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## Of Promise and Penalties: How Student Racial-Cultural Markers Shape Teacher Perceptions

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### Abstract

Scholars document considerable disparities in teacher perceptions of students, yet absent from this literature is an examination of how race, ethnicity, and immigration status intersect to influence teacher ratings. This study extends previous research by examining variation in teachers' ratings of academic ability across four conventional racial/ethnic groups as well as thirteen racialized subgroups. Using data from the Early Childhood Longitudinal Study—Kindergarten Class of 1998–1999, we find that black first-graders receive lower ratings in language and literacy, a pattern that holds for both black Americans and black immigrants. In contrast, Asian first-graders receive higher ratings in math; however, this is primarily driven by teachers' much higher ratings of East Asian and Southeast Asian immigrants. These subgroup differences remain even after controlling for a host of background and contextual factors, as well as students' tested ability and academic growth in math and reading. Teacher perceptions of student academic behavior explain lower language and literacy ratings for black Americans and higher math ratings for Southeast Asian immigrants that are present net background and performance, but higher math ratings for East Asian immigrants remain. We conclude by discussing implications of our approach and findings.

### Keywords

Race; Racialization; Racial disparities; Teacher perceptions; Stereotypes

### Introduction

Recent evidence indicates that progress in closing the achievement gap has leveled off, with little change in racial disparities in math and reading performance over the past 20 years (Harris 2011; Lee 2002). Although racial learning gaps can be attributed to a variety of factors, during early grades teachers have the greatest impact on student learning (Farkas 2003; Rowan et al. 2002). In particular, scholars have established a robust association between teacher perceptions and student outcomes (Alexander et al. 1987; Muller 2001; Rosenthal and Jacobson 1968). Scholars have also identified racial disparities in teacher perceptions of students. For example, teachers evaluate black students more negatively

than white and Asian students (Downey and Pribesh 2004; Ferguson 2003; Harris 2011; McGrady and Reynolds 2013; Morris 2005), perhaps suggesting a racial penalty. In contrast, Asian students may benefit from stereotype promise, earning higher ratings than other groups (Lee 2012). To date, research on this topic has not examined the interplay of student race, ethnicity, and immigration status in shaping teacher perceptions.

This study advances scholarship on race and teacher perceptions by examining differences in academic ratings for subgroups of students defined by race, ethnicity, and immigration status. Using data from the Early Childhood Longitudinal Study—Kindergarten Class of 1998–1999, we first present conventional racial/ethnic group differences in teachers' ratings of language skills and math skills from multivariate analyses that account for a variety of student, teacher, and school characteristics, as well as academic performance, and teacher perceptions of students' approaches to learning. Next, we examine differences in teacher perceptions for 13 racialized subgroups based on race, ethnicity, and immigration status. For example, we consider black immigrants and black Americans independently. Examining racialized subgroups advances our understanding of how the intersections of racial markers influence teachers' ratings of students.

More broadly, this research advances the conceptualization of race and racial disparities in the realm of education. Despite calls for more sophisticated measures of race and ethnicity in education research (Lee 2003; O'Connor et al. 2007), most scholars have continued to focus on the black-white dichotomy or conventional racial/ethnic groups. Expanding the scope of inquiry to racialized subgroups acknowledges that multiple racial-cultural markers inform how students are racialized in school and thus shape teacher perceptions. Our results suggest that this strategy yields important insight, demonstrating that race, ethnicity, and immigration status matter differently for different kinds of students. In conclusion, we discuss the implications of our findings for educational inequality and expand on the theoretical promise of considering how students' racial identifications sit at the intersection of multiple markers.

## Background

### Teacher Perceptions, Student Outcomes, and Racial Disparities

Teachers' perceptions influence students' academic and social outcomes in part by shaping how teachers interact with students (Chaikin et al. 1974; Hallinan 2008; Irvine 1988; Leacock 1982; Montalvo et al. 2007; Rosenthal and Jacobson 1968). Scholars find that teachers' perceptions of students influence not only noticeable behaviors like the amount of attention, feedback, and encouragement given (Irvine 1988; Leacock 1982) but also more subtle cues, such as smiling, making eye contact, and reacting to comments made in class (Chaikin et al. 1974). Positive perceptions are associated with increased effort and engagement in the classroom, greater school attachment, higher academic achievement, and more positive emotional development, especially for students identified at-risk (Hallinan 2008; Hamre and Pianta 2001, 2005; Montalvo et al. 2007; Muller 2001; Ridley et al. 2000; Wentzel 1999).

Teacher perceptions are especially consequential during early grades. The relationship between student and teacher is particularly intimate in the early elementary years, when individual teachers are wholly responsible for imparting academic content, teaching social skills, and providing emotional support (Pianta 1997). High teacher expectations in early years prompt students to greater achievement, setting them up for future academic success (Entwisle and Hayduk 1988). Positive relationships between teachers and students also help students adjust socially to school and have lasting effects on their academic achievement (Hamre and Pianta 2001). More generally, early grades of schooling are crucial to setting the trajectory of students' learning over their educational careers (Farkas 2003), making them an important focus of research in their own right.

Although much research documents the benefits of positive teacher perceptions, especially in early years, scholarship also demonstrates that students with certain social characteristics are more likely to be viewed positively by their teachers. Scholars find that teachers not only rate black students less positively than whites across a host of social behaviors, but also tend to characterize black students as less motivated, more disruptive, and less academically engaged (Ainsworth-Darnell and Downey 1998; Bates and Glick 2013; Downey and Pribesh 2004; Ferguson 2003; Harris 2011; McGrady and Reynolds 2013; Oates 2003; Pigott and Cowen 2000). Some scholars also document similar patterns for Latinx (a gender-neutral label for Latina/o and Latin@, Salinas and Lozano 2017) students (Masten et al. 1999; McKown and Weinstein 2008; Tenenbaum and Ruck 2007).

For black and Latinx students, teachers' negative perceptions also extend to their actions and dress (Ferguson 2001; Morris 2005; Tyson 2003), which Morris (2005) suggests makes them more susceptible to discipline for minor rule breaking behaviors. Some teachers also have a negative view of Latinx students' use of Spanish while in school (Lopez 2003). Indeed, Ready and Wright (2011) find that Latinx students receive significantly lower language and literacy ratings from teachers than equally performing whites, even after accounting for language spoken at home. In these ways, cultural markers associated with black and Hispanic students—as well as immigrant populations—come to shape teachers' perceptions of students negatively.

Recent studies uncover similar patterns for teacher perceptions of academic ability (McGrady and Reynolds 2013; Ready and Wright 2011). Since teachers' ratings are important predictors of student placements (Masten et al. 1999), inequality in these ratings may help explain why black and Latinx students are under-represented in gifted and talented programs and top ability groups during elementary school (Condrón 2007; Farkas 2003; Haller 1985). Moreover, academic preparation alone does not explain these trends, as scholars find placement disparities among students at the highest levels of achievement (Mickelson 2001; Tyson 2011).

Although teacher perceptions seem to penalize black and Hispanic students, Asian students tend to receive positive evaluations and are often identified as model students (Goyette and Xie 1999; Lee 1994, 2012; Wong 1980). Stacey Lee (1994) documents how teachers at her study site emphasized the academic successes of their Asian students and went to great lengths to intervene for Asian students who were failing. Lee (2012) notes similar

experiences among her Asian American respondents, and argues that for Asian students, stereotype promise—positive perceptions stemming from group-based stereotypes—can lead to a boost in performance. Whereas negative stereotypes about black students' intellectual abilities have been shown to depress their performance on standardized tests (Steele and Aronson 1995), positive stereotypes about Asians may provide an incentive to live up to high expectations (Lee 2012).

