

Teachers' Perceptions of Immigrant Students and Expectations of Achievement

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ABSTRACT

Although positive relationships with teachers are important for all students, they are crucial for foreign-born students' upward mobility (Hao and Pong 2008; Suárez-Orozco *et al.* 2009). Yet, we know little about how teachers perceive their foreign-born students and how these perceptions contribute to expectations of student academic achievement. This work is the first to use a nationally representative sample of high school students (ELS:2002) to examine English and math teachers' perceptions of hard work and expectations of college completion among immigrant students and how these views are both racialized and gendered. This study has three major findings. (1) Teachers' perceptions of hard work are more strongly gendered than their educational expectations although both outcomes are highly racialized and dependent on academic subject. (2) While nativity has no effect on math teachers' perceptions, English teachers perceive their immigrant students as more hardworking with the exception of Latina girls. (3) Only Latino immigrant boys were seen as less likely to complete college by their English teachers but math teachers typically expected all immigrant groups except for Latino/as to complete college more often than native-born peers. By showing that teachers' attitudes toward students' academic behavior and potential are associated with demographic characteristics beyond academic performance, this work makes an important contribution to understanding stratifying processes within US schools for foreign-born students.

INTRODUCTION

Foreign-born students comprise a rapidly growing segment of the U.S. educational system and bring with them a large degree of geographic, cultural, and racial diversity. Although immigrant students have more ambitious educational goals and optimism about the future than their native-born peers, many struggle academically (Suárez-Orozco *et al.* 2009:153; see also Bohon *et al.* 2006; Kao and Tienda 1995). Further, the vast majority of today's immigrant students were born in Latin America, Asia, and the Afro-Caribbean basin, making them potentially vulnerable to racialized stereotyping and discrimination as “new students” (Portes and Zhou 1993).

One particular component of a positive assimilation process for students is the successful integration into the U.S. educational system, facilitated by supportive relationships with teachers. While the relational aspects of schooling is an important factor in the academic achievement of all students, they have been found to play a vital role in the achievement of immigrant students in particular (Hao and Pong 2008; Portes and MacLeod 1996; Suárez-Orozco *et al.* 2009). Existing studies of U.S. born students have shown that teachers' attitudes toward students are linked to student academic achievement in ways that are moderated by cultural stereotypes and social distance between students and teachers (Alexander *et al.* 1987; Ferguson 2003; Jones and Myhill 2004; Jussim and Eccles 1992; Jussim 1989; McKown and Weinstein 2002; Oats 2003). The social distance between teachers and their immigrant students may be even more pronounced and complex, possibly encompassing race, ethnic, and cultural differences. While a small body of research focuses on students' own perceptions of their teachers and of their experiences of discrimination, little is known about the perceptions held by teachers of foreign-born students and how these perceptions are associated with educational expectations. Thus, researchers should

critically and empirically investigate positive and negative evaluations of the academic merit that teachers form of the new students in their classrooms.

This paper addresses the important link between teachers' perceptions of immigrant students' academic behavior and how these perceptions may affect their evaluations of students' academic potential. Specifically, we investigate teachers' perceptions of students' work ethic and their chances of going to college. We distinguish between the perceptions of math and English teachers because these two subjects may engender different student and teacher relationships and may involve different stereotyped interpretations of student behavior. We also consider whether the teachers' perceptions differ for male and female immigrant students.

Ample research has established the importance of teachers' perceptions of students for student achievement; however, interpreting the causes and repercussions of variation in these perceptions is widely debated (for discussions see: Baron *et al.* 1985; Brophy 1983; Dusek and Joseph 1983). In a comprehensive examination of these three competing explanations, Jussim (1989) concludes that teachers' perceptions of student performance are largely accurate but points out that more subjective attributes such as student attitudes and personality dispositions may be perceived less accurately and that these "measurement errors" by teachers may result in large differences over time. For example, teachers' perceptions of hard work were highly subject to bias and minimally reflected student self-reports of effort, ability, or time spent on homework (Jussim and Eccles 1992:954). In these cases, perceptions of students by teachers may reflect existing cultural stereotypes and may be divorced from other relevant measures of student behavior.

Several studies have shown the divergent impacts of teacher perceptions for minority, low socioeconomic status (SES), and other stigmatized groups compared with other, more

advantaged groups. Matching between students' and teachers' ethnoracial and class background affects teachers' perceptions of student maturity and potential (Alexander *et al.* 1987) as well as diligence and performance (Oats 2003). Further, children who from academically stigmatized groups were more likely than children from non-stigmatized groups to confirm negative teacher perceptions of ability and less likely to confirm teacher overstatements of ability (McKown and Weinstein 2002:174). Generally, the extent to which teacher perceptions vary across groups from other measurable performance or behavioral indicators is interpreted as bias (Alvidrez and Weinstein 1999; Downey and Pribesh 2004; Ehrenberg *et al* 1995; Ferguson 2003; Tiedemann 2002).

