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Examining What Factors Affect High School Students' Educational Aspirations

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EXAMINING WHAT FACTORS AFFECT HIGH SCHOOL STUDENTS' EDUCATIONAL ASPIRATIONS

By

KALLE T. PRAY

(Under the Direction of Laura Agnich)

ABSTRACT

This study sought to examine the factors that influenced a high school student's educational aspirations. This study used data collected by the High School Longitudinal Study (HSLs) 2009-2013 to examine how a student's engagement, interest, attitudes toward math teacher, counselors helping with college materials, and meeting with a counselor influence a student's educational aspirations. The findings suggest that student engagement, student interest and meeting with a counselor were significant predictors of higher educational aspirations even after controlling for being white, female, academic track, and family income. Counselors helping with college material was also a predictor of higher educational aspirations, however after controlling for being white, female, academic track, and family income, it was no longer significant. Student attitudes toward math teacher is a significant predictor of student educational aspirations and remains so even after controlling for being white, female, academic track, and family income.

INDEX WORDS: Education, High school, High school counselors, Student attitudes, High School Longitudinal Study

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KALLE T. PRAY

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of the requirements for the degree

MASTER OF ARTS

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CHAPTER 1

INTRODUCTION

Failure to complete high school is known to have negative outcomes for overall quality of life (Rumberger, 1987). Since 1990, high school dropout rates have decreased, with status dropout rates, or the percentage of individuals who are not enrolled in high school and without a high school credential, falling from 12.1% in 1990 to 6.5% as of 2014 (Stark & Noel, 2015). Though the dropout rate has decreased, many individuals still do not graduate from high school. In a 2015 study, Stark and Noel found that as of October of 2012 there were 2.6 million individuals age 16 to 24 who were not enrolled in high school and that had not earned a high school diploma or alternative credential. Balfanz and Letgers (2004) reported that this was particularly detrimental for minorities, with almost 50% of African Americans and 40% of Latinos, attending a high school where more students dropped out than graduate. Meanwhile, those who do finish may be dissuaded from going further and pursuing higher education. As of October 2015, 69.2% of high school graduates were enrolled in college or universities (Bureau of Labor Statistics, 2016). Due to the relationship that exists between education and criminal behavior, it is necessary to understand what factors affect dropping out and the decision to pursue higher education.

Multiple studies have shown that criminal behavior and education are negatively correlated (Lochner & Moretti 2004; Steurer & Smith 2003), meaning that higher levels of education decrease the likelihood of engaging in criminal behavior. Lochner (2007) suggested that increasing wages for high school graduate or college attendee would reduce crime for all youths who would have obtained these levels of schooling, as well as encourage more youths to

choose this route. Education can limit or create opportunity, and a better understanding of why individuals dropout or continue education could have an impact on crime rates.

Goldschmidt and Wang (1999) found that being held back a grade was a predictor of early dropout (drop out in between 8th and 10th grade), while misbehaving was a predictor of late dropout (dropping out between 10th and 12th grade). Suh and Suh (2007) reported that three major factors that determined whether an individual dropped out of high school, specifically: low GPA, socioeconomic status, and behavioral problems. They also found that those with a history of suspension were 78% more likely to dropout (Suh & Suh, 2007). Moreover, both push and pull factors influence students to drop out; push factors force a student out (delinquent behavior, academic disinterest, expulsion), while pull factors (family or financial issues) interfere with an individual's commitment to their education (Bradley & Renzulli, 2011). Kagan (1990) found that teachers could communicate with students who were at risk in a way that reinforced negative self-image and made educational success seem unobtainable. Therefore, it may be beneficial to prevent the application of labels to students who may already be at risk for dropping out.

To reduce the number of high school dropouts while increasing the number of college attendees, it is necessary to examine the factors within high school that may impact the value students might place on their education. Specifically both sides of the coin (i.e. dropping out and pursuing higher education) will be examined. The factors that may have an impact include the attitudes of the student and resources provided by the school. In the current study, utilizing data from the High School Longitudinal Study (HSLs) 2009-2013, the relationship between student attitudes, and student educational expectations and educational aspirations are examined. This nationally representative sample includes 9th graders who were followed through the secondary and post-secondary years. The data set includes a sample of 23,503 students from 900 high

schools that are public and private. The HSLs 2009-2013 examined what students decided to pursue when, why, and how.

