

The Importance of Minority Teachers: Student Perceptions of Minority Versus White Teachers

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The demographic divide between teachers and students is of growing public concern. However, few studies have explicitly addressed the common argument that students, and particularly minority students, have more favorable perceptions of minority versus White teachers. Using data from the Measure of Effective Teaching study, we find that students perceive minority teachers more favorably than White teachers. There is mixed evidence that race matching is linked with more favorable student perceptions. These findings underscore the importance of minority teacher recruitment and retention.

Keywords: educational reform; ethnicity; hierarchical linear modeling; instructional practices; race; teacher characteristics

The vast demographic divide between teachers and students is of growing educational and public concern. Currently, racial/ethnic minority students are the demographic majority of students attending public schools in the United States and comprise the large majority of urban school students (U.S. Department of Education, 2013). In contrast, less than 20% of teachers are racial/ethnic minorities (Goldring, Gray, & Bitterman, 2013). A common explanation of why the demographic divide is so concerning is that minority students have more favorable perceptions of minority teachers (Auerbach, 2007; Quirocho & Rios, 2000; Shipp, 1999). More favorable student perceptions of teachers in turn can translate into better academic outcomes such as motivation, interest, and grades (Midgley, Feldlaufer, & Eccles, 1989; Teven & McCroskey, 1997; Wentzel, 2002). However, few studies have explicitly addressed whether students, and particularly minority students, have more favorable perceptions of minority versus non-minority teachers.

We address this question using a secondary analysis of the Measures of Effective Teaching (MET) longitudinal database. The MET study administered an extensive survey soliciting students' perceptions of their teachers' instructional practices (Bill and Melinda Gates Foundation, 2012). An important feature of the study is that students were specifically asked to report on individual classroom teachers rather than the overall workforce of their schools. The MET database also includes a wealth of

additional information about both students and teachers, making it possible to control for many plausible sources of variation in students' perceptions of their teachers. This provides a unique opportunity to address the demographic divide from the perspective of students.

A Demographic Divide: The Importance of Racial/Ethnic Mismatch in Teacher and Student Populations

Recent news coverage has drawn public attention to a persistent demographic pattern: An overwhelmingly White teaching force is working with a majority non-White student population (Berchini, 2015; Strauss, 2015). This gap is long-standing, and one article declares that "the race gap among teachers is not likely to be closed anytime soon" (Rich, 2015). The problem is particularly acute in urban school districts. For example, in New York City, over 85% of public school students are racial/ethnic minorities, but only 40% of teachers are non-White—a difference of 45 percentage points (New York City Department of Education, 2015). Nationwide, a total of 34 states have a demographic divide of 20 percentage points or greater, and the gap appears to be increasing (Boser, 2014).

Beyond simply a matter of demographic mismatch, several lines of arguments have been raised to explain why the divide is

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harmful to minority students. One body of work drawing from quasi-experimental methods has focused on how teachers' perceptions of students' academic merit vary by students' racial/ethnic background, even after controlling for objective measures of student ability. Two meta-analyses conducted over 20 years apart arrive at similar conclusions: Teachers have higher expectations of White and Asian American students and lower expectations of Latino and Black students (Baron, Tom, & Cooper, 1985; Tenenbaum & Ruck, 2007). In particular, research using the National Education Longitudinal Study of 1988 (NELS:88) found that teachers perceive Black students as putting in less effort for good grades and as being less attentive in class compared to their White peers (Ainsworth-Darnell & Downey, 1998; Downey & Ainsworth-Darnell, 2002). There is also evidence that teachers' perceptions are related to students' academic and social outcomes (e.g., Alvidrez & Weinstein, 1999; Ferguson, 2003). A secondary analysis of the Michigan Study of Adolescent Life Transitions found that high teacher expectations were associated with larger gains in mathematics for Black students than for White students (Jussim, Eccles, & Madon 1996). More recently, Cherng (2015) used the Education Longitudinal Study of 2002 to show that teachers are more likely to underestimate the academic abilities of minority youth and that these underestimates are related to minority youth developing lower expectations for their own academic success.

A related body of research focuses on race matching: Do students perform better when they are taught by a teacher of their own race/ethnicity? Dee's (2004, 2005) analyses of the Tennessee Star data found that both Black and White kindergarten students who were randomly assigned to an own-race teacher had increased achievement in reading and mathematics test scores compared to their peers who were not taught by a same-race teacher. Using quasi-experimental methodology with NELS:88, Ehrenberg, Goldhaber, and Brewer (1995) reported little evidence that race matching is linked with test score gains between 8th and 10th grades in history, English, math, or science; however, teachers' subjective ratings of their students were positively linked with matched pairs. Egalite, Kisida, and Winters (2015) used administrative data from the Florida Department of Education and student fixed effects regression modeling to estimate achievement changes associated with assignment of students to teachers of different race/ethnicities. They found small but positive effects of race matching for Black and White students across academic subjects and for Asian American/Pacific Islander students in mathematics. Other quasi-experimental studies find that race matching between teachers and students is also linked to other academic and social outcomes, such as higher teacher expectations (Fox, 2016; Gershenson, Holt, & Papageorge, 2015) and lower rates of student absenteeism and suspensions (Holt & Gershenson, 2015).

Scholars have argued that positive student-teacher race matching effects may be explained in part by students having more favorable perceptions of minority teachers. Prior work has found that student perceptions of teachers are an important ingredient in academic success (Midgley et al., 1989; Teven & McCroskey, 1997). For example, in a study of 452 middle school sixth grades, student perceptions that classroom teachers had

high expectations of them were positively associated with students' goals and interests; in contrast, perceptions that teachers were not nurturing were linked with poor academic performance and social behavior (Wentzel, 2002). Minority teachers in particular may be perceived more favorably by minority students because they can serve as role models and are particularly sensitive to the cultural needs of their students. For example, in her qualitative study, Warikoo (2004) found that West Indian teachers advocated for their West Indian students and understood cultural differences such as parental nonparticipation with schools and lack of eye contact. Other scholars argue that minority teachers can serve as role models for minority students and can motivate students to pursue high levels of education (Auerbach, 2007; Guarino, Santibanez, & Daley, 2006; Quiocho & Rios, 2000; Shipp, 1999). In her study of Latino young adults reflecting on their schooling experiences, Louie (2012) recounts how Alexsa, a second-generation Dominican woman, describes an indigenous teacher: "He was like my father. . . . I think that's awesome. It's really important to have somebody who listens to you and who really appreciates what you've done for the day . . . and your progress. I respected him" (p. 99). Smith (2008) describes how the perceived support of teachers was instrumental to Emmanuel, a Mexican American student from Brooklyn, and to his academic success. Smith describes how "the youth . . . understand that they are seen differently by their teachers and schools—as having a chance 'to make it' and, hence, worth material and emotional investment by teachers" (p. 275). Such student perceptions of teachers undoubtedly motivate youth to strive for academic excellence.

