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Campus Teacher Characteristics and Outcomes for Black and Hispanic Students

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Research Brief

for the Houston Independent School District

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Research Brief

Campus Teacher Characteristics and Outcomes for Black and Hispanic Students

This study investigates how teacher qualifications at the campus level were related to achievement, absenteeism, and discipline outcomes for Black and Hispanic students in the Houston Independent School District (HISD) during the 2018-19 and 2019-20 school years. Campus-level teacher qualifications included shares of advanced degrees, formal backgrounds in education, certifications in special education (SPED), certifications in English as a Second Language/Bilingual Education (ESL), and above-district-average years of teaching experience. Some qualifications were related to different outcomes for Black and Hispanic students, but overall, campus-level teacher qualifications were related to higher achievement, lower absenteeism, and lower disciplinary referrals for both racial/ethnic groups in HISD.

Key Findings

Achievement

- Attending a school with high shares of teachers with a formal background in education was related to higher achievement for Black and Hispanic students.

Absenteeism

- Attending a school with more experienced teachers was related to lower absenteeism for Black and Hispanic students.

Discipline

- Attending a school with more experienced teachers was related to lower disciplinary rates for Black and Hispanic students.

Background

Distribution of Teacher Qualifications across HISD Campuses

For a previous brief, HERC researchers examined how teacher qualifications were distributed across HISD campuses based on student race/ethnicity (among other student characteristics), specifically, Black and Hispanic students. Teachers at schools with higher shares of Black students had more teachers with advanced degrees but had below-average years of teaching experience. Teachers at schools with higher shares of Hispanic students had above-average years of teaching experience, but fewer teachers with advanced degrees. An important follow-up question from the previous brief was how teacher qualifications may have been related to HISD students' academic and behavioral outcomes. This brief examines how particular teacher qualifications may be related to Hispanic and Black students' academic and behavioral outcomes.

Teacher Qualifications and Student Outcomes

Educational practitioners and researchers agree that teacher qualifications are key determinants for favorable student outcomes (Darling-Hammond & Youngs 2002; Goe 2007). Influential qualifications are often those that are related to teachers' training and experience. This study focuses on the following teacher qualifications as it relates to students' academic and behavioral outcomes: advanced degrees, formal background (major/minor) in education, certifications, and years of teaching experience.

Even though there are inconsistencies, previous work has strongly suggested teacher qualifications are favorably related to students' academic outcomes, particularly achievement. For instance, teachers having a formal background in education is important for student achievement across all grade levels (Darling-Hammond & Youngs 2002; Rice 2003). Additionally, as a teacher progresses within the first few years of their career,

the accumulated years of teaching experience was also positively related to student achievement (Rice 2003; Goe 2007). Previous work also emphasizes that having more experienced teachers at a campus was helpful for overall campus stability and retention (Goe 2007).

Compared to student achievement, very little research has examined how teacher qualifications are related to students' behavioral outcomes, specifically absenteeism and disciplinary referrals. This lack of work examining this relationship warrants further study.

Research Questions

HERC researchers used information on 262 schools of the Houston Independent School District (HISD) for the 2018-19 and 2019-20 school years to investigate the following research questions:¹

- How are campus-level teacher qualifications associated with math and reading achievement of Black and Hispanic students?
- How are campus-level teacher qualifications associated with chronic absenteeism and disciplinary referrals of Black and Hispanic students?

Data and Methods

The research team used multiple sources of HISD administrative data for the 2018-19 and 2019-20 school years.²

1 HISD campuses with complete information on school-level characteristics and outcomes were included in the analysis.

2 The analyses predicting the two academic outcomes are limited to the 2018-19 school year, given that the state of Texas did not administer its yearly exams for the 2019-20 school year.



Photo by Santi Vedri on Unsplash

The analyses focused on the characteristics of teachers and the academic and behavioral outcomes of Black and Hispanic students at the school level.

For this brief, HERC researchers were interested in comparing schools with the highest levels of teacher qualifications relative to those with low and moderate levels. Thus, these measures indicate whether each of the teacher qualifications meets or is above a particular threshold on a campus. The thresholds were set such that one-quarter of HISD campuses would be above the threshold and three-quarters would be below. For instance, a quarter of HISD campuses employed a pool of teachers in which 25% or more teachers have an advanced degree, whereas in three-quarters of HISD

campuses, the share of teachers with advanced degrees is lower than 25%.