CHAPTER 2

LITERATURE REVIEW

To understand how student attitudes contribute to lower educational aspirations, the factors that lead to dropping out must be determined. Dropping out of high school is examined as it is the lowest level of education that can be aspired to. Stearns and Glennie (2006) found that students sixteen or younger dropout due to discipline issues, while older students dropout to seek employment. When examining discipline issues, zero tolerance policies and other punishments removed students from the classroom, pushing them out of school. Zero tolerance policies enacted by schools included suspending, expelling, or even arresting students (Mills, 2015). Being routinely punished within school, is also a strong predictor of dropping out (Peguero & Bracy, 2015; Lee et al. 2015), and most disciplinary actions within school disproportionately affected minority students (Mills, 2015). By frequently being the targets of disciplinary actions, the school system places labels onto minority students. Placing these already struggling students at a further disadvantage in the educational system. Noguera argues that Black males behave in a way which makes them complicit in their own failure, meaning they are more likely to act out, and less likely to challenge themselves academically (Noguera, 2003).

While negative labels are detrimental to an individuals' educational aspirations, it is difficult to determine how much behavior impacts the application of said labels. Research has established that it is difficult to determine how student behavior affects a teacher's opinion of that student (Bolstad & Johnson, 1977). For example, Noguera (2003) argues that while Black males are more likely to be punished, they are also more likely to act out in class as a way of rejecting conventional norms. If an individual is actively sabotaging their own educational

outcomes, it is necessary to understand why. One possible explanation is value placed on academic success by Black males is lower than the societal norm.

Black males may view educational success as selling out, or acting white. These students do not view school as a method of achieving success, and therefore are more likely to drop out (Noguera 2008; Rios 2011). This explains not only why students are drop out but also why they do not go on to college. Research indicates that males do not place the same values on college, as it does not increase their earning potential for most jobs (Schmitt & Boushey, 2012). However, since these students do not place the same value on education, they are potentially limiting their access to legitimate opportunities, and increasing their likelihood of criminal behavior. On the other hand, Bradley and Renzulli (2011) argue that it is not the belief in oppositional culture, but instead socioeconomic status that explains differences in dropping out among Black and White students. Staff and Kreager (2008) found that acceptance within violent peer groups diminished years of schooling and reduced the chances of completing high school among low socioeconomic status (SES). Students who use violence within schools have an increased likelihood of coming into contact with the criminal justice system. Hirschfield (2009) found that interactions with the juvenile justice increased the likelihood of dropping out. Once an individual has engaged in criminal behavior, it becomes more difficult not only to complete high school but also to find legitimate employment. Brown (2015) Brown learned that educational attainment of less than a college degree did not significantly benefit inmates released from prison. Improving student attitudes towards education, could reduce the likelihood of incarceration and begins with the schools themselves

To prevent students from dropping out and continuing their education it is necessary to take steps to improve the school-level factors as well as the aforementioned individual factors. In

fact, Rumberger and Thomas (2000) argue that over half of the variability in dropout rates could be attributed to school level factors. One strategy found to decrease dropout rates was the use of consultation and tutoring, instead of punishment (Mayer & Mitchell, 1993). Mayer and Mitchell (1993) found that this led to more students doing their assignments in addition to teachers making more positive comments. Christenson and Thurlow (2004) suggested that the dropout problem could be addressed by improving student engagement and attitudes towards school. Improving the classroom climate, which is the physical and emotional aspects of the classroom, would also give teachers a more positive assessment of students. For at-risk students, in particular, it was important to establish a relationship that nurtured academic motivation between students and teachers (Scheel et al., 2009). Peguero and Bracy (2015) found that students maintaining a positive relationship with teachers were less likely to dropout. Dropping out does not equate to lower aspirations, as some individuals return to complete their education. Entwisle et al. (2004) found that temporary dropouts had positive motivational qualities.

Dropping out, however, is only half of the equation, the second goal of this research is to determine why students do or do not continue to college. First, it is necessary to dispel the myth that some individuals simply cannot be successful academically. High levels of academic success can be achieved for students including African American males, if the optimal conditions for teaching and learning are met (Noguera, 2003). A second myth contends that some students simply do not value academic success. Cook and Ludwig (1997) however, report that Black and White students were capable of joining peer groups supportive of high achievement, even in predominately Black schools. Likewise, Cheng and Starks (2002) found that when controlling school performance and family background, racial minorities perceived higher levels of

educational aspirations from teachers and peers. Since it is possible to value academic success regardless of race, it is important to determine what leads students to college.

Michael (1961) states that variables best predictive of college attendance rates were individual characteristics, ability, and family characteristics. Christensen and Weisbrod (1975) noted that the socioeconomic status of an individual's parents in addition to their ability were strong predictors of college attendance. School factors also influence postsecondary outcomes. Hill (2008) suggests that schools that do more and are better equipped to assist students to navigate the transitions to college, were more successful in improving outcomes. High school counselors thought to assist in helping high school students make college decisions, may actually not want the task. For example, Rosenbaum et al. (1996) determined that counselors did not like giving students bad news about their future prospects, and do not want the responsibility. Rosenbaum et al. (1996) argued that the reluctance of counselors to act as gatekeepers may prevent students from getting the information they need to influence future plans. This could be especially hindering for students from lower SES backgrounds.