Although previous research has addressed teachers' perceptions of students and explored questions of race matching, relatively little work has explicitly addressed whether students, and especially minority students, have more favorable perceptions of minority versus non-minority teachers. This comparison is the focus of the present study. In particular, we ask whether students' perceptions of their teachers vary by teacher race/ethnicity after controlling for other teacher characteristics. If so, how do the perceptions of minority students correspond to or align with the race/ethnicity of their teacher? Is there evidence of race matching (e.g., Do Black students having more favorable perceptions of Black teachers?)? Are there other interactions between the race/ethnicity of students and teachers that are not explained by the race-matching literature?

Data and Methods

Data

The MET study collected data on 2,756 teachers in 317 schools in 6 U.S. school districts during the academic years of 2009–2010 and 2010–2011. The study focused on English language arts and mathematics teachers in Grades 4 through 9 but also included ninth-grade biology teachers. A total of 157,081 students were recruited into the study over the two school years. For the purposes of the present study, a distinguishing feature of the MET database is that students evaluated their teachers. Moreover, the MET database includes a wealth of information on both students and teachers, including district administrative data,

self-reports, and assessments of domain knowledge; additionally, the teacher-level data include in-classroom observations and reports by school administrators. Despite its size, it is important to note that the MET study was a convenience sample of schools, teachers, and their students within each participating school district. The selection criteria and resulting sample are described in detail by White, Rowan, Atler, and Greene (2014).

In this analysis, we do not make use of the entire MET database but instead focus on teachers in middle school (Grades 6–8) and ninth grade.¹ We focus on this age group for two reasons. First, past research has identified adolescence as a period in which young people rely increasingly on adult mentorship, such as relationships formed with teachers, and less on parents (Collins & Steinberg, 2006). Second, the outcome measures used in our analyses (see Measures section) were assessed using different forms in primary and secondary grades. The two versions of the assessment used different numbers of questions on each subscale, and the subscales had few, if any, overlapping questions. This underscores the important differences between how younger and older students relate to their teachers; it also provides a compelling methodological reason to consider the two sets of grades as different populations.

We also restrict the present analyses by focusing on data collected in the first year of the MET study, AY 2009–2010. The MET study only tracked teachers over year, not students. While many students contributed data in both years of the study, it is not possible to link student data over years, and hence it is not possible to use both years for multilevel modeling. Because the second year of the study saw over 31% attrition in teacher participation (see Kane, McCaffrey, Miller, & Staiger, 2013), we preferred the first year of the study for cross-sectional analysis.

Our final sample consisted of all sixth- through ninth-grade teachers in the first year of the study who were identified as Latino, Black, or White by their district administrative records ($N = 1,680$). An additional 71 teachers in Grades 6 through 9 were included in the MET database but were coded as having a race of “other.” Due to the ambiguity of this classification, these teachers were excluded from all analyses reported in this study. The included teachers were employed in a total of 200 schools, with an average of 8.4 ($SD = 4.7$) teachers per school. Most (88%) of the teachers taught two class sections, with an average of 24.27 ($SD = 8.2$) students per section. However, not all students completed the classroom surveys that serve as the outcome measures for the present study. A comparison of the missing sample and analytic sample is provided in the Appendix.

Measures

The focal outcome variables for the present analyses were obtained from the Tripod student self-report measure (Ferguson & Danielson, 2014). The Tripod contains a total of 36 items that are intended to describe students’ perceptions of their teachers’ behavior (see Appendix Table A1). The items are responded to on a 5-point scale from *never/totally untrue* to *always/totally true*. The 36 items are aggregated into seven domains, referred to as the 7Cs, each of which contains between 3 and 8 items. The 7Cs are summarized in the following, along with estimates of their internal consistency reliability using Cronbach’s alpha.

1. Challenge (8 items; $\alpha = 0.85$): How well does the teacher motivate students to high academic standards?
2. Classroom Management (7 items; $\alpha = 0.85$): How well does the teacher manage the behavior of students in the classroom?
3. Care (3 items; $\alpha = 0.78$): How well does the teacher build supportive relationships with students?
4. Confer (5 items; $\alpha = 0.78$): How well does the teacher welcome the opinions of students?
5. Captivate (4 items; $\alpha = 0.83$): How well does the teacher stimulate students’ interest in course material?
6. Clarify (5 items; $\alpha = 0.80$): How well does the teacher use multiple strategies to explain course material to students?
7. Consolidate (4 items; $\alpha = 0.81$): How well does the teacher make connections among the concepts taught?

Recent research has found that teachers’ classroom-aggregate ratings on the Tripod predict students learning gains not only for the students who provided the rating but also for students in other classrooms of students taught by the same teacher (Raudenbush & Jean, 2014). This work indicates that students are able to reliably identify meaningful features of their teachers’ practices. For this study, we conducted some preliminary factor analyses for each of the individual seven scales. For each scale, we fitted a unidimensional common factor model using the weighted least squares estimator for categorical data in Mplus (Muthén & Muthén, 2014). For each of the 7Cs, a single factor model demonstrated reasonable fit to the data (root mean square error of approximation < 0.05 ; Tucker-Lewis Index > 0.95).² All goodness-of-fit statistics were corrected for clustering of students within classrooms. Although preliminary, these analyses support the use of the existing scale structure of the 7Cs in the present study.

The key independent variable in these analyses is the *teacher race/ethnicity*. This categorical variable represents whether the teacher is Latino, Black, or White, with White serving as the reference category.