In their research, Ready and Wright (2011) find that the majority of variation in teacher perceptions of academic ability in early grades occurs within classrooms as opposed to between classrooms or schools. They also suggest that the characteristics of students may matter more than those of teachers or schools. But findings from other studies, particular those focused on the racial match (or mismatch) of teachers and students, suggest that teacher characteristics might also matter for understanding racial gaps in teacher ratings (Bates and Glick 2013; Downey and Pribesh 2004). Studies have also identified the racial and socioeconomic composition of classrooms or schools as significant predictors of teacher ratings (Bates and Glick 2013; Ready and Wright 2011). Although findings regarding the direction of these relationships are inconsistent, they make clear the need to also examine and account for school context, especially in light of considerable racial and economic segregation in U.S. schools.

When teachers rate students' academic abilities, they may take into account multiple factors, not all of which are strictly related to language or math skills. This is also important to consider when examining racial disparities in teacher perceptions of student ability, as the research reviewed above makes clear that teachers' perceptions of students' motivation, engagement, and classroom behavior may also be seen through a racial lens. For instance, teachers, particularly white teachers, rate black students as showing less motivation, attentiveness, and organization than white students as early as kindergarten, even after accounting for student background and academic ability (Downey and Pribesh 2004; Irizarry 2015). While some studies have found that teachers also hold less positive perceptions of Latinx students' motivation, creativity, leadership, and learning characteristics (Masten et al. 1999; Ready and Wright 2011), in others, differences between Latinx and white students are negligible (Bates and Glick 2013; McGrady and Reynolds 2013). In contrast, stereotype promise may raise teachers' perceptions not only of Asian students' academic abilities but of their classroom behavior, too (Bates and Glick 2013; McGrady and Reynolds 2013; Irizarry 2015). Therefore, examining teacher perceptions of student behaviors, particularly subjective behaviors often conflated with academic potential (e.g., cooperation, promptness) (Copenhaver and McIntyre 1992; Cox et al. 1985), may shed light on why there may be persistent racial disparities in teacher ratings of academic *ability* after accounting for tested academic performance.

Although there is strong evidence that teacher perceptions systematically vary based on students' race and ethnicity, to date the literature has not fully examined whether patterns of disparate teacher perceptions apply as broadly as they seem. For example, teacher perceptions may vary among black students, with native-born black students and immigrant black students receiving different evaluations. Although members of these groups share similar phenotypes, they may carry different racial-cultural markers, for example in their

dress and speech. In the next section, we discuss the ways that race, ethnicity, and immigration status are bound together and the implications this has for teachers' perceptions of their students.

### **Race, Ethnicity, Immigration Status, and Teacher Perceptions**

The race literature has been host to many lively, and sometimes contentious, discussions around the conceptualization and measurement of race (Bonilla-Silva 2004; Hitlin et al. 2007; Khanna 2010; Lee and Bean 2007; Yancey 2003). Scholars have suggested that education researchers adopt more sophisticated measurements of race (Lee 2003; O'Connor et al. 2007), but this call has not yet been fully realized. Although focusing on conventional racial/ethnic groups is still useful, these racial frames do not reflect the diversity of America's student population, thus limiting our analytical leverage (Pollock 2004). Because the teacher-student relationship is longstanding and intimate, teachers are exposed to a number of race-related visual, material, and cultural cues. These racial-cultural markers are likely to inform teachers' perceptions of students' racial identification and shape how students are racialized, resulting in greater racial differentiation and complexity.

Indeed, scholars find evidence of ethnic variation for blacks and racial variation for Latinxs (Harris and Khanna 2010; Herring et al. 2004; Shaw-Taylor and Tuch 2007). Poorer outcomes among non-white Latinxs (see Reardon and Galindo 2009) indicate the importance of skin color and phenotype. Yet, ethnic differentiation among blacks and Asians intimates that skin color and racial ancestry are not the only markers of racial differentiation. The lack of evidence regarding the impact of immigration status for black students, race for Latinx students, and both ethnicity and immigration status for Asian students underscores the need for more in-depth examinations of race and ethnicity in education research (Baker et al. 2000; Lee 2003; O'Connor et al. 2007).

Immigration status is particularly important because the meanings associated with race and ethnicity are historically linked to immigration. For example, Lee and Zhou (2015) argue that educational success has become associated with the racial category of "Asian" in part because of immigration laws that favor highly skilled Asian immigrants who are more educated than the average citizen of their home country, with some Asian immigrant groups being more highly educated than average Americans, as well. Immigration policy has also shaped the racialized meanings associated with the Latinx population. Massey (2014) argues that restrictions on labor migrants from Mexico, Central America, and South America led to a rise in illegal immigration, fueling the perception of Latinx immigrants as being a threat to the native-born population. Although immigrants are often viewed as hardworking (see below for further discussion), Latinx immigrants could also be viewed suspiciously by authorities because of racialized perceptions of illegal immigration and undocumented immigrants. Thus, immigration status adds a layer of "otherness" that can influence how students are racialized.

Nativity is especially relevant for how students are racialized because rising immigration trends have shifted the demographic make-up of certain minority groups (Hoeffel et al. 2012; Kent 2007; Rong and Preissle 2009). Although minority status can be a major barrier for some immigrants (Frank et al. 2010; Rong and Preissle 2009; Stewart and Dixon

2010), Waters (2001) finds that among blacks, immigrants are evaluated more positively, and Valenzuela (1999) notes a similar pattern for first- and second-generation Latinx students. More generally, researchers have noted the positive perceptions that teachers hold of immigrant students (Blanchard and Muller 2015; Dabach 2011; Matute-Bianchi 1986). These studies find that immigrant students are perceived to be well behaved and interested in learning. Thus, immigrant status might boost teacher perceptions of students. These examples suggest that race, ethnicity, and immigration status are inextricably bound together, and that all three markers should be considered when measuring race in education research.

Despite the general positive perceptions attached to immigrant students, immigrants from different racial and ethnic groups may not benefit equally in terms of teacher perceptions. As we noted earlier, Asians are often considered to be model minorities. Yet, recent evidence suggests that South and Southeast Asian students from immigrant households are the main beneficiaries of stereotype promise for teacher perceptions of student behavior (Irizarry 2015). However, the model minority myth is so pervasive that in the context of academic ratings, it could extend the benefits of stereotype promise to all Asians in the United States, regardless of their ethnicity or immigrant generation.<sup>1</sup> Similarly, while it is possible for black immigrants to receive a boost in perceptions compared to native-born black students, the continuing relevance of the one-drop rule—the idea that any black ancestry makes one black (Khanna 2010; Qian 2004; Snipp 2010; Waters 1990, 1991)—may lead to teachers perceiving black students as more similar to each other regardless of their immigration status. Examining subgroups of students allows us to assess the role that immigrant status plays in the racialization of school children and to uncover whether immigrant status operates differently for different racial and ethnic groups.

This study contributes to the literature on race and teacher perceptions by considering how the intersections of various racial markers influence teachers' ratings of first-grade students. To accomplish this goal, we address three research questions:

1. What is the extent of racial/ethnic variation in teacher ratings of students' academic skills, net child, teacher, and school-level demographic characteristics?
2. To what extent do racial/ethnic differences in teacher ratings remain after accounting for student academic performance and racialized perceptions of their academic behavior?
3. To what extent do differences between racialized subgroups mirror or deviate from larger racial/ethnic group patterns?