Researchers have measured not only the way that teachers' perceptions vary with respect to teacher-student congruence but also the way in which patterns of variation conform to ethnoracial or gender stereotypes. Tiedemann (2002) found that for low- and moderately-achieving students, stereotypes held by teachers regarding gender differences in math ability affected the teachers' perceptions of ability and effort. Other studies have revealed how teachers' perceptions of student effort and performance conform to stereotyped expectations that girls sought to be high achieving through effort and boys through natural ability, particularly in math (Fennema *et al.* 1990; Jones and Myhill 2004). Alternatively, in interviews with teachers, researchers found strong, positive stereotypes of Chinese boys as good and serious students while Chinese girls were seen as "repressed" and "passive" by the teachers (Archer and Francis 2005). Although the study took place within a British context, the content of the racialized and gendered assumptions regarding Chinese immigrants are in-line with what has been termed the model minority stereotype in the U.S. This refers to the idea that Asian cultural values emphasize education in a way that facilitates the their children's success. (Lee 1994). In these studies,

behavior that deviated from the teachers' stereotypes was interpreted by the teachers as an unusual departure from the rule, but not as disruptive or undermining to their stereotyped expectations.

Research has shown that teachers' stereotyped perceptions greatly impact students' educational behavior, performance, and attitudes. Urban education research has revealed substantial hostility between Latino/as, African-American students, and Asian immigrants based on perceived differential treatment and expectations from teachers and other adults (Katz 1999; Rosenbloom *et al.* 2004). Specifically students' beliefs that teachers prefer Asian students and see Latino/a students as delinquent, passive, and lazy has been identified as a contributing factor to Latino boys' disengagement from school (Katz 1999). Generally, "immigrant boys tend to have fewer meaningful relationships with their teachers and perceive their school environments to be less supportive than their sisters" (Suárez-Orozco *et al.* 2009:155). In fact, for Latino boys, experiences of discrimination reduced academic motivation and resulted in lower academic performance both concurrently and over time (Alfaro *et al.* 2009). By contrast, interviews with Asian students regarding their teachers' stereotyped perceptions of them revealed both a widespread awareness of the stereotype and substantial variation in attitudes toward being perceived as "model minorities" (Lee 1994). While some students felt pride and motivation, others expressed frustration, anxiety, fear of failure, and academic disengagement (Lee 1994). Thus, two of the principal cultural stereotypes emerging from qualitative work surrounding teachers' perceptions of minority and foreign-born students are the themes of the hardworking, Asian immigrants juxtaposed with passive, Latino/a students.

In sum, numerous studies have examined how teachers' gender and racial stereotypes affect their interpretations of students' classroom behavior and performance and further, how

these perceptions affect student outcomes. However, while these studies are helpful for understanding how teacher perceptions of diverse groups of students vary, no nationally-representative studies could be found which considered ethnoracial identity as a moderating factor in assessing divergent teacher perceptions and expectations for foreign-born students.

RESEARCH OBJECTIVES

The purpose of this paper is twofold. We first evaluate variation in teachers' perceptions of students' academic behavior based on the nativity of the student. This analysis explores whether or not these attitudes conform to ethnic or racial stereotypes and /or vary by student gender. Next, we ask if apparent hard work results in equal educational expectations for immigrant and native-born students, net of other factors. In answering our second question, we assess the extent to which these perceptions affect the educational expectations that teachers hold for their students.

Four considerations from social science research in this area affect the expected findings. First, some evidence suggests that teachers have a tendency to maintain a "positive bias" for students who they perceive as working and succeeding against the odds (Ehrenberg *et al.* 1995; Fennema *et al.* 1990; Marks and Heffernan-Cabrera 1977). Second, teachers' perceptions of students have been shown to be highly gendered in general (Archer and Francis 2005; Ehrenberg *et al.* 1995; Jones and Myhill 2004; Jussim 1989; McKown and Weinstein 2002; Tiedemann 2002). Additionally, evidence for the Asian "model minority" stereotype and for varied attitudes towards Latino/a students is pervasive in qualitative research in this area (Ford 1984; Katz 1999; Rosenbloom 2004). Finally, researchers have shown that teachers' perceptions of students in more objective disciplines like math are generally more based on past academic performance and that perceptual bias is more likely in a more subjective context – in this case, perceived hard

work in English (Jussim and Eccles 1989; Jussim 1992). Taken cumulatively, we expect that net of other factors, teachers perceive their foreign-born students to be more hardworking with variations in this perception based on the model minority stereotype of Asian students. Additionally, we anticipate that these variations in teachers' perceptions of hard work will be more pronounced in a more subjective context like English than in the math classroom. Finally, we expect that net of other factors, controlling on the teachers' perception that the student is hardworking will only partially explain sociodemographic differences in the teachers' expectation that the student will complete college.

METHODS

Data. This study employs data from the Educational Longitudinal Study of 2002 (ELS:2002). ELS:2002 is a nationally representative, longitudinal survey which followed a single cohort of more than 15,000 students at 750 public and private U.S. high schools. Students were first interviewed as sophomores in the spring of 2002. In addition to the comprehensive student surveys, ELS:2002 includes questionnaires completed by parents, math and English teachers, administrators, as well as transcript data for all academic courses and a standardized cognitive test. In addition to the clear advantages owing to its size and scope, our study also benefits from an oversample of Hispanic and Asian students within ELS:2002 that facilitates more robust comparisons across ethnoracial groups.

Sample. Because the study at hand is concerned with teachers' perceptions of immigrant students, students were excluded from analysis if their place of birth was unknown. Excluding students whose nativity was unknown reduced the sample to 12,810 eligible students from the 14,664 full-survey, base year respondents. Nativity was obtained from base year surveys asking parents to report if their son or daughter was born in the U.S., Puerto Rico, or another country.

