10.00)	**-26.95(9.07)** **
10th Track	-6.16(4.55)	0.83(1.32)	-17.67(17.55)	24.85(15.42)	4.18(9.47)	**22.01(8.00)** **
Region	-0.53(5.36)	0.15(0.71)	-7.30(12.27)	21.73(14.64)	5.92(7.02)	8.96(5.71)
% Free	-22.68(12.40)	-1.20(0.68)	-28.33(14.81)	-1.77(11.88)	**33.93(13.12)***	-7.02(12.83)
Urban	6.57(5.89)	-1.28(0.97)	0.31(15.12)	-14.23(23.99)	-5.60(10.08)	1.08(11.30)
Rural	-5.99(8.18)	-0.13(0.70)	-0.002(16.74)	2.72(13.93)	5.53(9.63)	-0.29(5.60)
%Minor	-3.06(6.39)	-0.19(1.00)	-9.13(14.26)	25.93(21.07)	3.34(9.31)	-3.43(15.09)
*Level-1: N = 240, Level-2: j = 125; X^2 = 146,60***						
Males						
Level-2						
Intercept	**51.87(8.32)*** **	0.16(0.36)	24.08(18.11)	-7.82(11.99)	6.44(10.86)	12.06(8.09)
10th Track	**-17.86(8.17)***	**0.90(0.12)*** **	-13.40(18..72)	3.33(8.69)	10.20(10.94)	-9.61(7.94)
Region	-4.69(6.57)	**-1.62(0.41)*** **	**-15.00(7.19)***	11.23(9.51)	**16.89(7.77)***	-5.81(6.25)
%Free	**24.90(10.46)***	**2.11(0.44)*** **	**27.34(13.19)***	**-25.86(10.81)***	**-37.81(12.73)** **	**15.88(7.85)***
Urban	**59.99(14.14)*** **	0.69(0.77)	6.84(10.06)	-17.28(12.43)	**-63.36(15.58)*** **	-4.88(10.01)
Rural	-1.05(7.16)	0.16(0.16)	-2.60(12.00)	-13.76(9.35)	-2.59(8.11)	-2.06(3.35)
%Minor	**-88.07(17.62)*** **	-1.11(0.89)	-26.49(14.01)	**-50.15(11.74)*** **	**102.78(19.34)*** **	-6.62(9.24)
*Level-1: N = 232, Level-2: j = 133; X^2 = 205.99***						

*p < .05 **p < .001 ***p < .0001

Table 6. Multilevel Regression Model Predicting Academic Achievement in HLM (Parent Involvement)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Involvement
	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)
Females						
Level-2						
Intercept	**66.24(13.12)*** **	-1.23(1.55)	31.05(18.15)	-16.06(19.65)	-2.29(7.26)	-20.63(13.95)
10th Track	-7.94(9.36)	1.45(1.28)	-17.04(19.52)	26.08(16.05)	----	11.11(11.43)
Region	5.02(10.42)	0.34(0.82)	-13.92(12.40)	23.36(12.56)	-0.23(8.09)	3.26(9.30)
%Free	-28.32(16.22)	-3.79(2.70)	-13.96(17.16)	-8.14(16.84)	----	**38.08(18.02)***
Urban	6.35(11.83)	-1.17(1.01)	-8.66(13.01)	-36.26(28.04)	-3.98(11.48)	1.20(12.76)
Rural	**-23.10(10.60)***	0.07(0.77)	-13.60(15.99)	3.42(15.60)	**23.47(9.29)***	3.83(10.72)
% Minor	-2.69(13.19)	-1.88(2.62)	-6.69(16.17)	46.40(27.46)	----	1.42(15.97)
*Level-1: N = 240, Level-2: j =125; X^2 = 152.32***						
Males						
Level-2						
Intercept	**122.25(27.38)*** **	-0.61(0.40)	22.66(23.47)	-7.95(29.46)	-18.12(16.20)	-21.08(12.46)
10th Track	**-105.95(26.65)*** **	**1.20(0.34)** **	-0.63(21.81)	14.79(24.28)	14.12(15.74)	**25.36(12.40)***
Region	23.29(17.06)	**-0.73(0.29)***	-14.58(12.46)	-5.61(18.91)	**18.01(8.24)***	5.59(8.77)
%Free	-24.41(18.57)	0.54(0.31)	4.84(18.53)	-25.00(22.38)	-17.52(12.83)	7.74(11.02)
Urban	1.45(38.87)	0.33(0.64)	-8.00(16.52)	-13.62(22.70)	-16.97(7.26)	-15.80(13.46)
Rural	-4.15(12.86)	0.13(0.21)	-22.86(14.36)	-16.37(17.07)	-5.55(7.26)	2.06(7.03)
%Minor	-79.20(42.52)	-0.18(0.65)	-3.83(14.80)	-27.34(21.58)	**47.56(20.57)***	**43.13(16.26)***
*Level-1: N = 232, Level-2: j =133; X^2 = 396.23****						

*p < .05 **p < .001 ***p < .0001

Table 7. Multilevel Regression Model Predicting Academic Achievement in HLM (Parent Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Aspirations
	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)
Females						
Level-2						
Intercept	**57.11(6.50)*** **	0.50(1.11)	17.55(13.73)	-29.24(17.47)	-0.55(10.29)	-9.74(5.10)
10th Track	8.11(6.26)	0.18(1.17)	-16.05(17.17)	26.85(15.16)	-12.84(10.48)	----
Region	1.58(6.62)	-0.53(0.42)	-8.01(11.93)	12.76(12.33)	-3.14(8.67)	**19.59(6.55)** **
%Free	-14.17(8.37)	0.24(0.48)	-18.62(12.05)	4.58(10.22)	**29.07(9.42)** **	----
Urban	-11.79(6.66)	0.99(0.86)	-9.28(11.09)	-3.44(24.79)	**20.85(8.51)***	-5.49(7.94)
Rural	-12.13(9.79)	0.20(0.42)	-10.51(11.16)	3.07(15.19)	17.12(10.52)	-3.47(7.40)
%Minor	-3.01(4.99)	0.99(1.09)	-2.55(10.63)	13.47(22.20)	9.98(7.03)	----
*Level-1: N = 240, Level-2: j =125; X^2 = 132.46**						
Males						
Level-2						
Intercept	30.19(34.99)	0.71(0.53)	-4.16(29.13)	10.82(26.66)	-11.10(16.75)	-20.01(13.68)
10th Track	-9.40(32.59)	-0.06(0.47)	11.27(27.80)	-5.29(21.64)	11.55(16.08)	12.21(12.14)
Region	**37.42(17.60)***	**-0.80(0.31)***	0.70(10.65)	3.54(13.04)	3.21(9.42)	7.566(8.51)
%Free	-7.22(19.59)	0.45(0.31)	9.16(14.89)	-33.27(17.27)	-10.42(14.79)	-13.61(11.60)
Urban	27.90(27.92)	-0.17(0.46)	-4.72(16.51)	-8.45(19.48)	-14.36(18.27)	5.79(12.50)
Rural	8.01(15.96)	-0.28(0.28)	0.11(12.13)	-21.07(17.00)	2.91(8.71) .	6.39(8.35)
%Minor	-22.61(28.90)	-0.10(0.34)	-22.28(17.94)	**-38.53(16.62)***	40.83(23.97)	-11.57(13.24)
*Level-1: N = 232, Level-2: j =133; X^2 = 149.71** **						