## Data and Methods

This study uses data from the Early Childhood Longitudinal Study—Kindergarten Class of 1998–1999 (ECLS-K), a nationally representative study sponsored by the National Center

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<sup>1</sup>Indeed, native-born Americans may believe that all Asians are first-generation immigrants. For example, Asian Americans report frequently being asked questions such as “Where are you *really* from?”, implying that native-born Americans believe all Asians are born abroad (Luo 2016).



for Education Statistics (NCES). The ECLS-K was implemented using a two-stage stratified probability design, resulting in 1277 schools, and subsequently 22,782 children who were enrolled in kindergarten during the fall of 1998.<sup>2</sup> The ECLS-K is well suited for this study because it is a multi-year study that includes detailed information from students, teachers, and school administrators, providing multiple layers of information about students' backgrounds, social context, and schooling experiences. ECLS-K data are supplemented with information from the Common Core of Data (CCD), an NCES database that includes school-level data for every public school in the United States.

Data for this study were drawn from wave 4, which was collected in the spring of first grade. Our analytical sample includes first-grade students enrolled in both public and private schools. Students held back in their kindergarten year (and thus enrolled in kindergarten in 1998–1999) were excluded from our analytical sample, as were those without valid information for our dependent variables, or who did not fall into one of the racialized subgroups described below. Missing information for remaining variables were imputed using chained equations (Royston 2005) and the recently developed multilevel multiple imputation (MLMI) technique (Swoboda 2012), resulting in an analytical sample of 12,610 students.<sup>3</sup>

### Teachers' Ratings of Academic Ability

Dependent variables include teachers' ratings of students' language and literacy skills and math skills. Teachers were asked, "How would you rate this child's academic skill in each of the following areas [language and literacy; math], as compared to other children of the same grade level?" The five responses categories for each question ranged from far below average to far above average. According to distributions presented in Fig. 1, about 36% of students are perceived as having average language and literacy skills, while 47% are rated as average in mathematics. Additionally, teacher ratings appear to be biased upward, such that students are over 60% more likely to be rated above or far above average than below or far below average for language and literacy and more than twice as likely to be rated as above or far above average for math than below or far below average.

### Race/Ethnic Groups and Racialized Subgroups

In this study, we focus on four conventional racial/ethnic groups—white, Asian, Latinx, and black—reflecting the categories most commonly used by researchers. We also include 13 racialized subgroups, which were constructed using various measures of race, ethnicity, and immigration status from students and their biological parents. Our multidimensional measure includes two white subgroups (i.e., white Americans and white immigrants), five Asian subgroups (i.e., East Asian Americans, East Asian immigrants, South Asians, Southeast Asian/Pacific Islander Americans, and Southeast Asian/Pacific Islander immigrants), four Hispanic/Latinx subgroups (i.e., white Latinx Americans, white Latinx immigrants, non-white Latinx Americans, and non-white Latinx immigrants), and two black subgroups (i.e., black Americans, and black immigrants). Immigrant subgroups

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<sup>2</sup>The sample was refreshed the following year to account for students who did not enroll in school until first grade.

<sup>3</sup>Dependent variables were included in imputation models; however, only cases with valid responses for the dependent variables were included in our analysis. Additionally, our analytic sample size is rounded to the nearest tenth in accordance with NCES rules for restricted data use.

include 1.5 and second-generation students, and American subgroups include students who are third-generation and beyond.<sup>4</sup> Frequency distributions for racial/ethnic groups and racialized subgroups are presented in Table 1 (see Irizarry 2015 for more details on the development of racialized subgroups).

### Model Covariates and Controls

**Student Background Characteristics**—Analyses include several student background characteristics, namely gender, age, socioeconomic status, family structure, and language spoken at home. Gender is measured using a dichotomous variable, where male = 1 and female = 0. Age is a continuous variable measured in months. Socioeconomic status is a standardized composite measure based on parents' education, occupation, and household income. We also use a dichotomous variable of family structure that measures whether the child lives in a two-parent household, as well as a dichotomous variable indicating whether the child lives in a household where the primary language spoken is not English.

**Teacher/School Characteristics**—Since teachers' own backgrounds and training may influence the way they perceive their students, we also control for teacher characteristics. These variables include teacher's race/ethnicity (white, black, Hispanic, other race), age, and educational attainment (bachelor's degree or less, post-graduate coursework, master's degree, and doctorate or professional degree). Further, school context, especially the racial and SES composition of the student body, may shape the way that teachers perceive different student behaviors. Thus school-level variables include the school's racial and economic composition (percent Asian, percent Hispanic, and percent black students, and percent eligible for free or reduced priced-lunch), school size (< 150 students, 150–299, 300–499, 500–740, 750 or more), locale (city, suburb, other), and region (Northeast, Midwest, South, West), as well as a dichotomous variable indicating whether the student attends a public school (vs. private school).

**Academic Performance**—We use scores from reading and math item-response theory assessments taken in the spring of students' kindergarten year to estimate students' actual academic skills prior to entering first grade. We also measure academic growth based on the change in reading and math test scores between spring of kindergarten and spring of first grade, which provides a proxy of how much the student learned during their first-grade year. ECLS-K's cognitive assessments are more suitable measures of academic skill than class performance based on teacher determined grades because they are more robust to bias rooted in teacher perceptions (Alexander et al. 1987).

**Academic Behavior**—Teachers' perceptions of students' academic behaviors play a significant role in teachers' academic decision-making, such as in gifted and ability group placements (Copenhaver and McIntyre 1992; Cox et al. 1985; Rist 1970). As noted above, teachers' perceptions of student ability may also be shaped by their perceptions of how a student engages learning on a day-to-day basis. Therefore, we also include the composite

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<sup>4</sup>South Asians are not divided by immigration status because the overwhelming majority of students in this category are either 1.5 or second generation.



measure known as approaches to learning. The approaches to learning scale combines teacher ratings of student attentiveness, task persistence, eagerness to learn, learning independence, flexibility, and organization (descriptive statistics for model controls are available in Appendix Table 6).

### Analytic Strategy

First, we estimated a series of multilevel mixed effects ordered logistic regression models with random intercepts at the school level and teacher level to examine teacher ratings of language and literacy skills. Next, we replicated these analyses using our measure of racialized subgroups in place of conventional racial/ethnic groups.<sup>5</sup> This strategy was also used to examine racial/ethnic group and racialized subgroup differences in teacher ratings of students' math skills. In addition, we tested for significant differences between other racial subgroup pairings. As a sensitivity check, we replicated our analyses using within teacher fixed effects, which accounts for unobserved differences between teachers and schools. As scholars have yet to develop the tools to estimate ordered logit fixed effects regression models using imputed data, we used linear fixed effects models instead.

## Results

### Racial/Ethnic Patterns

We begin by focusing on patterns for teacher ratings of language and literacy skills in Table 2. Model 1 presents odd ratios for racial/ethnic groups with no controls. Subsequent models add controls for student background and teacher/school characteristics (Model 2), prior reading performance (Model 3), reading gains (Model 4), and teacher perceptions of students' learning behaviors (Model 5).