Individuals from lower SES households, were more likely to attend college if encouraged by a counselor or teacher (Trent 1970; King 1996). Baker and Vélez (1996) suggest that changes in financial aid has reduced the impact of SES on traditional students entering college. To build on the need to encourage students, Horn and Chen (1998) established that at-risk students who received assistance from teachers or other school staff were more likely to enroll in a 4-year college than those who received no assistance. However, time order was an issue, since it was not known if the student made the decision to enroll and then sought help (Horn & Chen, 1998). Cheng and Starks (2002) found that when controlling for school performance and family

background, racial minorities perceived higher levels of educational aspirations from teachers and peers. That is not to say college is without its difficulties, particularly for low SES students.

Camburn (1990) found that low SES high school graduates from large metropolitan areas had more difficulty completing four-year college degrees. However, it is necessary to reach these students. Plank and Jordan (2001) used the term “talent loss” to refer to high achieving students who do not go on to post-secondary education following high school; they report that talent loss was most severe among students at lower SES levels. To counter this, they suggested that parents and schools provide both information and guidance to these students (Plank & Jordan 2001). It is also important to counter the argument that minorities simply do not enroll in college. Perna (2000) found that when controlling for differences in costs, benefits, ability, as well as social and cultural capital, Hispanics’ enrollment rates were comparable to Whites. Perna (2000) also states that when controlling for differences in college enrollment factors, Blacks were 11% more likely than Whites to enroll in college. Also, examining the effects of race on postsecondary attendance, Oliver and Etcheverry (1987) state that academically talented Black students are likely to attend college based on five factors: career objectives, financial aid availability, job availability, contact with professionals in the field, and peers. Griffin and Allen (2006) found, Black students with college aspirations developed resilience and learned to navigate obstacles that they may face.

CHAPTER 3

THEORETICAL OVERVIEW

Labeling theory could explain why some students have lower educational aspirations. Drawing first on Chambliss (1973), two groups of boys are discussed. The Saints, a group of upper-middle class whites, are treated well by teachers and the community regardless of their delinquent behaviors. Largely because of the group's mobility allowing them to commit their actions in Big City outside of the community view. The Roughnecks are a group opposite of the Saints in terms of SES, and though engaged in similar deviant behaviors were perceived by the community and teachers to be worse than the Saints. This differential view based on power in the community provides a solid example of labeling theory. In line with community expectations seven of the eight Saints finished college, while only two of the Roughnecks could be contended to have amounted to anything. Arguably, the community's reactions and treatment of the two groups could have resulted in the different outcomes. While the Saints engaged in deviant behavior, their position in the community was reinforced by dismissing their deviance as simple pranks. In contrast, the Roughnecks were viewed as the dangerous outsiders and were treated as such.

Expanding on the idea that schools contribute to negative outcomes of students through their actions, it has been argued that tracking is a form of labeling. Students placed on general and vocational tracks had lower college expectations and more discipline problems compared to those on the academic track. Students placed on nonacademic tracks were more likely to drop out of school between 10th and 12th grade compared to those on the academic track (Berends, 1995). Tracking could instill in some students attitudes that give them negative perceptions towards

school and lead them to lower their effort towards school. For example, Carbonaro (2005) found that students in higher academic tracks exert more effort than those placed in lower tracks.

The earliest mentions of labeling theory came from Frank Tannenbaum in the 1930s. Howard Becker introduced labeling theory as a mainstream perspective with his book *Outsiders*, which was further expanded upon in his 1964 book *The Other Side*. Labeling theory posits that an individual will become criminal after being labeled as such and subsequently accepting that label as their identity. Becker believed that studying the act of the individual was irrelevant because deviant behaviors were deemed so by individuals in positions of power.

To explain deviant and criminal behavior labeling theory draws on symbolic interactionism theory (Matsueda, 1992) It is through examining social interactions that labeling theory can utilize the concept of looking glass self (Matsueda, 1992). Other key propositions in labeling theory include the concepts of primary and secondary deviance. Acts of primary deviance include violations of the law that take place prior to public labeling, which is considered infrequent, unorganized and inconsistent. Secondary deviance is derived from the societal reaction and application of a stigmatizing label; it is more coherent and organized (Matsueda, 1992).

