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# Making It: The Role of School-Based Intervention in Shaping Educational Aspirations Expectations and Achievement Among High School Students

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*Making It: The Role of School-based Intervention in Shaping Educational Aspirations, Expectations and Achievement Among High School Students*

By

Maeve E. Williams

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Submitted in partial fulfillment  
of the requirements for  
Honors in the Department of Sociology

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## ABSTRACT

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In an age when higher education has become increasingly channeled as a means of gaining access to an information-driven economy, it is important to note who does and does not enroll in postsecondary courses. The American ‘achievement’ ideology touts education as an opportunity equalizer, and attributes lack of achievement in this system to individual failing. An extensive body of literature, however, points to systemic barriers which create a gap in achievement, primarily along the social fault lines of early development and family characteristics, peers and community, school environment and locational setting, and the demographic factors of race, socioeconomic class and gender. Guided by an interest in the influence of the United States education system on high school student’s postsecondary educational aspirations and expectations, this thesis assesses the degree to which school “intervention” policies are successful in mitigating structural barriers faced by marginalized student populations. Utilizing data from the High School Longitudinal Study (2009), this quantitative analysis seeks to ascertain the effects of education plans, availability of assistance in financial aid awareness, and academic opportunity programs on student’s academic trajectory. Binary logistic regressions show that these school intervention tactics do not effectively improve student’s likelihood of attending college. In fact, attending schools that provide assistance in financial aid awareness decrease a student’s likelihood of attending college, while attending schools which had with opportunity programs only modestly increased enrollment likelihood and education plan requirements did not significantly affect outcomes. These conclusions suggest a need for revised education policies, and further exploration of alternative approaches to bridging the structural barriers responsible for gaps in educational aspirations and ultimate achievement.

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## Chapter One: Literature Review

### I. Introduction

When asked what they want to be when they grow up, children are often rewarded with gentle laughs and kind eyes at the response of “cat,” or “princess,” or “dictator.” Armed with the mantra that they can be ‘whatever they put their mind to,’ children are generally left to ascertain the possibility of their dreams in their own time. There comes a point in adolescence, however, when children come to grapple with their own understanding of themselves, their reality, and their futures, and in doing so begin to shape perceptions about their future possibilities (Beal and Crockett 2010). It is at this point that future expectations, rather than preliminary aspirations—which exist free from the constraints of reality—come to play an important role in students’ decision making; particularly with regard to education, and the value of educational achievement (Kao and Tienda 1998).

There is a demonstrated, albeit imperfect, relationship between students’ educational aspirations, expectations, and ultimate achievement. Aspirations are frequently described as a student’s ‘hopes and dreams,’ expressed in a way that is detached from that individuals’ actual reality and taking into account no external factors. Reynolds and Pemberton (2001) define aspirations as “abstract statements or values and beliefs regarding future plans (educational or/and employment plans) made by young people” (704). Marjoribanks (1998) notes that these aspirations are ‘idealistic values,’ which do not necessarily reflect the reality of future social mobility.

Expectations, on the other hand, bring reality back into the picture. The fundamental difference reflected in educational aspirations versus expectations is the distinction between what one wishes to achieve and what one realistically expects to achieve (Reynolds and Pemberton 2001). It is true that there is a relationship between expectations and aspirations, but it is not accurate to assume that expectations are merely a re-negotiation of aspirations within current

circumstance. While this may be the case for some, expectations are often expressed as something cognitively distinct, and may be significantly misaligned from, expressed aspirations. Ultimately, aspirations and expectations must be understood as separate cognitive phenomena, whose relationship is ultimately dependent upon the individual and external constructs of that individual's reality.

In their exploration of the relationship between aspirations and achievement, some studies theorized that an increase in aspirations had the potential to increase ultimate attainment. This model resulted in flawed policies which attempted to use aspirations as a vehicle for attainment, with slim results (St Clair & Benjamin 2011; Carter-Wall and Whitfield 2012; Gorard *et al.* 2012). Indeed, it is well documented that students from a variety of racial, ethnic and socio-economic backgrounds often develop educational aspirations which do not align with their academic performance (Mickelson 1990; Hanson 1994; Schneider and Stevenson 1999; Goodman *et al.* 2011; Carter-Wall and Whitfield 2012; Cummings *et al.* 2012; Gorard *et al.* 2012; St Clair *et al.* 2013). More currently, studies have cited expectations as a situational mediator which may be able to explain away some of the gap between aspiration and achievement (Beal and Crockett 2010). Khattab (2015) points out, however, that these studies fail to address what happens when aspirations, expectations, and attainment do not align.

In order to understand the relationship between aspiration and attainment, one must first investigate the shaping and motivating factors involved. Aspirations often become melded into student's sense of future possibility, while expectations are more firmly grounded in current circumstance, and often pose a somewhat less extended reach into upward mobility (Beal and Crockett 2010). However, aspirations and expectations alike are often distanced from what a person eventually achieves—in this context, their overall educational attainment. In order to

understand the gap between these current aspirations and eventual achievement, one must first understand how aspirations are formed.

Research has shown that, for some students, there is an intangible, negative push downwards due to social constructs which marginalize and disempower, and this debilitating social pressure manifests itself first in the imagination of limited future aspirations. This, in turn, constricts expectations, which even further depresses student's ultimate educational attainment. This is most frequently the case among minority, first-generation, and low-income students, who feel the greatest constraints placed on them by society (Freeman 1999; Gandara 2002; Perna and Titus 2005). Such disadvantaged students often do not even aspire to middle class careers, and therefore make no strides towards trying to achieve such a goal. This lack of hope for a future beyond their current circumstance is a testament to the heavy burden placed on them (MacLeod 2008). Other data shows a majority of respondents (58%) reporting high aspirations and expectations, but these heightened ideas led to high achievement only two-thirds of the time (Khattab 2015). This kind of aspiration-achievement gap may point to the influence of K-12 preparation and other barriers which caused under-served populations to fall short of what they hoped they would accomplish.

This thesis will focus on the ways in which early development, family, community, school, race, gender, socioeconomic status, and social and cultural capital influence the development of students' educational aspirations, expectations, and eventual attainment, in order to assess which factors become most salient in this process. The ultimate goal of this analysis is to explore ways in which structural barriers and limiting forces may be moderated, and to identify policies and programs in place which are intended to ensure that college aspirations are less likely to be derailed by present circumstance. This is so that the students most affected—those who are presently

disadvantaged—will suffer less from the future economic consequences of lower educational attainment, a problem which is endemic among under-served populations (Aud 2010). This analysis is undertaken with the ultimate goal of allowing full access to college; for a transformative shift so that factors such as race and socioeconomic status no longer serve as predictors of achievement. Current data makes clear the fact that our educational system is not a meritocracy; structural constraints serve to limit the aspirations, realistic expectations, and ultimate achievement of marginalized populations. When race and other barriers no longer determine access to education, our educational system will be better able to serve the entirety of our population.

The factors which shape educational aspiration and attainment can be separated into individual characteristics, and broader situational forces. Individual race, gender, early development, family structure and socioeconomic status all play important roles in molding future aspirations on an individual level. These identifying characteristics and early life experiences can have long-lasting consequences, affecting both the development of aspirations as well as the degree to which individuals strive to reach said aspirations (Coleman 1998; Kim and Schneider 2005; Perna and Titus 2005; Freeman 1999, 2005). It is worth noting that these individual identifiers, such as race and gender, only have significance to the extent that they are deemed socially significant. It is entirely possible that, in another time and place, these would not be included in an analysis of education because they would have no situational relevance. In this way, individual factors are relevant only in the ways that they are manifested in a social context. Situational factors which affect student's future aspirations include the student's school and larger community, as well as the effects of peer groups and other social relationships within both of these institutions (Farmer-Hinton and Adams 2006; Hill 2008; Louie 2007).

Ultimately, these categories overlap in complex and layered ways, creating unique situations through which individual students, and their aspirations, are formed. There is an important relationship between students' development of educational aspirations, expectations, and eventual attainment which is shaped in the context of the social and individual forces detailed below. As the educational attainment gap continues to widen, and under-served students bear the brunt of this consequence, it becomes increasingly clear that something must be done to change our understanding of the educational system, so that marginalized students no longer face such significant barriers to higher education (Trent, *et al.* 2007). The following section will provide a literature review of individual and situational factors which shape students aspirations, expectations, and attainment, in order to inform our understanding of the consequences of expectations on the relationship between aspirations and attainment. Subsequent sections will further explore the relationship between expectations and aspirations, and how our understanding of this relationship may point to improved policy options to counteract the structural barriers disproportionately faced by marginalized populations, as results will show that current attempts are not successful.

## **I. Social and Cultural Capital**

The three interrelated yet theoretically distinct causal mechanisms through which skills and habits are developed are human, social, and cultural capital (Farkas 2003). The degree to which parents invest in their children determines each child's human capital, while cultural capital is based on the level of access parent's have to the 'skills, habits, or knowledge' required for success in society (Farkas 2003). The depth and breadth of social networks through which this knowledge is transmitted is social capital. All three culminate in an 'application of resources' in order to build skills and habits of children (Farkas 2003: 546). Significant bodies of research have found that

social and cultural capital are main determinants of student success (McNeal 1999). They are, therefore, the conceptual framework through which educational aspiration, expectation and attainment can be understood. Dika and Singh (2002) note that social capital is commonly used as an explanation for educational inequity, and social capital theory is frequently used as a means of understanding both educational access and ultimate success (Bourdieu and Passeron 1977; Coleman 1988; Lin 2001). Unlike social capital, which is focused on the relationships and resources derived from social networks, cultural capital represents the shared values of dominant sub-actors within society, which are transmitted within the social networks (Tierney 2002). It is important to note that culture is shaped by proximity, and the shared values of one sub-group in society may run counter to mainstream values. In this way, it can be said that social and cultural capital are mutually determinant; the knowledge and habits formed shape the access to social networks, and these same networks reinforce particular values and transmit knowledge (Farkas 2003). Within the educational system, both social and cultural capital act as commodities which benefit those who possess them, and serve as barriers to those who cannot attain them. Swidler (1986) makes a point of noting that “one can hardly pursue success in a world where the accepted skills, styles, and informal know-how are unfamiliar” (275). In a sense, this cultural capital is the currency through which our educational systems operate, and while sub-actors may have cultural capital which reflects the shared values of their sub-group, this form of foreign currency, so to speak, does not translate into dominant society. In order to utilize cultural capital to achieve success, a student must absorb the values, habits, and knowledge esteemed in mainstream society, and then successfully reflect these values through social relationships with teachers and eventually employers. After all, it is generally understood that schools and employers are looking for the same cognitive skills and work habits, and those who display these aptitudes are more highly regarded,

which improves their opportunities for advancement (Farkas 2003). Put another way, displays of particular forms of cultural capital, namely that which is valued in middle class society, subsequently shapes the opinions of teachers within the education system and employers beyond, which can drastically change the social capital and ultimate achievement of a student (Farkas 2003). Therefore, students who are socialized in a way which increases their cultural capital, the transmission of which is predicated upon the social capital of the parents, are at an advantage compared to their capital-less peers—a reflection of the overall human capital, or ‘magnitude of investment’ (Farkas 2003). It is with these cultural values and social networks in mind that we look at individual and situational factors which shape this transmission of capital, and through this transmission ultimately determine students’ chances of ‘making it’ in American society.

## **II. Early Development**

Research has shown that early childhood development plays an important role in later educational and occupational achievement. As socioeconomic status tends to shape the resources available to parents (and therefore children), there is a distinct linkage between low socioeconomic status and children’s development. Research spanning several years makes evident the fact that, by the time they enter kindergarten, students of low socioeconomic origin are already behind their peers in terms of cognitive development (Entwisle and Alexander 1998; Lee and Burkam 2002; Mayer 1997). This gap, visible at such a young age, has been attributed to a variety of causes, most of which point to a lack of resources at the home, school, and community level (Duncan and Magnuson 2005; Lareau 2003; Rothstein 2004). Regardless of the causes, in school systems which have overwhelmingly begun to rely on standardized testing and “tracking” students beginning at a young age, this kind of gap right at the start of student’s academic career can set the tone for their entire future. It has already become clear that this initial gap in cognitive abilities only widens as

student's schooling progresses, leading students to educational outcomes based on class. This is problematic, as we as a society operate under the assumption of meritocracy. Ready (2010) adds to the current understanding by analyzing the effects of missed school, in an attempt to explain social class differences through school absenteeism. Ready (2010) asserts that while students in higher levels of education exercise agency in their decision to skip school, elementary students lack this choice. Instead, excessive absenteeism in young students often points to housing instability, health problems, and other child care related concerns, all of which are more salient problems among the lower class (Ready 2010: 272).