According to our baseline estimates in Model 1, Asian students have 21% higher odds of receiving more positive language and literacy skill ratings than white students do, while both Latinx and black students have significantly lower odds (Odds = .58,  $p < .001$  and Odds = .52,  $p < .001$ , respectively). The odds ratio for Asian students increases after controlling for student, teacher, and school characteristics in Model 2, with the difference in the odds of higher ratings between whites and Asians more than doubling in size. In contrast, there is a decrease in the difference in the odds of higher ratings for Latinx and black students compared to white students. Yet student, teacher, and school controls appear to account for less than one-third of Latinx–white and black–white gaps in teacher language and literacy ratings. In Model 3, teachers' more positive ratings of Asian students, compared to white students, are fully explained by differences in reading skills evident before first grade. Accounting for prior reading ability also reduces the Latinx–white gap, making the difference only marginally significant. However, the same is not true for black students. While prior scores explain some of the black–white gap in teachers' ratings of language and literacy skills, nearly half of the baseline gap remains. Accordingly, the odds of receiving

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<sup>5</sup>BIC statistics for models estimated with non-imputed data suggest that replacing the race/ethnicity variable with the multidimensional racialized subgroup measure improves model fit.

a more positive rating are 24% lower for black students than for white peers who have comparable reading skills at the start of first grade.

Model 4, which introduces a measure of reading gains during first grade as well as an interaction term with prior reading score, serves as our full model. As expected, both previous and current reading performance are significant predictors of teacher ratings, as are students' gender (boys have significantly lower odds of higher ratings than girls) and SES (SES is positively associated with teacher ratings). Additionally, students with Latinx teachers receive significantly higher ratings. Students attending public schools and schools with higher proportions of Latinx, black, or low-income students also receive significantly higher ratings. Yet, even net all these factors, we continue to find a statistically significant gap in teachers' ratings of language and literacy skills. Specifically, the odds of receiving a more positive rating is 17% lower for black students than it is for white students. In Model 5, we examine the role of racialized attitudes by adding an additional control for teachers' perceptions of students' approaches to learning. In addition to being a significant predictor of teachers' academic ratings, even among students with similar backgrounds and skill levels being rated by similar teachers within comparable schools, racial/ethnic differences in teachers' perceptions of approaches to learning also explains the remaining gap between black and white students.

Next, we turn to results for teacher ratings of math skills presented in Table 3. In our baseline model (Model 1), Asian students once again have significantly higher odds of receiving more positive ratings for math skills than white students (Odds = 1.29,  $p < .01$ ), while both Latinx and black students have significantly lower odds (Odds = .62,  $p < .001$  and Odds = .42,  $p < .001$ , respectively). In line with previous findings, accounting for student, teacher, and school characteristics in Model 2 increases the gap between Asian and white students. Although odds ratios for the three racial/ethnic groups remain statistically significant, we do find slight reductions in the Latinx–white and black–white gaps. In Model 3, we add our measure of prior math skills, based on test scores from spring of the previous school year. According to results, differences in prior math skills closes the gap in ratings for Latinx and white students and also explains about half of the remaining gap between black and white students, but we find almost no change in the odds ratio for Asian students.

Model 4, which includes a control for students' math-related academic growth during first grade and a term that captures the interaction between prior skill level and math score gains, once again serves as our full model. As expected, both prior math scores and math gains are positive predictors of teachers' ratings of students' math skills, as is students' SES. Unlike for language and literacy ratings, teachers' ratings of students' math skills do not differ by gender once background characteristics and math performance are taken into account. But findings show that younger students and students from non-English speaking households have higher odds of receiving more positive math ratings. Moreover, while teachers' characteristics do not significantly predict the math rating received, the racial composition of schools students attend does matter. Adding math gains as a control further reduces the black–white gap, rendering it statistically insignificant. But the gap between Asian and white students increases further, such that net all these factors, Asian students have 62% higher odds of receiving a more positive math skills rating than white

students. According to Model 5, teachers' perceptions of students' academic behavior is also positively associated with their ratings of students' math skills, even when comparing students with similar background characteristics and math performance. But unlike previous results, teachers' racialized perceptions of the academic behaviors of similar performing students only explain about a third of the differences in odds between Asian and white students.

### Racialized Subgroup Patterns

Now we turn to racialized subgroup estimates to assess whether racial/ethnic patterns are reflected across the associated subgroups or driven by particular subgroups. We begin by presenting results for language and literacy ratings, located in the top section of Table 4. In previous baseline models, Asian students consistently received more positive ratings than white students. According to Model 1, this pattern holds for East and South Asian subgroups, but not for Southeast Asian subgroups. Instead, we find no significant difference in the odds of receiving more positive language and literacy ratings for Southeast Asian immigrant students compared to white American students. And Southeast Asian American students appear to have significantly lower odds than white American students of receiving more positive ratings. Although none of these gaps hold beyond Model 3, the differences between East and Southeast Asian American students and white American students are primarily explained by student, teacher, and school factors added in Model 2. The differences between East and Southeast Asian immigrant students and white American students actually grow in Model 2, but close once we account for previous reading performance in Model 3. Subgroup differences remain small and insignificant after accounting for academic gains; however, a significant difference between Southeast Asian immigrants and white Americans, now in the opposite direction, reemerges after accounting for teacher perceptions of academic skills.

Results for Latinx and black subgroups in Model 1 also mirror results for their associated racial/ethnic group, with all but black immigrants having significantly lower odds of receiving more positive language and literacy ratings. Controlling for student, teacher, and school characteristics in Model 2 reduces these gaps, and after controlling for previous reading performance in Model 3, only two remain. Specifically, the odds of receiving higher language and literacy ratings is 19% lower for non-white Latinx American students, and 23% lower for black American students than for similarly situated white Americans who entered first grade with comparable reading skills. A similar, statistically significant gap between black immigrant students and white American students also appears in Model 3. Notably, the odds for non-white Latinx American, black American, and black immigrant students are significantly or marginally lower than for most other racialized subgroups (see Appendix Table 7). Controlling for reading gains in Model 4 further reduces these gaps, rendering all but the odds ratio for black Americans insignificant, which is fully explained in Model 5 by teachers' perceptions of approaches to learning. Despite failing to reach statistical significance in most models, the magnitude of odds ratios for black immigrant students suggests that they also contribute to the black–white gap present in Table 2.

The next section of Table 4 presents racialized subgroup estimates for teacher ratings of math skills. In the baseline model, students from all six Latinx and black subgroups have significantly lower odds of receiving more positive math skills ratings than do white American students. Controlling for background and contextual characteristics in Model 2 closes the gap for white Latinx American students and reduces gaps for the other three Latinx subgroups, but has almost no impact on the odds ratios for black students. In Model 3, all remaining Latinx gaps are fully explained by differences in math skills prior to first grade. Prior skills also explain about half of the difference between black and white American students, and about a quarter of the gap between black immigrants and white Americans. Yet, even when comparing students from similar backgrounds who enter first grade in similar schools with comparable math skills, the odds of receiving a more positive rating for math skills is 26% lower for black American students and 35% lower for black immigrant students than it is for white American students. These two gaps only close after controlling for how much math students learned during first grade (Model 4).

Returning briefly to the baseline model (Model 1), we find that only two subgroups are rated more positively than white Americans—East Asian students have 242% higher odds of receiving a more positive math skills rating, while South Asian student have about 58% higher odds. Odds ratios for Southeast Asian subgroups veer (once again) from the pattern found for Asians students overall, as does the odds ratio for East Asian American students, which is statistically insignificant. Controlling for student, teacher, and school characteristics in Model 2 closes ratings gaps for South Asians and Southeast Asian Americans (compared to white Americans), but also increases the gap for East Asian immigrants and opens a gap in favor of Southeast Asian immigrants.