In terms of empirical evidence, there is little support for labeling theory and lower educational aspirations or, for the concepts of primary and secondary deviance, as research finds it difficult to find offenders who match these descriptions (Bernburg, 2009). While there are studies that have shown instances of deviance amplification the effects typically are not strong (Becker, 1963; Cullen & Agnew, 2006) Much of the research points towards no or weak effects when examining the direct effect of labels (Paternoster & Iovanni, 1989).

Some of the earliest critiques of labeling involved the theory's neglect of a deviant's actual behavior and the idea that an individual can be coerced into deviant identity or role (Vance, 2015). These critics argued that even those who are powerless can reject and fight labels (Braithwaite, 1989). Labeling theory also cannot explain what causes the initial deviant behaviors, and continues to ignore these variables after the labeling process. The most serious critique of labeling however is the lack of empirical support. This lack of empirical support is due largely in part to labeling theory's lack of attention on the initial causes of deviance (Vance, 2015).

A theoretical perspective that may be more applicable to explain why some students have higher educational aspirations is social bonding theory. The earliest application of control theory comes from Albert Reiss (1951), who argued that delinquency was caused in part by a failure of personal and social controls. Ivan Nye (1958) later expanded on the original theory identifying three main categories of social control that prevent delinquency: direct, internal, and indirect control. Around the same time, Walter Reckless (1961) developed containment theory based on inner and outer social controls, which he termed inner and outer containment.

In 1969, Hirschi proposed social bonding theory, positing that delinquent acts are the result of weakened or broken bonds to society. Social bonding theory is comprised of four key elements: attachment, commitment, involvement, and belief. Hirschi (1969) asserted that the stronger these elements are, the more likely an individual is to conform. Attachment refers to the extent to which we have close affectional ties to others and identify with them, commitment refers to an individual's investment in conventionality, involvement refers to engrossment in conventional activity, and belief is defined as the endorsement of conventional norms and values (Hirschi, 1969).

There is support for this theory in relation to academic success. Ladd, Buhs, and Seid (2000) established a link between liking school and classroom participation, and increased standardized test scores among kindergarten students. As well, Boesel (2001) suggests that students who liked school had higher educational aspirations than those who did not. Meanwhile, Hallinan (2008) found that students who felt as though their teacher cared about them, respected them, and praised them were more likely to enjoy school. The ability of teachers to influence student attitudes also extends to at risk students. Muller (2001) found at-risk student who perceived their teachers as caring, had increased math achievement. This is important as Marcus and Sander-Reio (2001) found that attachment to school increased the likelihood of completions. In sum, students who are more attached to their teachers are more likely to be successful in a school setting. Students who are academically successfully are more likely to attend college, therefore, teacher attachment could explain college attendance. When considering race, Johnson et al. (2001) found that African American students were just as attached as White students, and Hispanic students were more attached. However, Fuller-Rowell, and Doan (2010) found that minorities experienced greater social cost with academic success.

HYPOTHESES

The current study examines the effects of student attitudes and school support on high school students' educational expectations and aspirations. Based on the literature and aforementioned theoretical perspectives, four hypotheses are tested in this study.

First, students who are less engaged in school may have lower educational expectations and aspirations. As suggested by Christenson and Thurlow (2004) the dropout problem could be addressed by improving student engagement and attitudes towards school. Therefore, students

with low levels of school engagement are hypothesized to be more likely to drop out, and to have lower expectations and aspirations for future educational success.

Second, it is hypothesized that students who are more interested in their classes will have higher educational expectation and aspirations than those who are less interested. Previous research has indicated that some students do not place high value on educational success, and subsequently dropout (Noguera 2008; Rios 2011; Schmitt & Boushey, 2012). Therefore, students' interest in school, measured as their attitudes toward their high school courses, may be a significant predictor of both educational expectations and aspirations if no barriers were present.

Third, students with more positive attitudes towards teachers may be more likely to have higher educational expectations and aspirations. These students would have a more positive view of education overall and may therefore be more likely to expect to go to college and pursue advance degrees. According to Hirschi's social bond (1969), students who are more attached to teachers would be more likely to conform to the ideals of educational achievement being a metric for success. Furthermore, research has shown that students who have positive attitudes towards their teachers, also enjoy school more (Hallinan, 2008).

Finally, it is hypothesized that students in schools where counselors assist with college materials will have higher educational expectations. Horn and Chen (1998) found that at-risk student who received assistance from teachers or other school staff were more likely to enroll in a 4-year college than those who received no assistance.