In addition, HERC researchers used indicators of school-level race and ethnicity for both teachers and students, as well as indicators of economic disadvantage, immigrant status, special education, and English learner status for students in each school. Researchers then categorized campuses based on whether they had low, moderate, and high shares of students and teachers with these characteristics.

More information on the data and variable definitions can be found in Appendix A.

TABLE 1 **Teacher Qualifications at the School Level***

| | |
|--|---|
| Advanced Degrees | 25% or more of teachers on a campus with an advanced degree |
| Formal Background in Education | 25% or more teachers at a campus majored and/or minored in education-related field |
| SPED Certification | 15% or more teachers with SPED certification |
| ESL/Bilingual Certification | 50% or more teachers with ESL/Bilingual certification |
| Above-Average Teaching Experience | The average years of teaching experience at a campus is above the district average (12 years) |

*Measures for school level teacher qualifications indicate whether each of them meets or is above a particular threshold on a campus. The thresholds were set such that one-quarter of HISD campuses would be above the threshold and three-quarters would be below

Key Findings

1 Attending a school with high shares of teachers with a formal background in education was related to higher achievement for Black and Hispanic students.

Teacher qualifications were related to higher achievement among Black and Hispanic students after considering both teacher qualifications and student characteristics. Table 2 displays which teacher qualifications were related to higher shares of Hispanic and Black students with passing reading and math scores at the campus level *after* considering both teacher qualifications and student characteristics.

No teacher qualifications at the campus level were related to the share of Black students with passing reading scores. However, schools with higher shares of teachers with a formal background in education were related to higher shares of Black students with passing math scores and higher shares of Hispanic students with passing reading scores. Additionally, schools having above-district-average years of teaching experience was related to higher shares of Hispanic students with passing math scores.



Photo by RIDNE Stock project

TABLE 2 Teacher qualifications related to math and reading achievement

| | Reading | Math |
|--------------------------|--------------------------------|--------------------------------|
| Black Students | | Formal Background in Education |
| Hispanic Students | Formal Background in Education | Experience |

Source: HISD 2018–20, PEIMS 2018–20

2 Attending a school with more experienced teachers was related to lower chronic absenteeism among Black and Hispanic students.

Teacher qualifications were related to a lower likelihood of chronic absenteeism among Black and Hispanic students after considering both teacher qualifications and student characteristics. Table 3 presents the teacher qualifications that were related to lower absenteeism among Black and Hispanic students.

Campuses having higher shares of teachers with a formal background in education and having above-dis-

trict-average teaching experience was related to a lower likelihood of chronic absenteeism among Black students. Similarly, campuses having above-district-average years of teaching experience was related to a lower likelihood of chronic absenteeism among Hispanic students. In addition, campuses having higher shares of teachers with advanced degrees was related to a lower likelihood of chronic absenteeism among Hispanic students.

TABLE 3 Teacher qualifications related to lower chronic absenteeism

| Black Students | Hispanic Students |
|--------------------------------|-------------------|
| Formal Background in Education | Experience |
| Experience | Advanced Degree |

Source: HISD 2018–20, PEIMS 2018–20

3 Attending a school with more experienced teachers was related to lower disciplinary rates for Black and Hispanic students.

Table 4 displays the specific qualifications related to lower disciplinary rates for both racial/ethnic groups after considering student characteristics. Campuses having above-district-average years of teaching experience was related to both Black and Hispanic students having lower disciplinary rates, with a marginal effect measured for Black students.

TABLE 4 Teacher qualification related to lower disciplinary rates

| Black Students | Hispanic Students |
|----------------|-------------------|
| Experience † | Experience |

Source: HISD 2018–20, PEIMS 2018–20
† Indicates a marginal finding

Conclusion

Summary and Implications

Highly qualified teachers across HISD schools were related to Hispanic and Black students' academic and behavioral outcomes.

Black and Hispanic student academic performance was higher in schools with more teachers' with a formal background in education. This is consistent with previous research that connected teacher's coursework in education pedagogy to student achievement (Darling-Hammond & Youngs 2002; Rice 2003). Schools having above-district-average years of experience was related to higher academic achievement among Hispanic students. This contrasts with previous research which found a limited association between teacher experience and student achievement (Rice 2003; Goe 2007).