Prior math performance is the only control variable that reduces the gap for Asian immigrant students, cutting it by about half. Accounting for performance measures in Models 3 and 4 otherwise increases the gaps in math ratings for East and Southeast Asian immigrant students, such that net a host of contextual factors as well as both previous and current math skills, East Asian and Southeast Asian immigrants still have significantly higher odds than not just white American students (169 and 87% higher, respectively), but also all other subgroups (see Appendix Table 8). Controlling for math gains during first grade also opens small gaps in favor of students from Southeast Asian American, white Latinx American, and non-white Latin immigrant subgroups (Model 4), all of which are also fully explained by differences in teachers' perceptions of students' academic behaviors.

### Sensitivity Analyses

Given the high degree of school segregation in the U.S., both within the public education system and between public and private schools (Saporito and Sohoni 2006), we replicated racialized subgroup analyses using within teacher fixed effects. These analyses serve as a robustness check to see whether our main findings hold after accounting for unobserved differences between teachers and schools (Table 5). Results from Models 1–4 confirm a significant gap in language and literacy ratings between black and white American classmates, even after accounting for background characteristics, prior reading scores, and readings gains made during first grade. Moreover, Model 5 shows once again that this gap

closes substantially and is rendered insignificant after controlling for teacher perceptions of approaches to learning (Model 5).

Turning to teacher ratings of math skills, results confirm that both East and Southeast Asian immigrants receive significantly higher math ratings than white American classmates, even after accounting for background characteristics, prior math scores, and test score gains during first grade (Model 4). As expected, accounting for teacher perceptions of approaches to learning in Model 5 has little bearing on the gap between East Asian immigrants and white Americans. But unlike previous findings, the higher average rating for Southeast Asian students, net background and performance, appears to be explained by differences in perceived academic behavior. In contrast, black American students once again receive significantly lower math ratings than their white American classmates, even after taking into account prior math skills (based on tests scores) in Model 3; however, this remaining gap is explained by the math test score gains during first grade (Model 4).

## Discussion

Does race shape teacher perceptions of student ability? This study advances research on the topic by evaluating conventional racial/ethnic group and racialized subgroup differences in teachers' ratings of first-grade students' academic skills. Not surprisingly, we find that teachers tend to give black students lower ratings than their white peers, while giving Asian students higher ratings. Notably, these gaps remained even after accounting for student background characteristics and academic performance factors.

As noted in previous research (Lewis 2006), our findings suggest that teachers' evaluations draw from common stereotypes about race and student learning. For example, teachers' more negative perceptions of black students are most distinct for ratings of language and literacy, which evokes the widely held belief that blacks struggle with the mastery of standard or "proper" English (McGrady and Reynolds 2013; Ogbu 2004; Ready and Wright 2011). This stereotype is rooted in spoken language expectations that interpret dominant speech patterns as signals of intelligence while positioning black vernacular and speech codes as either culturally inferior, oppositional, or a primary source of black underachievement (Carter 2003; Wright 1998). In contrast, the most common academic stereotypes about Asian students are rooted in the model minority myth (Brand 1987; Lee 1994; McGrady and Reynolds 2013). This stereotype, which brands Asian students as uniformly hardworking, successful, high achievers who are good at math (Brand 1987; Wing 2007), helps explain why Asian students are rated significantly higher for math skills.

Subgroup analyses add an important dimension to this story. While noting the importance of within-group heterogeneity for Asian students, McGrady and Reynolds (2013), like others before them, treat Asians as a homogenous racial group in their analyses. Our findings reveal that not all Asian subgroups benefit from model minority attitudes with regard to teacher ratings of math skills. Teachers rate East Asian immigrants substantially higher than other subgroups with Southeast Asian immigrants following in a distant second. Beliefs about the superiority of what is primarily perceived as East Asian culture and about Asians as perpetual foreigners are the driving force behind model minority attitudes (Jo 2004; Lei

2003; Ngo and Lee 2007). Thus, it makes sense that these two immigrant subgroups are the only beneficiaries of stereotype promise, since these students are more likely to possess racial-cultural markers at the heart of this stereotype. That teachers' math ratings for South Asian students are significantly lower than both East and Southeast Asian immigrants, once background characteristics and prior scores are accounted for, is also worth mentioning. Considering that the South Asian subgroup is predominantly of first and second generation, we might have expected them to also benefit from an immigrant boost or model minority perceptions. Although more research is needed to unpack this finding, the lack of an immigrant boost could be due to South Asians' darker skin tone and distinct phenotype, which sets them apart from other Asian subgroups.

In contrast, black American students are consistently penalized, receiving lower ratings than almost every other subgroup for language and literacy, and lower ratings than many groups for math (though the significant difference between black and white Americans closes once we account for math gains). Although they fail to reach significance, estimates for black immigrants appear to mirror patterns found for black Americans, which is consistent with recent research on teacher perceptions of student behavior (Irizarry 2015). These findings run counter to studies suggesting that black immigrants are perceived more positively than black Americans (Waters 2001), indicating that the expected immigrant boost does not pay off for black immigrants.

Importantly, accounting for teacher perceptions of these academic behaviors explains the remaining gap in language and literacy ratings between black and white Americans, which indicates that bias in teachers' academic ratings of students (based on differences in ratings net performance) is largely influenced by their more negative perceptions of black students' academic behavior. We know from previous research that black American students receive significantly lower ratings for approaches to learning than white American students, net student background and academic ability (Irizarry 2015). While we cannot say definitively that this finding is a result of racialized perceptions and stereotyping (as opposed to actual differences in student behavior), we also have no reason to believe that black students would be any less attentive, eager to learn, or organized than white students with similar backgrounds, teachers, and schools, and comparable levels of reading performance and growth.

Perceived academic behavior also emerges as an important factor for understanding teachers' academic ratings of Southeast Asian immigrants. Accounting for teacher perceptions of approaches to learning either substantially reduces or fully explains (depending on the model structure) higher math ratings for Southeast Asian immigrants compared to white Americans, net background and academic performance. Thus, teacher bias in math ratings for Southeast Asian immigrants is also driven by racialized attitudes about student behavior. However, the small language and literacy skills rating penalty for Southeast Asian immigrants suggests a greater disconnect or much weaker association between perceived behavior and academic ratings for language and literacy skills. Importantly, perceived behavior has almost no bearing for East Asian immigrants, as they remain the primary, if not the sole beneficiaries of stereotype promise, with ratings for math that are substantially higher than any other subgroup.



Previous studies on teacher perceptions of Latinx students are mixed. While some find that teachers may hold more positive perceptions of Latinx immigrants (Valenzuela 1999), others have identified cases where teachers stereotype Latinx students as oppositional youth and gang members (Morris 2005). Although previous research has also identified an immigrant advantage among Latinx youth for teacher perceptions of student behavior (Irizarry 2015), this does not appear to extend to ratings of academic skills. Although white Latinx Americans and non-white Latinx immigrants appear to receive slightly higher math ratings than white Americans with similar math gains, this finding does not hold for comparisons made by the same teacher. The only significant within teacher gap for Latinx students, net performance, is the reemergence of a small penalty in math ratings for white Latinx immigrants after including perceptions of approaches to learning, which suggests a similar disconnect between teachers' perceptions of behavior and academic ratings as noted above.