More research is needed to explore the interaction between race, gender, and family structure and early childhood development, in order to better understand how development in early childhood is influenced by individual factors. The current state of my research focuses mainly on socio-economic status as a descriptor of "good" versus "bad" cognitive development, but this is not the only formative marker of unequal cognitive development and subsequent later ability. It is also worth questioning to what degree later academic achievements reflect a disparity in ability, versus a disparity in the ways in which students who were "more" or "less" developed at an early age were then put on educational tracks deemed a 'good fit' for their level of development, and these tracks are therefore a cause of later cognitive development/growth.

### **III. Family and Parental Influence**

As was made clear in the section on cognitive development, family life and parental influence have far-reaching implications for children's attachment to school, and the ways in which they conceptualize their educational future. Parental involvement is a vital component of students' occupational and educational aspirations (Cabrera and La Nasa 2000; Jeynes 2007; Perna and Titus 2005). Research has consistently demonstrated that families of middle- and upper-class

origins are more actively involved in their children's schooling and future prospects (Radford 2013). Parent-child relationships are shown to be "highly sensitive to the social and economic status of the family, as families of different classes possess different values, resources, and parenting styles" (Hill and Craft 2003). Parents, in order to raise and sustain children's aspirations, must themselves possess the required resources and skills in order to produce those same forms of capital in their children. With an education system which validates middle class values, this creates a disparity between the abilities of working class families to set their children up for success, as the parents themselves often do not possess the social and cultural capital necessary to help their children succeed. This creates an inequality among families, as only affluent parents, who see their own values and resources mirrored back at them in the educational system, are able to inculcate those same values in their children, and aid them in translating aspirations into high expectations and attainment, particularly through family capital and relationships (Marjoribanks 2002).

Among the middle and upper class, this parental interest in their children's ultimate attainment often manifests itself in what is termed "concerted cultivation," where parents actively seek to enrich their children through academic and extracurricular programs designed to bolster their credentials, and make them more appealing candidates for colleges and eventually the labor market (Radford 2013). Parents of lower socioeconomic status demonstrate less involvement with their children's education, both in primary and secondary school, as well as in making decisions about college degree attainment (Marjoribanks 2002; Radford 2013). However, it is unclear what this lack of involvement might mean for the students, in terms of developing their educational ethos. It is possible that guidance counsellors within schools stand in for parents, and are able to make up for this lack of parent involvement. The reasons for lack of involvement may stem from a lack of time or knowledge about future educational prospects, but more research must be done

to solidify these claims.

Significant research has been done on the ways in which parents do impact student's college decisions. Radford's *Top Student, Top School* profiles three students with varying levels of parental involvement, which corresponds to their socio-economic background. Karen's parents, of a low socioeconomic background, encouraged her to attend college but saw no added benefit of attending a more selective college. Karen's parents operated under the assumption that because all colleges offer degrees, they are interchangeable, with the exception of cost. What they did not understand was that private, more selective colleges are often the ones with the resources to provide hefty financial aid; while their sticker price is significantly higher, they are sometimes the more affordable option for college students. This lack of knowledge about selective institutions stems from their own educational attainment; in this way, Karen's socioeconomic background limited her college search. This transfer of "funds of knowledge" across generations is common, and research has shown that parents of lower socioeconomic status are often found to instill ideologies which are, while helpful, ultimately limiting in their children's future aspirations and ultimate attainment (Kiyama 2010). It has consistently been shown that the educational aspirations parents hold for their children have a high degree of influence over those children's educational outcomes (Chiapa, Garrido and Prina 2012). In this way, the social and cultural capital of the parents is significant and because of this, the consequences of parents who do not instill high aspirations for their children can be significant. In Jay Macleod's *Ain't No Makin' It*, some parents reported fears of encouraging their children to reach too high, lest they be disappointed with the lack of openness the parent's themselves found in the job market.

Other students experience their families' influence much differently. Radford also interviewed Kevin, who came from a family and community in which attending college at a local

community college or state university was common. A member of the middle class, aspiring for more prestigious and selective universities was not the norm. Like Karen, it seems that Kevin's parents encouraged him to follow the path which they themselves followed, rather than pushing him to reach further. In this way, Kevin's parents can be seen as transferring their own capital to their son. Unlike Karen's family, however, Kevin's parents both attained degrees from their state flagship university, and can therefore be considered successful in achieving their desired educational outcome.

Radford then interviewed Elizabeth, of high social class, who had parents who were insistent that cost not play a role in her college making decisions. This was something that was not plausible for Karen or Kevin, as cost played a major role in limiting college options. Elizabeth ended up not even applying to less expensive potential colleges, despite the possibility of hefty scholarships, and was able to pursue options more geographically distant and academically selective than Kevin or Karen. Her parents were also highly involved in the selection process (Radford 2013: 4). Elizabeth was able to rely on her parents understanding of colleges and the college admissions process to inform her application experience (a form of capital), and was ultimately successful in achieving the educational outcome desired by both herself and her family.

In all college application processes, Radford notes that there are several decision makers involved, including students, parents, and admission officers (Radford 2013:16). The levels of parent involvement, however, seem to vary based on a number of factors, including socioeconomic status. Linked to socioeconomic status, while remaining distinct from it, is the educational attainment of the parents. Significant research has been done on the difference between first-generational and non-first-generational college students, in terms of both decisions to enroll or delay enrollment, and what kinds of colleges are considered. In studying the gap between

educational aspirations and attainment, it has been noted that for non-first-generational college students, parental involvement is the key indicator of successful attainment. First-generational students, however, experience lower levels of parental involvement and “perception of importance of good grades” ranked as the most important indicator of attainment (McCarron and Inkelas 2006).

In terms of racial and socioeconomic effects on families, it is evidenced that duration of negative experience culminates in the long-term negative effects. This can be seen in single-parent households and families of low socioeconomic status, as children who endure these circumstances for longer are shown to experience greater negative effects on their educational attainment (Krein and Beller 1988).

Research also draws attention to the heightened culture shock that first-generation college students experience at college. This seems to be particularly prevalent among families which have recently immigrated to the United States, and while a complete understanding of these patterns has not yet been achieved, it is possible that much of this difficulty stems from a lack of cultural capital, and parents are placed in a position of trying to navigate a system for their children without fully understanding what that system values and how it operates.

#### **IV. Community Environment**

Significant scholarly research has studied the effects of neighborhood and communities on educational attainment. Macleod (2008) paints a poignant picture of students from “Claredon Heights,” a public housing complex, navigating the school tracks and employment options available to them. It is often the case that residents of low-income housing experience prejudice which, as Macleod describes it, is not always deserved but keenly felt. Public housing is often isolated, as is the case in Macleod’s study, and therefore opportunity outside of the community

becomes even less possible due to geographic constraints, stigma associated with living in public housing, and a lack of role models in the vicinity who have successfully ‘made it’. Scholarly work concludes that sustained exposure to disadvantaged neighborhoods has a severe impact on high school graduation. One study estimates that “growing up in the most (compared to the least) disadvantaged quintile of neighborhoods reduces the probability of graduation from 96 to 76 percent for black children, and from 95 to 87 percent for nonblack children” (Wodke, Harding and Elwert 2011).

In recognizing the effects of neighborhood on education, it is important to highlight the secondary influences of neighborhoods, including social networks and rates of crime and violence. There is research to suggest that students tend to make decisions about their academic futures, particularly at the secondary level, with the choices of their peers in mind (MacLeod 2009; Lavy and Sand 2012). In this way, students who are surrounded by high-achieving peers will be motivated to reach higher, while students surrounded by low-achieving peers may mitigate their own aspirations to match what friends and fellow students are doing. This can be true at the ‘track,’ college planning, and long-term career goal levels (Bifulco, Fletcher and Ross 2011). Furthermore, there is research which suggests that parental imprisonment, a phenomenon which disproportionately affects persons of color and low socioeconomic status, has a negative effect on children’s educational attainment (Hagan and Foster 2012). This pattern persists even after controlling for many of the situational and individual variables which frequently accompany mass incarceration. This spatial concentration of incarceration has additional consequences, as schools and neighborhoods can come to mirror prison characteristics, setting students up for a future of incarceration (Sander 2010). All of these exemplify the importance of social and cultural capital, as values antithetical to educational success are transmitted within peer groups and communities

(cultural capital), and the social connections made within these concentrated centers of crime and poverty are not with those who have “made it,” which therefore decreases motivation to strive for success among younger generations (MacLeod 2008).

Housing quality can be a significant predictor of school quality, and discrimination can play a significant role in perpetuating a cycle of downward mobility. In Schenectady, for example, the Fair Housing Act made affordable housing available in the city of Schenectady, but none of its more affluent surrounding suburbs (NY Times). Families with school-aged children, who can only afford to live in affordable housing, are unable to relocate to have their children attend the better funded and resourced schools in the surrounding area (NY Times). Some research based on the AddHealth data suggests, however, that the already “low odds of educational attainment among students from lower-SES neighborhoods are reduced even more when a student attends school with more white and high-SES peers,” as schools and neighborhoods come to represent “competing and reinforcing contexts for educational attainment.” (Owens 2010: 287). These findings suggest that the relative socioeconomic status of a neighborhood may be a basis for relative deprivation within schools, and therefore attending school with students of greater privilege, who are statistically more successful, further stretches these odds. Similarly, exposure to violence creates student fear and has a negative impact on educational attainment (Patton, Woolley and Hong 2012). There are also behavioral problems which are correlated with disadvantaged neighborhoods and low socioeconomic status, which also leads to lower academic achievement (Singh and Ghandour 2012). These trends, again, point to the importance of the social and cultural capital students are surrounded by and connected to.

## **V. School Setting**

Schools are traditionally thought of as ‘the great equalizer.’ It is true that school context is

central to students' development (Irvin, *et al.* 2011). However, it has become increasingly evident that schools are centers whose values align with the middle class, and therefore reward those who display middle class values. This creates a tension for students who have not grown up inculcated in the middle class value system; these students feel increasingly alienated from a school structure which does not recognize the worth of their streetwise independence, or other characteristics which have been learned and are now frowned upon. For students who have had to learn now to be tough on the street, schools' regimented nature and lack of independence can chafe. It becomes clear that those of middle class backgrounds are privileged, as they have been inoculated in families who hold, and are able to transmit to them, cultural and social capital which is held in high esteem in schools, while students of lower social class are not.

School climate is defined as “the character and quality of life within a school that is shaped by its organizational structure, physical environment, instructional practices, interpersonal relationships, and overarching values, objectives, and customs” (Cohen, *et al.* 2009). The underpinning ethos of middle-class values helps shape this climate, and extends to the degree to which schools encourage a college-attending climate, safety, order and discipline, fairness of rules, and student-teacher relationships (Roderick, Coca, and Nagaoka 2011; Fan, Williams and Corkin 2011).

Beyond middle-class values, the ethos of a school is often different based on the student population it serves. In this way, many researchers have suggested that schools are socializing children for their later place on the economic ladder, and therefore perpetuating a cycle of class inequality rather than offering the opportunity for equal chance which is often touted as the cause. One manifestation of this has been termed the “school to prison pipeline,” in which schools come to replicate and reinforce prison-like discipline systems which criminalize educational

environments, and ultimately lead to higher rates of incarceration (Sander 2010; The Advancement Project 2010). The Advancement Project (2010) notes that while in-school arrest is the most direct manifestation of the school to prison pipeline, “out of school suspensions, expulsions, and referrals to alternative schools also push students out of school and closer to a future in the juvenile and criminal justice systems” (4-5). This phenomenon disproportionately affects black students, and of the overall population black males are currently the most represented subpopulation in confinement (Childtrens 2012). There are clear implications which tie this end result to the prevalence of “exclusionary discipline” within schools (Morris 2012).