The majority (n=1,801) of students removed from the sample due to unknown nativity (n=1,854) had parents who did not complete the questionnaire, making it impossible to determine their nativity.

Similarly, students were excluded who did not have at least one teacher completing a questionnaire on their behalf or whose teachers' responses were missing on all outcomes under study. This reduced the final sample to 11,793 students. Students missing a teacher report are disproportionately non-white, with lower standardized exam scores, and from families with lower levels of parental education ($p < 0.001$). Additionally, while approximately 10% of students in ELS:2002 with teacher reports were born outside the United States, approximately 15% of those lacking a teacher report were foreign born ($p < 0.001$). Thus, students traditionally privileged within the educational system – native born, white, and high-achieving students from families with substantial human capital – are overrepresented among students with teacher reports in ELS:2002. Because our sample is slightly biased towards more advantaged students,

Outcome Measures. Our dependent variables in both sections of our analysis are taken from the math and English teacher questionnaires in the base-year sample of ELS:2002. In the first half of our analysis, our dependent variables are based on teachers' responses to the question, "does this student usually work hard for good grades in your class?" Teachers were allowed to report "yes," "no," or "I don't know." Students whose teachers identified them as hardworking will be coded as 1 on this variable and all others will be coded as 0. In the second part of our analysis, teachers' expectations of academic achievement will be taken from math and English teachers' educational expectations of their student. Teachers reported whether they anticipated their student would not graduate from high school, complete high school or obtain a GED, attend or complete a two-year community college or vocational school degree, attend but

not complete a four-year degree, graduate from college, obtain a masters' degree or the equivalent, obtain a Doctorate or another advanced degree, or that they did not know. Students whose teachers expected them to complete a four-year degree or higher are coded as 1 and all other students are coded as 0

Independent Variables. The primary independent variable of interest is student nativity. Given the shared experience of immigration, students born outside of the U.S. and in Puerto Rico are considered foreign-born, immigrant students. Because we are also interested in how teachers' perceptions of immigrant students are racialized and gendered, we consider the gender and ethnoracial identity of students in the sample. Note that Latino/a students in this analysis may be of any race, and all other categories exclude Latino/as (e.g., students described as white are non-Hispanic whites). In the analysis that follows, multi-racial, Native American, and Alaska Native students are collapsed into the "other race" group.

We include controls to assess the moderating influence of students' academic performance, cognitive ability, socioeconomic status, and native English ability on teachers' perceptions of student work ethic and expectations of college-going. Academic performance is measured as the grade point average of all academic courses from ninth grade, the year prior to the survey. Mean imputation was used for the nine percent of all students missing their ninth grade academic GPA. While academic grades capture adherence to school norms and teacher expectations in addition to academic performance, performance on cognitive tests captures another highly relevant dimension of student ability which may influence teacher perceptions. We rely on the standardized exam administered to all ELS:2002 students to assess cognitive ability in both English and Math. This measure has an overall average score of 50 with a standard deviation of ten points. We include measures of parental income and education to

measure parental socioeconomic status. The income intervals used in ELS:2002 were recoded to their mid-points and divided by 1000. The resulting categories ranged from 0 (no parental income) to 300 (\$200,000 or more). Parental education was coded as number of years of schooling completed based on the parental response to highest degree earned. These values ranged from 10 (less than high school) to 20 (PhD, MD, or equivalent). English language ability is measured as a dichotomous indicator of whether or not the student is a native English speaker.

Additionally, we include an index of self reported hard work for each student which captures students' responses to a number of attitudinal measures regarding hard work, persistence, and confidence in their ability to perform well academically. This measure is desirable for two reasons: first, to evaluate the degree of concordance between teachers' perceptions and students' reports and second, to identify if variation in teachers' perceptions of hard work can be accounted for by students own reports of their behavior.

Both scales include a core series of five items to which the student responded "almost never," "sometimes," "often," or "almost always." These were "when I sit myself down to learn something really hard, I can learn it," "when studying, I work as hard as possible," "when studying, I keep working even if the material is difficult," "when studying, I try to do my best to acquire the knowledge and skills taught," and "I study to get a good job." The subject-specific scales include two additional measures to tap into subject-specific attitudes: "I'm certain I can understand the most difficult material presented in [English/math] texts," and "I'm confident I can do an excellent job on my [English/math] tests." Both indices were created on a 0-3 scale based on the arithmetic mean of each sequence of seven items. These indices have very strong Cronbach's alphas of 0.863 for English and 0.852 for math. Due to the positive skew of this distribution, students missing four or more per scale were assigned the modal score of 1.

School Level Predictors. Our models will also consider several attributes of the schools attended by ELS:2002 students. First, we consider the diversity of students by including the proportion of minority students enrolled in at the student's high school in 2002. Secondly, the proportion of graduates enrolling in four year colleges is included as a measure of the quality of academic preparation within the high school. Finally, we include dummy variables for urban and rural school contexts.