*p < .05 **p < .001 ***p < .0001

Table 8. Multilevel Regression Model Predicting Academic Achievement in HLM (Teacher Experience)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Experience
	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)
Females						
Level-2						
Intercept	**60.98(25.78)***	**16.52(2.16)*****	**39.78(18.63)***	-1.84(46.61)	-31.82(21.36)	2.61(3.44)
10th Track	-11.95(20.57)	**-8.10(2.18)****	0.74(18.39)	-23.66(44.64)	27.59(19.70)	-2.25(2.99)
Region	15.44(21.59)	**-8.63(1.49)*****	-151.16(74.81)	-21.43(19.27)	9.45(17.55)	-1.50(2.97)
%Free	-38.47(35.18)	**9.14(3.77)***	159.95(80.06)	43.98(34.65)	7.99(32.28)	-1.11(5.41)
Urban	21.81(18.83)	-0.17(0.72)	12.77(17.22)	81.05(64.20)	**-43.69(16.03)***	-1.17(4.76)
Rural	-35.24(32.01)	**-7.50(1.80)*****	-95.56(48.02)	**72.32(25.24)****	22.46(27.65)	0.71(2.72)
%Minor	-22.23(40.94)	1.73(2.97)	121.88(90.86)	-43.15(40.87)	6.25(38.79)	-0.13(4.42)
*Level-1: N = 240, Level-2: j =125; X^2 = 308.99****						
Males						
Level-2						
Intercept	**129.77(55.42)***	-1.26(0.98)	7.29(32.04)	-59.45(35.77)	-2.28(13.27)	0.13(4.22)
10th Track	**-147.91(52.64)****	2.28(0.93)	7.79(28.64)	48.82(28.33)	-----	3.26(3.43)
Region	**46.12(17.68)***	-0.78(0.29)	-25.14(12.71)	**161.79(55.55)****	10.33(13.12)	-3.28(2.38)
%Free	-2.34(33.25)	0.22(0.44)	4.22(39.58)	-14.40(37.26)	**-51.14(22.59)***	5.66(8.15)
Urban	24.67(34.31)	0.57(0.71)	-13.02(28.50)	-20.90(37.36)	**29.09(13.12)***	**-18.19(6.81)***
Rural	51.93(30.48)	-0.79(0.60)	-5.74(17.25)	-3.81(22.90)	-5.35(10.21)	-0.95(2.00)
%Minor	**-79.28(32.69)***	0.71(0.63)	11.74(29.22)	-----	-----	4.10(6.48)
*Level-1: N = 232, Level-2: j =133; X^2 = 2084.33****						

*p < .05 **p < .001 ***p < .0001

Table 9. Multilevel Regression Model Predicting Academic Achievement in HLM (Teacher Quality)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Quality
	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)	Coeff(s.e.)
Females						
Level-2						
Intercept	**65.49(5.97)*** **	-0.28(1.19)	14.50(20.57)	-36.94(20.69)	-10.40(12.53)	-2.59(2.12)
10th Track	-7.21(5.76)	0.35(0.98)	-7.16(23.07)	29.59(16.31)	4.03(12.33)	----
Region	1.89(6.33)	0.13(0.90)	-16.19(11.96)	17.86(12.89)	2.78(7.58)	----
%Free	**7.07(13.39)***	-0.22(0.54)	-7.82(11.57)	-4.28(12.99)	**38.69(14.62)****	5.18(6.15)
Urban	-2.17(5.78)	-0.20(0.86)	1.85(11.02)	7.27(25.63)	2.99(8.96)	0.50(2.42)
Rural	-9.38(8.83)	0.24(0.71)	-0.43(10.58)	13.44(15.56)	9.17(9.95)	----
%Minor	-10.97(7.66)	1.11(1.17)	-5.22(12.49)	6.93(23.53)	10.34(9.15)	----
*Level-1: N = 240, Level-2: j =125; X^2 = 156.23***						
Males						
Level-2						
Intercept	23.25(34.64)	0.77(0.59)	16.71(12.69)	3.22(14.48)	-6.60(14.93)	-7.46(3.84)
10th Track	-10.70(32.13)	0.003(0.55)	-6.70(11.27)	-1.59(11.27)	7.48(13.51)	5.09(3.02)
Region	42.15(21.75)	**-0.82(0.38)***	-5.61(8.29)	3.58(8.02)	5.42(905)	4.27(2.34)
%Free	-20.74(22.72)	0.65(0.40)	15.29(12.22)	-18.56(9.82)	-14.92(15.43)	-2.72(3.29)
Urban	31.65(35.13)	-0.33(0.49)	-1.51(10.74)	-2.98(12.36)	-11.16(26.67)	-0.03(2.76)
Rural	15.98(22.24)	-0.37(0.39)	-4.50(9.42)	-20.26(10.76)	2.45(9.14)	1.85(2.54)
%Minor	-34.31(35.98)	0.04(0.45)	**-21.62(8.25)***	**-34.94(9.92)****	41.20(28.20)	0.37(3.21)
*Level-1: N = 232, Level-2: j =133; X^2 = 151.99**						

*p < .05 **p < .001 ***p < .0001

APPENDIX D

MULTILEVEL LOGISTIC REGRESSION MODEL PREDICTING CONSUMER TRACK PLACEMENT

Table 10. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Base Model)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females					
Level-2					
Intercept	0.88(0.66)	1.19 (0.13)	2.91 (0.66)	4.69 (1.58)	0.61(1.08)
10th Track	0.55(0.63)	0.80 (0.12)	----	0.61(1.58)	1.53(0.96)
Region	0.66(0.67)	1.01(0.04)	**0.09(0.86)****	**0.07(1.31)***	2.37(0.81)
% Free	----	----	----	----	----
Urban	0.48(0.70)	1.12(0.05)	0.49(1.04)	----	3.02(1.00)
Rural	0.22(1.27)	0.96(0.05)	2.60(1.22)	3.51(1.14)	4.12(1.34)
%Minor	----	----	----	----	----
Level-1: N = 240, Level-2: j =125; X^2 = 188.04					
Males					
Level-2					
Intercept	4.48(1.38)	1.11(0.06)	4.10(1.47)	1.61(0.68)	0.09(1.62)
10th Track	0.23(1.45)	0.991(0.05)	1.10(1.13)	-----	2.20(1.61)
Region	0.57(0.77)	1.01(0.05)	0.47(1.01)	1.15(0.99)	2.64(0.88)
%Free	0.03(2.06)	0.85(0.06)	0.08(1.42)	**0.02(1.47)***	**260.26(2.35)***
Urban	0.06(2.28)	0.85(0.09)	**0.03(1.48)***	**0.07(1.30)***	**200.81(2.42)***
Rural	**4.42(0.74)***	0.92(0.04)	1.84(1.30)	-----	0.21(0.86)
%Minor	6.88(3.48)	0.95(0.07)	8.98(1.37)	-----	0.03(3.42)
Level-1: N = 232, Level-2: j =133; X^2 = 127.60					