As mentioned, one important factor of school setting is the student-teacher relationships developed there, and the ways in which these relationships stress communication versus discipline. Studies have shown that supportive teacher-student relationships lead to greater emotional and behavioral engagement among students (Lee 2012). What is less clear is the way in which resource discrepancy shapes these teacher-student relationships, and the effects that short-term teaching programs like Teach for America (TFA) have on the students being served. One criticism of such programs is that TFA and others like it take the least qualified teachers and put them in charge of the classrooms which have the most need. In doing so, both the teacher and the classroom of students are being set up for failure. And, in schools in which discipline has become paramount, the “school to prison pipeline” problem has negative implications for student-teacher relations. Black female students, for example, have been reported as receiving greater negative feedback from teachers, particularly if said teacher is white (Morris 2012). Additional speculative research has claimed that this same population is more likely to receive harsher punishments for subjectively decided instances “worthy of reprimand” (Morris 2012).

In understanding the difference in achievement between students of low- and high

socioeconomic status, the majority of the research centers on lack of financial capital and social capital as the main contributing causes. Additional research notes that youth of low-socioeconomic status who attend schools mainly comprised of students of similar background are “particularly vulnerable to exclusion” from university-level education, making it clear that the school composition plays an important role in shaping student’s future (Frempong, Ma and Mensah 2011).

## **VI. Race**

There is often a strong correlation evident between race and socioeconomic status, and significant research has been done on the ‘white-black achievement gap.’ Some claim that, in current times, the black-white achievement gap has narrowed, but these claims are mitigated by the fact that the widest gaps remain between racially marginalized groups such as African Americans, Hispanic populations and Native Americans and racially privileged groups—whites and Asian Americans (Kao and Thompson 2003). And, while educational attainment may have improved, there remains a racial gap in the proportion of students who have completed their college degrees (Qian and Blair 1999). According to Ness and Tucker (2008), race/ethnicity and socioeconomic factors are two of the most significant variables affecting college access.

Theories used to explain these gaps fall into two general categories: theories which attribute the difference to cultural values (cultural capital) and theories which point to structural barriers which affect certain racial groups environments (Kao and Thompson 2003). While differences in educational values are evident in Radford’s *Top Student, Top School*, these values differed across socioeconomic status and parent’s educational attainment. It seems that a greater wealth of research points to structural barriers which limit certain races’ educational opportunities, aspirations and expectations about their possible future attainment. MacLeod’s (2009) research is interesting, however, as it seems to attest the opposite of what is expected: in his experience

studying the (White) Hallway Hangers and (Black) Brothers, he finds that the mainly white Hallway Hangers have lower aspirations, despite their racial privilege. MacLeod theorizes that this is because the white students, in looking at their parents' and older siblings' struggles in the occupational field have been largely unsuccessful. Because this lack of success cannot be attributed to racial barriers, the white students seem to sense that there are other societal forces keeping them back- that they "aren't given a fair shake," so to speak.

It seems that race, as an indicator of privilege, is able to account for some disparities in educational aspirations and attainment (both due to cultural and structural limitations), but that socioeconomic status plays a bigger role. Otherwise, it seems that the white students' racial privilege would have surmounted their economic circumstance, and the Hallway Hangers would have aspired for more, rather than being disillusioned with the attainment model system.

## **VII. Gender**

Current trends in educational attainment show greater numbers of females enrolling in and completing college degrees. This gender difference has been noted in the college aspiration stage, as strategies of thirty high school students, all of whom were African American and low income, differed across gendered lines. It was found that male students often chose colleges based on the opportunity to play sports, and therefore relied on their athletic prowess for admission and scholarships which would make enrollment feasible. Female students, on the other hand, focused on choosing colleges based on specific academic programs and career tracks, and relied on academic scholarships to achieve these aspirations. On the whole, female student's educational aspirations were "safeguarded" by their emphasis on academics, and therefore enjoyed greater success in terms of enrollment and overall attainment (Hubbard 1999). In this way, while African Americans as a whole are underrepresented in college enrollment, African American males are

even less well represented than African American females (Morris, 2012).

Further research states that the current trend of boys underperforming relative to their female peers has to do with the extent to which the school environment channels conceptions of masculinity in peer culture, which leads to the development of anti-school attitudes among male peer groups (Legewie and DiPrete 2012). Female peer groups, on the other hand, do not display this aversion to school environments as school engagement is less likely to be stigmatized as ‘un-feminine’ (Legewie and DiPrete 2012). According to Robinson and Lubinski (2011), teachers consistently report females as higher achieving than males in reading and math, despite cognitive tests which suggest male advantage. Rather than indicating a reversal in gender privilege, however, Morris (2012) argues that these findings “do not signify a reversal of gender inequality but a hidden cost of the power associated with masculinity” (1). While this reversal in gender educational aspirations and attainment is evident, it also cannot be fully understood outside of the context of race and social class. Indeed, the example given above centered on low-income, African American students. It is at the intersections of these marginalized identities that gender seems to have the greatest influence on education. Overall, students of color or low socioeconomic background show the greatest disparity in gender achievement, with female students significantly outperforming their male peers (Morris 2012). These findings pose potentially important implications for policy, and our understanding of a gendered achievement gap as well as the ways in which gendered peer groups shape social values and subsequent capital.

### **VIII. Socioeconomic Status**

Socioeconomic status seems to weave linkages through all of the aforementioned categories; it influences school and community, parent’s involvement in shaping their children’s aspirations, and the ways in which race and gender play out in social context. Expectations play

an important role in the relationship between aspirations and attainment- while a student may aspire to be something, expectations take into account a more grounded approach to the reality they face, and it is often these expectations which shape what students reach for. This is, in some ways, a comment on the ‘reasonableness’ of their future dreams. What is ‘reasonable’ for some is an impossibility for others, and these assertions are often drawn along monetary lines.

Often, students of low socioeconomic status are not given the same opportunities as their economically privileged peers, such as inclusion in elite academic institutions. This segregation begins in primary and secondary education, and often has important ramifications for post-secondary education. According to one study, “students who attend high socioeconomic composition (SEC) schools are 68% more likely to enroll at a 4-year college than students who attend low SEC schools” (Palardy 2013). This difference was mainly attributed to negative peer influences in low SES school setting, but it was found that school practices and the level of emphasis placed on academic success could be mediating factors (Palardy 2013). In this way, concentrations of poverty have collective implications for the students involved, regardless of academic ability.

Although elite colleges admit higher numbers of low-SES students than in the past, research suggests that there is significant potential for further inclusion, and they remain “far from serving as broad engines of socioeconomic mobility” (Walpole 2003; Lee 2013). Some of this lack of representation stems from the fact that students of low-SES often have to make college choices in which financial possibilities play a significant role, which often causes them to delay entry or attend a two-year institution as opposed to striving for a four-year degree (Walpole 2003). This exemplifies one way in which poverty constrains people’s perceptions of life options, therefore causing parents and their offspring to under-aspire and ultimately under-invest in education

(Chiapa *et al.* 2012). In this way, socioeconomic status has important ramifications for perpetuating educational inequality due to a lack of cultural capital.

The following chapters will utilize the High School Longitudinal Study (HSLs) of 2009, composed by the National Center for Educational Statistics (NCES), in order to analyze the ways in which the individual and situational factors described above shape the trajectories of the student respondents. Data has been collected from the base year, 2009, with two Follow Up studies from 2012 and 2013. Through quantitative analysis, I will assess the weighted relevance of these demographic, individual factors and situational forces in shaping students' attitudes, expectations, and the outcomes of both, with particular regard for the intervening characteristics of school-based approaches designed to mitigate barriers to postsecondary enrollment. The purpose of this analysis is to more fully understand the effect of these intervening variables within the larger scope of student's lives, in order to assess the successfulness of these school-based policies as a means of combating the structural disadvantage faced by marginalized student populations. Additional aims include an ability to better discuss the viability of school-based policy and education reform, so as to more successfully prepare disadvantaged students for the employment expectations and opportunities available post-graduation and work to close the achievement and opportunity gap evident across primarily racial and socioeconomic lines.

## Chapter Two: Methodology

The aim of this research is to better understand the effectiveness of school-based intervention in shaping student's academic confidence, motivations and decisions, building upon the well-documented roles that family, peers, and school/community environments previously established in the field. The ultimate goal of this examination is to provide insight into the role that education plans, financial aid awareness, and opportunity programs play in the palliation of various barriers to college matriculation. This is done through a "bottom-up" approach, focusing on who goes to college, and tracing this path backwards in order to understand what social forces most strongly impacted a "successful" trajectory, with success being college matriculation. The focus on education plans, opportunity programs and financial aid awareness is a practical one, as each of these serve as school-based interventions intended to mitigate potential stumbling blocks in the path from high school to college. This empirical analysis seeks to ascertain the effectiveness of these programs in assisting students' overcoming of these hurdles, and consider this "interventionist" strategy within the context of previous policies which unsuccessfully attempted to increase achievement through encouraging increased aspirations.

### *Data*

In order to understand the ways in which student's educational trajectories solidified over time, I perform a quantitative analysis of data acquired from the The High School Longitudinal Study (HSLs) of 2009. The HSLs data set provides a nationally representative sample of approximately 24,000 randomly selected students across 944 public, private, and parochial high schools. Funded by the National Center for Education Statistics and created by Elise Christopher (Project Officer) and Isaiah O'Rear, the HSLs is a longitudinal study which collects data in three waves; first, in the Fall of student's first year of high school (2009), then a follow-up in the Winter

of their Junior year (2012) and a final follow-up in the Fall after the students are expected to have graduated (2013). The focus of the HSLS data is to understand “what students decide to pursue when, why and how” through their time in high school, postsecondary education, and the eventually workforce (NCES). While the data includes a particular emphasis on student interest and success in the STEM field, its overall focus on student trajectory neatly aligns with the goals of my own research. The questions asked of students, parents, teachers, counselors and school administrators cover measures of attitude, student aptitude, and achievement, all of which are central to this analysis. While access to some of the HSLS data was restricted, the public use data available provided over 6,000 variables from which I was able to approximate measures which were related but unavailable for public use due to concerns over subject confidentiality. This high volume of variable measures across a nationally representative sample was a benefit of utilizing the HSLS data, as well as the fact that the National Center for Education Statistics is well respected in the field.

## ***Measures***

### ***Conceptualization***

In order to analyze the factors which affect college matriculation, variables were carefully selected to explore the influences of parents, peers, and school staff on student’s aspirations, expectations, and attainment throughout their four years of high school and immediately after. With college matriculation as my main dependent variable, measured by respondents answer to the question “are you currently enrolled in postsecondary classes” in the Fall of 2013, I isolated parent attitudes and level of involvement, classroom environment, student discipline, peer academic inclination and student involvement in academically-enriching extracurricular activities as dependent variables which influenced the decision of college matriculation. I then focused on school-based opportunity programs, financial aid awareness, and education plans as intervening

variables, in order to assess their capacity to shift student trajectory towards college. The reported race, gender, and socioeconomic status of student respondents (recoded into dichotomy of “above” or “below” poverty line) served as independent variables, which were then held constant in Models created to assess the degree to which college enrollment decisions are explained by the dependent variables listed above.

### *Operationalization*

In recoding the independent variables of race, gender and socioeconomic status, Caucasians, males, and those above the poverty line were made into the excluded groups, in order to create dichotomous variables necessary for running Binary Logistic Regressions. These characteristics were chosen because, based on findings established in the literature review, these demographic groups experience the least structural barriers to college matriculation. This analysis is interested in how the trajectory of these “advantaged” students compare to those facing greater structural constraints, and therefore places them in binary opposition to students of “disadvantage.” School demographics, including geographic region, “urbanicity” of locale, and public or private operated were also dichotomized, with Northeastern, suburban, public schools serving as the excluded groups of these independent control variables. These characteristics were chosen as the excluded groups because they, like the individual demographics described above, represent demographic characteristics which are “typical” of students who attend college. In this way, dichotomous recodes were created based on theoretical relevance, as a way of singling out students facing greater structural challenges, in order to conform to statistical procedure requirements.

In order to create a more complete picture, and sometimes as a means of circumventing restricted data access, several indexes were created. These were used to measure; degree of parent involvement and “extra” parent involvement, peer academic inclination, classroom “fairness,”

student involvement in academically-enriching extracurricular activities, academic rigor, and degree of college preparation and exploration. The Table provided in the appendix gives information on each variable used in my analysis, including the summed characteristics of each index, the one and zero values of the dummy variables I created, and description of the answer categories for all additional variables. Measures were grouped based on their relationship to each of the main focal categories, all of which serve as independent variables against the dependent outcome of college enrollment. These include: parent influence, school and classroom environment, peer academic inclination, and student's extracurricular activities, classroom involvement and college preparation. See Appendix A for a table providing explanation for each variable used in my analysis, including the composition of indexes and response values.