Analytic Plan. After discussing the descriptive statistics of ELS:2002 students by nativity, we use logistic regression analysis to assess the ways in which nativity, ethnoracial identity, and gender are associated with teachers' perceptions and expectations of their students. In our first set of models – run separately for math and English – we explore how the various student and school characteristics described above affect the odds of a teacher in each subject identifying his or her student as working hard for good grades. A similar strategy will be used in the second phase of our analysis to discern the effect of teachers' perceptions of hard work on teachers' educational expectations of students. A second set of models explores the association between the nativity of the student and the teachers' expectation that the student will complete college, net of the teacher's own perception that the student is hardworking, and the student's prior academic performance, self-reported work ethic, English ability, family background, and school characteristics.

Due to the abundance of existing evidence that teachers perceive their male and female students very differently (Fennema *et al.* 1990; Jones and Myhill 2004), the first set of models in each analysis will be run for all students taken together and a final pair of models will test the associations separately by gender. All models will be clustered at the school level to take into

account the nested structure of the survey design and continuous variables will be centered around the grand mean.

RESULTS

Descriptive Results

Outcomes. Weighted means are reported separately by nativity in Table 1. Nearly 1 in 10 students are foreign born and looking to our outcome measures, these students are simultaneously seen as slightly more hardworking by their English teachers but less likely to complete college. Seventy one percent of English teachers saw their immigrant students as hard working compared with 68% of their native born peers but these teachers anticipated that 51% native born students and only 47% of immigrants would complete college. There were no statistically significant differences among math teachers in their perceptions of immigrant students (67% overall) or the expectation that their students would complete college (50% overall).

Student Characteristics. Turning our attention to the demographic characteristics of students in our analysis we see that nearly half of the foreign-born students are Latino, one in five are Asian or white, and fewer than ten percent are black. Native-born students are predominantly white (67%), with smaller minorities of blacks (13%), Latino/as (12%), and Asians (2%). Although women are slightly over-represented among the foreign-born, this difference is not statistically meaningful.

Other differences between immigrant and native-born students arise when considering academic performance and family background. Immigrant students have an average standardized test score that is about four points lower than their peers. However, there is no statistically significant difference between their grade point averages of 2.6, roughly equivalent to a C+ or B-

. Native-born students' parents have approximately one year more education and nearly twenty thousand dollars of income more than foreign-born students' parents, on average. This shows a clear socioeconomic advantage for students born in the US compared with those abroad. Finally, while the vast majority of students born in the United States speak English as their first language, the same is true for only one in four students born abroad. However, when asked about their own academic habits, immigrant and non-immigrant students reported the same levels of work ethic in English and math which both hover around 1.5 or between "sometimes" and "often."

School Characteristics. The schools attended by immigrant students are different than those attended by non-immigrants, as evidenced by the school-level characteristics in Table 1. Schools attended by the average U.S. born student have 30% minority enrollment and 36% of students attend four year colleges upon graduation. Approximately half of these schools are in the suburbs. By contrast, more than half immigrant students' classmates are minority students, fewer peers (33%) attend four year colleges, and these schools are fairly evenly distributed between urban and suburban locations with fewer than one in ten in a rural area.

Multivariate Results

English Teachers' Perceptions of Hard Work. Table 2 shows the results of a logistic regression analysis predicting English teachers' odds of reporting that his or her student typically works hard for good grades. In model 1, we see the baseline effects of demographic characteristics – namely gender, nativity, and race – on teachers' perceptions. The positive, statistically significant odds ratio associated with being an immigrant suggests that overall the odds of a teacher perceiving a foreign born student as hardworking are twenty percent higher than those of their non-immigrant peers. Additionally, the odds are more than twice as great for girls compared to boys that they will be reported as working hard for their grades. Finally,

although Asian students are typically seen as more hardworking than white peers, black and Latino/a students generally have odds of being seen this way that are significantly lower than white peers. In model 2, we see that academic performance, student reports of hard work, and school characteristics account for disparities in teachers' perceptions of hard work according to ethnoracial identity and nativity but not for gender. Teachers still strongly favor girls as more hardworking than boys, other things considered. Each unit increase in 9th grade academic GPA is associated with nearly a three-fold increase in the odds of being seen as hard working in 10th grade and scoring one standard deviation or ten points higher on the cognitive test of academic ability enhances the odds of being reported as hardworking by ten percent, net of student background and GPA. Interestingly, being a native English speaker is not associated with teachers' perceiving students as working hard for good grades, nor is family socioeconomic status. Finally, students attending schools in urban contexts have lower odds of being seen as hardworking by their teachers compared with those in rural or suburban contexts. By including interaction effects for nativity and ethnoracial identity in Model 3 we show that collectively, teachers' perceptions of immigrant students do not vary by ethnoracial identity.

To end the analysis at this point would lead us to conclude that English teachers' perceptions of their students are not associated with student nativity or ethnoracial identity. Because teachers' perceptions of students' appear to be gendered, we estimated our full model separately for each gender. This approach tells a different story. Among boys, the odds that an English teacher will describe immigrant student as hardworking are twice as high as for non-immigrant boys. Although no effects were found for teacher perceptions based on ethnoracial identity among the native-born, the interaction effect for foreign-born Latinos suggests that net of other factors, Latino immigrants are less likely than other immigrant boys to be seen as

hardworking by their English teachers. Among girls, the association between nativity, ethnoracial identity, and teachers' perceptions is more complex. Taken together, the reduced odds expressed by the significant immigrant coefficient and the increased odds expressed in the interaction effects show that white immigrant girls are overall perceived as less hardworking than immigrant girls who are non-white with the exception of Latinas. The significantly reduced odds associated with being Latina, regardless of nativity, means that both immigrant and non-immigrant Latinas are seen as less hardworking than their respective white peers.