A set of variables also captures student characteristics. *Student race/ethnicity* is a categorical variable that indicates whether the student is Asian, Latino, Black, Other, or White, with White serving as the reference category. The sex of the student is measured in a binary variable that indicates whether the student is *female* (coded 1 if female and 0 if male). *Age* is a continuous variable representing the age, in years, of the student. A measure of the socioeconomic status of the student’s family, the student’s *free or reduced lunch* status, is a binary variable (coded 1 if the student qualifies for free or reduced lunch status and 0 if the student does not qualify). A measure of the student’s academic achievement, which may shape his or her perceptions of teachers, is also included. The measure *math test scores* is a rank-based z-score from the state math exam in 2009 (one year prior to the MET study). A set of variables also captures other teacher characteristics: A binary variable captures whether the teacher is *female* (coded 1 if female and 0 if male), a continuous variable reflects the *years of teaching experience* the teacher has, and a binary variable measures whether the teacher *has a master’s degree or higher* (coded 1 if the teacher has a master’s degree or higher and 0 if the teacher does not).

Table 1
Means and Proportions on All Variables Used in Analyses

	Mean/Proportion	Standard Deviation	N
7Cs measures			
Challenge	0.00	0.71	51,278
Captivate	0.00	0.83	51,376
Consolidate	0.00	0.80	50,745
Care	0.00	0.84	50,919
Control	0.00	0.72	51,116
Clarify	0.00	0.61	51,057
Confer	-0.01	0.73	51,347
Teacher's race/ethnicity			
White	0.63		
Latino	0.06		
Black	0.31		
Student characteristics			
White	0.25		
Asian	0.06		
Latino	0.29		
Black	0.37		
Other	0.03		
Age	12.72	2.00	
Female	0.50		
Free/reduced lunch	0.56		
Math test scores	0.06	0.87	
Other teacher characteristics			
Female	0.78		
Years of teaching experience	9.55	5.76	
Has master's degree or higher	0.36		
Teaching conditions			
Teacher working conditions scale	0.00	0.67	
Teaching efficacy			
Teaching efficacy scale	0.04	0.58	

Additionally, two scale measures are included that likely shape student perceptions of teachers. The first is the Teacher Working Conditions Scale, which reflects teacher-reported opinions of the levels of support available in their school environments. Teachers reported quality of support in eight subdomains, including availability of facilities and resources to support instruction, trust of school leadership, and the level of community involvement (for a more complete description, see White et al., 2014). The overall summary score on the working conditions scale was computed using standardized values ($M = 0$; $SD = 1$) on each of the eight domain-level measures of work conditions. Higher scores reflect better teacher-reported work conditions. In the present sample, the internal consistency reliability of the overall scores was estimated to be 0.91 using Cronbach's alpha.

Second, we included an in-classroom observational measure of teacher effectiveness. While several such measures are available in the MET database, this study utilized the Classroom Assessment Scoring System (CLASS; Pianta, Hamre, Hayes, Mintz, & LaParo, 2008) because (a) it is not subject matter specific and therefore is applicable to all teachers in the study, and (b) unlike other measures, it explicitly addresses the interactions that take place among teachers and students (Pianta & Hamre, 2009). As used in the

MET study, the instrument has four domains: emotional support, classroom organization, instructional support, and student engagement. The domains are measured using a total of 12 items, each of which is scored on a 7-point scale. In the MET study, observations were made using video recordings of teachers in the classroom. The videos were randomly assigned to trained raters, and scores on CLASS were provided for each 15 minute-long video segment. For those teachers who submitted videos, the total number of segments scored was between 2 and 10, with a mode of 8. In the present analysis, all rating data were aggregated (i.e., averaged) to the teacher level. We then standardized each of the 12 items ($M = 0$; $SD = 1$) and obtained a total score for each teacher by averaging over the 12 items. Higher values reflect more effective teachers. The internal consistency reliability of the total score was estimated to be 0.94 using Cronbach's alpha. Please see Table 1 for descriptive statistics on all variables used in analyses.

Analytical Strategy

We begin our analyses by presenting descriptive averages of our outcomes variables, the 7Cs measures of student-reported perceptions of their teachers, by the race/ethnicity of the teacher.

We also used hypothesis testing to examine potential differences among teachers of different racial/ethnic backgrounds. To further investigate these relations, we employed multilevel linear regression analyses to control for students' demographic and academic characteristics as well as other teacher characteristics, teaching conditions, and teacher effectiveness. This approach also allowed for examination of whether students have more favorable perceptions of co-racial/ethnic teachers by the inclusion of interactions terms between student and teacher race/ethnicity. All of the regression analyses we report were implemented in the *xtreg* module of Stata 13 (StataCorp, 2013), using the following two-level specification in which students were treated as nested within teachers.

$$\begin{aligned} Y_{ij} &= \alpha + \beta'X_{ij} + e_{ij} \quad e_{ij} \sim N(0, \sigma_e^2) \\ \alpha &= \gamma + \delta'Z_j + u_j \quad u_j \sim N(0, \sigma_u^2). \end{aligned} \quad (1)$$

Equation 1 uses the hierarchical linear modeling notation in which the equation for Y_{ij} is the Level 1 model containing the following terms: a random intercept α ; a vector of student-level fixed effects, β ; a vector of student-level predictor variables, X_{ij} ; and the student-level residual term, e_{ij} . The Level 2 model specifies the random intercept as a function of the overall intercept, γ ; a vector of teacher-level fixed effects, δ ; the teacher-level covariates, Z_j ; and the teacher-level residual, u_j . Treating each of the 7Cs as an outcome variable, we fitted a series of progressively complex models in which blocks of teacher- and student-level control variables were added to the fixed effects components of Equation 1 (please see Tables 3 and 4 for the specific variables included in each model). To address clustering of students and teachers within schools, we used cluster-robust standard errors at the school level, which were implemented using the *svy* module of Stata 13. This additional precaution was taken because the intraclass correlations of the 7Cs at the school level ranged between 5.3% and 8.4% of the total variance. Missing data on covariates were addressed using imputation by chained equations (the *ice* module of Stata 13) with 25 imputed data sets. The covariates imputed were student's math test scores, teachers' years of experience, and whether the teacher had a master's degree.