### ***Strategy for Analysis***

I first establish the relationship between subject's educational attitudes, including aspirations and expectations, and their educational attainment. I then perform binary logistic regressions in order to assess the degree to which variance in the main dependent variable, postsecondary course enrollment, is explained by several groups of control factors. I then model these regressions separately, focusing on each the main categories of family and school influence, building to a model which takes into account all of the aforementioned factors in order to determine which are most salient in explaining student's educational trajectory. In both the binary logistic regressions and the models these results are built into, Chi-square, Pseudo R-square, and Log Likelihood are included and used as means of analyzing the results.

### ***Methodological Limitations***

The main methodological limitation of this study concerns the limitations of restricted access to the entirety of the HSLs dataset. Often, direct measures were established but the data

was restricted. Access to these direct measures would likely have provided stronger correlations than the publicly available measures used in approximation, and overall results might have been more tightly honed if restricted data had been available. In terms of operationalization, the available data and relevant variable relationships were beyond the scope of this project. Further analysis could highlight important interplay among variables, and explore the ways in which the outcomes changed when specific demographic groups are focused on, rather than merely controlled for.

## Chapter Three: Quantitative Results

### *Summary: Objective of Research and Steps Taken*

The objective of this thesis is to ascertain the degree to which various individual and situational factors, as outlined in the Methods (Chapter 2) and Literature Review (Chapter 1), shape educational aspirations, expectations, and attainment. The bulk of my analysis focuses on the relationship between these variables and college enrollment, with the effect of aspirations and expectations on attainment discussed separately. For the sake of consistency, I focused the majority of my regressions on binary outcomes of college enrollment as a marker of attainment. Using this as the “gold standard,” I was better able to analyze the ways in which various factors affect the same outcome, and was able to compare the degree to which a measure encouraged or inhibited attainment when other causal factors were included in the model. The subtext of this broad analysis is an effort to understand the barriers that students face in achieving their educational aspirations and expectations, and the degree to which school intervention programs, in the form of opportunity programs, financial aid awareness, and mandated education plans, assist students in overcoming these hurdles.

In order to determine this, I began with descriptive tables and Crosstabulations of several indicators, in order to gain an understanding of how strongly the independent (social and situational factors) and dependent (college enrollment) variables are related. I then conducted binary logistic and OLS linear regressions, in order to quantitatively assess how well college enrollment could be predicted knowing these independent variables. Statistical significance was calculated via t-tests, with  $p=.05$  as the threshold for statistical significance. After considering bivariate relationships between the independent variables and college enrollment, I created models which controlled for: student race (coded as whether they were white or not), gender (coded as

male or not), and whether the student’s family income falls below the poverty line or not. Ultimately, I built these into one collective model, in order to understand the degree to which originally statistically significant relationships could be explained away by other factors.

### ***Baseline Model of College Matriculation***

In order to undertake an analysis of factors which influence college matriculation, the end result must first be considered. Of the students who responded, approximately one fifth did not enroll in any post-secondary courses [Table 3.1.1]. Some of these students were still working towards their high school diploma or GED, while others dropped out of school altogether. When asked why they did not choose to enroll, roughly 20% reported no desire to continue attending school, while just over 20% cited college costs as their reason for non-matriculation. Only 2.5% of respondents stated that their reason for not attending college was the fact that they didn’t get in, while more than 50% checked the “because of another reason” box.

**Table 3.1.1 Taking postsecondary classes or not**

	Frequency	Valid Percent
Students not taking classes	3401	20.2
Students taking classes	13477	79.8
Valid Total	16878	100.0
Missing	6625	
N	23503	

Of those who did enroll in postsecondary courses, the vast majority did so on a full-time basis. Some of these respondents reported working full-time simultaneously, but the majority of full-time respondents reported that their main focus for the 2013 year was continuing their education. While the bulk of the binary logistic regressions in my subsequent analysis use matriculation as the dependent outcome, it is important to keep this distribution of part-time versus full-time in mind [Table 3.1.2]. As nine-tenths of students who enrolled did so as a full time student, we can

consider the implications of our findings regarding likelihood of enrollment as somewhat generalizable to the student's decision to enroll full time. This is not to say that results are fully generalizable; the scope of this research is limited to enrollment as the main dependent outcome, and these results have not been tested against results focused solely on full-time enrollment, meaning that there are no findings which report the degree to which including part-time enrollment skews results. It is simply worth bearing in mind that, when discussing the likelihood of college enrollment, the majority of these students would be enrolling in college full-time. Further, I make no distinction in the type of college students are attending, whether four-year or two-year or level of selectivity. While these differences may be important, to streamline the results below I focus on matriculation to college.

**Table 3.1.2 Distribution of Students Attending College Full time or Part time**

	Frequency	Valid Percent
Students Enrolled Full time	11642	91.6
Students Enrolled Part time	1069	8.4
N	12711	100.0
Missing	10792	
Total	23503	

***Key Variable Breakdown: Race, Socioeconomics, and Gender***

Substantial literature has provided insight into the ways in which the key demographics of race, socioeconomic status, and gender shape social interactions. While rich analysis could be performed by applying this question of educational trajectory to any one demographic characteristic or set of characteristics, the scope of this analysis is limited to understanding the broader effects of family, peers, school environment and school intervention programs on decisions regarding college exploration and matriculation. In order to isolate these broader

independent effects, the implications of race, socioeconomic status and gender must be recognized, and then controlled for.

### *Race*

In order to incorporate race into binary logistic regressions, it needed to be dichotomized. For this reason, race was recoded into a binary variable in which respondents were coded as “white” or “not white,” in order to consider the ways in which racial minorities’ educational trajectories differ from their white peers. The decision to use Caucasian students as the reference group stems from the significant research which notes that, in America, there is a significant achievement gap between minorities and their racially privileged white counterparts, both in secondary educational attainment and who goes on to complete postsecondary degrees (Kao and Thompson 2003; Qian and Blair 1999). The racial makeup of the HSLS dataset is therefore described in terms of this binary relationship, because my research is interested in the barriers which limit postsecondary aspiration and attainment. Because there is a statistically significant difference in racial achievement, it is important to therefore include race as a control variable, in order to isolate the effects of other factors on educational achievement. As described in Table 3.2.1, the majority of respondents included in the HSLS dataset were white [Table 3.2.1]. Recoded into a binary relationship, however, white and non-white students were close to an even split.

**Table 3.2.1 Student Race**

	Frequency	Valid Percent
Student is not White	10415	46.3
Student is White	12082	53.7
N	22497	100.0
Missing	1006	
Total	23503	

### *Socioeconomic Status*

Socioeconomic status is another key control variable. Because this study is concerned with barriers to achievement, socioeconomic status was focused on in terms of students operating above or below the poverty line, and recoded as such. According to Table 3.2.2, the majority of respondents are above the poverty line, with 16% of students falling below. Of those who are above the poverty line, there is a relatively even dispersal across moderate and high income ranges, with slightly more students falling into a moderate income range [Table 3.2.3]. As a nationally representative sample, this is telling: approximately 1 out of every 6 children are below the poverty threshold. And, as prior literature suggests, it is these students whose early development and human capital suffer from their families lack of economic resources (Kao and Thompson 2003).

**Table 3.2.2 Poverty indicator (relative to 100% of Census poverty threshold)**

	Frequency	Valid Percent
At or above poverty threshold	14062	84.0
Below poverty threshold	2671	16.0
N	16733	100.0
Missing	6770	28.8
Total	23503	100.0

**Table 3.2.3 Total Family Income From All Sources, Base Year (2009)**

	Frequency	Valid Percent
Family income < or equal to \$15,000	1570	9.4
Family income > \$15,000 and < \$35,000	3043	18.2
Family income > \$35,000 and < \$55,000	2762	16.5
Family income > \$55,000 and < \$75,000	2514	15.0
Family income > \$75,000 and < \$115,000	3339	20.0
Family income > \$115,000	3533	21.1
N	16761	100.0
Missing	6742	28.7
Total	23503	100.0

*Gender*

The gender distribution of the HSLs respondents is generally normative, with approximately half of the sample identifying as male and the other half as female, with six missing cases [Table 3.2.4].

**Table 3.2.4 Student's Sex**

	Frequency	Valid Percent
Male	11973	51.0
Female	11524	49.0
N	23497	100.0
Missing	6	
Total	23503	

Before moving into student's educational aspirations and expectations as predictors of attainment, it is worth noting how demographic characteristics alone affect likelihood of college matriculation. Shown in Table 3.2.5 below, male students are 60% as likely to attend college as their female peers. The race variable is interesting, as it shows white students as less likely to attend college than minority peers by approximately 16%. This is potentially in line with MacLeod's research, which found that white high schoolers had lower aspirations, despite their racial privilege (2009).

This may be particularly true because Table 3.2.5 shows effects holding constant economic status. This may also be attributed to the fact that all non-white racial minorities were categorized together, including Asian students. Asian students are often situated on the privileged side of the education achievement gap, and their inclusion in a group which mainly suffers from this may have skewed the results to some extent. As is expected, students below the poverty line have substantially lower probabilities of college attendance; those 1 in six students are only 35% as likely to matriculate as students above the poverty threshold [Table 3.2.5].

**Table 3.2.5 Key Demographics as Predictors of College Enrollment**

	Model A	Model B	Model C	Model D
Student Sex (1=Male)	.624***			.606***
Student Race (1=White)		1.049***		.841***
Student Poverty Indicator (1=Below Line)			.366***	.340***
Constant	5.085***	3.871***	5.591***	8.178***
Chi-Square	149.416	1.485	282.512	410.525***
Pseudo R-Square	.014	.000	.035	.051
Log Likelihood	16808.250 <sup>a</sup>	16304.960 <sup>a</sup>	11972.609 <sup>a</sup>	11843.441 <sup>a</sup>

\*p<.05, \*\*p<.01, \*\*\*p<0.001

### ***Student's Aspirations and Expectations***

Substantial research has linked aspirations to both expectations and eventual attainment, and it has been noted in the literature that a leveling of aspirations has similar leveling effects on ultimate attainment; students generally do not go out to achieve what they do not see as a future possibility. Table 3.3.1 shows student's response to the question "If there were no barriers, how far in school would you want to go?" asked during their Senior year of high school. Responses show a high concentration of students' aspirations focused on graduate or high level professional degrees, with very few students aspiring to complete High School or an Associate's degree [Table 3.3.1]. A moderate concentration of students aspired to complete Bachelor's degrees, but almost 70% of

students aspired for more; high level professional degrees were the most common aspiration, and Master's degree aspirations were second most common. Data was not provided regarding student's aspirations during the base year (2009), so change cannot be tracked over time, but this descriptive table points to a student population who, looking ahead to life after graduation, are aspiring for high educational attainment. These aspirations can be compared to reported expectations from both 2009 and 2012, when these aspirations were recorded, in order to assess the degree to which aspirations 'match' what students expect of themselves.

**Table 3.3.1. Student Educational Aspirations, First Follow Up (2012)**

	Frequency	Valid Percent
Less than high school completion	165	.9
Complete HS diploma/GED/alternative HS credential	1017	5.5
Complete certificate/diploma from school providing occupational training	747	4.0
Complete Associate's degree	807	4.3
Complete Bachelor's degree	3285	17.6
Complete Master's degree	5322	28.5
Complete Ph.D./M.D./law degree/other high level professional degree	7316	39.2
N	18659	100.0
Missing	4844	20.6
Total	23503	

From 2009 to 2012, there is a concentration of student's educational expectations inward, towards a more moderate level of education—namely, Bachelor's degrees. Seniors looking ahead to graduation and beyond were less likely to report expectations in either low or high extremes. Where *aspirations* from this same year (2012) were “top heavy,” reporting high concentrations of students aspiring towards completion of Master's degrees and beyond, the reported *expectations* are much more leveled. While 39% of students listed completion of a high level professional degree as their aspiration in 2012, only 18% reported expectations of attaining such degrees. There

is almost none of this discrepancy in Master's degree aspirations and expectations, and the higher proportion of Bachelor's degree expectations relative to aspirations is an indication of realignment; while they might wish for more, student's 2012 expectations show a more normalized distribution than their highly skewed aspirations.