*p < .05 **p < .001 ***p < .0001

Table 11. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Aspirations
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.50(1.14)	0.90(0.10)	1.19(1.69)	0.14(1.34)	2.00(1.19)	0.98(1.11)
10th Track	1.19(0.99)	1.09(0.09)	1.72(1.69)	5.62(1.17)	0.52(1.02)	0.97(.093)
Region	0.71(0.67)	0.97(0.05)	0.17(0.04)	**0.04(1.03)****	1.50(0.70)	0.85(0.66)
%Free	----	----	----	----	----	----
Urban	0.20(0.92)	1.25**(0.07)****	2.26(0.94)	**188.67(1.35)*****	0.97(0.91)	2.03(0.96)
Rural	0.45(0.93)	0.97(0.05)	0.89(0.94)	7.97(1.16)	1.58(0.92)	1.59(0.70)
%Minor	----	----	----	----	----	-----
Level-1: N = 358, Level-2: j =184; X^2 = 148.51						
Males						
Level-2						
Intercept	13.09(1.54)	1.02(0.10)	8.15(1.83)	1.63(0.76)	0.02**(1.71)***	0.30(1.35)
10th Track	0.11(1.32)	1.09(0.10)	0.81(1.42)	-----	10.05(1.43)	1.04(1.19)
Region	0.60(0.98)	1.03(0.07)	0.25(1.18)	0.20(1.32)	4.39(1.00)	0.88(0.84)
%Free	0.09(3.05)	**0.78(0.08)****	**0.02(1.40)****	**0.01(1.58)****	**632.70 (3.22)***	0.14(1.10)
Urban	0.06(1.96)	0.82(0.13)	**0.02(1.89)***	0.15(1.59)	32.01(1.90)	13.45(1.64)
Rural	1.77(0.94)	**0.90(0.04)***	1.29(1.51)	-----	**0.14(0.96)***	**7.24(0.91)***
%Minor	7.06(2.98)	0.99(0.11)	9.79(1.64)	-----	0.35(2.85)	0.04**(1.36)***
Level-1: N = 232, Level-2: j =133; X^2 = 112.56						

*p < .05 **p < .001 ***p < .0001

Table 12. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Peer Influence)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Peer Influence
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.78(0.69)	1.03(0.10)	2.57(0.66)	5.20(1.72)	0.89(0.91)	0.62(0.94)
10th Track	0.58(0.61)	1.01(0.09)	----	0.68(1.71)	1.33(0.79)	2.61(0.63)
Region	0.65(0.61)	0.92(0.05)	**0.06(0.96)****	0.08(1.61)	1.71(0.70)	1.63(0.63)
%Free	-----	-----	----	----	----	----
Urban	0.62(0.66)	1.13(0.08)	0.87(0.95)	----	1.19(0.84)	1.30(0.80)
Rural	0.50(0.88)	**0.90(0.05)***	3.34(1.06)	1.22(1.25)	2.09(0.96)	0.64(0.60)
%Minor	----	----	----	----	----	----
Level-1: N = 358, Level-2: j= 184; X^2 = 160.51						
Males						
Level-2						
Intercept	0.99(1.24)	1.00(0.06)	10.15(2.15)	0.77(0.63)	0.56(1.47)	1.14(0.99)
10th Track	0.17(1.26)	1.04(0.04)	0.09(2.10)	-----	4.43(1.51)	2.03(1.09)
Region	0.36(0.81)	1.08(0.06)	0.18(1.14)	1.14(1.11)	4.15(0.91)	0.92(0.66)
%Free	3.28(1.03)	**0.88(0.06)***	0.10(1.33)	0.17(1.68)	-----	6.62(1.00)
Urban	6.74(1.03)	0.91(0.11)	**0.03(1.41)***	0.35(1.82)	-----	0.41(1.45)
Rural	**6.24(0.76)***	**0.87(0.04)****	10.33(1.37)	-----	**0.12(0.90)***	0.46(0.64)
%Minor	0.07(2.85)	0.91(0.18)	13.38(1.56)	-----	4.53(2.68)	5.04(1.18)
Level-1: N = 232, Level-2: j = 133; X^2 = 119.85						

*p < .05 **p < .001 ***p < .0001

Table 13. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Parent Involvement)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Involvement
	Odds(s.e.) Ratio	Odds (s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	1.30(1.07)	1.001(0.10)	2.37(.075)	8.73(1.36)	0.51(1.18)	0.63(0.48)
10th Track	0.29(0.81)	1.08(0.07)	----	0.46(1.36)	2.91(0.95)	----
Region	0.46(0.80)	0.93(0.06)	**0.07(1.19)***	0.09(1.24)	1.76(0.81)	1.83(0.59)
%Free	----	----	----	----	----	----
Urban	0.24(1.17)	1.13(0.07)	0.77(1.20)	----	1.29(1.01)	3.60(0.99)
Rural	0.39(1.05)	0.87(0.06)	3.73(1.30)	1.10(1.15)	1.15(1.05)	3.74(0.68)
%Minor	----	----	----	----	----	----
Level-1 N = 358, Level-2 j =184; $X^2 = 153.88$						
Males						
Level-2						
Intercept	2.40(2.01)	1.05(0.08)	68.59(2.58)	1.05(0.65)	0.14(2.21)	0.63(2.06)
10th Track	0.58(1.96)	1.10(0.07)	0.01(2.31)	-----	2.84(2.29)	0.70(2.08)
Region	0.69(1.06)	1.09(0.08)	0.16(1.31)	0.88(1.62)	2.65(0.92)	0.77(1.01)
%Free	0.07(1.87)	**0.79(0.09)****	**0.03(1.50)***	0.03(1.93)	**138.21(2.08)***	-----
Urban	0.02(1.94)	**0.76(0.13)***	0.11(2.00)	0.42(2.42)	**87.29(2.16)***	4.39(1.49)
Rural	5.01(1.00)	**0.84(0.06)****	7.76(1.53)	-----	**0.11(0.98)***	1.66(0.93)
%Minor	14.54(3.14)	1.06(0.12)	2.95(1.71)	-----	0.01(3.07)	-----
Level-1 N = 232, Level-2 j =133; $X^2 = 97.23$						

*p < .05 **p < .001 ***p < .0001

Table 14. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Parent Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Aspirations
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.90(0.69)	0.90(0.10)	3.02(0.70)	0.51(1.11)	0.80(0.97)	1.11(0.75)
10th Track	0.54(0.67)	1.08(0.09)	----	3.69(1.10)	1.30(0.85)	-----
Region	0.67(0.66)	1.00(0.05)	0.13(0.99)	**0.10(0.94)***	1.65(0.81)	0.58(0.72)
%Free	----	----	----	----	----	-----
Urban	0.94(0.77)	1.12(0.05)	0.14(1.45)	----	6.48(1.12)	0.14(1.42)
Rural	0.64(0.88)	0.97(0.05)	0.89(1.28)	3.82(1.02)	1.92(0.92)	1.16(0.67)
%Minor	-----	-----	-----	-----	-----	-----
Level-1 N = 358, Level-2 j =184; X^2 = 145.20						
Males						
Level-2						
Intercept	6.51(1.50)	1.08(0.11)	2.39(0.95)	1.90(0.66)	0.07(1.67)	0.83(1.34)
10th Track	0.23(1.42)	1.03(0.09)	-----	-----	3.61(1.62)	0.38(1.31)
Region	0.66(1.10)	1.03(0.07)	0.76(1.15)	1.28(0.94)	1.47(1.08)	1.11(0.86)
%Free	0.04(2.14)	0.84(0.09)	**0.04(1.28)***	**0.01(1.42)****	**225.76(2.13)***	1.52(1.35)
Urban	0.05(1.92)	**0.76(0.11)***	**0.03(1.46)***	0.04(1.39)	**122.81(2.00)***	11.11(1.37)
Rural	1.22(0.99)	0.93(0.04)	3.23(1.47)	-----	0.14(0.96)	**10.26(0.86)****
%Minor	8.44(2.92)	1.07(0.10)	2.66(1.41)	-----	0.05(2.90)	0.19(1.63)
Level-1: N = 232, Level-2: j =133; X^2 = 107.05						