*** Table 2 about here ***

Math Teachers' Perceptions of Hard Work. Table 3 replicates this analysis with respect to math teachers' perceptions of hard work. Model 1 yields a similar result for student gender and ethnoracial identity but shows no differences in teachers' perceptions based on nativity. Although math teachers have higher odds of perceiving their female and Asian students as hardworking and lower odds of viewing their Black and Latino students as hardworking, their opinions are not different for immigrants compared with non-immigrants. As with English teachers' perceptions, incorporating the mediating variables of student academic performance, socioeconomic status, native English ability and self-reported work ethic eliminate the ethnoracial differences in perception according to race and reduce the gender disparity in teacher attitudes regarding their student's hard work. Finally, incorporating interaction effects in model 3 does nothing to change the findings that Math teachers' perceptions are primarily based on previous academic performance, test scores, and students' own reports of their work ethic.

With the same logic applied earlier, we replicated our models separately by gender in models 4 and 5. The gender-specific models show no differences in teachers' perceptions in math based on nativity or ethnoracial identity for both boys and girls. In both cases, test scores,

GPA, and students' self report continue to be the primary factors associated with math teachers' views. Although the gender-specific models for English gave very similar odds ratio estimates for boys and girls, three differences arise with respect to math. First, the previous year's GPA has a larger effect on girls' teachers' perceptions of them compared with boys. Second, parental years of education is only marginally positively related to teachers' perceptions of boys hard work in math but actually reduces the odds that girls will be seen as hardworking by their math teachers. Last, a one unit increase in boys' self-reported work ethic in math enhances their odds of being seen as hardworking by 60% but for girls this increase would double their odds of a positive teacher perception. Thus, while these models highlight a few interesting gender differences with respect to teachers' perceptions of hard work among their male and female students, they do little to suggest that math teachers' opinions of their students systematically vary according to nativity or ethnoracial identity.

*** Table 3 about here ***

English Teachers' Educational Expectations. We now turn our attention to our second set of outcomes, teachers' educational expectations for their students. Table 4 presents odds ratios that a student's English teacher expects him or her to complete college or obtain a higher degree. In model 1, we see that although teachers' educational expectations are not associated with nativity, they are associated with gender and ethnoracial identity. This baseline model shows that girls have odds that are roughly fifty percent greater than boys of being expected to complete college and while the odds are reduced in half for blacks and Latinos compared to whites, the odds for Asian students are increased by more than two thirds. Teachers' perceptions of hard work – the previously modeled outcome – are highly associated with their expectations of college completion. Further, incorporating this measure in model 2 explains the association of

teachers' expectations with students' gender but does little to temper the association between ethnoracial identity and expected college completion.

*** Table 4 about here ***

Adding our mediating variables of academic performance, parental socioeconomic status, student work ethic, and school level predictors adds further explanatory power. We see that GPA, test scores, family income, and parental education are all associated with higher odds for a student being expected to complete college but that being perceived as hardworking strongly predicts the expectation of completing college. On the school level, the positive significant coefficients for the diversity within the school and the proportion of students attending four year colleges suggests school academic preparation and diversity both positively contribute to high teacher expectations. Incorporating these background and contextual factors eliminates most of the association between ethnoracial identity and teachers' expectations; however, Asian students still have odds 42% higher than white students of being expected to complete college. When we include the interaction effects for nativity and ethnoracial identity in Model 4, this effect is no longer significant and student background and school context account for all variation by nativity, ethnoracial identity, and gender.

Because teachers' expectations of college completion are so dependent on their perceptions of their students and we have already seen these perceptions to be highly gendered, we take a similar approach as before and reproduce our complete model separately for boys and girls. Considering boys alone in model 5, we continue to see the same effects observed in model 4 and although the coefficient for immigrant status remains non-significant, foreign-born Latinos experience a reduction in odds of expected college completion. English teachers' educational

expectations are more complex for girls. The statistically significant reduction in odds of expected college completion associated with immigrant status and the larger odds increases among the interaction effects for nativity and ethnoracial identity show that teachers' educational expectations for girls are associated immigrant status in ways that are associated with race and ethnicity. Overall, girls who are white immigrants are seen as less likely to complete college than girls who are black, Latina, or Asian. Further, foreign-born girls of color are more likely than their native-born peers to have English teachers who expect them to complete college. One more modest effect worth noting is that other things considered, English teachers see African American females as more likely to complete college than whites.

Math Teachers' Educational Expectations. Table 5 presents results from the same sequence of models this time predicting math teachers' patterns of expected college completion. The first two models are very similar to the findings from Table 4. Math teachers' also have higher odds of anticipating that their female students will complete college compared with their male students but this finding is explained once the teachers' perception of hard work is included in model 2. However, disparities based on ethnoracial identity persist when teacher perceptions are included. Math teachers have higher educational expectations for Asians compared with whites and lower educational expectations for Latino/as and black students.

