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Do Ethnically-Congruent Teachers Really Matter Little for Hispanic Students? A Re-Examination of the Data

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ABSTRACT

Do Ethnically-Congruent Teachers Really Matter Little for Hispanic Students? A Re-Examination of the Data

While there is now much evidence in the literature that assignment to ethnically-congruent teachers results in better student outcomes like achievement and teachers' evaluations of their behavior for Black and White students, findings appear to be noticeably mixed for Hispanic students. This paper shows that a potential reason for the mixed findings for Hispanic students lies in the fact that previous studies have not adequately accounted for the cultural background of students and teachers. Unlike existing studies, which define matches to occur when a student and teacher report having the same race, I define matches to occur only if the student and teacher report having both the same race and native language. The rationale is that race and native language together provide a more complete picture of ethnic identity compared to only race. Employing a student fixed effects strategy, and comparing two different teachers' evaluations of the same student, I find that Hispanic students receive more favorable evaluations from Hispanic teachers who share the same native language than Hispanic teachers who speak a different native language or non-Hispanic teachers. This suggests that more coherent findings may emerge if researchers additionally consider native language in defining ethnic matches.

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1   Introduction

A large literature has tried to examine the effects of student assignment to teachers of the same race/ethnicity. A variety of outcomes have been analyzed, including how teachers perceive students' behaviors (Dee 2005; McGrady and Reynolds 2013), student achievement (Ehrenberg et al. 1995; Dee 2004; Egalite et al. 2015) and other student outcomes (Holt and Gershenson 2017; Lindsay and Hart 2017).

Most of this research has focused on Black/White students and has generally found that matching students to teachers of the same race/ethnicity is associated with better teacher evaluations of students' behavior, higher student achievement, and reduced rates of office referrals. However, when it comes to Hispanic students, findings appear to be noticeably mixed, with many studies finding null results (Redding 2019). Some studies have quite surprisingly even found matching Hispanic students to race-congruent teachers to be associated with worse student outcomes (Egalite et al. 2015).

In this paper, I show that a potential explanation for the odd findings for Hispanic students lies in the fact that previous studies have not adequately accounted for the cultural background of Hispanic students and teachers. The Hispanic community in the U.S. is arguably diverse, with members belonging to a variety of different immigrant generational statuses and source countries (Egalite et al. 2015; Seah 2021).[1] This is reflected in the bimodal patterns of native language used: Hispanics predominantly identify as being either Spanish or English native speakers. Consequently, even if teachers and students identify as Hispanic, they may not enjoy a shared cultural understanding necessary for translation into higher teacher expectations of students, improved instruction, or stronger student-teacher relationships (Egalite 2015; Redding 2019). I show that more coherent findings may emerge if studies consider not just the reported race of students and teachers but also their native languages when defining ethnic matches.

Using data from the National Education Longitudinal Study of 1988 (NELS), which allows each student to be linked with two subject teachers, I compare how student outcomes differ when a student is taught by a teacher of the same ethnicity and when the same student is taught by a teacher of a different ethnicity. The outcomes analyzed are teachers' subjective

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[1] While Egalite et al. (2015) conjecture that their counterintuitive findings on student-teacher race matching for Hispanic students may have resulted due to the cultural diversity of Hispanics, they were unable to test this formally, perhaps due to data limitations.

evaluations of student classroom behavior – the predominant outcome in studies of student-teacher racial matching (Redding 2019). Unlike existing studies, which define matches to occur when a student and teacher report having the same race, I define matches to occur only if the student and teacher report having both the same race *and* native language. The rationale is that race and native language together provide a more complete picture of ethnic identity compared to just race. I find that Hispanic students receive more favorable evaluations from Hispanic teachers who share the same native language than Hispanic teachers who speak a different native language or non-Hispanic teachers.

This paper contributes to the student-teacher racial match literature in two ways. First, it provides estimates of the teacher evaluation effect for Hispanic students, where current literature is still thin and predominantly based on cross-sectional comparisons (Redding 2019). Second, and more importantly, it demonstrates that more coherent results may emerge if student-teacher ethnic matches are based on both race and native language rather than only race.