CHAPTER 4

METHODS

DATA AND SAMPLE

To examine the relationship between students' attitudes toward school and teachers, the support of school counselors' help with college applications, and students' educational aspirations, data collected as part of the High School Longitudinal Study (HSLs) 2009-2013 are used. This is a nationally representative study of 23,503 9th graders from 944 schools. Data collection began in 2009, and students were followed through their secondary and post-secondary years. Surveys were administered to the students, their parents, math and science teachers, school administrators, and school counselors. The HSLs:09 base-year data collection took place during the 2009-10 school year, with a randomly selected sample of fall-term 9th-graders in more than 900 public and private high schools with both 9th and 11th grades. Students completed a mathematics assessment and an online survey that consisted of items on educational experiences, sociodemographic background, expectancies, and values for science and mathematics as a subject area or as a vocation, among other topics.

Students' parents, principals, and mathematics and science teachers, as well as the school's lead counselor, completed surveys on the phone or on the Web. The first follow-up of the HSLs took place in 2012 when most of the sample members were in the 11th grade. The first follow-up questionnaire explored topics such as high school attended, grade progression, school experiences, plans and preparations for the future transition out of high school, math and science identity and utility, and extracurricular participation. The present study uses data from the spring 2012 and fall 2013 waves of data collection.

DEPENDENT VARIABLES

Dependent variables for this study are students' expected educational outcomes. Specifically, this study examined whether a student chose to dropout, as well as those who decide go on to college. Students' educational expectations in spring of 2012 were measured. The choices were coded 1=Less than High School completion, 2= Complete High School diploma or GED, 3= Start but not completer certificate from school providing occupational training, 4=Complete certificate/diploma from school providing occupational training 5= Start an Associate's Degree, 6= Complete Associates Degree, 7= Start a Bachelor's Degree, 8= Complete Bachelor's Degree, 9= Start a Master's Degree, 10= Complete Master's Degree, 11=Start Ph.D/MD/Law/other professional degree 12= Complete PhD/MD/Law/other professional degree.

A second variable for measuring educational aspirations was included. Students in spring of 2012, were asked the highest level of education they would complete if there were no barriers. This was coded 1=Less than High School completion, 2= Complete High School diploma/GED/alternative High School credential, 3= Complete certificate/Diploma from school providing occupational training, 4= Complete Associates Degree, 5= Complete Bachelor's Degree, 6= Complete Master's Degree, and 7= Complete PhD/MD/Law Degree/Other high level professional degree.

INDEPENDENT VARIABLES

The first independent variable in this study is a scale of students' interest towards school. This scale is composed of five variables that ask students how much they agree or disagree with the following statements: "Spring 2012 math course is boring"; "Spring 2012 math course is a waste of time"; "Spring 2012 science course is boring"; "Spring 2012 science course is a waste of time"; and, "Spring 2012 school is a waste of time". Responses for these items were coded 1=

Strongly agree, 2= Agree, 3= Disagree, 4= Strongly Disagree ($\alpha=.70$). These variables represent student attitudes towards their math and science classes in addition to school overall during spring of 2012. The scale ranged from 6-24 with higher values on this scale representing less favorable attitudes toward school. In terms of Hirschi's (1969) social bond theory, students who like school would have higher educational expectations and aspirations than those who did not (Boesel, 2001).

The second independent variable is a scale of student engagement. This scale is composed variables of eight variables students were asked how often in the last six months they: "went to class without their homework done"; "went to class without pencil or paper"; "went to class without books"; "went to class; without note taking supplies"; "were late to class"; "were absent from school"; "skipped class"; and, "placed in in school suspension". Responses were coded 1=Never, 2=1-2 times, 3=3-6 times, 4=7-9 times, 5=10 or more times ($\alpha=.71$). The scale ranged from 7-35, with higher values representing less engagement in school. Using Hirschi's (1969) social bond theory, this scale would measure a student's bonds to school. Student's whose bonds are weak, should score higher on this scale, making them less likely to expect or aspire to education.

The third independent variable is a scale of students' attitudes as of spring 2012 towards their math teachers, and is composed of three variables. Teens were asked how much they agree or disagree with the following statements about their math teacher: "[the teacher] makes math interesting"; "makes math easy to understand"; and, "doesn't let people give up when the work got hard". Responses were coded 1= Strongly agree, 2= Agree, 3= Disagree, 4= Strongly Disagree ($\alpha=.90$). The scale ranged from 3 to 12 with higher values representing less favorable attitudes towards math teachers. Research has indicated that students who feel as though their

teacher cares about them, respects them, and praises them are more likely to enjoy school and liking school raises educational aspirations (Boesel, 2001; Hallinan 2008).

Students were also asked if they met with a counselor to discuss college admissions in 2012-2013 school year. Responses were coded 0=No, 1=Yes. This is an important variable to examine because student's from low SES or at-risk, are more likely to attend college if encourage by school staff (Trent 1970; King 1996, Horn & Chen, 1998).