*** Table 5 about here ***

When we incorporate our mediating variables into model 3 we once again see that student academic performance, socioeconomic status, self-reported hard work, and school context reduce the odds increase associated with being perceived as hardworking and eliminate the effect of ethnoracial identity. However, in model 3 we now observe that immigrant students have odds

that are a third greater than their non-immigrant peers that their math teachers will expect them to finish college, other things considered. Taking things a step further and adding the interaction effects between ethnoracial identity and nativity in model 4, the story becomes even more complex. While the odds for immigrant students' expected college completion are now three times greater than for non-immigrant peers, the interaction effects associated with minority group membership and immigrant status moderate this positive effect for Latino/as. Combining these odds ratios shows that compared with non-immigrants Latino/as, immigrant Latino/as are less likely to be expected to complete college.

Models 5 and 6 replicate the full model separately for boys and girls to assess if factors predicting math teachers' expectations of college completion operate differently according to student gender. The effect of nativity is even stronger for boys such that the odds that a math teacher will expect their male student to complete college increase more nearly threefold if he is an immigrant. However, because of the significant interaction effects associated with being a Latino immigrant, the odds for foreign-born Latinos are reduced by twenty percent compared with native-born Latinos. Among girls, teachers' expectations of immigrant students are highly positive such that the odds that a math teacher will expect his or her female student to complete college are two and a half times greater for immigrant students than for non-immigrant students. As we saw in boys, this positive effect is reduced for Latinas. However the reduction is not enough to entirely remove the odds increase associated with being an immigrant; Latinas have odds of being expected to complete college that are about ten percent greater for immigrants than for non-immigrants. Math teachers also have higher odds of anticipating their Asian females will finish high school. Asian girls, regardless of nativity, have odds sixty percent greater than whites of being expected to complete college. Aside from these differences in the relationship between

nativity, ethnoracial identity, and the expectation of college completion, the mediating factors measured by student characteristics and school context all operate similarly for boys and for girls. One last difference central to the work at hand is that the effect of teachers' perceptions on teachers' expectations is larger for girls than for boys in math. Therefore, while the mediating variables yield more explanatory power in explaining math teachers' expectations of their male students, more appears to be at stake where teachers' perceptions of girls are concerned.

DISCUSSION AND CONCLUSION

This work set out to assess the degree to which teachers' perceptions of students' academic behaviors showed variation based on nativity and if so, how educators' opinions of their students vary based on student ethnoracial group and gender. Further, it asked, do variations in teachers' reports of students' hard work reflect existing cultural stereotypes regarding immigrants, racial and ethnic minorities, and girls? Finally, the analysis done here was also particularly concerned with how teachers' perceptions reflect different classroom contexts in English and math teachers' appraisals of students and the ways in which these appraisals are tied to a distinct academic outcome – teachers' expectations for student academic achievement..

Findings show that teachers perceptions of their immigrant students in many cases differ from their perceptions of non-immigrant students. Further, the gender and ethnicity of immigrant students strongly moderate these perceptions and the repercussions of teachers' attitudes in terms of educational expectations. Immigrant tenth graders are no more likely to be seen as hardworking than their non-immigrant peers. However, because perceptions of hard work are so highly gendered, we see that male immigrants are seen as more hardworking than their peers. Latino immigrant boys however, are seen as less hardworking than non-immigrant Latinos. Among girls, non-white immigrants are generally seen as more hard working than their

respective non-immigrant peer groups. No disparities are observed in math where even the gender specific models showed that teachers' perceptions of hard work were primarily driven by previous academic performance, and students' own reports of their work ethic.

Although teachers' perceptions of work ethic do strongly predict teachers' educational expectations for their students, these perceptions and the potential mediators of previous academic performance, family socioeconomic status, and school context fail to account for teachers' expectations. No disparities for immigrant students or ethnoracial minorities were found in English teachers' educational expectations of their students taken together. However, the gender-specific models show that Latino boys are less likely to be expected to complete college, net of other factors and that non-white immigrant girls are all more likely to complete college according to their English teachers than both white immigrants and their native-born counterparts. Math teachers view their immigrant students as more likely to complete college but these high expectations are reduced for Latino/as below the levels of native-born boys and reduced to just above the level of native-born Latinas. Finally, after controlling for student and school characteristics, math teachers have high expectations of Asian females completing college, regardless of their nativity.

This analysis highlights the ways in which teachers form perceptions of students differently and how the meaning of these perceptions may not translate evenly to expectations across all contexts. In a more subjective context like English, one can observe the complex relationships between nativity, ethnoracial identity, and gender described above in how teachers observe and perceive effort. However, none of the teacher appraisals analyzed here varied for math teachers based on student identity. These findings support the conclusions of other work that while teachers' perceptions can be expected to be more variable in a subjective context,

math teachers largely base their evaluations of student behaviors on objective criteria like grades and test scores (Jussim and Eccles 1992). However the inverse was found in teachers' expectations for college. More positive expectations for students' long-term potential were held by Math teachers than English teachers raising questions about the returns to favorable teacher perceptions of effort for student achievement.