2   Data

This paper uses data from NELS, a nationally representative longitudinal study which began in 1988 with a sample of 8th grade students from 1,052 schools across the United States. For each year in which a student is surveyed, two subject teachers are surveyed along with the student. Selection of teachers was based on random assignment of schools to one of four subject area groupings: (i) English and Math, (ii) English and Science, (iii) Social Studies and Math, (iv) Social Studies and Science. Each student's teachers in the two designated subject areas were then contacted for the survey. The teacher survey collected information on the teacher's gender, educational attainment, years of teaching experience, full/part-time employment status, type of teaching certification, subject of instruction, and whether the teacher majored in the subject of instruction. It also collected information about the student's subject classroom environment, including the class size and number of Limited English Proficient (LEP) pupils in the class. Importantly, teachers were asked about their race and native language, providing information about their cultural background. The teacher survey also consisted of questions which sought the teacher's subjective opinions about the student's classroom behavior. Specifically, each teacher had to indicate whether the student was (1) Frequently Disruptive, (2) Consistently Inattentive, and (3) Rarely Completed Homework. All three were "yes" / "no"

responses. The student survey collected information on the student's race, native language, gender, and past academic performance in each subject. Because the questions pertaining to native languages were posed only in 1988, I use only data from that year. Since, for any given student, information on teachers' ratings of student behavior, race, native language, and other demographic/professional background were available for two subject teachers, this allows me to compare how teachers differing on race and native language rated the same student's behavior.

I restrict the sample to Hispanic students who did not have missing information on the respective teacher behavioral evaluations, race, native language, and key control variables, and who had teachers in both subjects that provided race and native language information.

3   Methodology

The *ceteris paribus* question contrasts a teacher's subjective evaluations of a particular student's classroom behavior were the teacher to share the same ethnic affiliation as the student and were that same teacher to have a different ethnic affiliation.

The extent to which these subjective evaluations differ is estimated using:

$$y_{itj} = X_i'\beta + \delta_1 SRSL_{tj} + \delta_2 SRDL_{tj} + Z_{tj}'\gamma + D_j'\eta + \left(\mu_i + \varepsilon_{itj}\right) \qquad (1)$$

where y_{itj} denotes teacher t's subjective evaluation of Hispanic student i's behavior during instruction in subject j; X_i denotes a vector of observed student and family characteristics which influence the teacher's evaluation; Z_{tj} denotes a vector of observed teacher and class characteristics which influence the teacher's evaluation; D_j denotes subject fixed effects. The variables of interest are $SRSL_{tj}$ and $SRDL_{tj}$, which are, respectively, a dummy which indicates whether the student and the teacher share the same race and native language and a dummy indicating whether the student and the teacher share the same race but differ in native language. The omitted base indicator is a dummy for whether the student and the teacher are of different races.[2] The coefficients of interest are δ_1 and δ_2, and they measure the extent to which a teacher of the same race and native language rates the student's behavior differently compared to a teacher of a different race as well as the extent to which a teacher of

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[2] This specification is preferred to one where a dummy indicating whether the student and the teacher share the same race/ethnicity is interacted with a dummy indicating whether the student and the teacher share the same native language. This is because, in practice, there are few non-Hispanic teachers who are native Spanish speakers.

the same race but a different native language rates the student's behavior differently compared to a teacher of a different race. This specification recognizes that the effect of being taught by a teacher of the same race could further depend on whether the teacher and the student also share the same native language (if they do not share the same native language, they are arguably less likely to experience a shared culture). The error term, in brackets, consists of μ_i and ε_{itj}, which represent respectively, unobserved student characteristics influencing teacher evaluation and a mean zero error term.

Because students and teachers often sort non-randomly into different schools and different classes within schools, this potentially results in correlation between μ_i and the variables $SRSL_{tj}$ and $SRDL_{tj}$. Consequently, estimates of δ_1 and δ_1 are likely to be biased.[3] To circumvent this, I employ a student fixed effects approach. This is equivalent to including a set of dummy indicators for each student in equation (1). The student dummies absorb all the subject-invariant student characteristics contained in $\boldsymbol{X}_i$ and μ_i, and μ_i is shifted out of the error term:

$$y_{itj} = \boldsymbol{X}_i'\beta + \delta_1 SRSL_{tj} + \delta_2 SRDL_{tj} + \boldsymbol{Z}_{tj}'\gamma + \boldsymbol{D}_j'\eta + \mu_i + \left(\varepsilon_{itj}\right) \qquad (2)$$

This approach effectively identifies the effects of student-teacher ethnic matching by comparing how two observationally-similar teachers differing in race/native language rate the same student's behavior.