While students' 2009 aspirations are not available, it may be that in the early stages of their high school career, student's future expectations are more closely tied to aspiration. This could account for the relatively high proportion of students who, in 2009, expected to go on to attain Master's or more advanced degrees, the distribution of which is more similar to student's 2012 aspirations than expectations. The moderate proportion of students who reported expectations of only a High School Diploma may be explained by the fact that they were early on in their high school career, and were either loathe to voluntarily continue their education after graduating, or did not think of themselves as capable. Regardless of the initial cause, these expectations shifted upwards over the course of their high school career, with more students stating expectations of completing a Bachelor's or Associate's degree [Table 3.3.2].

**Table 3.3.2 Student Education Expectations, Base Year (2009) and First Follow Up (2012)**

	2009 Base Year	2012 Follow Up
	Valid Percent	Valid Percent
High School Diploma/G.E.D.	16.1	10.6
Associate's Degree	7.9	11.6
Bachelor's Degree	21.6	33.0
Master's Degree	26.8	26.9
PhD, Law, or Other Advanced Degree	27.6	17.9
N	16567	17318

**Table 3.3.3 Educational Aspirations and Expectations as Predictors of College Enrollment**

	Model 1	Model 2	Model 3
Student Sex (1=Male)	.606***	.683***	.709***
Student Race (1=White)	.841***	.915	.965
Student Poverty Indicator (1=Below Line)	.340***	.407***	.479***
Student Educational Aspirations (2012)		1.593***	1.187***
Student Educational Expectations (2012)			1.932***
Constant	8.178***	.589***	.388***
Chi-Square	410.525***	976.059***	1168.022***
Pseudo R-Square	.051	.142	.194
Log Likelihood	11843.441 <sup>a</sup>	8866.320 <sup>a</sup>	7126.654 <sup>a</sup>

\*p<.05, \*\*p<.01, \*\*\*p<0.001

Controlling for the demographics of race, sex, and poverty, the binary logistic regression modeled above [Table 3.3.3] shows that both student expectations and aspirations are positively and significantly correlated with degree-seeking behavior in the form of college enrollment. While enrollment is no guarantee of program completion, these results are in line with prior research findings, and show that expectations are especially potent in predicting the likelihood of postsecondary enrollment. Moreover, the addition of these indicators of aspirations and expectations begin to explain some of the demographic effects—lessening the gender difference, reducing the race difference to insignificance, and reducing the effect of poverty status.

Aspirations and expectations do not occur overnight, as evidenced by the shifts that occurred from the base year (2009) to the follow up (2012) [Table 3.3.2]. In order to gain a better sense of how these attitudes are formed, I ran Crosstabulations of 2012 parent aspirations and expectations against the students, in order to ascertain the degree to which student attitudes are correlated to their parents. In Table 3.3.4 below, parent aspirations are shown to be relatively high, with almost half of all parents aspiring towards high level professional degrees for their children.

While the majority of students also aspire to complete degrees beyond a Bachelors, those who only aspire to high school completion are likely to still have parents who are hoping for advanced degrees. Overall, there seems to be a relatively high correlation between parent and student aspirations, but this perceived relationship may be due to the “top heavy” nature of aspirations described above; with the majority of both parents and students aspiring towards advanced degrees, it’s difficult to ascertain a trend connecting student and parent aspirations across all levels of educational degree.

Table 3.3.4 Crosstabulation of Students’ Aspirations by Parents’ Aspirations (2012)

	Less than High School	GED or Alt. Credential	Occupatona l Training Certificate	Complete Associate's degree	Complete Bachelor's degree	Complete Master's degree	Complete PhD/MD/ law/other high level prof. degree	Total
Less than HS completion or complete HS diploma/GED/alternative HS credential	2.8%	15.8%	6.8%	3.4%	1.3%	1.1%	0.6%	1.9%
3Complete certificate/diploma from school providing occupational training	2.8%	10.0%	9.5%	4.8%	1.3%	0.6%	0.4%	1.5%
Complete Associate's degree	8.3%	7.3%	9.5%	9.1%	2.6%	1.3%	1.3%	2.4%
Complete Bachelor's degree	19.4%	27.8%	23.7%	31.7%	32.4%	20.6%	11.8%	19.7%
Complete Master's degree	22.2%	16.6%	22.6%	25.0%	35.0%	37.3%	22.9%	28.8%
Complete Ph.D./M.D./law degree/other high level professional degree	44.4%	22.4%	27.9%	26.0%	27.5%	39.1%	63.0%	45.6%
Total	36	259	190	208	932	1585	2351	5561

In terms of expectations, it is clear in Table 3.3.5 below that most students at all degree levels expect to complete, rather than merely start, their predicted degree programs. As student expectations depict more of a leveled curve, it is in some ways easier to look for a correlation between student and parent expectations. Of students who report expecting to start but not complete a degree, parents are unlikely to agree. They are much more likely to report expectations

of students completing that same degree, and even more likely to report expectations of completing an even higher degree. Of students who expect to complete high school, approximately 20% of their parents expect them to complete a Bachelor's degree, while another 20% do not expect them to graduate from high school. Indeed, for each of the student expectations below Bachelor's degree completion (High School, Occupational Training, Associate's Degree) roughly 20-30% of student's parents report expectations of a Bachelor's Degree; the number increases as students' expectations increase from high school to Associate's Degree completion. This is perhaps evidence of parents leveling their higher aspirations of high level professional degrees; while they hope for more, there is a noteworthy percentage of parents who seem to view Bachelor's degrees as a "bare minimum" for their children.

Table 3.3.5 Crosstabulation of Student' and Parents' Expectations

How far in school parent thinks sample member will go	Student Education Expectations (2012)										Total	
	1	2	3	4	5	6	7	8	9	10	11	Don't know
1. Less than high school completion	9.60%	2.50%	1.90%	0.70%	1.80%	0.80%	0.80%	0.50%	0.30%	0.40%	0.30%	1.20%
2. Complete HS credential	17.40%	18.60%	16.00%	11.40%	12.00%	7.50%	6.70%	4.50%	5.90%	4.10%	3.40%	7.40%
3. Start, but not complete certificate/diploma from occ. training	0.90%	0.60%	2.80%	0.70%	0.60%	0.60%	0.40%	0.20%	0.30%	0.10%	0.10%	0.70%
4. Complete certificate/diploma from occ. training	8.70%	11.10%	11.30%	14.30%	8.40%	6.50%	7.10%	3.90%	3.60%	3.00%	2.10%	6.40%
5. Start, but not complete Associate's degree	1.70%	1.20%	0.00%	0.90%	1.80%	1.40%	0.80%	0.50%	0.30%	0.60%	0.40%	1.10%
6. Complete Associate's degree	13.00%	9.70%	8.50%	11.60%	9.60%	13.20%	11.30%	7.30%	7.90%	4.60%	4.10%	9.40%
7. Start, but not complete Bachelor's degree	0.00%	0.90%	0.00%	1.10%	0.60%	1.70%	2.10%	1.40%	0.70%	1.00%	0.90%	1.20%
8. Complete Bachelor's degree	20.00%	21.90%	24.50%	22.70%	29.90%	31.30%	31.50%	38.80%	34.90%	30.40%	23.40%	30.20%
9. Start, but not complete Master's degree	0.00%	0.40%	0.00%	0.80%	0.00%	0.90%	1.70%	0.70%	1.30%	0.80%	0.60%	0.40%
10. Complete Master's degree	8.70%	10.70%	12.30%	13.10%	12.60%	13.50%	17.20%	19.50%	21.10%	27.50%	20.90%	15.30%
11. Complete high level professional degree	7.80%	8.00%	8.50%	7.80%	5.40%	10.10%	10.10%	11.60%	13.80%	18.50%	35.70%	12.90%
Total	115	1719	106	1035	167	1829	238	5462	304	4311	2878	2094

### ***Families as a Formative Force***

Aside from, or perhaps parallel to, parental aspirations and expectations, parent involvement can be an important shaping force in terms of students' educational trajectories. In order to analyze this, I created two indexes; the Parent Help Index is a measure of baseline involvement with student's school, regarding homework help and involvement in course selection. The Parent "Extra" Help Index is a measure more specific to college preparation, and seeks to understand the degree to which parents "concertedly cultivate" their students in order to make them stronger candidates for admission.

It can be seen in the Parent Help Index below [Table 3.4.1] that most parents fall somewhere in the middle when it comes to helping their children with homework and other school related issues. There is a relatively normal distribution, with the majority of respondents falling in the fourth of fifth bracket, showing a slight skew towards more involvement rather than less.

**Table 3.4.1 Frequency of Parent Help Index**

	Frequency	Percent
2.00	86	1.4
3.00	376	6.1
4.00	792	12.9
5.00	1574	25.7
6.00	1512	24.7
7.00	1213	19.8
8.00	399	6.5
9.00	176	2.9
N	6128	100.0
Missing	17375	73.9
Total	23503	100.0

Some parents, however, go above these standard measures in their efforts to help their children succeed. Markers of "concerted cultivation" on the part of the parent, the Parent "Extra"

Help Index evidences actions on the part of the parent which are designed to improve their child's chances of college matriculation (Radford 2013). Of parents surveyed, the majority engaged in one or two acts of concerted cultivation, with approximately as many parents engaging in no acts as there were parents engaging in two acts. A modest percentage of parents engaged in three acts, but acts of four or more were relatively scarce. The effects of these indexes of parental involvement is discussed in [Table 3.4.3] below. Please note, as well, the high proportion of missing cases in both Table 3.4.1 and 3.4.2 which has reduced the sample size by more than two thirds.

**Table 3.4.2 Frequency of Parent “Extra” Help Index**

	Frequency	Percent
.00	1739	23.4
1.00	2200	29.6
2.00	1913	25.7
3.00	1042	14.0
4.00	420	5.6
5.00	109	1.5
6.00	20	.3
N	7443	100.0
Missing	16060	68.3
Total	23503	100.0

**Table 3.4.3 Parent Involvement as a Predictor of College Enrollment**

	Model A	Model B
Student Sex (1=Male)	.606***	0.653***
Student Race (1=White)	.841***	.969
Student Poverty Indicator (1=Below Line)	.340***	0.374***
Parent Help Index		1.022
Parent “Extra” Help Index		1.561***
Constant	8.178***	3.959***
Chi-Square	410.525	276.425
Pseudo R-Square	.051	.098
Log Likelihood	11843.441 <sup>a</sup>	3789.275 <sup>a</sup>

\*p<.05, \*\*p<.01, \*\*\*p<0.001

While the Parent Help Index does not significantly affect student's likelihood of college enrollment, the Parent "Extra" Help index shows that parents who engage in more of these acts of converted cultivation increase the odds of their child's college enrollment. While the effects of student's sex and poverty remain in large part the same, the addition of the Parent "Extra" Help Index reduces the effect of race to insignificance. This means that a large proportion of racial differences in likelihood of college enrollment is explained by varying degrees of concerted cultivation on the part of the parents. It may be that certain racial demographic groups are more likely to engage in acts of concerted cultivation, and children of this racial background are therefore more likely to attend college. As the majority of parents surveyed reported engaging in only one or two of these acts, it may be that there is a particular type of parent who engages in three, four, five or more of these acts—and this 'type' may be linked to race.

### ***School Demographics***

As students move from the home to the classroom, a variety of school characteristics can have profound implications for their education, in terms of both quality and the attitudes student's form regarding the efficacy of academics in both their present and their imagined future. Moving from the outward in, we will consider the ways in which school characteristics—both geographic and teacher-specific—shape a student's educational trajectory.

Table 3.5.1 (below) provides a breakdown of schools by geographic region. Approximately 41% of the schools surveyed are located in the South, which is more than any other geographic region. The second most common region is the Midwest, with a little less than a third (26.5%). Schools surveyed from the Northeast and West each constitute less than half the number of schools surveyed in the South; they composed 15.6% and 17.1%, respectively. As a nationally representative sample, this disparity in frequency is likely due to geographic size. The Southern

and Midwestern regions are the largest geographically, and it is ostensibly for this reason that more students from these regions are sampled.

**Table 3.5.1 School Geographic Region**

	Frequency	Percent
Northeast	3662	15.6
Midwest	6224	26.5
South	9587	40.8
West	4030	17.1
Total	23503	100.0

In terms of community, students' schools are moderately concentrated in suburbs, with slightly smaller concentrations in cities and modest concentrations in rural communities. Relatively few students report attending a town school. This variance in community is something Christopher and O'Rear term "urbanicity" in their HSLS data collection (2009), and literature has determined that the community type a school is located in has an effect on student's educational experience, which translates into an effect on attitudes and expectations regarding college. Because of heavy literature focus on the effects of different communities on student's education, my analysis first isolates the community type of schools, and how these geographically and culturally specific locations shape likelihood of college matriculation.