Still unanswered is how to interpret the variation in teachers' perceptions across student groups based student demographics. A few competing explanations arise. First, in an arguably more subjective discipline like English, persistence against adversity is seen as a sign of hard work granting immigrants a "positive-bias" in the eyes of teachers when they perform on par with native born peers. Similarly, the increased likelihood that black females will be seen as expected to complete college by math teachers reveals that these teachers may in fact recognize students who are able to succeed "against the odds." However, no differences in teachers' perceptions were found for non-native English speakers, as we might expect if variation was attributable solely to teachers reporting on unmeasured dimensions of hard work or additional challenges to success (Ehrenberg *et al.* 1995; Marks and Heffernan-Cabrera 1977). Further, the divergent outcomes for immigrant students by race and ethnicity undermine this argument of immigrant egalitarianism by suggesting that not all immigrant 'successes' are seen as equally indicative of hard work across groups.

Rather, teacher perceptions of hard work and academic potential conform to many of the stereotypes discussed earlier that surround minority and immigrant youth. The work at hand shows English teachers as characterizing immigrant Latino boys and non-immigrant Latina girls as less hardworking than their peers. By contrast, most immigrant girls, with the exception of foreign-born whites and non-Latino immigrant boys are viewed as more hard working than their

peers in English. These patterns conform to both stereotyped ideas of Latino/as as “lazy” and also to the contrasting narrative of hardworking immigrants (Katz 1999; Qin-Hilliard 2003; Rosenbloom and Way 2004) depending on student gender, ethnoracial identity, and nativity.

There are several indications within these findings that suggest that the Asian, “model minority” stereotype may be operable in high school teachers’ perceptions of their students (Kao and Tienda 1995; Lee 1994). English teachers perceive foreign-born Asians as more hard working than native born Asians and math teachers expect Asian girls to complete college more often than native-born Asians. Because the model minority stereotype suggests that cultural practices alone explain Asian students’ achievement, we are disinclined to expect that unmeasured cultural practices would result in a specification error net of family background and student academic performance. It is in these instances where teachers’ perceptions persist net of other objective measures and also adhere to larger cultural stereotypes, that one finds the strongest evidence for the presence of bias in teachers’ appraisals of students.

This work goes a long way in identifying preliminary inequities in teacher perception and subsequent expectations, and in doing so addresses a major literature gap between theories of teacher perception and bias and the relational attributes of schools which affect the segmented assimilation of immigrant students. However, in many ways it raises more questions than it answers. The operationalized definition of teacher bias used here, specifically inequitable distributions of teacher attitudes by demographic characteristics, (net of academic, SES, and school level indicators), leaves much theoretical ground to be covered.

First, the question remains of how these teacher attitudes and expectations affect student trajectories and outcomes. Rather, the analysis and findings presented here suggest that given these distinct teacher proclivities toward assessing students in certain ways, these attitudes may

factor into patterns of segmented assimilation to the U.S. educational system for immigrant students through their relationships with educators. Further research should investigate how these messages from teachers result in different educational aspirations, intellectual self perception, or divergent long term educational outcomes amongst the students themselves or in other teacher associated outcomes. For example, it may be the case that teachers acknowledge the challenges faced by immigrant students and identify them as hardworking, but do not give them the same dividends to this evaluation as their native born peers when assigning grades. Alternatively, perhaps despite student hard work or academic engagement, teachers are still less likely to recommend students for advanced placement or higher level academic courses to enhance their odds of success in college. Finally, it could also be the case that positive teacher perceptions encourage the formation of a positive intellectual identity which pushes students to greater educational goals or expectations than they may have otherwise pursued. Future work should strive to engage the effect of teacher perceptions on immigrant students themselves.

Also, it is important that future work addresses how these teachers' attitudes are formed and what particular educational contexts mediate their formation. Specifically, what teacher characteristics affect the inequitable formation of teacher attitudes? Factors such as teacher gender, ethnoracial identity, and SES or more detailed measures of changing school composition have important implications for addressing variation in teacher perceptions of students. Particularly in new immigrant destination areas, it may be important to identify ways in which teachers come to perceive the new faces in their classrooms. Finally, the differing perceptions for math teachers as opposed to English teachers raise questions regarding the content and consequences of these appraisals across disciplines. In light of the underrepresentation of

minorities in math and science fields, teacher acknowledgement of student hard work may serve a gate-keeping function in ways that have been understudied.

Incorporating the ever increasing numbers of immigrant students into U.S. schools requires that talented, persistent, and hardworking students be acknowledged and rewarded for their efforts. The work done here suggests that English teachers in particular positively perceive the majority of immigrant students but still hold negative attitudes toward particular groups of minority students. This work establishes that teachers inequitably evaluate student hard work across demographic characteristics in ways which conform to larger stereotypes but the more precise causes and consequences for these differences remain unknown.