Previous work on teacher qualifications mostly focused on academic rather than behavioral outcomes. However, teacher qualifications may be just as related, if not more, to behavioral outcomes for both Hispanic and Black students in HISD. Schools having higher shares of teachers with a formal background in education was related to lower absenteeism for Black students. Schools having higher shares of teachers with advanced degrees was related to lower absenteeism for Hispanic students. In addition, for both Black and Hispanic students, schools having more experienced teachers was related to lower chronic absenteeism. Finally, schools having above-district-average years of teaching experience was related to lower rates of absenteeism and disciplinary rates for both Hispanic and Black students.

Recommendations

Based on these findings, HERC makes the following recommendations:

- **Continue developing and implementing strategies in campuses that serve predominantly Black and Hispanic students to (1) support and cultivate early career teachers, and (2) retain and attract highly experienced teachers.** Both Black and Hispanic students experience less absenteeism and fewer disciplinary referrals when attending schools with more experienced teachers. Furthermore, Hispanic students experience higher achievement at campuses with more experienced teachers.
- **Continue to prioritize hiring teachers with formal educational backgrounds in education (e.g., undergraduate major or minor).** Both Black and Hispanic students benefit academically from being taught by a teacher with a formal background in education. In addition, Black students experience less absenteeism at schools with higher shares of teachers who majored or minored in education.

Appendix A: Data and Sample

HERC researchers used campus-level administrative data from the Houston Independent School District (HISD) in the Houston Metro Area for the school years 2018–2019 and 2019–2020. The analyses predicting academic outcomes are limited to the 2018–19 school year, given that the state of Texas did not administer its yearly exams for the 2019–20 school year.

The study leveraged information on the characteristics of teachers and students in HISD campuses as well as student outcomes for the period of the study. The teacher characteristics selected for the analyses were obtained from district employee records and included teacher demographic profile (race and ethnicity), the distribution of teacher professional qualifications across campuses (types of certifications attained by teachers, years of teaching experience, educational degree, and major/minor in education). HERC researchers used student data from the Texas Public Education Information Management System (PEIMS) from the Texas Education Agency (TEA) to obtain campus-level student characteristics and aggregated them to the school level. Student characteristics included race/ethnicity, English language learner and immigrant status, special education status, and economic disadvantage

status. Lastly, HERC researchers obtained data on our outcomes of interest from disciplinary referral files, attendance records, and the State of Texas Assessments of Academic Readiness (STAAR) scores and passing rates.

Due to administrative data restrictions and specifying each outcome to Black and Hispanic students, there is a different sample size for each of the four outcomes. Therefore, the sample for each analysis is based on listwise case deletion, where only schools with non-missing data specific to the analysis are included.

Because the size of the school is seemingly related to the distribution of teacher qualifications across schools, the analyses looking at how teacher qualifications influence student outcomes were based on a further sub-sample where HERC researchers limited it to schools that have 500 or more students. The rest of the analyses were based on the listwise-case deletion sample. Table A1 below displays the sample sizes for each of the outcomes specific to Black and Hispanic students, respectively.

TABLE A1 Number of HISD campuses included in each analysis based on each student outcome

| | Black Students | | Hispanic Students | |
|-----------------------------|-------------------------------|------------|-------------------------------|------------|
| | Listwise Case Deletion Sample | Sub-Sample | Listwise Case Deletion Sample | Sub-Sample |
| Reading | 249 | 191 | 252 | 192 |
| Math | 244 | 190 | 251 | 192 |
| Absenteeism | 524 | 393 | 524 | 393 |
| Discipline Referrals | 440 | n/a | 440 | n/a |

Appendix B: Variables Used for the Analyses

Student Outcomes

HERC researchers focused on how teacher qualifications and availability of Black and Hispanic teachers were related to four school-level outcomes; two are academic, and two are behavioral. Because HERC researchers examined each of the four outcomes specific to Black and Hispanic students, there were eight total analyses.

The two academic outcomes included the school-level proportions of students with reading and math scores meeting or exceeding grade level.

Proportion of Students with Passing Reading Scores:

A continuous measure that indicated the proportion of either Black or Hispanic students in a school who had passing reading scores. This measure ranges from 0 to 1. On average, 36.5% of Black students and 39.9% of Hispanics had passing reading scores.