*p < .05 **p < .001 ***p < .0001

Table 15. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Teacher Experience)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Experience
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.83(1.82)	0.83(0.23)	2.44(1.03)	1.02(1.41)	0.57(0.66)	1.13(0.31)
10th Track	1.10(.42)	1.29(0.18)	----	----	----	0.98(0.29)
Region	1.41(1.20)	0.99(0.18)	**1.14(0.92)*** **	----	----	0.73(0.24)
%Free	----	----	----	----	----	----
Urban	**0.04(1.46)***	**1.62(0.24)***	14.51(1.71)	21.62(2.08)	----	0.88(0.28)
Rural	1.22(1.20)	0.85(0.17)	----	2.72(1.78)	----	0.94(0.23)
%Minor	----	----	----	-----	----	----
Level-1: N= 358, Level-2: j =184; X^2 = 60.06						
Males						
Level-2						
Intercept	**44.42(1.64)***	**3.81(0.27)*** **	0.31(1.16)	25.73(1.65)	0.11(1.29)	**0.27(0.36)****
10th Track	1.20(1.27)	-----	-----	-----	-----	-----
Region	**0.01(1.40)****	**0.28(0.27)*** **	0.90(1.63)	-----	7.84(1.69)	**3.78(0.38)****
%Free	0.20(1.20)	-----	-----	-----	-----	-----
Urban	3.23(1.79)	**0.84(0.08)***	-----	-----	-----	1.26(0.42)
Rural	0.33(1.38)	**0.06(0.65)*** **	**33.73(1.59)***	0.08(2.00)	-----	1.22(0.28)
%Minor	0.45(1.34)	-----	-----	-----	-----	-----
Level-1: N = 232, Level-2: j = 133; X^2 = 44.27						

*p < .05 **p < .001 ***p < .0001

Table 16. Multilevel Logistic Regression Model Predicting Consumer Track Placement in HLM (Teacher Quality)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Quality
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.64(0.82)	0.92(0.10)	1.72(0.53)	0.70(0.60)	1.26(0.98)	**0.36(0.40)***
10th Track	1.07(0.75)	1.07(0.09)	----	----	0.80(0.91)	----
Region	0.52(0.58)	0.93(0.06)	0.14(1.04)	0.04(1.29)	1.78(0.63)	----
%Free	----	----	----	----	----	----
Urban	0.32(0.70)	**1.17(0.06)****	2.02(0.88)	**57.10(1.40)***	1.24(0.79)	**2.53(0.40)***
Rural	0.65(0.73)	0.99(0.06)	1.30(1.01)	**5.89(1.07)****	1.54(0.81)	----
%Minor	----	----	----	----	----	----
Level-1 N= 358, Level-2: j=184, X^2 = 155.69						
Males						
Level-2						
Intercept	0.84(1.46)	0.98(0.14)	4.99(2.26)	1.82(0.78)	0.73(1.69)	0.08(10.21)
10th Track	0.33(1.43)	1.04(0.13)	1.02(2.02)	-----	1.14(1.62)	-----
Region	0.68(0.86)	0.99(0.07)	0.55(1.24)	-----	2.32(1.01)	9.59(10.21)
%Free	0.47(1.58)	0.79(0.16)	0.28(1.63)	-----	5.26(1.74)	-----
Urban	1.26(2.27)	1.14(0.16)	0.03(1.75)	0.32(1.43)	4.91(2.40)	0.26(1.62)
Rural	4.43(0.87)	0.97(0.08)	1.46(1.51)	-----	0.22(1.02)	1.18(1.40)
%Minor	0.57(2.89)	0.82(0.18)	3.23(1.80)	-----	0.90(2.98)	-----
Level-1: N= 232, Level-2: j=133; X^2 = 192.37						

*p < .05 **p < .001 ***p < .0001

APPENDIX E

MULTILEVEL LOGISTIC REGRESSION MODEL PREDICTING GENERAL LABOR TRACK PLACEMENT

Table 17. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Base Model)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females					
Level-2					
Intercept	0.29(0.97)	0.92(0.12)	0.46(1.19)	0.13(1.06)	0.23(1.13)
10th Track	----	----	----	----	----
Region	0.37(0.98)	1.09(0.11)	1.22(1.42)	----	2.84(1.19)
%Free	**5.98(0.89)***	1.19(0.15)	----	----	----
Urban	1.82(1.03)	0.91(0.13)	----	----	2.21(1.41)
Rural	0.78(0.99)	1.10(0.10)	**1.77(1.77)*****	6.52(1.51)	2.23(1.20)
%Minor	3.66(0.69)	1.05(0.14)	----	----	----
Level-1: N = 240, Level-2: j = 125; X^2 = 81.74					
Males					
Level-2					
Intercept	0.06**(0.77)*****	**0.47(0.16)*****	1.25(1.89)	10.73(1.29)	1.82(1.24)
10th Track	2.37(0.67)	**1.91(0.16)*****	-----	-----	2.91(1.15)
Region	0.47(0.61)	0.98(0.04)	1.67(1.35)	0.78(1.35)	1.62(0.75)
%Free	40.71(1.64)	**1.13(0.05)****	**76.36(1.79)***	**21.12(1.47)***	**0.002(1.85)****
Urban	4.90(1.06)	1.21(0.09)	0.31(1.57)	0.22(1.63)	**0.15(0.95)***
Rural	2.13(0.68)	1.06(0.04)	**0.03(175)***	**0.04(1.24)***	1.40(0.80)
%Minor	0.26(0.86)	0.01(0.08)	2.30(1.65)	0.42(1.57)	-----
Level-1: N = 232, Level-2: j =133; X^2 = 126.25					

*p < .05 **p < .001 ***p < .0001

Table 18. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Aspirations
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.39(1.03)	0.93(0.10)	0.49(0.90)	0.44(1.08)	0.35(1.07)	0.32(1.13)
10th Track	----	----	----	----	----	----
Region	0.30(1.22)	1.10(0.10)	2.58(1.40)	----	1.68(1.25)	1.68(1.06)
%Free	----	----	----	----	-----	----
Urban	1.59(1.59)	0.66(0.22)	----	0.10(3.14)	22.69(3.01)	2.76(2.76)
Rural	0.53(1.63)	1.10(0.09)	**1.48 (1.55)*** **	----	1.86(1.16)	1.26(1.26)
%Minor	----	----	----	----	----	-----
Level-1: N = 240, Level-2: j =125; X^2 = 106.17						
Males						
Level-2						
Intercept	0.07**(0.92)****	**0.53(0.11)*****	1.44(2.27)	**40.24(1.34)****	1.43(1.14)	0.80(1.08)
10th Track	2.46(0.85)	**1.73(0.11)*****	-----	-----	0.74(0.94)	3.73(0.96)
Region	0.55(0.78)	0.99(0.05)	2.22(1.49)	0.56(1.43)	1.28(0.93)	1.08(0.77)
%Free	1.89(1.33)	-----	-----	-----	-----	0.38(1.38)
Urban	1.59(1.09)	1.21(0.10)	0.98(1.72)	0.05(1.73)	-----	-----
Rural	2.09(0.82)	1.06(0.04)	0.12(2.37)	**0.02(1.34)****	0.25(0.88)	0.48(0.86)
%Minor	0.25(1.74)	1.02(0.15)	2.80(2.62)	1.16(1.52)	0.20(1.41)	11.08(1.26)
Level-1: N = 232, Level-2: j =133; X^2 = 103.19						