Finally, a scale was created to measure counselor assistance with college. This scale was composed of two variables that asked counselors if the school has as counselor dedicated for 1) college applications or, 2) college selection. Responses were coded 0=No, 1=Yes. This scale ranged from 0-2 ($\alpha=.95$), with higher values indicating more assistance provided to students for help with college. Research has shown that schools that do more to assist students, are more successful at improving outcomes (Hill, 2008).

The first control variable included for analysis is student's educational track. Students were deemed to be academic track/concentrators based on the number of credits earned and specific levels attained for math, science, and social studies. Students were flagged as being on an "academic track" if they earned at least four credits in English, three credits in math with one higher than algebra II, three credits in science with one higher than biology, three credits in social studies with one in U.S. or world history, and two in one foreign language. Only credits accrued in 9th through 12th grade (or ungraded, meaning the school does not formally organize students on age based grade levels) are included. This variable is necessary as research has shown that a student placed on higher tracks exerts more effort in school and is less likely to drop out (Berends, 1995; Carbanaro, 2005).

Demographic variables (sex, race/ethnicity, and family income) also are included as control variables. Sex was measured by asking students to self-identify their gender. Responses were coded so that Male=0 and Female=1. To measure race/ethnicity, students' responses were coded so that non-White=0 and White=1. It is important to point out that the majority of the sample (74.2%) identified as White. Family income was measured by asking students' to report their family's income in 2011. Their responses were coded: 1= less than or equal to \$15,000; 2=Family income > \$15,000 and <= \$35,000; 3=Family income > \$35,000 and <= \$55,000; 4=Family income > \$55,000 and <= \$75,000; 5=Family income > \$75,000 and <= \$95,000; 6=Family income > \$95,000 and <= \$115,000; 7= Family income > \$115,000 and <= \$135,000; 8=Family income > \$135,000 and <= \$155,000; 9= Family income > \$155,000 and <=\$175,000; 10=Family income > \$175,000 and <= \$195,000; 11= Family income > \$195,000 and <= \$215,000; 12=Family income > \$215,000 and <= \$235,000; 13=Family income > \$235,000. See Table 1 below for descriptive statistics for all variables.

Table 1. Characteristics of Sample (N=23,503)

<i>Continuous Variables</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>Range</i>
Educational Expectations	18488	7.05	2.96	1-11
Educational Aspirations	20561	5.96	1.54	1-7
School Engagement Scale	19975	12.66	4.09	7-35
School Interest Scale	17128	17.72	3.11	6-24
Attitudes Toward Math Teachers	17121	6.56	2.32	3-12
Counselors Help With College	19021	.80	.95	0-2
Family Income	20919	4.63	3.05	1-13
<i>Dichotomous Variables</i>		<i>Percent</i>		
Met With Counselor (1=yes)	14806	77.9%		
Academic Track(1=yes)	21928	36.9%		
White (1=yes)	23240	74.2%		
Female (1=yes)	20570	50.4%		

ANALYTIC STRATEGY

To examine the relationship between student educational expectations and aspirations, two ordinary least squares (OLS) regressions were run using SPSS software. OLS regression were selected as both dependent variables were continuous. OLS regressions were run individually for student expectations of education and student aspirations of education if no barriers were present. Independent variables for each initial model included the scales for student engagement, interest, and attitudes toward math teachers, counselors helping with college and meeting with counselors. For each outcome variable, a second model with control variables (academic track, race, female, and family income) was included to initially determine the effects of the key independent variables of interest net of controls.

CHAPTER 5

RESULTS

Table 2 displays the correlation matrix for all study variables. In Table 2 what stood out is how little difference there is between the correlations of the two dependent variables students' educational expectations and students' educational aspirations, and the independent variables. Looking at the correlation matrix the most sizable difference between students' educational expectations (.24) and students' educational aspirations (.14), is when the family income control variable is considered. Looking at Table 2 the strongest correlation for the dependent variables students' educational expectations and students' educational aspirations came from the academic track control variable. Finally, the strongest correlation is between students' educational expectations and students' educational aspirations at .69. With regards to multicollinearity, only two groups of the independent variables showed signs. The student engagement scale and student interest scale (-.29) along with the student interest scale and attitudes towards math teachers (-.33) came the closest.