**Table 3.5.2 School Community**

	Frequency	Percent
City	6689	28.5
Suburb	8467	36.0
Town	2788	11.9
Rural	5559	23.7
Total	23503	100.0

**Table 3.5.3 School locale as a Predictor of Enrollment in Postsecondary Classes**

	Model A	Model B
Student Sex (1=Male)	.606***	.604***
Student Race (1=White)	.841***	.863**
Student Poverty Indicator (1=Below Line)	.340***	.347***
School in City		1.133
School in Town		.668***
School in Rural		.638***
Constant	8.178***	9.164***
Chi-Square	410.525	151.410
Pseudo R-Square	.051	.014
Log Likelihood	11843.441 <sup>a</sup>	16810.359

\*p<.05, \*\*p<.01, \*\*\*p<0.001

In the regression above [Table 3.5.3], I excluded suburban schools in order to isolate the effects of attending a non-suburban school on a student's likelihood to enroll in postsecondary classes. I found that, with the exception of attending a school located in a city, attending a high school located outside of a suburb decreases a student's odds of enrolling in postsecondary classes. The reported positive increase in odds based on attending a city school is not statistically significant, however, and therefore not cannot be said to significantly increase a student's likelihood of attending college. Attending school in either town or rural communities have similar, modestly negative, effects on likelihood of college enrollment, as students who attend school in either of these environments are slightly less than two-thirds as likely to attend college as students from suburban school settings. The effects of students' race, gender, and poverty level remained generally unchanged, with race shifting slightly and remaining statistically significant, but at a lower p value (p<.01, compared to p<.001).

This general geographic decrease may be in some part attributable to a relative lack of resources within these communities, and subsequently the schools located therein. Schools using

teachers with non-traditional certifications are often less well-resourced than schools with teachers who have teaching degrees, and in this way may serve as a marker of resource distress. This partial explanation is supported in Table 3.5.4 below, which shows that controlling for teacher certification reduces the effect of attending a rural school. In the addition of school as public or private, and type of teacher certification (used as an approximation of school resource), students' race loses its significance, as does schools' location in a city or town community. Western geographic region remains significant, but at a lower p value. Ultimately, a school as public or private and general level of resource seems to have a greater impact on student educational outcomes than regional or community location.

**Table 3.5.4. School Location as Predictor Controlling for School Characteristics**

	Model A	Model B	Model C	Model D
Student Sex (1=Male)	.606***	.604***	.600***	.604***
Student Race (1=White)	.841***	.828***	.848**	.861
Student Poverty Indicator (1=Below Line)	.340***	.340***	.346***	.326***
School in Midwest		.933	.942	.878
School in South		.813**	.851	.843
School in West		.694***	.656***	.667**
School in City			1.182**	1.091
School in Town			.673***	.768
School in Rural			.640***	.778**
Public or Private (Public=1)				.200***
Math Teacher Alternative Certification (1=Yes)				1.190
Science Teacher Alternative Certification (1=Yes)				1.607***
Constant	8.178***	9.767***	10.712***	24.860
Chi-Square	410.525	436.801	552.342	.604
Pseudo R-Square	.051	.054	.068	.861
Log Likelihood	11843.441 <sup>a</sup>	11817.165 <sup>a</sup>	11701.625 <sup>a</sup>	.326

\*p<.05, \*\*p<.01, \*\*\*p<0.001

### *The Classroom as a Learning Space*

Beyond their certifications, teachers play a crucial role in student's academic experience. Established literature points to supportive teacher-student relationships as crucial for student engagement (Lee 2012). The HSLS survey asked students a number of questions about their teachers, teacher attitudes, and teacher treatment. As teacher treatment is most directly evidenced in the classroom, I focused on responses to questions focused on teacher treating students unfairly, in general, as well as teacher's specifically treating males and female students unfairly. Table 3.6.1 (below) provides a descriptive analysis of students' responses to the question "How much do you agree or disagree with the with the statement 'treats some kids better than other kids' regarding your teacher?". It is interesting to compare these responses to Table 3.6.2, which asks if teachers "treat males and females differently," as their proportions are flipped. Three quarters of students report that their teachers treat students in general unequally, while only 11.7% of students perceive inequality in teacher treatment across genders.

**Table 3.6.1 Teacher Treatment**

	Frequency	Percent
Treats Students Differently	14383	75.9
Does Not Treat Students Differently	4578	24.1
N	18961	100.0
Missing	4542	
Total	23503	

**Table 3.6.2 Teacher Gender Treatment**

	Frequency	Percent
Treats Males and Females Differently	2208	11.7
Does Not Treat Males and Females Differently	16638	88.3
N	18846	100.0
Missing	4657	
Total	23503	

Looking ahead to Table 3.6.3, which models both aspects of teacher treatment as a predictor of students' college enrollment, it may be that this difference in frequency tells us something about the regression results, as generally unequal treatment does not have a statistically significant impact. Gendered treatment, on the other hand, reduces a student's odds of college enrollment by a quarter.

**Table 3.6.3 Teacher Treatment as a Predictor of College Enrollment**

	Model A	Model B
Student Sex (1=Male)	.606***	.618***
Student Race (1=White)	.841***	.869**
Student Poverty Indicator (1=Below Line)	.340***	.335***
Teacher Treatment		.892
Teacher Gender Treatment		.747***
Constant	8.178***	8.877***
Chi-Square	410.525	375.860
Pseudo R-Square	.051	.053
Log Likelihood	11843.441 <sup>a</sup>	10170.421 <sup>a</sup>

\*p<.05, \*\*p<.01, \*\*\*p<0.001

It is possible that this difference in effect of teacher treatment stems from the fact that, unlike general 'playing favorites,' biased treatment based on gender is more readily observable among students. Further detail regarding what this difference in treatment entails, and who (if anyone) benefits from it is not available, but it is worth noting that the effect remains statistically significant while controlling for student sex, among other demographic and school characteristics—and that this gendered treatment does not mitigate the effects of these student demographics (although the statistical significance of students' race drops in p value).

### ***Student Classroom Behavior***

The degree to which students showed up prepared for their high school classes is indexed below [Table 3.7.1]. In this index, values 1 through 4 represent frequent acts of non-preparation; showing up late, or without the appropriate materials or homework. Zero indicates an absence of this behavior, and Table 3.7.1 shows that approximately half of student respondents display “successful” classroom behavior, with a quarter engaging in an act on non-preparation more than 1-2 times in the past six months of school and very few engaging in three or more.

**Table 3.7.1 Class Preparation Index**

	Frequency	Percent
.00	10671	51.1
1.00	5459	26.1
2.00	2873	13.7
3.00	1297	6.2
4.00	602	2.9
N	20902	100.0
Missing	2601	
Total	23503	

Adding class preparation to the baseline model does not significantly change the effects of students’ sex, race, or poverty status, but Table 3.7.2 below shows that students who are more unprepared for class are only 68% as likely as prepared students to matriculate. This may point to a lack of interest in school, a lack of belief in the efficacy of the educational system, or potentially students who are either unable to appropriately prepare themselves, or students who prioritize other needs, which means that their academic preparation falls to the wayside.

**Table 3.7.2. Class Preparation as a Predictor of College Enrollment**

	Model A	Model B
Student Sex (1=Male)	.606***	.676***
Student Race (1=White)	.841***	.803***
Student Poverty Indicator (1=Below Line)	.340***	.355***
Class Preparation Index		.680***
Constant	8.178***	11.046***
Chi-Square	410.525	688.201
Pseudo R-Square	.051	.087
Log Likelihood	11843.441 <sup>a</sup>	11021.798 <sup>a</sup>

\*p<.05, \*\*p<.01, \*\*\*p<0.001

Another aspect of students' classroom behavior is the rigor of their academic course load. As an approximation of 'rigor,' I indexed courses which are advanced enough to merit college credit (Advanced Placement and International Baccalaureate) and student's reporting that they do not need to study more because they already receive high marks. Table 3.7.3 shows a relatively standard bell curve breakdown of index responses, with roughly half of students identifying with two of the three measures, and 40% with one of the three. A relatively modest percentage of students identified with none of the three measures, with a very small portion who identified with all three.

One aspect to consider is the fact that many schools may only participate in only college-accredited course program; while AP and IB courses are not mutually exclusive, student demand, faculty, and financial resources may restrict schools to one or the other—meaning that there may be students who take academically rigorous course loads, but does not rank highly on the index because their school only offers one (or none, depending on the limitation of resources) of the AP or IB programs. Because of this, results may be skewed. It is also important to note the high number of missing cases, which has drastically reduced the sample size from which the subsequent model [Table 3.7.4] is based.

**Table 3.7.3. High School Academic Rigor Index**

	Frequency	Valid Percent
.00	518	8.2
1.00	2569	40.9
2.00	3054	48.6
3.00	146	2.3
N	6287	100.0
Missing	17216	
Total	23503	

Based upon enrollment in advanced level courses and indicators of high academic achievement, students who are both enrolled in advanced courses and have indicated high grades are approximately 60% more likely to enroll in college [Table 3.7.4]. It is probable that this is related to student attitudes surrounding the efficacy of high school in preparing them for both college and future careers, and that these positive attitudes drive both their academic rigor and motivations for postsecondary enrollment. Beyond the direct relationship between academic rigor and enrollment, the addition of academic rigor to the model reduced gender difference to insignificance, and reduces the effect of poverty, but increases the effect of race significantly.

**Table 3.7.4 High School Academic Rigor as a Predictor of Enrollment**

	Model A	Model B
Student Sex (1=Male)	.606***	1.029
Student Race (1=White)	.841***	.461***
Student Poverty Indicator (1=Below Line)	.340***	.666**
Academic Rigor Index		1.595***
Constant	8.178***	10.753***
Chi-Square	410.525	67.524
Pseudo R-Square	.051	.035
Log Likelihood	11843.441 <sup>a</sup>	2307.163 <sup>a</sup>

\*p<.05, \*\*p<.01, \*\*\*p<0.001

### ***Peer Academic Inclinations***

Beyond students' own classroom behavior, it is likely that peer academic inclinations—with regard to both current high school choices and attitudes about college in the future—also shape students' likelihood of college enrollment. An index measuring student perceptions of their friends' grades, interest in school, classroom behavior and consideration of college as a future possibility is described below [Table 3.8.1]. Perhaps a more telling measure than the academic rigor index, students rated their friends highly, showing strong academic inclinations; more than half of student respondents reported their friends as high in all four measures, giving them an index measure of four out of four.

**Table 3.8.1 Friend Academic Inclination Index**

	Frequency	Valid Percent
.00	284	1.4
1.00	748	3.6
2.00	1865	9.1
3.00	4975	24.2
4.00	12688	61.7
N	20560	100.0
Missing	2943	
Total	23503	

As may be predicted based on the high frequency, strong peer academic inclination is shown in Table 3.8.2 below to have significant, positive effects on students' likelihood of college enrollment; students with academically inclined friends are almost 60% more likely to attend college than students without these same peer influences. When this measure is added to the model, the effects of student sex decrease slightly, but in large part the demographic factors remain unchanged; and all remain significant at the  $p < 0.001$  level.

**Table 3.8.2 Friend Academic Inclination Index as Predictor of College Enrollment**

	Model A	Model B
Student Sex (1=Male)	.606***	.653***
Student Race (1=White)	.841***	.853**
Student Poverty Indicator (1=Below Line)	.340***	.351***
Friend Academic Inclination Index		1.571***
Constant	8.178***	1.708***
Chi-Square	410.525	681.760
Pseudo R-Square	.051	.088
Log Likelihood	11843.441 <sup>a</sup>	10861.592 <sup>a</sup>

\*p<.05, \*\*p<.01, \*\*\*p<0.001

### ***Student Involvement in Academically-Enriching Extracurricular Activities***

As reported in Table 3.9.2, two thirds of surveyed students reported no involvement in academically enriching extracurricular activities, such as math club or science competitions.