*p < .05 **p < .001 ***p < .0001

Table 19. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Peer Influence)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Peer Influence
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.23(1.03)	0.91(0.12)	0.57(1.13)	0.41(1.08)	0.34(1.16)	3.32(0.93)
10th Track	----	----	-----	-----	----	-----
Region	0.45(1.08)	1.13(0.11)	2.85(1.45)	-----	1.67(1.25)	0.44(0.96)
%Free	----	----	-----	-----	-----	-----
Urban	1.61(1.16)	0.96(0.16)	----	0.55(1.75)	3.23(1.57)	0.45(1.28)
Rural	0.89(1.20)	1.14(0.10)	**2.58(1.63)*** **	-----	-----	0.46(0.94)
%Minor	----	----	-----	-----	-----	-----
Level-1: N = 240, Level-2: j =125; X^2 = 159.82						
Males						
Level-2						
Intercept	**0.06(0.97)** **	**0.48(0.30)***	1.67(1.27)	3.37(1.57)	**5.06(0.80)***	0.53(0.56)
10th Track	4.02(0.77)	1.91(0.37)	-----	-----	-----	-----
Region	0.70(0.69)	**0.87(0.04)** **	**7.34(0.84)***	4.42(2.45)	0.44(0.80)	0.71(0.53)
%Free	3.41(1.46)	**1.19(0.05)** **	-----	0.67(2.44)	0.28(1.74)	0.53(1.27)
Urban	6.39(1.59)	1.11(0.29)	0.86(1.53)	0.03(2.92)	0.10(1.43)	53.05(2.19)
Rural	2.23(0.71)	**1.16(0.04)*** **	**0.02(1.65)***	0.06(1.67)	1.32(0.83)	1.73(0.45)
%Minor	0.96(1.14)	0.93(0.45)	0.31(1.77)	0.35(2.45)	-----	**0.04(1.50)***
Level-1: N = 232, Level-2: j = 133; X^2 = 116.60						

*p < .05 **p < .001 ***p < .0001

Table 20. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Parent Involvement)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Involvement
	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds Ratio (s.e.)
Females						
Level-2						
Intercept	0.47(1.24)	0.92(0.13)	0.55(1.17)	0.65(1.40)	0.50(0.93)	0.28(1.09)
10th Track	-----	-----	-----	-----	-----	-----
Region	0.17(1.32)	1.09(0.13)	5.04(1.33)	-----	4.04(1.16)	1.17(1.17)
%Free	-----	-----	-----	-----	-----	-----
Urban	0.84(1.26)	0.86(0.17)	-----	0.63(1.73)	1.21(1.25)	5.80(1.69)
Rural	1.00(1.27)	1.21(0.14)	**2.23(4.24)***	-----	-----	1.56(1.54)
%Minor	----	----	-----	-----	-----	-----
Level-:1 N = 240, Level-2: j =125; $X^2 = 84.25$						
Males						
Level-2						
Intercept	0.16(1.22)	**0.49(0.15)*** **	7.14(1.72)	14.21(2.39)	0.33(1.39)	2.98(1.05)
10th Track	0.86(0.82)	**1.46(0.16)***	-----	-----	3.85(1.32)	-----
Region	0.99(0.98)	1.01(0.04)	1.13(0.98)	3.24(3.06)	1.80(0.79)	0.45(1.09)
%Free	1.33(0.66)	-----	-----	-----	-----	-----
Urban	0.23(2.38)	**1.22(0.07)** **	0.47(1.88)	0.14(3.12)	0.79(1.27)	3.33(2.27)
Rural	1.40(0.83)	**1.15(0.05)***	0.11(1.75)	0.04(2.40)	1.50(0.89)	1.10(0.95)
%Minor	2.16(3.38)	**0.62(0.15)** **	2.08(1.48)	0.09(1.59)	-----	0.17(2.24)
Level-1: N = 505, Level-2: j =192; $X^2 = 138.11$						

*p < .05 **p < .001 ***p < .0001

Table 21. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Parent Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Aspirations
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.19(0.99)	0.91(0.08)	0.82(0.92)	0.45(1.08)	0.27(1.30)	1.69(1.52)
10th Track	-----	-----	-----	-----	-----	-----
Region	0.61(1.19)	1.03(0.06)	-----	-----	143(1.34)	1.30(1.38)
%Free	-----	-----	-----	-----	-----	-----
Urban	3.41(1.24)	0.94(0.08)	-----	0.68(1.70)	1.04(1.61)	0.76(1.64)
Rural	0.55(1.66)	1.17(0.09)	**1.34 (1.39)*** **	-----	2.25(1.49)	1.56(1.36)
%Minor	-----	-----	-----	-----	-----	----
Level-1: N = 240, Level-2: j = 125; X^2 = 79.77						
Males						
Level-2						
Intercept	0.20(0.89)	**0.86(0.05)****	1.79(1.72)	6.31(1.16)	1.64(0.94)	3.02(1.00)
10th Track	0.46(1.14)	**1.38(0.10)****	-----	-----	**10.05(1.17)***	0.38(1.13)
Region	**0.07(0.91)****	0.94(0.06)	2.51(1.45)	1.29(1.21)	5.00(0.92)	2.65(1.04)
% Free	28.72(1.99)	**1.17(0.06)***	**237.46 (1.48)****	**116.75(1.61)****	**0.002(2.12)****	1.61(1.19)
Urban	3.21(1.43)	1.18(0.12)	0.07(1.49)	0.16(1.63)	0.97(1.40)	0.17(1.37)
Rural	5.60(0.94)	1.04(0.05)	0.01**(1.69)***	**0.04(1.28)***	3.39(0.96)	**0.08(1.08)***
%Minor	**0.11(0.91)***	0.88(0.11)	**48.42(1.42)****	4.49(1.44)	-----	5.94(1.52)
Level-1: N = 232, Level-2: j = 133; X^2 = 114.04						

*p < .05 **p < .001 ***p < .0001

Table 22. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Teacher Experience)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Experience
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.24(3.69)	0.98(0.07)	1.83(1.22)	1.38(1.01)	0.91(1.37)	1.11(0.28)
10th Track	-----	-----	-----	-----	-----	-----
Region	0.10(4.66)	1.07(0.09)	4.46(2.19)	-----	1.53(1.91)	0.78(0.32)
%Free	----	-----	-----	-----	-----	-----
Urban	-----	-----	-----	-----	-----	-----
Rural	1.26(4.69)	0.99(0.09)	-----	-----	-----	0.95(0.33)
%Minor	-----	-----	-----	-----	-----	----
Level-: N = 240, Level-2: j =125; $X^2 = 33.15$						
Males						
Level-2						
Intercept	0.17(4.36)	0.91(0.08)	**43.09(0.81)*** **	0.34(0.78)	**8.66(0.78)** **	**4.86(0.45)** **
10th Track	4.72(4.51)	0.95(0.09)	-----	-----	-----	-----
Region	**89.28(1.53)** **	-----	0.14(1.17)	-----	-----	**0.22(0.58)** *
%Free	39.46(2.17)	-----	-----	-----	-----	0.54(0.63)
Urban	28.18(5.09)	0.90(0.08)	-----	-----	-----	0.62(0.58)
Rural	**7.34(4.67)** *	**1.30(0.09)** **	**0.001(0.97)*** **	-----	-----	0.90(0.25)
%Minor	**1.97(4.27)** **	**1.41(0.10)** **	-----	-----	-----	-----
Level-1 N = 232, Level-2: j =133; $X^2 = 37.26$						