This study is not without limitations. First, due in part to the complexity of the data, we do not examine teacher perceptions beyond the first grade. The next wave of data collection was not until 2 years later, in the spring of third grade, and thus we lacked data on immediate past performance beyond first grade. Attrition was also a concern, given the small size of some racialized subgroups. Further, although we account for school and teacher characteristics in our models, small subgroup sample sizes limit the extent to which we can investigate the role of school context to understand racialized subgroup differences in teacher perceptions. The fact that these racialized subgroups do not exist in every school also limits the types of analytical models that can be used for subgroup comparisons. We also want to recognize that these data are nearing 20 years old. This study uses data from the 1998–1999 cohort of the ECLS, as opposed to the more recent 2010–2011 cohort, because the latter was unavailable during the time when racialized subgroups categories were being constructed. Although these data continue to be a rich source of representative information about early education, examination of more recent data will help solidify patterns of teacher perceptions.

Finally, while it is customary to focus on racial gaps net current test performance, it is important to note that our analyses do not account for the influence of teacher perceptions (and possible bias in these perceptions) on student learning in first grade. In this study, we identified multiple significant subgroups' differences that closed once test score gains are accounted for. Although one could interpret the closure of these gaps after controlling for academic gains in first grade as evidence of the accuracy of teacher ratings, it is also possible that some of the predictive validity of teacher ratings is due to expectancy effects, which are more robust among students from stigmatized groups and those who experience differential treatment (see Jussim and Harber 2005 for a summary of this debate). To the extent that teacher expectations become self-fulfilling prophecies, controlling for academic gains could produce results that understate or mask racialized subgroup gaps, especially gaps that hold for students with comparable academic skills prior to first grade, net a host of student, teacher, and school controls.

Our findings have both short- and long-term implications for student learning and growth. Studies on stereotype promise (Lee 2012) and stereotype threat (Steele and Aronson 1995)

note how positive and negative group-based expectations influence how well students perform. Although teachers in the study were not being primed to identify students as more or less capable, they may still be influenced by students' racial-cultural markers when making these assessments. Students who receive poorer ratings based on negative racial stereotypes are likely penalized with less constructive teacher–student interaction and restricted academic growth (Alexander et al. 1987; Irvine 1988; Leacock 1982; Muller 2001; Pianta 2003; Rosenthal and Jacobson 1968), but the benefits of more positive ratings could include better performance, more positive student engagement, and a greater promise of success (Lee 2012).

It is also important to acknowledge how the same stereotypes that drive positive perceptions can also result in negative experiences for Asian students. The belief that all Asian students are high achievers can result in schools having less inclusive and open learning environments for underperforming Asian students and can lead students from other racial groups to perceive Asian students as academic threats, increasing racial hostility (Lee 1994; Maddux et al. 2008). Teachers may also steer Asian students toward academics and STEM education, limiting their opportunities in other areas, academic and otherwise while reifying the very stereotypes that shape this process (Lee 2012).

These results provide a more detailed and comprehensive understanding of educational disparities and the complexities of race in shaping children's educational experiences. Although stereotypes may influence teachers' evaluations, we should not assume that Asian students benefit equally from the model minority myth or that black and Latinx subgroups experience racial penalties in the same way, if at all. Identifying which racialized subgroups benefit from unearned racial promise and which face unjustified racial penalties will improve our understanding of how race shapes the teacher–student experience and help us develop more targeted policies and interventions for improving student learning.

To date, few studies have examined how the intersections of race, ethnicity, and immigration status shape the educational experiences of American youth. Heeding calls for in-depth examinations of race in education research, this study's greatest contribution is the recognition of subgroup patterns for teacher perceptions just as students are being introduced to fundamental skills that set the foundation for future learning. Our approach suggests that attempting to understand the constellation of factors that racialize students in the classroom is not only a valuable exercise for education researchers, but also informative for policy makers and educators working to address educational disparities and close racial achievement gaps. The challenge for future scholars will be deciding when it is best to use conventional as opposed to disaggregated measures of race. We recommend that future studies examine how these relationships may change over time in order to shed light on whether the disparities we document here continue throughout students' educational careers. We also anticipate tremendous benefits from studies that examine how racialized subgroups fare in different school contexts.

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**Appendix**

See Tables 6, 7 and 8.

**Table 6**

Descriptive statistics for model controls

	%/Mean	SD	Min	Max
Male	50.47		0	1
SES	0.03	0.81	-2.96	2.88
Age (in months)	87.08	4.46	68.13	113.53
Two-parent household	78.69		0	1
Non-English speaking HH	12.60		0	1
Kindergarten reading score	33.79	10.84	11.69	85.01
Reading gains in first grade	23.33	8.65	-11.54	55.82
Kindergarten math score	28.62	8.62	7.58	60.06
Math gains in first grade	15.73	5.98	-19.31	41.73
Approaches to learning	3.06	0.70	1.00	4.00
Teacher/school characteristics				
Teacher's race/ethnicity				
White	84.20		0	1
Black	6.97		0	1
Latinx	5.71		0	1
Other	3.12		0	1
Teacher's education				
Up to bachelor's degree	30.50		0	1
Graduate coursework	32.67		0	1
Master's	30.56		0	1
Doctorate	6.28		0	1
Teacher's age	42.28	11.07	21	73
% Asian students	5.15	12.88	0	100
% Hispanic students	14.31	24.72	0	100
% Black students	15.45	25.68	0	100
% Low-income students	57.91	40.34	0	100
School size (# of students)				
< 150	4.67		0	1
150–299	18.55		0	1
300–499	30.43		0	1

	%/Mean	SD	Min	Max
500–749	25.58		0	1
750 or more	20.78			
Locale				
City	34.97		0	1
Suburb	37.31		0	1
Other	27.72		0	1
Public school	78.07		0	1
Region				
Northeast	18.32		0	1
Midwest	24.91		0	1
South	35.27		0	1
West	21.49		0	1

ECLS-K 98–99,  $N \approx 12,610$ . Standard deviations, minimums, and maximums estimated from cases with valid responses

**Table 7**

Comparison of racialized subgroup estimates for teacher ratings of language and literacy skills from Models 4 and 5

Racialized subgroup versus	White imm	East Asian Am	East Asian imm	South Asian	SE Asian Am	SE Asian imm	White Latinx Am	White Latinx imm	NW Latinx Am	NW Latinx imm	Black Am	Black imm
White imm		–	–	–	–	–	–	–	–	–	–	–
East Asian Am	–		–	–	–	–	–	–	–	–	–	–
East Asian imm	–	–		–	–	–	–	–	–	–	+	–
South Asian	–	–	–		–	–	–	–	–	–	+	–
SE Asian Am	–	–	–	–		–	–	–	–	–	–	–
SE Asian imm	–	–	–	–	–		–	–	–	–	–	–
White Latinx Am	–	–	–	–	–	–		–	–	–	+	–
White Latinx imm	–	–	–	–	–	–	–		–	–	–	–
NW Latinx Am	–	+	+	+	+	+	+	–		–	+	–
NW Latinx imm	–	–	–	–	–	–	–	–	–		–	–
Black Am	*	*	*	*	*	*	*	*	*	*		+
Black imm	–	+	+	+	–	+	*	–	*	–	*	

ECLS-K 98–99,  $N \approx 12,610$ . Significant differences controlling for student background, teacher/school characteristics, and prior reading performance (Model 4) noted to the left of the diagonal cells. Significant differences controlling for student background, teacher/school characteristics, prior reading performance, and reading gains (Model 5) in first grade noted to the right of the diagonal cells

<sup>+</sup>  $p < .10$

\*  
p < .05

**Table 8**

Comparison of racialized subgroup estimates for teacher ratings of math skills from Models 4 and 5