Results

To address the first research question of this article, which asked whether student perceptions of teachers varied by the teacher's race/ethnicity, we turn to Table 2. This table shows averages of the 7Cs—the main outcome variables of these analyses—by the race/ethnicity of the teacher. On seven and five measures, students have more favorable perceptions of Latino and Black teachers, respectively, than White teachers. For example, students report that Latino and Black teachers are clearer than White teachers, and the differences equal 0.14 and 0.11 standard deviations, respectively.

Results from Table 2 show that students have more favorable perceptions of Black and Latino teachers compared to White teachers on all 7Cs measures. However, these patterns are likely shaped by characteristics of students, teachers, and schools. We

turn next to Tables 3 and 4, which show coefficients from hierarchical linear regression models that estimate values on each of the 7Cs student-reported measures of teaching. Table 3 contains the first four measures—Challenge (Models 1), Captivate (Models 2), Consolidate (Models 3), and Care (Models 4)—and Table 4 contains the next three measures: Control (Models 5), Clarify (Models 6), and Confer (Models 6). For each of the 7Cs measures across both tables, six model configurations are used. Model specification “a” contains variables for teacher race/ethnicity and student race/ethnicity, age, sex, and free or reduced lunch status. The next model configuration includes separate measures of student academic achievement (Model specification “b”); whether the teacher is female, their years of teaching experience, and educational level (Model specification “c”); teaching conditions (Model specification “d”), and teacher efficacy (Model specification “e”). The final model specification, Model specification “f,” is a full model and contains all variables from the previous five model specifications.

Overall, results in Tables 3 and 4 echo those of Table 2: There is consistent evidence that students have more favorable perceptions of minority teachers than White teachers. In virtually all models, Latino teachers are more positively perceived by students across the seven outcome measures. Students perceive Black teachers more than their White peers to hold students to high academic standards and support their efforts (Challenge: Models 1, Table 3), to help them organize content (Consolidate: Models 3, Table 3), and to explain clearly ideas and concepts and provide useful feedback (Clarify: Models 6, Table 4). For the other four outcomes, there are no differences in student perceptions between Black and White teachers. Figure 1 shows predicted values with 95% confidence intervals of the 7Cs measures for Latino, Black, and White teachers and mirror results from Tables 3 and 4: Students have more favorable perceptions of minority teachers compared to White teachers.³

Other covariates are linked with student perceptions. In general, minority students have more positive perceptions of their teachers than White students.⁴ For example, in Models 2, 3, and 6, across all models, Asian, Latino, and Black students have more favorable perceptions of teachers' abilities to captivate their attention, consolidate information, and clarify information compared to their White peers.⁵ Moreover, female students also have more favorable perceptions of teachers across six of the seven outcome measures (the exception is control, for which girls are similar in their perceptions to boys). Age is associated only with student perceptions of Challenge, Consolidate, and Control and free/reduced lunch status with Consolidate and Clarify.

There is also evidence that student perceptions are shaped by their performance, teacher characteristics, teaching conditions, and teacher efficacy. Student academic achievement, measured by standardized math test scores, is positively associated with Challenge, Control, and Confer and negatively associated with Clarify. There is consistent evidence that female teachers are more favorably perceived by students than male teachers. There is some evidence that teacher experience is negatively associated with teacher perceptions, which may be explained by students recognizing that new teachers often have to try harder than their more experienced peers. Having a master's degree is also not associated with most of the outcome variables. Finally, the two

Table 2
Averages of 7Cs Student-Reported Measures of Effective Teaching, by Teacher's Race/Ethnicity

	White		Latino		Black	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Challenge	-.03	.71	.03	.68	.04	.70
Captivate	-.02	.84	.08	.80	.01	.82
Consolidate	-.04	.81	.07	.78	.05	.79
Care	-.02	.84	.09	.81	.02	.85
Control	.01	.73	.12	.70	-.04	.71
Clarify	-.03	.60	.06	.58	.04	.62
Confer	-.01	.74	.09	.70	-.03	.74

scale measures, teacher working conditions and teacher efficacy, are associated with the outcomes in the expected direction. Teachers who report better working conditions and employ more effective pedagogy are more favorably perceived by students than teachers who report more negative work conditions and have lower levels of teaching efficacy.

Thus far, results show that students have more favorable perceptions of Black and Latino teachers than White teachers. These patterns remain largely intact, particularly for Latino teachers, even after considering factors such as student performance, teacher working conditions, and externally rated measures of teacher efficacy. Drawing from the important work on teacher-student race matching, we turn to our second set of research questions: Do the perceptions of minority students correspond to or align with the race/ethnicity of their teacher? Is there evidence of race matching, and are there other interactions between the race/ethnicity of students and teachers? Table 5 presents coefficients from multilevel models that also estimate each of the seven measures of student perceptions of teachers (Models 1–7, respectively). For reference, Model specification “a” is the full model taken from Tables 3 and 3 (Models 1f, 2f, 3f, 4f, 5f, 6f, and 7f). Model specification “b” includes all covariates from the previous model specification and also introduces interaction terms between student and teacher’s race/ethnicity.

Overall from Table 5, there is not clear evidence that all minority students have more favorable perceptions of their intraracial/ethnic teachers. The interaction terms between Latino students and teachers are not statistically significant across the seven measures, which indicates that Latino youth do not have particularly favorable perceptions of Latino teachers. In contrast, Black students have particularly positive perceptions of Black teachers, as indicated by the interaction terms between Black students and teachers that are statistically significant and positive across all outcome measures. This finding is consistent with prior work that finds Black students benefit particularly from Black teachers (Egalite et al., 2015).

Results from Table 5 also indicate that other minority student groups have particularly favorable perceptions of minority teachers. For example, on five of the outcome measures, the interaction terms between Asian American students and Black teachers are statistically significant and positive. Students in the “Other” racial category also report that Black teachers are particularly caring (Model 4b).

Discussion

Summary

Using a unique data set of over 50,000 adolescent student reports on 1,680 classroom teachers, we set off to address a gap in empirical knowledge: Do students’ perceptions of teachers vary by the race/ethnicity of teachers? Our results show that yes, perceptions do vary. Specifically, we find consistent evidence that students have more positive ratings of Latino and Black teachers than White teachers after controlling for student demographic and academic characteristics, other teacher characteristics, work conditions, and teacher efficacy. We also find mixed evidence that perceptions of minority students depend on the race/ethnicity of their teacher: Black students have particularly favorable perceptions of Black teachers, but the same is not true for Latino students and Latino teachers. Moreover, we find that Asian American students also have particularly favorable perceptions of Black teachers.