*p < .05 **p < .001 ***p < .0001

Table 23. Multilevel Logistic Regression Model Predicting General Labor Track Placement in HLM (Teacher Quality)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Quality
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.25(0.89)	1.05(0.11)	0.53(0.93)	0.30(0.97)	0.14(1.10)	657.89(55.12)
10th Track	----	-----	----	----	----	-----
Region	0.39(0.96)	1.00(0.10)	1.80(1.51)	----	4.61(1.11)	0.004(55.13)
%Free	-----	-----	----	-----	----	-----
Urban	2.13(1.08)	0.83(0.12)	----	-----	3.81(1.30)	-----
Rural	0.88(1.22)	1.03(0.13)	----	4.40(1.59)	2.37(1.41)	-----
%Minor	-----	-----	----	-----	-----	-----
Level-1 = 240, Level-2 j=125; X^2 = 87.68						
Males						
Level-2						
Intercept	0.34(1.52)	0.71(0.22)	0.92(1.31)	8.23(1.81)	0.56(1.86)	0.06(2.27)
10th Track	0.78(1.41)	1.48(0.21)	-----	-----	6.90(1.73)	-----
Region	0.44(0.82)	0.93(0.07)	1.66(1.41)	0.76(1.54)	1.48(0.99)	27.72(1.80)
%Free	6.89(1.75)	1.27(0.18)	**298.87(2.21)***	32.62(2.13)	**0.01(2.20)***	-----
Urban	1.64(1.48)	0.81(0.18)	0.23(1.98)	0.13(2.12)	0.48(1.39)	17.19(2.19)
Rural	1.58(0.90)	0.94(0.08)	**0.02(1.83)***	0.05(1.81)	1.71(1.06)	-----
%Minor	0.22(1.21)	1.17(0.18)	17.35(2.13)	1.40(2.11)	-----	-----
Level-1 = 232, Level-2 j=133; X^2 = 141.77						

*p < .05 **p < .001 ***p < .0001

APPENDIX F

MULTILEVEL LOGISTIC REGRESSION MODEL PREDICTING SPECIFIC OCCUPATION TRACK PLACEMENT

Table 24. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Base Model)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES
	Odds Ratio(s.e.)	Odds Ratio(s.e.)	Odds Ratio(s.e.)	Odds Ratio(s.e.)	Odds Ratio(s.e.)
Females					
Level-2					
Intercept	0.54(0.93)	1.03(0.16)	1.07(0.75)	**91.10(1.40)****	1.11(1.29)
10th Track	0.86(0.74)	1.06(0.14)	-----	**0.01(1.38)*****	1.92(1.11)
Region	4.39(0.83)	0.93(0.05)	3.85(0.96)	3.83(1.06)	0.24(0.96)
%Free	0.65(0.74)	0.96(0.07)	6.19(1.31)	5.16(1.24)	-----
Urban	**5.59(0.78)***	0.94(0.08)	0.18(0.97)	-----	0.17(1.01)
Rural	3.17(0.87)	1.01(0.04)	0.20(0.82)	0.07(1.58)	0.38(0.96)
%Minor	1.26(1.11)	0.92(0.09)	4.65(1.40)	**0.02(1.64)****	1.01(1.20)
Level-1: N = 240, Level-2: j =125; X^2 *= 119.13*					
Males					
Level-2					
Intercept	**0.05(1.22)***	1.01(0.06)	1.40(1.24)	0.63(1.58)	9.71(1.50)
10th Track	7.92(1.18)	0.94(0.04)	-----	-----	**0.07(1.32)***
Region	2.06(0.72)	1.05(0.05)	1.67(1.11)	0.38(1.78)	0.37(1.02)
%Free	1.79(0.85)	1.06(0.05)	0.51(1.52)	6.04(2.21)	-----
Urban	**13.20(1.21)***	1.09(0.08)	2.08(1.25)	-----	**0.07(1.23)***
Rural	**0.11(0.81)****	1.09(0.04)	0.60(1.41)	2.91(1.43)	3.90(1.19)
%Minor	0.13(1.90)	1.05(0.04)	-----	**51.93(1.83)***	14.58(2.00)
Level-1: N = 232, Level-2: j =133; X^2 *= 113.57*					

*p < .05 **p < .001 ***p < .0001

Table 25. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Aspirations
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	1.05(1.51)	0.96(0.13)	1.05(0.97)	**1233.41(1.88)*** **	0.31(1.69)	0.53(1.33)
10th Track	0.66(1.15)	1.07(0.11)	-----	0.01**(1.70)****	2.75(1.38)	3.98(1.11)
Region	5.38(1.12)	0.99(0.05)	16.81**(1.30)***	-----	0.67(1.12)	0.30(0.98)
%Free	0.28(1.26)	0.90(0.10)	1.85(1.33)	-----	-----	10.54(0.98)
Urban	3.83(1.16)	1.10(0.10)	0.06**(1.17)***	**0.004(1.74)****	**0.06(1.41)***	9.59(1.47)
Rural	1.51(1.32)	1.08(0.06)	0.03**(1.10)****	**5.50(1.31)*** **	0.25(1.33)	8.00(1.23)
%Minor	2.10(1.39)	0.88(0.12)	3.28(1.74)	-----	0.28(1.72)	12.73(1.44)
Level-1: N = 240, Level-2: j =125; X^2 *= 113.07*						
Males						
Level-2						
Intercept	0.19(1.04)	**1.65(0.21)***	0.51(0.88)	0.61(1.18)	4.70(1.40)	0.37(0.80)
10th Track	**7.39(0.85)***	**0.56(0.22)****	-----	-----	**0.10(1.11)***	-----
Region	1.87(0.80)	1.08(0.05)	3.44(1.03)	-----	0.30(0.94)	1.47(0.78)
%Free	0.62(0.87)	1.08(0.05)	2.05(1.18)	-----	-----	4.56(0.97)
Urban	0.87(0.91)	0.99(0.09)	-----	1.84(1.52)	0.80(1.32)	0.58(1.04)
Rural	0.17(0.91)	1.09(0.05)	4.56(1.56)	2.51(1.33)	5.30(1.13)	0.44(0.96)
%Minor	3.27(0.73)	-----	-----	-----	-----	-----
Level-1: N = 232, Level-2: j =133; X^2 *= 102.03*						

*p < .05 **p < .001 ***p < .0001

Table 26. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Peer Influence)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Peer Influence
	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)
Females						
Level-2						
Intercept	1.90(0.99)	0.92(0.17)	1.18(0.95)	1.68(0.63)	0.95(1.47)	0.39(0.91)
10th Track	0.43(0.91)	1.09(0.14)	-----	-----	1.24(1.21)	1.31(0.79)
Region	3.86(0.88)	0.99(0.60)	5.18(1.22)	-----	0.40(1.02)	0.95(0.49)
%Free	0.50(0.76)	0.94(0.10)	6.57(1.48)	-----	-----	0.85(1.00)
Urban	1.11(0.94)	0.95(0.07)	0.20(1.02)	6.34(1.26)	1.23(1.11)	1.72(0.76)
Rural	2.02(1.01)	**1.12(0.06)***	**0.15(0.92)***	-----	0.35(1.01)	1.49(0.54)
%Minor	1.87(0.79)	0.94(0.13)	6.34(1.50)	-----	-----	0.23(1.01)
Level-1: N = 240, Level-2: j = 125; X^2 = 128.42						
Males						
Level-2						
Intercept	**0.07(1.08)***	1.05(0.07)	2.20(1.16)	0.66(1.43)	2.57(1.31)	19.85(1.62)
10th Track	**12.16(0.89)****	1.01(0.03)	-----	-----	**0.06(.11)***	**0.03(1.54)***
Region	3.25(0.72)	1.07(0.07)	0.83(1.04)	-----	0.45(0.94)	0.45(1.41)
%Free	0.82(0.58)	1.06(0.07)	0.86(1.32)	-----	-----	20.38(1.73)
Urban	0.21(1.12)	1.01(0.10)	-----	3.89(1.69)	3.50(1.21)	31.82(2.21)
Rural	**0.10(0.87)****	1.05(0.04)	1.86(1.76)	5.72(1.53)	7.64(1.28)	1.49(0.91)
%Minor	3.51(0.74)	1.42(0.22)	0.62(1.42) -	----	-----	2.18(1.65)
Level-1: N = 232, Level-2: j = 133; X^2 = 98.95						