**Table 3.9.1 Extracurricular Index**

	Frequency	Percent
.00	12760	66.6
1.00	2802	14.6
2.00	1815	9.5
3.00	757	3.9
4.00	503	2.6
5.00	263	1.4
6.00	134	.7
7.00	50	.3
8.00	40	.2
9.00	12	.1
10.00	36	.2
N	19172	100.0
Missing	4331	
Total	23503	

Of those who did report participation, the majority (roughly 15%) were involved in one activity, with almost 10% involved in two. Just over 3% of all respondents were involved in five or more of the indexed activities. What is not reported is whether these activities were school-based or outside programs, or whether there were costs associated with participating.

Student Extracurricular as a predictor of enrollment is modeled below [Table 3.9.2]. Controlling for student demographics, a higher extracurricular involvement index increases a student's odds of attending college by approximately 30%. As seen in Model B, the addition of extracurricular involvement also reduces race to insignificance; the effects of student sex and poverty are generally unchanged. Once student academic rigor and peer academic inclination indexes are added, however, extracurricular involvement is reduced to insignificance; therefore, academic rigor and peer inclination explain away part or most of extracurriculars' effect on college likelihood.

**Table 3.9.2 Student Extracurricular as a Predictor of College Enrollment**

	Model A	Model B	Model C
Student Sex (1=Male)	.606***	.611***	.719**
Student Race (1=White)	.841***	.894	1.067
Student Poverty Indicator (1=Below Line)	.340***	.359***	.473***
Student Extracurricular Index		1.311***	1.083
Student Academic Rigor Index			1.521***
Friend Academic Inclination Index			1.335***
Constant	8.178***	7.000***	3.536***
Chi-Square	410.525	482.409	77.983
Pseudo R-Square	.051	.068	.044
Log Likelihood	11843.441 <sup>a</sup>	10028.178 <sup>a</sup>	2117.942 <sup>a</sup>

\*p<.05, \*\*p<.01, \*\*\*p<0.001

### ***School Intervention Programs***

In recognition of the barriers faced by marginalized student populations, some schools designed programs or policies which act intentionally to mitigate these student limitations. In an effort to

understand the effectiveness of these school-based interventions, I selectively analyzed three modes of intervention; opportunity programs, school assistance with the college financial aid process, and education plan requirements. Education plans mean that students are required to meet with a school guidance counselor in order to chart out their high school courses. Depending on the school, they may be shared with parents or require parent signature.

### *Opportunity Programs*

Of the schools surveyed, a substantial majority do not participate in opportunity programs. This is likely because most schools do not have a substantial enough student population in need of these resources; it may also be the case that some schools have student populations in desperate need of such programs, but lack the resources to provide them.

**Table 3.10.1 Opportunity Program Participation**

	Frequency	Percent
No Opportunity Program	16728	85.5
Opportunity Program	2843	14.5
N	19571	100.0
Missing	3932	
Total	23503	

### *Financial Aid Assistance*

Unlike opportunity programs, the vast majority of schools attended by students surveyed offer a number of methods of financial aid assistance; approximately 40% offer all methods of assistance included in the index, with roughly 20% offering six or seven of the total eight. Almost no schools offer zero to one of the assistance types indexed, and the frequency remains very low for levels two and three. This presents a very “top heavy” model, and lack of variability may skew regression results [Table 3.10.4].

**Table 3.10.2 Financial Aid Help Index**

	Frequency	Percent
.00	13	.1
1.00	62	.3
2.00	251	1.3
3.00	530	2.8
4.00	1141	6.0
5.00	1795	9.4
6.00	3234	17.0
7.00	3969	20.9
8.00	8005	42.1
N	19000	100.0
Missing	4503	
Total	23503	

*Education Plan Requirements*

Though less dramatically skewed than the financial aid index, almost 80% of schools require some form of an education plan (as iterated above, these plans are outcomes from student meetings with guidance counselors, in order to track students' high school course trajectory).

**Table 3.10.3 School Education Plan Requirements**

	Frequency	Percent
No, not required	4568	21.5
Yes, required	16647	78.5
N	21215	100.0
Missing	2288	
Total	23503	

*Intervention Effects on College Likelihood*

Considered separately, both opportunity programs and financial aid assistance have substantively significant effects as predictors of college enrollment; these effects, however, are not

heartening. Attending a school with opportunity programs available only increases a student's likelihood of college attendance by 4%, and attending a school which provides financial aid assistance slightly decreases a student's matriculation odds. Education plan requirements have no substantive effect. And, the addition of each of these interventions does little to the demographic controls, which means that these interventions do not explain away much or any of the demographic effects.

**Table 3.10.4 Individual Interventions as Predictors of College Enrollment**

	Model A	Model B	Model C	Model D
Student Sex (1=Male)	.606***	.588***	.582***	.588***
Student Race (1=White)	.841***	.825***	.798***	.794***
Student Poverty Indicator (1=Below Line)	.340***	.338***	.341***	.347***
Opportunity Program Index		1.041***		
Financial Aid Help Index			.900***	
Education Plan				.900
Constant	8.178***	9.044***	20.363***	10.189***
Chi-Square	410.525	357.615	366.056	.588
Pseudo R-Square	.051	.050	.056	.794
Log Likelihood	11843.441 <sup>a</sup>	10296.899 <sup>a</sup>	9256.665 <sup>a</sup>	.347

\*p<.05, \*\*p<.01, \*\*\*p<0.001

When other school characteristics are controlled for, none of the school-based interventions retain their substantive significance. Only student race and gender and the attendance of public or non-public school remain robust predictors of student matriculation odds, with the effects of sex and public school slightly reduced from Model C to Model D but remaining significant at the p<0.001 level, and poverty remaining relatively stable [Table 3.10.5].

**Table 3.10.5 All School Intervention as Predictor of College Enrollment**

	Model A	Model B	Model C	Model D
Student Sex (1=Male)	.841***	.606***	.606***	.526***
Student Race (1=White)	.340***	.843***	.860	.765
Student Poverty Indicator (1=Below Line)	.606***	.344***	.328***	.302***
School Suburb Control		1.199***	1.134	1.151
School Northeast Control		1.176	1.198	1.341
School Public Control			.180***	.102***
Math Teacher Alternative Certification (1=Yes)			1.219	1.070
Science Teacher Alternative Certification (1=Yes)			1.628***	1.403
Opportunity Program Index				1.107
Education Plan				.899
Financial Aid Help Index				.984
Constant	8.178***	7.464***	19.006***	77.917***
Chi-Square	410.525	432.824	476.156	288.313
Pseudo R-Square	.051	.053	.118	.142
Log Likelihood	11843.441 <sup>a</sup>	11821.143 <sup>a</sup>	5399.803 <sup>a</sup>	2612.625 <sup>a</sup>

\*p<.05, \*\*p<.01, \*\*\*p<0.001

### ***College Exploration and Preparation***

It is both evident and expected that students who are actively exploring and preparing for college are more likely to enroll in courses after graduation. The significance of college exploration is noteworthy, however, as a potential space for school-based intervention; those who more fully explore their college options are almost three-quarters more likely to enroll. The extent to which students are able to explore colleges, both physically (limited by transportation) and remotely (limited by access to internet, and other modes of access to college information) varies, and may be a stumbling block for students who might otherwise attend. Parents, too, may be limited in their

understanding of the college search and application process, and this may manifest itself in students less likely to attempt to enroll, as there were barriers to their knowledge and exploration of college as a possibility.

**Table 3.11.1 Exploration and Preparation as Predictors of College Enrollment**

	Model A	Model B
Student Sex (1=Male)	.841***	.953
Student Race (1=White)	.340***	.461***
Student Poverty Indicator (1=Below Line)	.606***	.580***
College Exploration Index		1.713***
College Preparation Exams		1.325***
Constant	8.178***	1.619*
Chi-Square	410.525	132.714
Pseudo R-Square	.051	.113
Log Likelihood	11843.441 <sup>a</sup>	1547.358 <sup>a</sup>

\*p<.05, \*\*p<.01, \*\*\*p<0.001

In Table 3.11.1 above, indexes accounting for both college exploration and college exam preparation are statistically significant predictors of student's odds of matriculation; students' who rank highly on the college exploration index are 70% more likely to attend college, and those who participate in college preparation exams, such as the SAT, are 30% more likely. It is also worth pointing to the fact that, while the effects of student poverty remain generally the same, student gender is reduced to insignificance and the effects of student race on matriculation decrease.

### ***The Big Picture: A Cumulative Model***

The cumulative model below [Table 3.12.1] was created utilizing variables drawn from earlier analyses shown to have substantively important results and which avoided problems due to missing data. With all of these measures added in, it is first important to note that, like in many of the smaller models, student's race as a predictor of college enrollment has been reduced to

insignificance. The effects of student sex and student poverty, however, have been intensified, with males and students under the poverty line less likely to matriculate—students under the poverty line dramatically so.

**Table 3.12.1 Cumulative Model Predicting College Enrollment**

	Model A	Model B
Student Sex	.841***	.663**
Student Race	.340***	1.026
Student Poverty Indicator	.606***	.302***
Student Educational Aspirations (2012)		1.042
Student Educational Expectations (2012)		1.464***
Parent Educational Aspirations (2012)		1.046
Parent Educational Expectations (2012)		1.217***
Parent Help Index		1.052
Parent “Extra” Help Index		1.164
School Northeast Control		.768
School Suburb Control		1.167
School Public Control		.287***
Friend Academic Inclination Index		1.111
Student Extracurricular Index		1.012
Opportunity Program Index		1.315
Financial Aid Help Index		.927
College Exploration Index		1.303**
Constant	8.178***	.477
Chi-Square	410.525	343.944
Pseudo R-Square	.051	.271
Log Likelihood	11843.441 <sup>a</sup>	1274.951 <sup>a</sup>

\*p<.05, \*\*p<.01, \*\*\*p<0.001

What else has remained significant? Student educational expectations is shown to have the greatest positive impact on students’ odds, with parent expectations similarly increasing likelihood (to a

lesser extent). College exploration is another positive predictor, while public school attendance is substantively significant but a negative influence on likelihood of enrollment.

### ***Initial Conclusions***

Overall, it seems that the gender and economic status students are born into remain in large part significant predictors of college enrollment, while race is less robust. Student expectations of their own educational outcomes maintain strong effects, with parent expectations equally maintained but accounting for less variability in likelihood. College exploration and non-public school attendance similarly increase matriculation odds, while school-based interventions have no substantial effect once everything in the cumulative model is accounted for.

## Chapter Four: Discussion and Conclusions

This chapter begins with a summary review of the research question and findings established in Chapter 3, in order to move forward into a more nuanced understanding of the implications of these findings—both within the scope of this text, and the broader field of educational policies and barriers to higher level educational attainment.

### ***Summary of Research Question***

As stated, the primary focus of this research is an interest in the overarching individual and situational factors which shape student's educational track, both within high school and beyond. The objectives are twofold; (1) to quantitatively evaluate the degree to which student's enrollment decisions are shaped by their demographics, family influence, and school settings, as well as (2) to assess the effectiveness of school-based intervention programs in mitigating structural barriers to postsecondary education.

### ***Summary and Analysis of Results***

#### ***Key Findings***

Quantitative analysis of student's high school to college trajectories evidence important differences in student's likelihood of college enrollment. In beginning with baseline key demographic factors of students' race, sex, and level of poverty, we find ourselves again faced with the robustness of their effects, as both sex and poverty remain strong predictors of college enrollment even after adding in all all possible variables analyzed to the final, cumulative model. Beyond these demographics, both parent and student expectations, as well as attendance of a non-public school, increase odds of enrollment, while school-based interventions—opportunity programs, financial aid assistance, and required education plans—were not effective in increasing students' likelihood of college matriculation.

### *What These Findings Explain about Barriers to Postsecondary Enrollment*

It is clear from these logistic findings that the school intervention approaches analyzed did not achieve their desired outcome in mitigating barriers to student postsecondary achievement. Ultimately, the results point to demographic factors and the expectations of students and their parents as the strongest predictors of college enrollment. This suggests expectations as a space of saliency which could be improved in order to ultimately boost attainment, both on the part of the student as well as their parent. While parent expectations account for a smaller degree of increased likelihood of college enrollment, they were generally higher than students' own expectations, and further analysis regarding the relationship between parent and student expectations may prove fruitful in attempts to raise student's expectations.

### *How Findings Fit into the Larger literature*

This space of expectation that these results leave us with is mirrored in the literature review, as prior studies have cited expectations as a situational mediator which may be able to explain away some of the gap between aspiration and achievement, with the ultimate goal of increasing overall attainment (Beal and Crockett 2010). While policy attempts focused on raising aspirations as a means of increasing attainment failed, it is yet unclear what the results would be of these same attempts, focused on expectation.