Implications

Given the overall more positive perceptions of Latino and Black teachers compared to their White counterparts, it is important to ask: Why would minority teachers be more favorably perceived by students? Prior qualitative and theoretical work has long argued that minority teachers are able to relate more easily with minority youth—the largest growing student demographic—by drawing from their own experiences navigating society as nondominant persons. Ladson-Billings (1994), in her study of successful teachers who work with Black youth, *The Dreamkeepers*, describes the connection that can be made between minority teachers and students:

Valentine, an African American woman in her midforties . . . has taught in both inner-city and suburban schools. Her experiences with teaching more affluent white students has convinced her that African American students have special strengths that are rarely recognized in schools . . . [she] enjoys teaching African American students because she says she identifies so closely with them: “when I look at my children I see myself . . . I also know that being smart has nothing to do with skin color.” (p. 46)

A growing body of comparative and quantitative work that examines preservice and early teacher multicultural beliefs finds

Table 3
Coefficients From Linear Regression Models Estimating 7Cs Student-Reported Measures of Effective Teaching: Challenge, Captivate, Consolidate, Care

	Challenge						Captivate					
	1a	1b	1c	1d	1e	1f	2a	2b	2c	2d	2e	2f
Teacher's race/ethnicity (reference White)												
Latino	.06**	.07**	.07**	.06*	.07**	.07**	.09*	.09*	.08*	.08*	.10**	.09*
Black	.04*	.04**	.04*	.04*	.05***	.06***	.01	.01	.02	.01	.03	.03
Student characteristics (reference White)												
Asian	.03*	.02*	.03*	.03**	.03**	.03**	.12***	.12***	.12***	.12***	.12***	.12***
Latino	-.00	.00	-.00	-.00	.01	.01	.02**	.03**	.02*	.02**	.04***	.04***
Black	.07***	.08***	.07***	.07***	.09***	.09***	.04***	.04***	.03**	.04***	.05***	.05***
Other	.06	.06	.06	.06	.08	.08	.02	.02	.02	.02	.04	.04
Age	-.03***	-.03***	-.03***	-.03***	-.03***	-.02***	-.01	-.01	-.01	-.01	-.00	.00
Female	.10***	.10***	.10***	.10***	.10***	.10***	.04***	.04***	.04***	.04***	.03***	.04***
Free/reduced lunch	.00	.00	.00	.00	.00	.00	.01	.01	.01	.01	.01	.01
Academic achievement												
Math test scores		.02***				.02***		.01*				.01*
Other teacher characteristics												
Female			.09***			.08***			.06**			.05*
Years of teaching experience			-.00			-.00			-.00**			-.01***
Has master's degree or higher			-.04*			-.04*			-.04			-.04
Teaching conditions												
Working conditions scale				.03**		.02				.04**		.03
Teaching efficacy												
Teaching efficacy scale					.16***	.15***					.20***	.20***
Constant	.32***	.29***	.29***	.31***	.23***	.20***	.03	.01	.08	.03	-.06	-.01
Observations	51,278	51,278	51,278	51,278	51,278	51,278	51,376	51,376	51,376	51,376	51,376	51,376

	Consolidate						Care					
	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f
Teacher's race/ethnicity (reference White)												
Latino	.10***	.10***	.10***	.10***	.11***	.10***	.11***	.11***	.11**	.11**	.12***	.11***
Black	.05**	.05**	.05**	.05**	.06***	.06**	.02	.02	.02	.02	.04	.03
Student characteristics (reference White)												
Asian	.11***	.12***	.12***	.12***	.12***	.12***	.07***	.07***	.07***	.07***	.08***	.08***
Latino	.07***	.06***	.06***	.07***	.08***	.07***	-.01	-.02	-.01	-.01	-.00	-.00
Black	.13***	.12***	.13***	.13***	.14***	.14***	.07***	.06***	.07***	.07***	.08***	.08***
Other	.10*	.10*	.10*	.10*	.12**	.12**	.08	.08	.08	.09	.10	.10
Age	-.02***	-.02***	-.02***	-.02***	-.01**	-.01**	-.00	-.00	-.00	-.00	.00	.00
Female	.06***	.06***	.06***	.06***	.06***	.06***	.05***	.04***	.05***	.05***	.04***	.04***
Free/reduced lunch	.03***	.02**	.03***	.03***	.03***	.03***	.01	.01	.01	.01	.01	.01
Academic achievement												
Math test scores		-.01				-.01*		-.01				-.01
Other teacher characteristics												
Female			.09***			.08***			.15***			.14***
Years of teaching experience			-.00**			-.00***			-.00**			-.01***
Has master's degree or higher			-.03			-.03			-.04			-.04
Teaching conditions												
Working conditions scale				.02		.01				.04**		.03**
Teaching efficacy												
Teaching efficacy scale					.16***	.16***					.17***	.17***
Constant	.08	.10	.08	.08	-.01	.03	-.00	.01	-.04	-.01	-.10	-.09
Observations	50,745	50,745	50,745	50,745	50,745	50,745	50,919	50,919	50,919	50,919	50,919	50,919

* $p < .10$. ** $p < .05$. *** $p < .01$.

Table 4
Coefficients From Linear Regression Models Estimating 7Cs Student Reported Measures of Effective Teaching: Control, Clarify, Confer