*p < .05 **p < .001 ***p < .0001

Table 27. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Parent Involvement)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Involvement
	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.08(1.46)	0.82(0.23)	3.01(0.96)	8.33(1.15)	2.73(1.60)	6.37(1.03)
10th Track	1.08(0.91)	1.07(0.20)	----	-----	0.71(1.24)	-----
Region	**23.18(1.23)***	1.06(0.07)	1.88(1.41)	-----	0.27(1.02)	0.21(1.07)
%Free	0.78(0.82)	0.47**(0.20)****	5.29(1.52)	-----	-----	-----
Urban	**15.32(1.21)***	1.10(0.11)	0.11(1.19)	**0.02(1.67)***	0.30(1.25)	0.22(1.16)
Rural	2.25(1.24)	1.17(0.08)	0.10(1.32)	**0.001(1.27)*****	0.47(1.15)	1.18(1.17)
%Minor	0.65(1.09)	0.45**(0.20)*****	4.43(1.53)	-----	2.04(1.29)	-----
Level-1: N = 240, Level-2: j =125; X^2 = 109.14						
Males						
Level-2						
Intercept	1.36(1.62)	1.06(0.09)	2.17(1.29)	1.09(1.17)	0.27(1.00)	0.21(1.83)
10th Track	0.45(1.48)	1.01(0.05)	-----	-----	-----	8.23(1.72)
Region	2.40(1.05)	1.03(0.11)	1.08(1.00)	-----	0.36(0.99)	1.11(1.10)
%Free	0.52(0.59)	1.06(0.09)	0.38(1.40)	-----	-----	-----
Urban	0.59(1.29)	0.90(0.10)	-----	0.34(1.91)	2.28(1.09)	0.78(1.17)
Rural	0.26(1.10)	1.08(0.05)	0.50(1.18)	2.13(1.38)	6.53(1.39)	0.31(0.93)
%Minor	2.07(1.39)	**1.48(0.15)***	0.19(1.41)	----	-----	2.52(1.52)
Level-: N = 232, Level-2: j =133; X^2 = 92.29						

*p < .05 **p < .001 ***p < .0001

Table 28. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Parent Aspirations)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Parent Aspirations
	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e.)	Odds(s.e)
Females						
Level-2						
Intercept	0.38(1.06)	1.01(0.15)	0.79(0.95)	**862.28(1.77)*** **	1.68(1.45)	0.65(1.00)
10th Track	1.36(0.94)	1.08(0.13)	----	**0.01(1.60)** **	0.94(1.30)	-----
Region	4.06(0.99)	0.96(0.05)	0.91(1.16)	-----	0.41(1.20)	1.20(0.99)
%Free	0.95(0.79)	0.98(0.07)	----	2.66(1.55)	-----	-----
Urban	2.86(1.13)	0.90(0.06)	1.55(1.47)	**0.01(1.97)** **	0.20(1.36)	3.23(1.26)
Rural	3.04(1.16)	0.98(0.05)	1.62(1.33)	0.001(1.43)	0.24(1.20)	2.02(0.94)
%Minor	1.43(0.84)	0.97(0.10)	-----	----	-----	-----
Level-1: N= 240, Level-2: j=125; X^2 = 115.42						
Males						
Level-2						
Intercept	0.21(1.13)	0.94(0.04)	0.27(1.20)	0.61(1.05)	1.81(1.24)	1.20(1.16)
10th Track	-----	-----	-----	-----	------	------
Region	14.24**(1.08)***	**1.09(0.04)***	0.94(1.10)	-----	0.12(1.23)	0.32(1.18)
%Free	1.13(0.50)	-----	-----	-----	-----	-----
Urban	0.36(1.37)	1.02(0.11)	33.74(1.27)	7.56(1.62)	0.36(1.45)	0.44(1.26)
Rural	0.18(0.97)	1.07(0.04)	12.65(1.64)	3.33(1.36)	2.17(1.50)	0.60(1.34)
%Minor	3.16(0.66)	-----	-----	------	-----	-----
Level-1: N= 232, Level-2: j =133; X^2 = 172.73						

*p < .05 **p < .001 ***p < .0001

Table 29. Multilevel Logistic Regression Model Predicting Specific Occupation Track Placement in HLM (Teacher Quality)

Level-1	Intercept	Prior Achieve	Hispanic	Black	SES	Teacher Quality
	Odds (s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio	Odds(s.e.) Ratio
Females						
Level-2						
Intercept	0.66(0.89)	1.04(0.17)	0.92(0.75)	**85.09(1.59)****	1.00(1.28)	**1.940.33)***
10th Track	0.83(0.73)	0.95(0.15)	-----	**0.03(1.37)****	2.01(1.13)	-----
Region	3.52(0.86)	1.08(0.09)	**1.62(0.91)****	**11.76(0.92)****	0.24(0.95)	-----
%Free	1.54(0.63)	0.89(0.10)	-----	-----	-----	-----
Urban	3.55(0.80)	1.01(0.09)	0.29(1.15)	**0.002(1.54)*****	0.31(0.94)	0.001(1.05)
Rural	2.96(0.97)	0.94(0.10)	0.09(1.18)	**0.03(1.46)***	0.42(1.04)	-----
%Minor	2.01(0.73)	1.05(0.12)	-----	-----	-----	-----
Level-1: N= 240, Level-2: j=125; X^2 = 124.24						
Males						
Level-2						
Intercept	0.11(1.60)	1.33(0.23)	0.87(0.78)	0.74(1.60)	4.15(1.84)	1.07(1.19)
10th Track	7.79(1.51)	0.69(0.22)	-----	-----	0.08(1.71)	-----
Region	2.94(0.79)	1.10(0.08)	1.62(1.27)	0.54(1.43)	0.25(0.96)	-----
%Free	1.27(0.65)	1.22(0.12)	-----	-----	-----	-----
Urban	0.77(1.09)	1.02(0.13)	-----	4.07(1.71)	0.74(1.20)	1.49(1.35)
Rural	**0.09(1.01)***	1.17(0.10)	-----	2.10(1.67)	6.73(1.17)	-----
%Minor	3.59(0.8)	1.17(0.13)	-----	-----	-----	-----
Level-1: N = 232, Level-2: j =133; X^2 = 110.90						

*p < .05 **p < .001 ***p < .0001

APPENDIX G

MULTILEVEL LOGISTIC REGRESSION MODEL PREDICTING EMPLOYMENT STATUS

Table 30. Multilevel Logistic Regression Model Predicting Employment Status having HS Training in the Consumer Track

Level-1	Intercept	Hispanic	Black	SES	Consumer Track (12^{th})
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females					
Level-2					
Intercept	0.40(0.56)	4.63(0.66)	1.79(0.90)	0.59(0.61)	1.75(0.48)
Region	1.92(0.61)	0.66(0.78)	1.01(0.71)	0.60(0.64)	0.67(0.67)
%Free	0.16(1.39)	**9.28(0.78)****	2.30(0.85)	1.62(1.36)	2.34(0.78)
Urban	1.13(0.67)	0.81(0.88)	0.24(1.01)	0.81(0.72)	1.67(0.76)
Rural	0.29(0.84)	0.82(0.84)	0.62(1.12)	4.63(0.82)	0.30(0.64)
Level-1: N = 349, Level-2: j = 190; X^2 = 163.98					
Males					
Level-2					
Intercept	**0.17(0.60)****	2.43(1.06)	0.75(0.89)	0.39(0.64)	2.97(0.62)
Region	2.24(0.63)	0.79(1.36)	0.67(0.88)	0.74(0.63)	0.93(0.58)
%Free	-----	-----	-----	-----	-----
Urban	0.77(0.91)	-----	1.86(1.08)	3.30(0.88)	0.98(0.84)
Rural	1.55(0.61)	-----	0.71(1.34)	2.54(0.66)	0.32(0.63)
Level-1: N = 336, Level-2: j = 200; X^2 = 184.32					