The results of four regression models are displayed in two tables. When looking student expectations of education displayed in Table 3, Model 1 indicates that the student engagement scale, student interest scale, counselors helping with college, and meeting with a counselor were significantly associated with educational expectations at the $p < 0.01$ level. Student engagement is negatively associated with educational expectations. Since the scale measured negative school engagement (showing up without homework, supplies, etc.) and was coded so that higher scores indicated less engagement, students who ranked lower on the scale (i.e. those who were more engaged with school) had higher educational expectations, supporting the first hypothesis ($b = -.14$; $p < 0.01$). Likewise, student interest was positively associated with expectations of education. Students who were more interested in their classes, were more likely to expect to complete

higher levels of education ($\beta=.18$; $p<0.01$) this supports the second hypothesis. Counselors helping students with college was also positively associated with higher level of educational expectations ($\beta =.04$; $p<0.01$) this finding supports the fifth hypothesis. Additionally, meeting with a counselor was positively associated with educational expectations ($\beta =0.18$; $p<0.01$). When controlling for being white, female, the student academic track, and family income in model two, student engagement, student interest, counselors helping with college materials, and meeting with a counselor remained statistically significant at the $p<0.01$ level. As the R^2 value suggests, table 3 explains 11% of the variance in educational expectations, however, when controlling for being white, female, the student academic track, and family income table 3 explains 21% of the variance in educational expectations.

Table 4 presents student aspirations of education and student aspirations when controlling for being white, female, the student academic track, and family income. In model one the student engagement scale, student interest scale, and meeting with a counselor, were significant at the $p<0.01$ level. Again, with higher levels on the student engagement scale indicating less engagement, student engagement was negatively associated with student educational aspirations ($\beta=-0.03$; $p<0.01$). Student interest was positively associated with student educational aspirations ($\beta =0.09$; $p<0.01$). Meeting with a counselor was positively associated with student educational aspirations ($\beta =0.13$; $p<0.01$). Student attitudes towards math teacher is positively associated with educational aspirations ($\beta =0.02$; $p<0.05$) in model two when controlling for being white, female, academic track, and family income; student engagement, student interest, and meeting with counselors 2012-2013 remain significant at the $p<0.01$ level. Attitudes towards math teachers remains significant at the $p<0.05$ level. Table 4 explains 8% of the variance in student

educational aspirations, and 13% of the variance when controlling for being white, female, the student academic track, and family income.

Table 2. Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11
1 Students' Educational Expectations	1										
2 Students' Educational Aspirations	.69**	1									
3 Student Engagement Scale	-.25**	-.18**	1								
4 Student Interest Scale	.27**	.26**	-.29**	1							
5 Attitudes Toward Math Teachers	-.10**	-.08**	.17**	-.33**	1						
6 Counselors Help With College	.05**	.02**	-.02*	.03**	-.03**	1					
7 Met With Counselor	.23**	.17**	-.09**	.11**	-.06**	.07**	1				
8 White	-.06**	-.04**	.04**	-.09**	.06**	-.02*	-.06**	1			
9 Female	.13**	.10**	-.13**	.07**	.02**	-0.03	.05**	0.01	1		
10 Academic Track	.36**	.28**	-.19**	.19**	-.07**	.05**	.15**	0.01	.07**	1	
11 Family Income	.24**	.14**	-.07**	.05**	-.02*	.06**	.10**	.10**	-0.01	.24**	1

* $p < 0.05$; ** $p < 0.01$

Table 3. Students' Educational Expectations

Characteristics	Model 1			Model 2		
	β	s.e	p	β	s.e	p
Student Engagement Scale	-0.14**	0.01	0.00	-0.09**	0.01	0.00
Student Interest Scale	0.18**	0.01	0.00	0.15**	0.01	0.00
Attitudes Toward Math Teachers	0.00	0.01	0.99	0.00	0.01	0.67
Counselors Help With College	0.04**	0.03	0.00	0.03	0.03	0.20
Met With Counselor	0.18**	0.07	0.00	0.13**	0.07	0.00
White	-	-	-	-0.07**	0.07	0.00
Female	-	-	-	0.07**	0.05	0.00
Academic Track	-	-	-	0.23**	0.05	0.00
Family Income	-	-	-	0.16**	0.01	0.00
Constant	-	0.24	.000	-	0.24	0.00
Model X ²	1323.19	-	-	1361.95	-	-
R ²	0.11	-	-	0.21	-	-

* $p < 0.05$; ** $p < 0.01$ **Table 4.** Students' Educational Aspirations if No Barriers

Characteristics	Model 1			Model 2		
	β	s.e	p	β	s.e	p
Student Engagement Scale	-0.03**	0.00	0.00	-0.52**	0.00	0.00
Student Interest Scale	0.09**	0.00	0.00	0.18**	0.00	0.00
Attitudes Toward Math Teachers	0.02**	0.01	0.03	0.02**	0.01	0.05
Counselor Help With College	0.02	0.01	0.11	0.01	0.02	0.56
Met With Counselor	0.13**	0.33	0.00	0.01**	0.04	0.00
White	-	-	-	-0.06**	0.03	0.00
Female	-	-	-	0.06**	0.03	0.00
Academic Track	-	-	-	0.19**	0.03	0.00
Family Income	-	-	-	0.08**	0.00	0.00
Constant	-	0.12	0.00	-	0.12	0.00
Model X ²	217.41	-	-	200.03	-	-
R ²	0.08	-	-	0.13	-	-