4   Results

<Insert Table 1 here>

Table 1 presents results from specification (2), first without controls, and then with controls for observable teacher and classroom characteristics and the student's prior subject achievement.[4] The sample is restricted to Hispanic students. In all cases, student and subject

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[3] The issue of bias lurking in effect estimates in the existing student-teacher racial match literature is particularly salient because most studies are based on cross-sectional comparisons of students assigned to teachers of same / different race. As such, unobserved determinants of teacher's evaluations are likely to be correlated with whether a student gets matched with a teacher of the same race in those regressions. For example, if minority students are more likely to attend schools with higher incidences of behavioral problems, and if minority teachers are also more likely to teach in such schools, then cross-school comparisons would spuriously pick up a negative association between having a race-congruent minority teacher and student behavior even when none exists.

[4] Student's prior subject performance may be correlated with subject teacher ethnicity / native language and the teacher's evaluation of the student's behavior, so I control for this as well.

fixed effects are included.[5] Columns (1) - (2), (3) - (4), and (5) - (6) pertain respectively to regressions where the outcome variable is (i) a dummy indicating whether the teacher feels the student was frequently disruptive in class, (ii) a dummy indicating whether the teacher feels the student was consistently inattentive in class, and (iii) a dummy indicating whether the teacher feels the student was one who rarely completed homework.[6] For each regression, results which test the null of equality of coefficients on the variables $SRSL_{tj}$ and $SRDL_{tj}$ are also presented. Across all 3 outcomes, the results with and without controls are similar. The estimates in Columns (3) and (4) show that a student is less likely to be perceived as consistently inattentive when assigned to a teacher of the same race and native language than when assigned to a teacher of a different race (the difference is statistically significant at the 10% level). More interestingly, there is evidence (at the 10% level) that a student is perceived differently on attentiveness when assigned to a teacher of the same race and native language than when assigned to a teacher of a same race but different native language. Similarly, the estimates in columns (5) and (6) show that a student is less likely to be perceived as rarely completing homework when assigned to a teacher of the same race and native language than when assigned to a teacher of a different race (the difference in column (6) is significant at the 5% level). There is also evidence (at the 1% level) that a student is perceived differently on homework completion when assigned to a teacher of the same race and native language than when assigned to a teacher of the same race but different native language. However, when it comes to teachers' perceptions of student disruptiveness, there appears to be no evidence that ethnic matches matter. Overall, Hispanic students do seem to be viewed more favorably when assigned to ethnically-similar teachers who also speak the same native language.

<Insert Table 2 here>

Next, I examine what happens when the two variables $SRSL_{tj}$ and $SRDL_{tj}$ are replaced with a single binary variable indicating whether the student and the teacher share the same race (regardless of native language). This variable is what most existing studies would use to indicate a student-teacher racial/ethnic match. Table 2 reports the results from these regressions. Interestingly, when this is done, across all 3 outcomes, there is no longer any evidence that being matched with a Hispanic teacher is associated with more favorable teacher

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[5] The estimates presented are based on a linear probability model, but results are similar when I use either a probit or a logit model.

[6] These were the same three outcomes analyzed in Dee (2005). However, Dee (2005) did not present separate results for Black and Hispanic students. Also, he did not distinguish between same-race teachers with the same native language and same-race teachers with a different native language.

evaluations. This suggests that one reason why existing studies have tended to find null effects for Hispanic students is because they have overlooked the distinction between race-congruent teachers who share the same native language and race-congruent teachers who do not. This masks the benefits of being assigned to ethnically-similar teachers.

5   Discussion

Do the results imply that teachers are more partial to students who share the same cultural identity? Not necessarily. The results only tell us that a student is rated more favorably when assigned to a teacher of the same race and native language. However, it is plausible that this difference may have arisen because students actually responded differently to teachers who share the same race and native language and to teachers who do not (it is possible that they may exhibit better behavior towards teachers of the same race and native language). Furthermore, the fact that students are viewed more favorably by such teachers may be due partly, or even entirely, to the effect of native language congruence, and not cultural synchrony. It is possible that instruction is more effective when Hispanic students receive it from teachers who speak the same native language. There is potential for future studies to investigate the exact mechanisms leading to the observed effects.