*p < .05 **p < .001 ***p < .0001

Table 31. Multilevel Logistic Regression Model Predicting Employment Status having HS Training in the General Labor Track

Level-1	Intercept	Hispanic	Black	SES	General Labor Track (12^{th})
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females					
Level-2					
Intercept	0.56(0.52)	**3.71(0.64)***	1.48(0.87)	0.66(0.59)	0.29(1.14)
Region	1.39(0.58)	0.66(0.76)	0.82(0.75)	0.56(0.63)	4.19(1.05)
%Free	0.20(1.28)	**8.26(0.78)****	2.51(0.91)	1.80(1.24)	2.45(1.61)
Urban	1.07(0.63)	0.94(0.84)	1.29(1.01)	0.76(0.71)	3.83(1.25)
Rural	0.26(0.81)	0.97(0.82)	1.84(1.14)	4.06(0.84)	1.56(1.32)
Level-1: N = 349, Level-2: j = 190, X^2 = 166.04					
Males					
Level-2					
Intercept	**0.35(0.49)***	3.51(1.02)	0.63(0.97)	0.53(0.66)	**0.18(0.69)***
Region	1.82(0.53)	0.35(1.40)	0.60(0.98)	0.65(0.65)	2.73(0.60)
%Free	0.77(0.38)	-----	-----	-----	-----
Urban	0.72(0.73)	-----	2.20(1.20)	2.40(0.88)	2.33(0.86)
Rural	0.88(0.57)	-----	0.68(1.40)	2.13(0.66)	2.31(0.61)
Level-1: N = 336, Level-2: j = 200, X^2 = 185.22					

*p < .05 **p < .001 ***p < .0001

Table 32. Multilevel Logistic Regression Model Predicting Employment Status having HS Training in the Specific Occupation Track

Level-1	Intercept	Hispanic	Black	SES	Specific OccupTrack (12th)
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females					
Level-2					
Intercept	0.50(0.59)	**4.77(0.66)***	1.86(0.90)	0.67(0.62)	0.80(0.45)
Region	1.98(0.68)	0.62(0.81)	1.05(0.74)	1.05(0.65)	0.93(0.59)
%Free	0.36(1.52)	**9.20(0.82)****	2.03(0.90)	2.02(1.34)	0.34(0.69)
Urban	2.50(0.78)	0.74(0.91)	0.73(1.03)	0.72(0.78)	0.32(0.70)
Rural	0.23(0.78)	0.82(0.85)	1.84(1.14)	1.84(0.83)	1.20(0.63)
Level-1: N = 349, Level-2: j = 190, X^2 = 165.23					
Males					
Level-2					
Intercept	**0.23(0.63)***	3.79(1.06)	0.76(1.03)	0.40(0.72)	1.53(0.71)
Region	3.20(0.63)	0.73(1.41)	0.71(1.05)	0.67(0.68)	0.29(0.74)
%Free	0.74(0.39)	-----	-----	-----	-----
Urban	1.12(0.92)	-----	2.13(1.28)	2.59(0.96)	0.38(1.04)
Rural	0.82(0.66)	-----	0.44(1.54)	2.56(0.72)	2.50(0.82)
Level-1: N = 336, Level-2: j = 300, X^2 = 192.07					

*p < .05 **p < .001 ***p < .0001

APPENDIX H

MULTILEVEL LOGISTIC REGRESSION MODEL PREDICTING OCCUPATIONAL PLACEMENT

Table 33. Multilevel Logistic Regression Model Predicting Consumer Job Placement in HLM

Level-1	Intercept	Racial-Ethnic Minority	SES	Consumer Track (12^{th})
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females				
Level-2				
Intercept	1.54(0.77)	0.30(0.77)	0.96(0.96)	0.56(0.77)
Region	1.24(0.77)	1.94(0.91)	0.69(1.06)	1.23(0.87)
%Free	0.41(1.03)	27.16(1.19)	---	0.81(1.27)
Urban	0.70(0.89)	1.80(1.19)	3.26(1.16)	0.95(1.05)
Rural	2.47(1.12)	4.73(1.17)	0.43(1.12)	1.24(1.00)
%Minor	0.67(1.04)	**15.32(1.37)***	---	0.65(1.30)
Level-1: N = 277, Level-2: j = 153; X^2 = 91.73				
Males				
Level-2				
Intercept	1.15(1.10)	0.62(1.43)	0.42(1.16)	0.24(0.94)
Region	0.53(1.12)	4.72(1.32)	2.69(1.18)	2.66(1.01)
%Free	0.10(2.23)	0.51(1.29)	47.96(2.44)	0.51(1.31)
Urban	0.43(2.33)	0.95(1.37)	4.68(2.46)	1.33(1.20)
Rural	0.30(1.06)	1.27(1.27)	2.35(1.18)	3.72(0.94)
%Minor	0.14(2.13)	12.95(1.51)	4.76(2.32)	4.77(1.22)
Level-1: N = 261, Level-2: j = 156; X^2 = 171.31				

*p < .05 **p < .001 ***p < .0001

Table 34. Multilevel Logistic Regression Model Predicting General Labor Job Placement in HLM

Level-1	Intercept	Racial/Ethnic Minority	SES	General Track (12^{th})
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Males				
Level-2				
Intercept	0.17(1.21)	1.86(0.97)	3.76(1.28)	7.35(1.49)
Region	1.09(1.23)	0.93(0.88)	0.73(1.29)	0.14(1.42)
%Free	1.14(2.85)	0.39(1.21)	0.75(3.08)	1.26(1.25)
Urban	4.57(2.07)	0.06(1.46)	0.40(2.17)	0.10(1.34)
Rural	1.04(1.30)	0.95(0.97)	0.77(1.53)	0.34(1.33)
%Minor	0.66(2.19)	2.61(1.10)	0.86(2.38)	**0.07(1.14)***

Level-1: N = 261, Level-2: j = 156; $X^2 = 95.98$

*p < .05 **p < .001 ***p < .0001

Table 35. Multilevel Logistic Regression Model Predicting Specific Occupation Job Placement in HLM

Level-1	Intercept	Racial-Ethnic Minority	SES	Specific Occupation Track
	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)	Odds Ratio (s.e.)
Females				
Level-2				
Intercept	**1.20(**0.71)	**5.31(0.79)***	0.28(0.85)	0.77(0.86)
Region	0.27(1.02)	0.29(1.02)	6.26(1.06)	1.17(1.11)
%Free	6.81(1.37)	----	----	0.19(1.82)
Urban	1.66(1.27)	0.05(1.51)	1.10(1.02)	0.22(1.58)
Rural	0.98(0.71)	**0.001(0.64)*****	----	0.49(1.09)
%Minor	3.96(1.21)	-----	----	0.47(1.55)
Level-1: N = 277, Level-2: j= 153; X^2 = 77.79				
Males				
Level-2				
Intercept	0.90(0.76)	0.23(1.55)	0.67(0.92)	0.41(0.92)
Region	2.33(0.93)	1.09(1.20)	0.26(1.08)	0.79(0.99)
%Free	0.41(0.78)	0.30(1.38)	----	----
Urban	2.03(1.44)	25.43(1.76)	0.14(1.32)	0.33(1.23)
Rural	0.26(1.01)	0.81(1.36)	2.97(1.10)	**13.11(1.20)***
%Minor	1.32(1.09)	0.22(1.57)	----	----
Level-1: N = 261, Level-2: j = 156; X^2 = 84.47				

*p < .05 **p < .001 ***p < .0001