Proportion of Students with Passing Math Scores:

A continuous measure that indicated the proportion of either Black or Hispanic students in a school who had passing math scores. On average, 35.2% of Black students and 45.8% of Hispanics had passing math scores.

The two behavioral outcomes include chronic absenteeism and disciplinary referrals.

Chronic Absenteeism: A binary measure that indicated whether a school has an above average proportion of either Black or Hispanic students who have been chronically absent, which means attending school for less than 90% of the school year. A school was assigned a zero if the proportion was lower than average for the respective racial/ethnic group (.15.8% for Black students and 11.2% for Hispanic students), and a school was assigned a one if the proportion of students who have been chronically absent was above average. For Black students,

this was true for 41.8% of HISD schools. For Hispanic students, this was true for 32.2% of HISD schools.

Disciplinary Referrals: A binary measure that indicated whether a school has an above average disciplinary rate for either Black or Hispanic students in a school. A school was assigned a zero if the rate was below average and assigned a one if the rate was above average for each respective racial/ethnic group (20.51 referrals per 100 Black students and 9.75 per 100 Hispanic students). For Black students this was true for 61.8% of HISD schools. For Hispanic students this was true for 62.4% of HISD schools.

Main Independent Variables

Teacher Qualifications

Shown in Table B1, HERC researchers included a set of variables that focused on teacher qualifications at the school-level. Two of these variables were related to teachers' postsecondary education. Another two were related to certifications, and one more was related to years of experience teaching.

Advanced Degrees: A binary indicator for school-level proportion of teachers with advanced degrees. A school assigned one for this variable had at least 25% of teachers at the school who had at least a master's degree. A school assigned a zero had less than 25% of teachers at the school with those credentials.

Formal Background in Education: A binary indicator for the proportion of teachers who majored or minored in an educational based program. Schools assigned a one for this variable have 25% or more teachers have a formal background in education, and schools assigned a zero have less than 25% of teachers with this credential.

Special Education Certification: A binary indicator of the proportion of teachers certified to teach special education. A school assigned a one had 15% or more teachers with a special education certification, and those assigned a zero had less than 15% of teachers with the certification.

English as a Second Language/Bilingual Certification: A binary indicator of the proportion of teachers certified to teach English as a Second Language (ESL)/Bilingual Education. A school assigned a one had at least half or more teachers with the certification, and a school assigned a zero had less than half of teachers with this credential.

Years of Teaching Experience: A binary indicator of school-level average years of teaching experience. On average, a teacher in this district had 12 years of experience. Thus, a school assigned a one means that its teachers have an average of or above 13 years of teaching experience, and a school assigned a zero means that the average years of experience was below 13 years.

TABLE B1 **Teacher Qualifications at the School Level**

| | |
|--|---|
| Advanced Degrees | 25% or more of teachers on a campus with an advanced degree |
| Formal Background in Education | 25% or more teachers at a campus majored and/or minored in education related field |
| SPED Certification | 15% or more teachers with SPED certification |
| ESL/Bilingual Certification | 50% or more teachers with ESL/Bilingual certification |
| Above-Average Teaching Experience | The average years of teaching experience at a campus is above the district average (12 years) |

TABLE B2 **Teacher Characteristics at the School Level**

| <i>Race/Ethnic Background</i> | Low Shares | Moderate Shares | High Shares |
|--|-----------------------|-----------------|-------------|
| % Black Teachers | 0-13% | 14-64% | 65% or more |
| % Hispanic Teachers | 0-16% | 17-55% | 56% or more |
| <i>Professional Qualifications</i> | Low & Moderate Shares | | High Shares |
| % Teachers with Advanced Degrees | 0-24% | | 25-50% |
| % Teachers with Formal Background in Education | 0-24% | | 25-67% |
| % Teachers with SPED Certifications | 0-14% | | 15-100% |
| % Teachers with ESL/Bilingual Education | 0-49% | | 50-90% |
| Average Years of Teaching Experience | 0-12 years | | 13-23 years |

Availability of Black and Hispanic Teachers Relative to Same Race/Ethnicity Students

A set of four independent variables focused on the school-level proportions of Black students and teachers as well as Hispanic students and teachers. Table B2 demonstrates the specific ranges in the proportions of Black students and teachers as well as Hispanic students and teachers for each of the three categories.