TABLES AND FIGURES

Table 1. Descriptive Statistics

	Native-Born Students			Foreign-Born Students			
	Mean	SD	% Missing	Mean	SD	% Missing	
<i>Student Characteristics</i>							
Student is female (%)	49.85	0.51	—	52.06	0.45	—	
White (%)	67.06	0.48	—	18.31	0.35	—	***
Black (%)	13.45	0.34	—	8.34	0.25	—	***
Latino (%)	11.97	0.33	—	48.16	0.45	—	***
Asian (%)	2.30	0.15	—	21.66	0.37	—	***
Other race (%)	5.22	0.22	—	3.53	0.16	—	***
Standardized test score	51.11	9.97	—	46.74	9.59	—	***
GPA for all academic 9th grade courses	2.61	0.48	9.04	2.59	0.75	17.30	
Parental years of education	14.63	2.41	—	13.98	2.65	—	***
Parent's income (000)	65.81	56.91	—	44.59	44.02	—	***
Native English speaker (%)	92.56	0.27	—	23.70	0.38	—	***
<i>Student Self-Report</i>							
Student report: Work ethic in English (0-3 scale)	1.57	0.66	21.00	1.58	0.59	30.91	
Student report: Work ethic in math (0-3 scale)	1.51	0.65	20.57	1.54	0.57	30.30	
<i>School Characteristics</i>							
Minority student enrollment, 2004 (%)	30.13	28.60	—	53.19	27.24	0.71	***
Graduates enrolling in 4 year colleges (%)	35.65	35.65	26.40	32.85	11.61	33.08	***
Urban (%)	26.41	0.45	—	46.07	0.44	—	***
Suburban (%)	51.79	0.51	—	44.50	0.44	—	***
Rural (%)	21.80	0.42	—	9.44	0.26	—	***
<i>Outcome Variables (%)</i>							
"Student works hard for good grades" (English)	68.39	0.47	14.92	71.30	0.40	15.97	+
"Student works hard for good grades" (Math)	67.32	0.47	10.30	68.12	0.41	13.80	
English teacher expects student to complete college	50.74	0.50	13.27	46.54	0.44	15.80	*
Math teacher expects student to complete college	49.93	0.50	9.37	49.39	0.44	13.11	
N Students (Total)	10641			1152			
+ p < 0.10				** p < 0.01			
* p < 0.05				*** p < 0.001			

Table 2. Odds Ratios for teacher reporting, "This student usually works hard for good grades in my class"

English					
	All Students			Boys	Girls
	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Predictors</i>					
Female	2.252 ***	1.891 ***	1.893 ***	—	—
Immigrant	1.231 *	1.101	1.063	1.938 *	0.405 *
Black	0.569 ***	0.922	0.914	0.926	0.912
Latino/a	0.626 ***	0.859	0.872	1.141	0.616 **
Asian	1.454 **	1.134	1.061	1.063	1.139
Other race	0.601 ***	0.740 *	0.730 *	0.616 *	0.961
Test scores		1.010 *	1.010 *	1.002	1.023 ***
Grade 9 GPA		2.883 ***	2.883 ***	2.839 ***	2.986 ***
Parental education (yrs)		0.996	0.995	0.997	0.993
Parental income (000)		1.000	1.000	0.999	1.002 +
Native English speaker		0.858	0.849	0.828	0.859
Student report of hard work		1.717 ***	1.718 ***	1.683 ***	1.772 ***
<i>School Level Predictors</i>					
Percent minority		1.005 **	1.005 **	1.004 +	1.007 ***
Percent graduates attending 4 yr colleges		1.001	1.001	1.000	1.002
Urban		0.822 *	0.823 *	0.793 *	0.854
Rural		1.007	1.008	0.998	1.020
<i>Interaction Effects</i>					
Black x Immigrant			1.182	0.605	3.565 +
Latino x Immigrant			0.954	0.461 +	3.279 *
Asian x Immigrant			1.184	0.555	4.040 *
Other race x Immigrant			1.338	0.660	4.925 +
Pseudo - R ²	0.0382	0.1991	0.1992	0.1668	0.2027
N	10021	10021	10021	4958	5063

+ p < 0.10

** p < 0.01

* p < 0.05

*** p < 0.001

Table 3. Odds Ratios for teacher reporting, "This student usually works hard for good grades in my class"

Math					
	All Students			Boys	Girls
	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Predictors</i>					
Female	2.108 ***	1.856 ***	1.857 ***	—	—
Immigrant	1.098	1.023	1.075	1.068	1.053
Black	0.545 ***	0.992	0.973	1.050	0.934
Latino/a	0.662 ***	1.045	1.056	1.105	0.994
Asian	1.316 *	1.155	1.145	1.087	1.267
Other race	0.662 ***	0.904	0.946	0.783	1.319
Test scores		1.014 ***	1.014 ***	1.011 *	1.018 **
Grade 9 GPA		2.607 ***	2.607 ***	2.389 ***	2.986 ***
Parental education (yrs)		1.003	1.002	1.033 +	0.960 *
Parental income (000)		1.001	1.001	1.000	1.002
Native English speaker		0.925	0.929	0.972	0.904
Student report of hard work		1.800 ***	1.799 ***	1.602 ***	2.147 ***
<i>School Level Predictors</i>					
Percent minority		1.000	1.000	1.002	0.996 +
Percent graduates attending 4 yr colleges		0.999	0.999	1.002	0.997
Urban		1.069	1.068	1.084	1.025
Rural		1.112	1.114	1.262 *	0.933
<i>Interaction Effects</i>					
Black x Immigrant			1.481	1.111	2.381
Latino x Immigrant			0.921	0.986	0.974
Asian x Immigrant			0.976	1.256	0.745
Other race x Immigrant			0.453	0.492	0.465
Pseudo - R ²	0.0336	0.1801	0.1805	0.1377	0.2017
N	10538	10538	10538	5235	5303

+ p < 0.10

** p < 0.01

* p < 0.05

*** p < 0.001

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