* $p < 0.05$; ** $p < 0.01$

CHAPTER 6

DISCUSSION

This study used OLS regression models to determine the influence of student engagement, student interest, students' attitudes towards math teachers, counselors helping with college, and meeting with a counselor on student expectations and aspirations. Tables 3 and 4 also included models that controlled for being white, female, academic track, and family income. As Tables 3 and 4 show student engagement and student interest were statistically significant even after controlling for being white, female, academic track, and family income. Meeting with a counselor was statistically significant in Tables 3 and 4. Counselors helping with college material was only significant in Table 3, however after controlling for being white, female, academic track, and family income, it was no longer significant. In Table 4 student attitudes toward math teacher is significant and remains so even after controlling for being white, female, academic track, and family income.

With regards to the hypotheses predicted, two of the original hypotheses were fully supported, while one was partially supported. Students who were less engaged had lower educational expectations and aspirations than those who were more engaged in school. Students who were more interested in their classes had higher educational expectation and aspirations than those who did not, even after controlling for being white, female, the student academic track, and family income. Students in schools where counselors assist with college have higher educational expectations than those that do not, however after controlling for being white, female, the student academic track, and family income, this relationship was no longer significant.

This study examined how student engagement, student interest, student attitudes toward math teachers, counselor helping with college material, and a student meeting with a counselor,

could influence a student's aspirations with regard to education. Student engagement being significant predictors of aspiring to drop out is in line with previous research (Christenson & Thurlow 2004; Noguera 2008; Rios 2011; Schmitt & Boushey, 2012).

One finding that stood out is the effect meeting with counselors 2012-2013 had not only on aspirations but aspirations to drop out. Students who met with a counselor had higher educational aspirations. Given that meeting with a counselor has a statistically significant effect in the tables even after controlling for being white, sex, the student academic track, and family income, it may be necessary to focus on counselors rather than teacher. The lack of significance between student educational expectations and attitudes is also important to note. It would seem that students who expected to complete higher levels of education, would do so without the input of their teacher. Another finding which stood out, was the relationship between students' educational aspirations if there were no barriers and attitudes towards math teachers. This relationship remains significant even after controlling for being white, female, academic tracking, and family income. This means students who may not be expecting to complete higher levels of education, still aspire to higher levels of education if they have positive attitudes towards their math teachers.

LIMITATIONS

Thought this study utilized nationally collected data, it is not without limitations. First, this study did not have a large sample size for students who wanted to drop out, as most expected to complete high school and start some form of post-secondary education. Without a sizable sample of students wanting to drop out and most expecting to complete some form of post-secondary education, the data was skewed. This study is further limited due to the small number of participants who identified as non-white, with 74.2% of students identifying as white. The

small number of minority students prevented examination the effects race could have on educational expectations or aspirations. This study is also limited as it does not consider every factor that could potentially influence a student's educational expectations or aspirations. Since this study looked at factors within the school or push factors, the factors that pull a student from school were not considered. Another limitation is that the study only looked at the student's attitudes towards math teacher, rather than attitudes towards all teachers. Math is often considered a difficult subject; therefore students could have lower attitudes toward math teacher, due to the subject. The inclusion of the students' attitudes toward all of their teacher could potentially mitigate any affect the subject matter was having. A final limitation is that this study is cross-sectional and only looks at student expectation and aspirations during spring of 2012 or during their 11th grade year. Given that only the 11th grade year was considered, any student who dropped out before were not considered.

FUTURE RESEARCH

Future research should look at a more diverse population and include more factors that could influence a student's educational aspirations such as the use discipline. Research has already established a link between schools with high suspension rates and dropout rate (Lee et al., 2015). Since this study only utilized quantitative methods, future research should look to utilize a qualitative or mixed methods approach, to allow for a better understanding of students. Future research should also examine the effect that counselors have on student aspirations, as Rosenbaum et al. (1996) found that counselors do not like giving students bad news about their future prospects, and do not want the responsibility. The effect found in this study could be the results of counselors telling students what they want to hear. Future research should also seek to examine more factors which could influence a student's educational aspirations with a more

diverse sample. As previously stated students with higher or more positive attitudes of their math teacher had higher educational aspirations. Given that this relationship remained true even after controlling for being controlling for being white, female, the student academic track, and family income, meaning that removing barriers to higher education, would lead to more students to continue their educations following secondary school.

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