Share of Hispanic Students: A three-category variable indicating the share of Hispanic students within a campus. Categories include proportions within the lowest 20th percentile, those within the middle 60th percentile, and those within the highest 20th percentile.

Share of Hispanic Teachers: A three-category variable indicating the share of Hispanic teachers within a campus. Categories include proportions within the lowest 20th percentile, those within the middle 60th percentile, and those within the highest 20th percentile.

Share of Black Students: A three-category variable indicating the share of Black students within a campus. Categories include proportions within the lowest 20th

percentile, those within the middle 60th percentile, and those within the highest 20th percentile.

Share of Black Teachers: A three-category variable indicating the share of Black teachers within a campus. Categories include proportions within the lowest 20th percentile, those within the middle 60th percentile, and those within the highest 20th percentile.

To measure Black and Hispanic teacher availability relative to the share of students of the same race/ethnicity at the campus level, HERC researchers used two-way interactions between the proportion of students and the proportion of teachers of each respective race/ethnicity as categorized above in Table B2. Table B3 (below) shows a matrix of the possible categories when interacting two of these 3-category variables which HERC researcher used as indicators of the type of ethno-racial school contexts students were exposed to in HISD. HERC researchers were particularly interested in the groups where the percentiles of teacher and student composition were the same (shown in red, yellow, and green text) because they indicate a match in the levels of availability of teachers of the same race and ethnic-

TABLE B3 School-Level Race and Ethnicity Percent Range Categorizations

| | Lowest 20% Percentile | Middle 60% Percentile | Highest 20% Percentile |
|---------------------|-----------------------|-----------------------|------------------------|
| % Hispanic Students | 0–33 | 34–90% | 91% or more |
| % Hispanic Teachers | 0–16% | 17–55% | 56% or more |
| % Black Students | 0–5% | 6–49% | 50% or more |
| % Black Teachers | 0–13% | 14–64% | 65% or more |

TABLE B4 Availability of Teachers Relative to Share of Same Race/Ethnicity Students

| | Lowest 20% Teachers | Middle 60% Teachers | Highest 20% Teachers |
|----------------------|--|---|---|
| Lowest 20% Students | Few Students & Teachers Looked Like Me | | |
| Middle 60% Students | | Some Students & Teachers Looked Like Me | |
| Highest 20% Students | | | Most Students & Teachers Looked Like Me |

ity in the campus to students of said race/ethnicity. Researchers labeled these 3 categories based on how many students and teachers at the school would look like you if you are a Black or Hispanic student attending that school.

Availability of Teachers Relative to Share of Same Race/Ethnicity Students: When examining the relationship between the availability of Black and Hispanic teachers and same race/ethnicity students' outcomes, HERC researchers focused on the following three categories as indicated in Table B3: 1) few students and teachers looked like me (both are in the lowest 20th percentile) 2) some students and teachers looked like me (both are in the middle 60th percentile), and 3) most students and teachers looked like me (both are in the highest 20th percentile).

Other Student Characteristics

We also include school-level student characteristics related to their socio-demographic and academic backgrounds.

Title 1 school: This variable is a binary indicator for whether a school is Title 1, meaning that 40 percent or more students are eligible for free/reduced lunch; we use this as an indicator of student economic disadvantage. Schools assigned a 0 are not title 1, and those that are title 1 are assigned a 1. Title 1 status was true for about 91% of HISD schools.

Share of Immigrant Students:³ This variable consists of three categories, like previous variables in this study: lowest 20th percentile, middle 60th percentile, and highest 20th percentile. This results in three categories of the proportion of immigrant students in the school: less than 1%, 1 to 9%, and 10% and more.

Share of Students in Special Education: A three category variable indicating the proportion of students enrolled in special education: lowest 20th percentile, middle 60th percentile, and highest 20th percentile. This results in three categories of the proportion of students in special education: less than 5%, 5% to 10%, and greater than 10%.

Share of Students in English as a Second Language (ESL)/Bilingual Education: A three category variable indicating the proportion of students enrolled in ESL/Bilingual Education: lowest 20th percentile, middle 60th percentile, and highest 20th percentile. This results in three categories of the proportion of students in ESL/Bilingual Education: 0-12%, 13-54%, and 55% to 100%.

Share of Students with Passing Reading/Math Scores in Previous Year:⁴ A continuous variable for proportion of students who met or exceeded grade-level the previous year. On average, 41.5% of all HISD students within a given HISD school had at least passing reading scores within a given school. Also, on average, about 25% of all students within a given HISD school had at least passing scores.