	Control						Clarify					
	5a	5b	5c	5d	5e	5f	6a	6b	6c	6d	6e	6f
Teacher's race/ethnicity (reference White)												
Latino	.08**	.09**	.09**	.08**	.09**	.10**	.08***	.08***	.08***	.08***	.08***	.08***
Black	-.06**	-.05*	-.05*	-.06**	-.04*	-.03	.05***	.05***	.05***	.05***	.06***	.05***
Student characteristics (reference White)												
Asian	.02	.02	.02	.02	.02	.02	.07***	.07***	.07***	.07***	.08***	.08***
Latino	.03***	.04***	.03***	.03***	.04***	.05***	.04***	.04***	.04***	.04***	.05***	.05***
Black	.03**	.04***	.03**	.03**	.04***	.06***	.07***	.06***	.07***	.07***	.08***	.07***
Other	-.03	-.02	-.03	-.03	-.02	.00	.11***	.10***	.11***	.11***	.12***	.12***
Age	.01*	.01***	.01**	.01**	.01***	.02***	-.01*	-.01**	-.01	-.01*	-.00	-.00
Female	-.00	-.00	-.00	-.00	-.00	-.00	.03***	.03***	.03***	.03***	.03***	.03***
Free/reduced lunch	.01	.02*	.01	.01	.01	.02*	.02**	.01**	.02**	.02**	.02**	.02**
Academic achievement												
Math test scores		.04***				.04***		-.02***				-.02***
Other teacher characteristics												
Female			.06**			.05**			.05***			.04**
Years of teaching experience			.00			.00			-.00*			-.00**
Has master's degree or higher			-.06**			-.06**			-.02			-.02
Teaching conditions												
Working conditions scale				.05***		.04***				.02*		.02
Teaching efficacy												
Teaching efficacy scale					.16***	.16***					.11***	.11***
Constant	-.13**	-.20***	-.14*	-.14**	-.21***	-.27***	.01	.04	.03	.01	-.05	-.00
Observations	51,116	51,116	51,116	51,116	51,116	51,116	51,057	51,057	51,057	51,057	51,057	51,057

	Confer					
	7a	7b	7c	7d	7e	7f
Teacher's race/ethnicity (reference: White)						
Latino	.11***	.11***	.11***	.11***	.12***	.11***
Black	-.02	-.02	-.02	-.02	-.01	-.00
Student characteristics (reference: White)						
Asian	.11***	.11***	.11***	.11***	.12***	.12***
Latino	-.01	.00	-.01	-.01	.00	.01
Black	.04***	.05***	.04***	.04***	.05***	.06***
Other	.05	.07	.05	.06	.07	.08
Age	.00	.01	.01	.00	.01*	.01***
Female	.08***	.08***	.08***	.08***	.08***	.08***
Free/reduced lunch	-.00	.00	-.00	-.00	.00	.00
Academic achievement						
Math test scores		.03***				.03***
Other teacher characteristics						
Female			.07***			.06**
Years of teaching experience			-.00**			-.00***
Has master's degree or higher			-.03			-.03
Teaching conditions						
Working conditions scale				.02		.01
Teaching efficacy						
Teaching efficacy scale					.16***	.16***
Constant	-.12*	-.18**	-.10	-.13*	-.21***	-.22***
Observations	51,347	51,347	51,347	51,347	51,347	51,347

* $p < .10$. ** $p < .05$. *** $p < .01$.

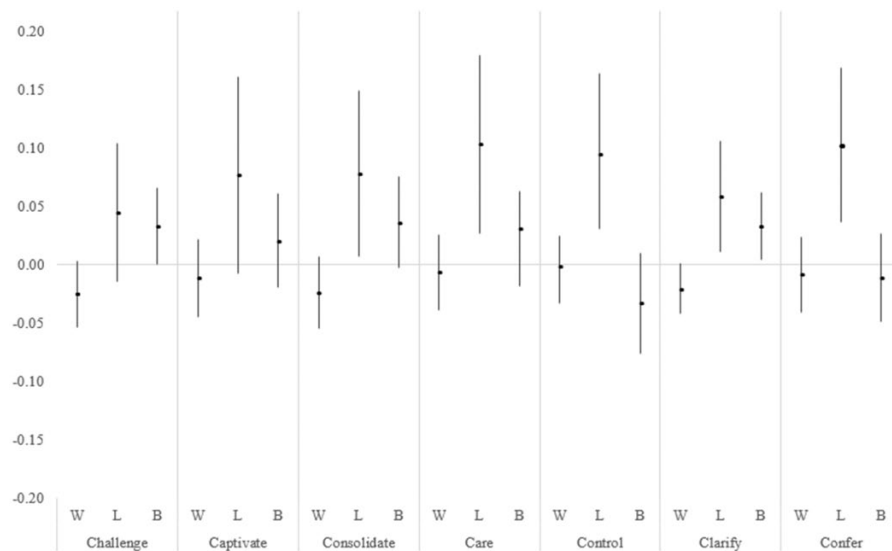


FIGURE 1. Predicted values on 7Cs (with 95% confidence intervals), by teacher race/ethnicity

Note. All predicted values estimated from Models f in Tables 3 and 4. All other variables held at mean values. W = White teachers; L = Latino teachers; B = Black teachers.

Table 5
Coefficients From Linear Regression Interaction Models Estimating 7Cs Student-Reported Measures of Effective Teaching

	Challenge		Captivate		Consolidate		Care	
	1a	1b	2a	2b	3a	3b	4a	4b
Teacher's race/ethnicity (reference: White)								
Latino	.07**	.06	.09*	.05	.10***	.07	.11***	.08
Black	.06***	.04	.03	-.02	.06**	.02	.03	-.01
Student characteristics								
Asian	.03**	.02	.12***	.11***	.12***	.11***	.08***	.07***
Asian Student × Latino Teacher		-.05		-.09		-.06		-.02
Asian Student × Black Teacher		.07**		.09**		.10***		.07
Latino	.01	.02	.04***	.03**	.07***	.07***	-.00	-.00
Latino Student × Latino Teacher		.01		.06		.05		.03
Latino Student × Black Teacher		-.01		.03		.02		.02
Black	.09***	.08***	.05***	.03**	.14***	.12***	.08***	.06***
Black Student × Latino Teacher		.05		.05		.04		.06
Black Student × Black Teacher		.05**		.07**		.08***		.07**
Other	.08	.08	.04	.03	.12**	.10	.10	.03
Other Student × Latino Teacher		.17		.05		.24		.06
Other Student × Black Teacher		-.02		.06		.02		.31**
Age	-.02***	-.02***	.00	.00	-.01**	-.01**	.00	.00
Female	.10***	.10***	.04***	.04***	.06***	.06***	.04***	.04***
Free/reduced lunch	.00	.00	.01	.01	.03***	.03***	.01	.01
Math test scores								
Other teacher characteristics								
Female	.08***	.08***	.05*	.05*	.08***	.08***	.14***	.14***
Years of teaching experience	-.00	-.00	-.01***	-.01***	-.00***	-.00***	-.01***	-.01***
Has master's degree or higher	-.04*	-.04*	-.04	-.04	-.03	-.03	-.04	-.04
Teaching conditions								
Teaching conditions scale	.02	.02	.03	.03*	.01	.01	.03**	.03**
Teaching efficacy								
Teaching efficacy scale	.15***	.15***	.20***	.19***	.16***	.15***	.17***	.17***
Constant	.20***	.20***	-.01	-.00	.03	.03	-.09	-.09
Observations	51,278	51,278	51,376	51,376	50,745	50,745	50,919	50,919