Racialized subgroup versus	White imm	East Asian Am	East Asian imm	South Asian	SE Asian Am	SE Asian imm	White Latinx Am	White Latinx imm	NW Latinx Am	NW Latinx imm	Black Am	Black imm
White imm		–	*	–	–	*	–	–	–	–	–	–
East Asian Am	–		*	–	–	*	–	–	–	–	–	–
East Asian imm	*	*		*	*	*	*	*	*	*	*	*
South Asian	–	–	*		–	*	–	–	–	–	–	–
SE Asian Am	–	–	*	–		*	*	–	–	*	*	–
SE Asian imm	*	*	*	*	*		*	*	*	*	*	*
White Latinx Am	–	–	*	–	–	*		–	–	*	*	–
White Latinx imm	–	–	*	–	–	*	–		–	–	–	–
NW Latinx Am	–	–	*	–	–	*	–	–		–	–	–
NW Latinx imm	–	–	*	–	–	*	–	–	–		*	–
Black Am	*	*	*	*	*	*	*	*	*	*		–
Black imm	–	–	*	–	*	*	*	–	–	*	*	

ECLS-K 98–99, N ≈ 12,610. Significant differences between subgroups controlling for student background, teacher/school characteristics, and prior math performance (Model 4) noted to the left of the diagonal cells. Significant differences controlling for student background, teacher/school characteristics, prior math performance, and math gains in first grade (Model 5) noted to the right of the diagonal cells

\*  
p < .05

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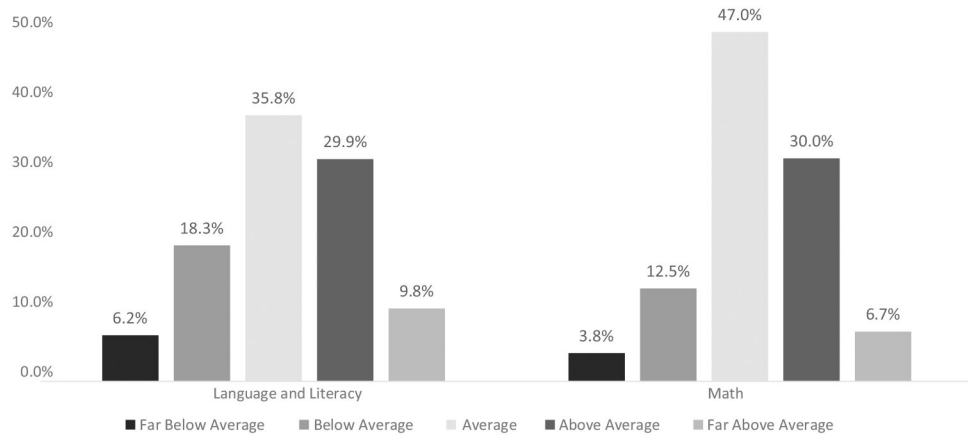
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**Fig. 1.** Distributions of teacher ratings of academic skills

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**Table 1**

Distribution of racial/ethnic groups and racialized subgroups

	Percent
Racial/ethnic groups	
White	60.8
Asian	7.4
Latinx	17.0
Black	14.7
Racialized subgroups	
White American	58.6
White Immigrant	2.2
East Asian American	1.0
East Asian Immigrant	1.4
South Asian <sup>a</sup>	1.0
Southeast Asian American <sup>b</sup>	1.4
Southeast Asian Immigrant <sup>b</sup>	2.7
White Latinx American	4.5
White Latinx Immigrant	3.5
Non-white Latinx American	4.2
Non-white Latinx Immigrant	4.8
Black American <sup>c</sup>	13.6
Black Immigrant <sup>c</sup>	1.1

ECLS-K 98–99,  $N \approx 12,610$ . Immigrant subgroups include first- and second-generation students. American subgroups include students third-generation and beyond

<sup>a</sup>Not differentiated by immigrant status

<sup>b</sup>Includes Pacific Islanders

<sup>c</sup>Includes both mono- and multi-racial non-Latinx students identified as black

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**Table 2**

Odds ratios from multilevel ordered logit regressions on teacher ratings of language and literacy skills in first grade

	Model 1	Model 2	Model 3	Model 4	Model 5
Race/ethnicity					
Asian	1.21**	1.47***	1.06	.93	.83
Latinx	.58***	.76***	.87	.90	.88
Black	.52***	.63***	.76***	.83*	.98
Student background					
Male		.59***	.70***	.70***	1.02
SES		1.97***	1.35***	1.21***	1.11**
Age		1.02***	.98***	1.00	.97***
Two-parent HH		1.18***	1.11*	1.11	.92
Non-English HH		.86*	1.01	1.03	.86
Academic performance					
Prior reading score			1.21***	1.26***	1.24***
Reading gains				1.13***	1.11***
Prior reading score × reading gains				1.00***	1.00***
Approaches to learning					4.98
Teacher/school characteristics					
Black teacher		.84*	.81	.82	.92
Latino teacher		1.21*	1.41**	1.91***	1.97***
Other race teacher		1.00	.98	1.16	1.26
Graduate coursework		.92	1.02	1.06	1.05
Master's degree		.91	.93	.95	.93
Doctorate degree		.90	.94	.84	.80
Teacher's age		1.00*	1.00	1.00	1.00
% Asian		.99**	.99*	.99**	.99*
% Hispanic		1.00***	1.01***	1.02***	1.01***



	Model 1	Model 2	Model 3	Model 4	Model 5
% Black	1.01***	1.01***	1.01***	1.01***	1.01***
% Low income	1.00	1.00	1.00	1.00*	1.00*
150–299 students	.91	1.08	1.06	1.06	1.09
300–499 students	.79*	.84	.79	.79	.83
500–749 students	.78*	.82	.83	.83	.85
750 or more students	.82	.82	.86	.86	.92
Suburb	.94	.93	.88	.88	.92
Other locale	.97	1.12	1.19	1.19	1.21
Public school	.99	1.50***	1.69***	1.51***	1.51***
Northeast	.90	1.16	1.31*	1.15	1.15
Midwest	.92	1.13	1.31*	1.30*	1.30*
West	.94	.97	1.13	1.13	1.00

ECLS-K 98–99,  $N \approx 12,610$ . Models include random intercepts at teacher level and school level. Reference categories include white (student race), white (teacher race), up to a bachelor's (teacher's education), < 150 students (school size), city (locale), and South (region)

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

**Table 3**  
Odds ratios from multilevel ordered logit regressions on teacher ratings of math skills in first grade

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Race/ethnicity</b>					
Asian	1.29**	1.49***	1.44***	1.62***	1.40**
Latinx	.62***	.76***	1.05	1.16	1.09
Black	.42***	.47***	.74***	.88	.91
<b>Student background</b>					
Male		1.08*	1.10*	1.05	1.80***
SES		2.00***	1.35***	1.25***	1.17***
Age		1.04***	.98***	.98***	.97***
Two-parent HH		1.11*	1.09	1.10	.90
Non-English HH		1.00	1.35***	1.35***	1.11
<b>Academic performance</b>					
Prior math score			1.24***	1.30***	1.24***
Math gains				1.12***	1.10***
Prior math score × math gains				1.00**	1.00*
<b>Approaches to learning</b>					
Teacher/school characteristics					5.20***
Black teacher		.87	.86	.87	1.01
Latino teacher		1.19	1.30*	1.25	1.35*
Other race teacher		1.12	1.31	1.34	1.47*
<b>Graduate coursework</b>					
Master's degree		.95	1.00	1.00	.98
Doctorate degree		.86	.89	.89	.82
<b>Teacher's age</b>					
% Asian		.99**	.99*	.99*	1.00
% Hispanic		1.00**	1.01***	1.01***	1.01***