6   Conclusion

This is the first study to document how the combination of race and native language matches between students and teachers affects teachers' subjective evaluations of student behavior. The findings have important implications for how future studies define student-teacher ethnic matches.

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Table 1: Estimated Effects of Teacher Race and Native Language on Teacher Perceptions of Hispanic Students

Outcome:	Student was frequently disruptive	Student was frequently disruptive	Student was consistently inattentive	Student was consistently inattentive	Student rarely completed homework	Student rarely completed homework
	(1 = yes)	(1 = yes)	(1 = yes)	(1 = yes)	(1 = yes)	(1 = yes)
Regressor	(1)	(2)	(3)	(4)	(5)	(6)
Share same race *and* native language (SRSL)	-0.046	-0.033	-0.131**	-0.114*	-0.147***	-0.128**
	(0.057)	(0.056)	(0.061)	(0.063)	(0.056)	(0.052)
Share same race *but differ* in native language (SRDL)	-0.036	-0.016	0.025	0.050	0.009	0.032
	(0.056)	(0.052)	(0.071)	(0.064)	(0.059)	(0.053)
Controls:	No	Yes	No	Yes	No	Yes
F-Statistics						
F-Statistic testing equality of coefficients on SRSL and SRDL	0.020	0.050	3.480	3.800	6.860	8.620
(p-value of F-Statistic)	0.895	0.818	0.063	0.052	0.009	0.004
Observations	4,484	4,484	4,472	4,472	4,468	4,468
R-Squared	0.003	0.018	0.007	0.052	0.013	0.058

Notes: The sample is restricted to Hispanic students. Standard errors in parentheses are clustered at the school level. Students can fall into 1 of 3 categories: (1) the student shares the same race and native language as the teacher (i.e. both the student and the teacher are Hispanic and they share the same native language), (2) the student shares the same race as the teacher but they differ in native language (i.e. both the student and the teacher are Hispanic but they speak a different native language), or (3) the student and the teacher are of different races (i.e. the student is Hispanic, but the teacher is not). The omitted base category is (3). Columns (2), (4), and (6) additionally include controls for teacher's gender, type of teaching certification, educational attainment, years of teaching experience, whether the teacher is employed full-time, whether the teacher majored in the subject of instruction, class size, percentage of LEP students in the class, and student's past subject performance. All regressions include student and subject fixed effects. *** p-value<0.01, ** p-value<0.05, * p-value<0.1.

Table 2: Estimated Effects of Teacher Race on Teacher Perceptions of Hispanic Students

Outcome:	Student was frequently disruptive	Student was frequently disruptive	Student was consistently inattentive	Student was consistently inattentive	Student rarely completed homework	Student rarely completed homework
	(1 = yes)	(1 = yes)	(1 = yes)	(1 = yes)	(1 = yes)	(1 = yes)
Regressor	(1)	(2)	(3)	(4)	(5)	(6)
Share same race	-0.042	-0.025	-0.060	-0.040	-0.077	-0.057
	(0.044)	(0.041)	(0.049)	(0.048)	(0.050)	(0.047)
Controls:	No	Yes	No	Yes	No	Yes
Observations	4,484	4,484	4,472	4,472	4,468	4,468
R-Squared	0.003	0.018	0.003	0.049	0.009	0.055

Notes: The sample is restricted to Hispanic students. Standard errors in parentheses are clustered at the school level. The estimates are coefficients on the single binary variable indicating whether the student and the teacher share the same race (regardless of native language) (i.e. whether both the student and the teacher are Hispanic). Columns (2), (4), and (6) additionally include controls for teacher's gender, type of teaching certification, educational attainment, years of teaching experience, whether the teacher is employed full-time, whether the teacher majored in the subject of instruction, class size, percentage of LEP students in the class, and student's past subject performance. All regressions include student and subject fixed effects. *** p-value<0.01, ** p-value<0.05, * p-value<0.1.