(continued)

Table 5 (continued)

	Control		Clarify		Confer	
	5a	5b	6a	6b	7a	7b
Teacher's race/ethnicity (reference: White)						
Latino	.10**	.08	.08***	.05	.11***	.08*
Black	-.03	-.07**	.05***	.00	-.00	-.04
Student characteristics						
Asian	.02	.02	.08***	.07***	.12***	.10***
Asian Student × Latino Teacher		-.06		-.00		.01
Asian Student × Black Teacher		.02		.07**		.09**
Latino	.05***	.05***	.05***	.04***	.01	.01
Latino Student × Latino Teacher		.01		.04		.02
Latino Student × Black Teacher		.02		.05**		.02
Black	.06***	.04***	.07***	.05***	.06***	.04***
Black Student × Latino Teacher		.03		.07*		.06
Black Student × Black Teacher		.06**		.08***		.07**
Other	.00	.01	.12***	.13**	.08	.07
Other Student × Latino Teacher		-.06		.06		.21
Other Student × Black Teacher		-.01		-.04		.02
Age	.02***	.02***	-.00	-.00	.01***	.01***
Female	-.00	-.00	.03***	.03***	.08***	.08***
Free/reduced lunch	.02*	.02**	.02**	.02**	.00	.00
Math test scores						
Other teacher characteristics	(.01)	(.00)	(.00)	(.00)	(.01)	(.01)
Female	.05**	.05**	.04**	.04**	.06**	.06**
Years of teaching experience	.00	.00	-.00**	-.00**	-.00***	-.00***
Has master's degree or higher	-.06**	-.06**	-.02	-.02	-.03	-.03
Teaching conditions						
Teaching conditions scale	.04***	.04***	.02	.02	.01	.01
Teaching efficacy						
Teaching efficacy scale	.16***	.15***	.11***	.11***	.16***	.16***
Constant	-.27***	-.27***	-.00	.01	-.22***	-.22***
Observations	51,116	51,116	51,057	51,057	51,347	51,347

Note. The omnibus test of the interaction between student and teacher race was significant for all outcomes: Challenge, $F(8, 51278) = 20.33, p = .0263$; Captivate, $F(8, 51376) = 20.36, p = .0260$; Consolidate, $F(8, 50745) = 22.40, p = .0132$; Care, $F(8, 50919) = 20.31, p = .0264$; Control, $F(8, 51116) = 18.84, p = .0423$; Clarify, $F(8, 51057) = 19.41, p = .0312$; Confer, $F(8, 51347) = 19.64, p = .0329$.

* $p < .10$. ** $p < .05$. *** $p < .01$.

that Latino and Black teachers are more multiculturally aware than their White peers and that higher levels of multicultural awareness are linked to better classroom environments (in classroom observations) (Cherng & Davis, 2015). The finding from this article that, on average, all student groups have more positive ratings of minority teachers, including White students and Asian American students, suggests that minority teachers can translate their experiences and identities to form rapports with students that do not share the same race or ethnicity. For example, Valentine, from the aforementioned passage, believes that Black students have strengths and abilities that may be invisible to mainstream schooling. If working with Asian American youth, Valentine will likely still be sensitive and recognize the strengths and needs of her students. It also may be the case that minority teachers are particularly well perceived by minority students because minority teachers may have personal experience navigating racial stereotypes about academic achievement and

can equip students to combat these stereotypes. And this rapport, built on positive student perceptions of teachers, might contribute to academic success for students.

The present research has a number of important limitations. Although the MET study contains one of the largest student and teacher samples across geographic areas, it only focuses on urban school districts and not other areas. Therefore, the results are not statistically generalizable to the population of the United States; however, given that the concentration of minority youth and the demographic divides between teachers and students are often greatest in urban areas, results from this study can still inform policymakers. Even with the large number of teachers in the MET study sample, we are still only able to race-match Black, White, and Latino student-teacher dyads given the limited number and collapsed racial/ethnic category for teachers. The number of Latino teachers in the sample is also not as large as the number of White and Black teachers and likely limits our

statistical power. Moreover, the analyses rely on nonexperimental methodologies, although given our examination of race/ethnicity and how neither are malleable factors (at least in the context of this study), we believe the findings still illuminate important patterns in student perceptions.

Despite these limitations, findings from this article attest to the importance of having diversity among the teaching force. Research has shown that students' perceptions of teachers are associated with motivation and achievement and that having a more diverse teaching force can help close longstanding racial achievement gaps. Therefore, stakeholders should continue to strengthen efforts to recruit and retain teachers of color (Guarino et al., 2006; Ingersoll & May, 2011), such as by having strong administrative support for minority educators (Grissom, 2011; Grissom & Keiser, 2011). Addressing the demographic divide between teachers and students also speaks to bureaucratic representation: the notion that governmental organizations like schools can better serve students—academically and socially—when the composition of the teaching force mirrors the composition of the student population (Grissom, Kern, & Rodriguez, 2015). In the end, minority teachers, who likely possess tools to form strong ties with students, can help empower youth of all racial/ethnic identities.

NOTES

¹We also replicate our main analyses using the second year student and teacher sample, which has far fewer observations. Overall, results from these tertiary analyses mirror the main findings presented in this article.

²For the Care scale, the common factor model is just identified, and goodness of fit was not available.

³Predicted values on outcome measures are estimated from the full models (Models f) in Tables 3 and 4. All other covariates in models are held at mean or proportion.

⁴White students, on average, have similar or slightly higher ratings of Latino versus White teachers (statistics not shown).

⁵The finding that minority students have more positive perceptions is also present in descriptive averages on the seven outcome measures.