	Model 1	Model 2	Model 3	Model 4	Model 5
% Black	1.01***	1.01***	1.01***	1.01***	1.01***
% Low income	1.00	1.00	1.00	1.00	1.00
150–299 students	.84	.96	.86	.87	.87
300–499 students	.74*	.75	.66*	.69*	.69*
500–749 students	.81	.83	.76	.79	.79
750 or more students	.78	.79	.73	.77	.77
Suburb	1.00	1.01	.98	1.03	1.03
Other locale	.95	1.06	1.11	1.12	1.12
Public school	.92	1.23*	1.17	1.05	1.05
Northeast	1.00	1.22*	1.43***	1.27*	1.27*
Midwest	.92	.93	1.00	1.03	1.03
West	1.06	1.08	1.33**	1.20	1.20

ECLS-K 98–99,  $N \approx 12,610$ . Models include random intercepts at teacher level and school level. Reference categories include white (student race), white (teacher race), up to a bachelor's (teacher's education), < 150 students (school size), city (locale), and South (region)

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

**Table 4**  
Odds ratios for racialized subgroups from multilevel ordered logit regressions on teacher ratings of language and literacy skills and math skills in first grade

	Model 1	Model 2	Model 3	Model 4	Model 5
Language and literacy skills					
White immigrant	1.00	.95	1.06	1.03	1.04
East Asian American	1.61 <sup>**</sup>	1.40	1.22	1.03	.92
East Asian immigrant	2.38 <sup>***</sup>	2.85 <sup>***</sup>	1.22	1.19	1.18
South Asian	1.86 <sup>**</sup>	1.53 <sup>*</sup>	.76	.76	.74
Southeast Asian American	.64 <sup>**</sup>	1.03	1.12	1.00	.90
Southeast Asian immigrant	.89	1.32 <sup>*</sup>	1.11	.88	.71 <sup>*</sup>
White Latinx American	.73 <sup>***</sup>	.82 <sup>*</sup>	.87	.86	.87
White Latinx immigrant	.53 <sup>***</sup>	.78 <sup>*</sup>	.95	.96	.82
Non-white Latinx American	.57 <sup>***</sup>	.72 <sup>***</sup>	.81 <sup>*</sup>	.85	.85
Non-white Latinx immigrant	.49 <sup>***</sup>	.77 <sup>*</sup>	1.01	1.10	1.01
Black American	.51 <sup>***</sup>	.61 <sup>***</sup>	.77 <sup>**</sup>	.84 <sup>*</sup>	1.00
Black immigrant	.72	.76	.67 <sup>*</sup>	.71	.80
Math skills					
White immigrant	.99	.89	1.01	1.05	1.06
East Asian American	1.34	1.12	.91	1.06	.89
East Asian immigrant	3.42 <sup>***</sup>	3.76 <sup>***</sup>	2.35 <sup>***</sup>	2.69 <sup>***</sup>	2.71 <sup>***</sup>
South Asian	1.58 <sup>*</sup>	1.26	1.16	1.30	1.20
Southeast Asian American	.62 <sup>**</sup>	.95	1.40	1.50 <sup>*</sup>	1.25
Southeast Asian Immigrant	1.03	1.41 <sup>**</sup>	1.60 <sup>**</sup>	1.87 <sup>***</sup>	1.41 <sup>*</sup>
White Latinx American	.80 <sup>*</sup>	.87	1.12	1.23	1.20
White Latinx immigrant	.56 <sup>***</sup>	.74 <sup>*</sup>	1.01	1.02	.85
Non-white Latinx American	.59 <sup>***</sup>	.70 <sup>***</sup>	1.01	1.14	1.08
Non-white Latinx immigrant	.52 <sup>***</sup>	.74 <sup>*</sup>	1.15	1.34 <sup>*</sup>	1.18

	Model 1	Model 2	Model 3	Model 4	Model 5
Black American	.40***	.46***	.74***	.89	.92
Black immigrant	.52***	.53***	.65*	.84	.77
Model controls					
Student/teacher/school context	No	Yes	Yes	Yes	Yes
Prior reading/math performance	No	No	Yes	Yes	Yes
Reading/math gains	No	No	No	Yes	Yes
Approaches to learning	No	No	No	No	Yes

ECLS-K 98–99,  $N \approx 12,610$ . Models include random intercepts at teacher level and school level. Reference category is white American. Full model results available upon request

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

**Table 5**

Racialized subgroup estimates from within teacher fixed effects linear regressions on teacher ratings of students' language and literacy and math skills with select controls

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	SE	B	SE	B	SE	B	SE	B	SE
Language and literacy skills										
White immigrant	-.076	.076	-.070	.074	-.008	.056	.020	.045	.018	.041
East Asian American	.179	.107	.127	.111	.096	.084	.001	.067	-.017	.060
East Asian immigrant	.548***	.104	.601***	.102	.134	.081	.113	.062	.098	.059
South Asian	.245*	.125	.179	.115	-.074	.093	-.044	.070	-.054	.062
Southeast Asian American	-.046	.106	.085	.100	.056	.081	-.038	.066	-.032	.064
Southeast Asian immigrant	.052	.078	.195*	.076	.050	.063	-.062	.051	-.106*	.045
White Latinx American	-.186**	.054	-.112*	.052	-.060	.041	-.049	.034	-.039	.031
White Latinx immigrant	-.355***	.079	-.166*	.078	-.044	.061	-.055	.051	-.093	.048
Non-white Latinx American	-.332***	.066	-.198**	.064	-.069	.048	-.032	.039	-.021	.036
Non-white Latinx immigrant	-.466***	.069	-.254***	.073	-.100	.059	-.061	.050	-.056	.045
Black American	-.359***	.048	-.249***	.047	-.113**	.036	-.071*	.030	-.020	.028
Black immigrant	-.259	.136	-.177	.136	-.088	.088	-.069	.072	-.014	.070
Math skills										
White immigrant	-.052	.063	-.069	.062	-.011	.049	-.001	.045	-.005	.043
East Asian American	.040	.090	-.004	.090	-.011	.066	.033	.062	-.018	.059
East Asian immigrant	.528***	.094	.566***	.091	.275***	.067	.298***	.066	.270***	.062
South Asian	.158	.110	.123	.106	.062	.077	.092	.070	.056	.066
Southeast Asian American	-.087	.086	.002	.083	.086	.066	.085	.064	.049	.061
Southeast Asian immigrant	.059	.065	.148*	.066	.118*	.052	.137**	.051	.051	.048
White Latinx American	-.125**	.045	-.077	.044	.010	.037	.026	.035	.021	.032
White Latinx immigrant	-.296***	.067	-.174**	.067	-.029	.057	-.046	.053	-.098*	.047
Non-white Latinx American	-.252***	.052	-.164**	.051	-.009	.041	.034	.039	.024	.036
Non-white Latinx immigrant	-.390***	.058	-.238***	.063	-.045	.052	.000	.049	-.020	.045



	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	SE	B	SE	B	SE	B	SE	B	SE
Black American	-.406***	.042	-.316***	.042	-.101**	.033	-.039	.030	-.026	.029
Black immigrant	-.352**	.106	-.287**	.106	-.150	.086	-.061	.080	-.043	.075
Model controls										
Student background	No		Yes		Yes		Yes		Yes	
Prior performance	No		No		Yes		Yes		Yes	
Reading/math gains	No		No		No		Yes		Yes	
Approaches to learning	No		No		No		No		Yes	

ECLS-K 98-99,  $N \approx 12,610$ . Reference category is white American. Full model results available upon request

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$