### ***Policy Implications***

In assessing school-based programs as intervening variables, it is clear that education plans, opportunity programs and financial aid awareness efforts are not having the desired impact on student college enrollment. This may be due to school characteristics not evident in the public use data, such as school budget restrictions or the fact that these programs are only necessary for schools who have a larger share of students who would benefit from them, meaning that these

students face greater barriers to college matriculation and, while these programs are designed to lessen these obstacles, they are not effective enough; students who attend schools that need these programs are still less likely to attend college than those who do not. In recognizing the importance of college exploration, perhaps programming which more strongly works to give students access to college information (beyond financial aid) and pushes students who were not originally thinking about going to college to consider it further would prove fruitful. It is important to keep school context in mind, however; student bodies who face the most barriers to success often have, or develop, a counter-culture which presses against the dominant mainstream values. In consideration of the salience of student expectations on ultimate outcome, it may prove fruitful to create school intervention approaches which seek more firmly to increase student expectation, be it through greater exposure to ‘successful’ attainment, or finding ways to increase the saliency of parents’ more positive expectations for their children.

### ***Limitations***

As access to the HSLs data was limited to the public use file, it is entirely possible that rich layers of analysis concerning these questions of students’ educational trajectories are overlooked. It is also important to restate that this analysis was limited in that it controlled for the student demographic variables of race, gender, and relation to the poverty line, in order to isolate the effects of certain independent and intervening variables. This does not, however, provide insight into the interaction effects that occur within and among the demographics. As marginalization is often compounded by the intersection of multiple disadvantaged identities, more nuanced research should be done which accounts for this intersectionality, and the ways in which the combination of race, gender, and social class—among other characteristics, such as language skills—dictate

education attitudes and attempts at attainment, in order to gain more nuanced understanding of the main aspects which bar students from enrolling in postsecondary coursework.

It is also true that dichotomizing students based on whether they did or did not enroll in college courses following graduation, and using this as the standard by which students were or were not successful, does not provide as full of a picture as if I had included the effects of all independent and intervening variables on the likelihood of enrolling part-time or full-time. The data also ends at initial matriculation, and does not provide insight into whether students remain in their chosen programs. While this is something of a different question, a side-by-side analysis of both those who choose to enroll and those who are successful in completing their programs may provide further insight into what kinds of school intervention approaches are most successful in not only getting students to school, but keeping them there.

### ***Future Research***

Further analysis regarding the ways in which school environment and intervention can, and cannot, mitigate other social forces influencing student's educational goals and expectations is an important next step. This project exposes a discrepancy in the goals and effectiveness of school intervention programs, but more research is necessary in order to solidify claims and point to alternative, potentially more effective, intervention programs, paying particular regard to the role of expectations and the shaping forces which influence students' sense of what is achievable. Or, it may be the case that community-based or locally organized initiatives are more effective than school programming attempts; or even the case that by the time students reach high school, no intervention programs are successful enough to overcome the dominant social forces which have been at work for the entirety of students' childhood and adolescence. If this is the case, then policymakers need to look more closely at students' early development, the effects of nuclear

parenting, and the availability of resources, in order to assist families in exposing their children to the possibilities and the concrete potential of higher education as a means of attaining careers which remain off limits to those with less than an Associate's or Bachelor's degree.

One potential space for intervention is the classroom itself. More narrowly focused research might explore the effects of gender bias in the classroom. While literature has established the existence and perpetuation of gender norms in higher education, analysis of the HSLs dataset revealed modestly significant effects of gender inequality in teacher treatment on student postsecondary enrollment. While this effect is reported, it is not known which students are being affected by this bias, nor how this bias is manifested in the classroom. There is also little in the current body of literature which speaks to the effects of resource scarcity and non-traditional teacher certification programs on student-teacher relationships.

Furthermore, this projects' conflation of part-time and full-time enrollment, while it best served the needs and limitations in scope of this project, is something that future researchers would be wise to disentangle; while the models and regressions analyzed in this work provide a general sense of independent and intervening effects on college as a concrete reality—instead of an unachievable possibility—more nuanced understanding of these separate phenomena, and the extended trajectories of students who pursue each, should be compared; both in terms of part-time and full-time as they diverge, but also focusing on the variables which potentially provide greater obstacles to full-time as compared to part-time enrollment, as there are unique challenges and an increased likelihood for education to stall along the part-time enrollment track.

In order to best prepare students for the communication-and-information-driven economy, further research would do well to focus on the ways in which we can make full-time enrollment in

higher education something accessible enough for disadvantaged student populations to (1) aspire to; (2) expect for themselves and (3) attain.

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As a student at Union College, I am part of a community that values intellectual effort, curiosity and discovery. I understand that in order to truly claim my educational and academic achievements, I am obligated to act with academic integrity. Therefore, I affirm that I have carried out my academic endeavors with full academic honesty.

*Signed*, Maeve Williams

## Appendix A: Descriptive Table of Variables

Variable Label	Variable Description	Values							
		0	1	2	3	4	5	6	7
Postsecondary Enrollment	Taking postsecondary classes or not	Not taking classes	Taking classes						
ds3CLGFT	Attending college full time or part time	Part time Enrollment	Full Time Enrollment						
Student Sex	Student is Male or not	Female	Male						
Student Race	Student is White or not	Not White	White						
Student Poverty Indicator	Poverty indicator (relative to 100% of Census poverty threshold)	Above Poverty Line	Below Poverty Line						
Family Income	Total family income from all sources 2008		Family income less than or equal to \$15,000	Family income > \$15,000 and < \$35,000	Family income > \$35,000 and < \$55,000	Family income > \$55,000 and < \$75,000	Family income > \$75,000 and < \$115,000	Family income > \$115,000	
Student Educational Aspirations	How far in school teenager would like to go		Less than high school completion	Complete HS diploma/GED/alternative HS credential	Complete certificate/diploma from school providing occupational training	Complete Associate's degree	Complete Bachelor's degree	Complete Master's degree	Complete Ph.D./M.D./law degree/other high level professional degree
Student Education	How far 9th grader		Complete HS	Complete	Complete	Complete	Complete		

al Expectations	expects to go		diploma /GED/alternative HS credential	Associate's degree	Bachelor's degree	Master's degree	Ph.D./M.D./law degree /other high level professional degree		
INDEX Parent Help	COMPUTER INDEX	Homework Help	Course Selection Help						
Homework Help	How often helped 9th grader with homework		Never	Less than once a week	1 or 2 days a week	3 or 4 days a week	5 or more days a week		
Course Selection Help	How often discussed selecting courses or programs at school		Never	Once or twice	Three or four times	More than four times			
INDEX Parent "Extra" Help	COMPUTER INDEX	College Exam Prep Course	Hired Counselor	Outside Academic Instruction	College Preparation Camp	Student Attended Job Fair	Student College Visit		
College Exam Prep Course	Took a course to prepare for a college admission exam	No	Yes						
Hired Counselor	Talked about options w/ counselor hired to prepare for college admission	No	Yes						
Outside Academic Instruction	Received academic instruction outside of school	No	Yes						

	since fall 2009								
College Preparation Camp	Participated in college preparation camp since fall 2009	No	Yes						
Student Attended Job Fair	Has attended career day or job fair with teenager	No	Yes						
Student College Visit	Attended a program at, or taken a tour of a college campus	No	Yes						
City School	School is in city or not	No	Yes						
Suburban School	School in suburb or not	No	Yes						
Town School	School in town or not	No	Yes						
Rural School	School in rural location or not	No	Yes						
Northeast School	School in northeast	No	Yes						
Midwest School	School in Midwest or not	No	Yes						
Southern School	School region South or not	No	Yes						
Western School	School region west or not	No	Yes						
Public School	School is public or not	No	Yes						

Math Teacher Certification	Math teacher has teaching certificate or not	Does not have certificate	Has Certificate						
Science Teacher Certification	Science teacher has teaching certification or not	Does not have certificate	Has Certificate						
INDEX Teacher Treatment	COMPUTE INDEX	Teacher treats Unfair	Teacher treats Different	Teacher Gender Treatment					
Teacher treats Unfair	Teacher treats students unfairly	treats all students fairly	treats students unfairly						
Teacher treats Different	treats some students differently	does not treat students differently	treats some students differently						
Teacher Gender Treatment	treats males and females differently	does not treat males and females differently	treats males and females differently						
INDEX Student Class Preparation	COMPUTE INDEX	Student Homework	Student Pencil and Paper	Student Books	Student Late				
Student Homework	frequently attends class without homework done	not without homework	without homework						
Student Pencil and Paper	frequently attends class	not without pencil	without pencil or paper						

	without pencil or paper	or paper							
Student Books	frequently attends class without books	not without books	without books						
Student Late	frequently attends class late	not late to class	late to class						
INDEX Student academic Rigor	COMPUTE INDEX	AP	IB	High Grades					
AP	Has taken any AP	Has not taken AP courses	Has taken AP courses						
IB	Has taken any IB	Has not taken IB courses	Has taken IB courses						
High Grades	Does not study more because grades are already high	No	Yes						
INDEX Friend Academic Inclination	COMPUTE INDEX	Friend Grades	Friend Interest	Friend Attend	Friend College				
Friend Grades	Friends get good grades	No	Yes						
Friend Interest	Friends interested in school	No	Yes						
Friend Attend	Friends attend class	No	Yes						
Friend College	Friend plans to go to college	No	Yes						

INDEX Academic ally Enriching Extracurri cular activities	COMPUT E INDEX	Math Club	Math Compet ition	Math Summ er Progra m	Math Study Group	Math Tutore d			
		Scienc e Club	Science Compet ition	Scienc e Summ er Progra m	Scienc e Study Group	Scienc e Tutore d			
Math Club	Teenager participate d in math club since fall 2009	No	Yes						
Math Competiti on	Teenager participate d in math competitio n since fall 2009	No	Yes						
Math Summer Program	Teenager participate d in math summer program since fall 2009	No	Yes						
Math Study Group	Teenager participate d in math study group since fall 2009	No	Yes						
Science Club	Teenager participate d in science club since fall 2009	No	Yes						
Science Competiti on	Teenager participate d in science competitio n since fall 2009	No	Yes						

Science Summer Program	Teenager participated in science summer program since fall 2009	No	Yes						
Tutored Science	Teenager tutored in science since fall 2009	No	Yes						
Science Study Group	Teenager participated in science study group since fall 2009	No	Yes						
INDEX Opportunity Program	COMPUTE INDEX	Talent Search	Upward Bound	Gear Up	AVID	MESA			
Talent Search	Ever participated in Talent Search	did not participate	participated						
Upward Bound	Ever participated in Upward Bound	did not participate	participated						
Gear Up	Ever participated in Gear Up	did not participate	participated						
AVID	Ever participated in AVID	did not participate	participated						
MESA	Ever participated in MESA	did not participate	participated						
INDEX Financial Aid Help	COMPUTE INDEX	Aid Processes	FAFSA Completion	Computer Access	FAFSA Reminders	Additional Aid	Aid Meetings	Aid Counseling	
Aid Process	School holds meetings	No	Yes						

	on FAFSA process								
FAFSA Completion	School assists with completing FAFSA	No	Yes						
Computer Access	School provides computer access for completing FAFSA	No	Yes						
FAFSA Reminders	School sends reminders of FAFSA deadlines	No	Yes						
Additional Aid	School assists with non-FAFSA financial aid applications	No	Yes						
Aid Meetings	School offers meetings on sources of financial aid	No	Yes						
Aid Counseling	School offers individual counseling to identify financial aid	No	Yes						
Education Plan	School required education plan or not	No	Yes						
INDEX College Exploration	COMPUTER INDEX	College Visit	College Class	College Online Search					
College Visit	Attended a program	No	Yes						

	at, or taken a tour of a college campus								
College Class	Sat in on or taken a college class	No	Yes						
College Online Search	Searched Internet or read college guides for college options	No	Yes						
INDEX College Preparatio n Exams	COMPUT E INDEX	S1SAT	S1ACT	S1AP	S1IBT EST				
SAT Exam	9th grader has taken or plans to take the SAT	No	Yes						
ACT Exam	9th grader has taken or plans to take the ACT	No	Yes						
AP Exam	9th grader has taken/plans to take an Advanced Placement (AP) test	No	Yes						
IB Exam	9th grader has taken/plans to take Internation al Baccalaure ate (IB) test	No	Yes						