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APPENDIX

An average of 34% percent of students were completely missing observations on each of the outcome measures, and these students were necessarily excluded from our analyses. The proportion of minority students was slightly higher among those missing data on outcome measures compared to those who had valid observations on the outcome measures. This pattern is similar to established patterns in survey research (Dillman, 1978; Dillman et al., 2009; Fowler & Mangione, 1990). The student racial demographics of the analytic sample, as found in Table 1, are: 25% White, 6% Asian, 29% Latino, 37% Black, and 3% Other. The student racial demographics of those missing are: 19% White, 5% Asian, 31% Latino, 42% Black, and 3% Other. The teacher racial demographics of the analytic sample, as found in Table 1, are: 63% White, 6% Latino, and 31% Black. The teacher racial demographics of those missing are: 59% White, 6% Latino, and 35% Black.

Table A1
Survey Questions on 7Cs Scale Items

Scale	Primary Version	Secondary Version
Clarify	My teacher explains things in very orderly ways. *My teacher knows when the class understands and when we do not. I understand what I am supposed to be learning in this class. *If you don't understand something, my teacher explains it another way. *My teacher explains difficult things clearly. In this class, we learn to correct our mistakes.	My teacher has several good ways to explain each topic that we cover in this class. *My teacher knows when the class understands and when we do not. When s/he is teaching us, my teacher thinks we understand even when we don't. *If you don't understand something, my teacher explains it another way. *My teacher explains difficult things clearly.
Control	*Our class stays busy and does not waste time. Students behave so badly in this class that it slows down our learning. Everybody knows what they should be doing and learning in this class. *My classmates behave the way my teacher wants them to.	*Our class stays busy and doesn't waste time. I hate the way that students behave in this class. Student behavior in this class is under control. *My classmates behave the way my teacher wants them to. Student behavior in this class is a problem. Students in this class treat the teacher with respect.
Captivate	We have interesting homework. School work is not very enjoyable. School work is interesting.	I like the ways we learn in this class. My teacher makes learning enjoyable. This class does not keep my attention—I get bored.
Challenge	My teacher pushes us to think hard about things we read. *In this class, my teacher accepts nothing less than our full effort. In this class we have to think hard about the writing we do. My teacher pushes everybody to work hard.	My teacher asks questions to be sure we are following along when s/he is teaching. *In this class, my teacher accepts nothing less than our full effort. My teacher asks students to explain more about answers they give. My teacher doesn't let people give up when the work gets hard. My teacher wants us to use our thinking skills, not just memorize things. My teacher wants me to explain my answers—why I think what I think. In this class, we learn a lot almost every day. In this class, we learn to correct our mistakes.
Confer	My teacher wants me to explain my answers—why I think what I think. When he/she is teaching us, my teacher asks us whether we understand. My teacher tells us what we are learning and why. *My teacher wants us to share our thoughts. *Students speak up and share their ideas about class work. My teacher asks questions to be sure we are following along when he/she is teaching. My teacher checks to make sure we understand what he/she is teaching us.	My teacher respects my ideas and suggestions. Students get to decide how activities are done in this class. My teacher gives us time to explain our ideas. *My teacher wants us to share our thoughts. *Students speak up and share their ideas about class work.
Care	*My teacher in this class makes me feel that he/she really cares about me. The teacher in this class encourages me to do my best. *My teacher seems to know if something is bothering me. If I am sad or angry, my teacher helps me feel better. My teacher is nice to me when I ask questions. I like the way my teacher treats me when I need help. My teacher gives us time to explain our ideas.	*My teacher in this class makes me feel that s/he really cares about me. My teacher really tries to understand how students feel about things. *My teacher seems to know if something is bothering me.
Consolidate	When my teacher marks my work, he/she writes on my papers to help me understand how to do better. *My teacher takes the time to summarize what we learn each day.	The comments that I get on my work in this class help me understand how to improve. *My teacher takes the time to summarize what we learn each day. My teacher checks to make sure we understand what s/he is teaching. We get helpful comments to let us know what we did wrong on assignments

Note. Asterisks denote questions that are the same between primary and secondary versions of the questionnaire.

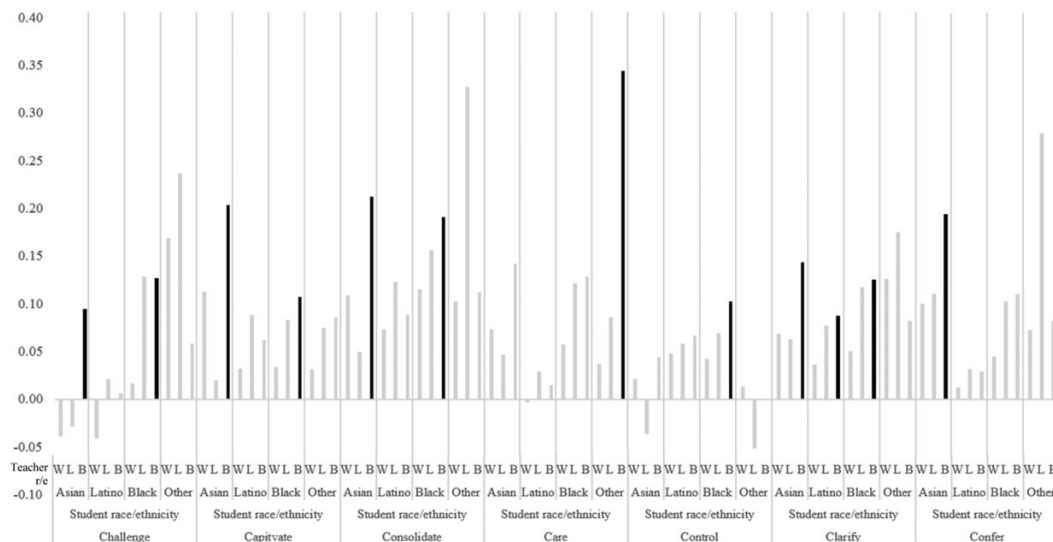


FIGURE A1. *Differences in predicted probabilities from White student and teacher dyads, by student and teacher race/ethnicity*
Note. All predicted values obtained from Models b in Table 5 with control variables set to their mean values. Black bars denote that student-teacher rating is significantly different from the corresponding White student-teacher rating. W = White teachers; L = Latino teachers; B = Black teachers.