Other School-Level Controls

At the school-level, we control for two variables, school size and grade span of the school:

School Size: This variable consists of three categories: 1) 0-200 students, 2) 201-500 students, and 3) 501 or more students. Over 70% of HISD schools across the 2018-19 and 2020-21 school years comprised of 501 or more students.

Grade Span: This variable consists of four categories: 1) early education centers and elementary schools, 2) combined elementary and/or middle and/or high schools, 3) middle school (grades 6-8), and 4) high schools. Of the schools included within the 2018-19 and 2020-21 school years, over 60% of schools were elementary schools, about 10% were combined, 14% were middle schools and 15% were high schools.

3 In PEIMS the immigrant student variable indicates whether the student is an individual age 3 through 21, who was not born in any U.S. state, and has not been attending one or more schools in any or more states for more than 3 full academic years. Thus, this definition captures only recent immigrants and does not necessarily include all foreign-born students.

4 These scores are based on the 2017-2018 school year.

Appendix C: Methods

Distribution of Teacher Characteristics across HISD Schools

To examine how teacher characteristics were distributed across HISD schools, HERC researchers estimated cross-tabulations between a given school-level teacher characteristic and a school-level student characteristic. Following, HERC researchers utilized the chi-square statistic to determine whether differences were significant. The differences were displayed using a series of bar graphs.

Association between Teacher Characteristics and Student Outcomes

There were two sets of teacher characteristics that HERC researchers examined in relation to student outcomes: teacher qualifications and availability of Black and Hispanic teachers. To examine how these teacher characteristics were related to student outcomes, HERC researchers used ordinary least squares (OLS) regressions to estimate the proportion of students who met or exceeded grade level in reading and math, and then we used binary logistic regressions to estimate the proportion of schools with above-average chronic absenteeism and proportion of schools with above average discipline rates. As mentioned, we specify each outcome to Black and Hispanic students, thus there are eight analyses per brief, four OLS regressions and four logistic regressions.⁵

⁵ In preliminary stages of the analyses, we tested a series of nested models to understand how different sets of variables influenced the results. The first model included the school-level proportions of Black/Hispanic students and teachers and all school-level teacher qualification variables. The second model added variables for school-level student characteristics. The third model added interactions between the proportions of Black/Hispanic teachers and students, to test the effect of racial/ethnic match between students and teachers at the campus-level. The briefs present results from this last model.

The following paragraphs explain how HERC researchers displayed the findings from these analyses.

Teacher Qualifications as the Main Predictor

To display how teacher qualifications were related to Black and Hispanic students' academic and behavioral outcomes, HERC researchers created a table based on the coefficients for teacher qualifications. If the coefficient for a teacher qualification had no relation to the student outcome, the specific cell of the table was left blank. If the teacher qualification was associated with an outcome there was an arrow in that cell. The arrow could be either up (indicating an increase) or down (indicating a decrease) as well as either green (favorable outcome) or red (unfavorable outcome).

Availability of Black and Hispanic Teachers as the Main Predictor

To display how availability of Black and Hispanic teachers is related to Black and Hispanic students' academic and behavioral outcomes, HERC researchers estimated predicted values and predicted probabilities. Using a bar graph, HERC researchers displayed the predicted value for Black and Hispanic students who passed reading and math respectively. Also using bar graphs, HERC researchers displayed the predicted probabilities of above average shares of Black and Hispanic students being chronically absent at a given HISD school. Lastly, using bar graphs researchers displayed the predicted probabilities of Black and Hispanic students having above average disciplinary referral rates at a given HISD school.

Appendix D: Supplementary Findings for Black & Hispanic Teacher Availability and Student Outcomes

As mentioned, HERC researchers only focused on the diagonals (listed in red, yellow, and green) when it came to the availability of same race/ethnicity teachers in relation to share of Black and Hispanic students. This section of the appendix shows what the predicted values/probabilities were for each of the four outcomes based on all the possible values of the two-way interactions.

TABLE D1 Predicted Proportion of Students with Passing Reading Scores

| | Black Students | | | Hispanic Students | | | |
|----------------------|---------------------|---------------------|----------------------|----------------------|---------------------|---------------------|----------------------|
| | Lowest 20% Teachers | Middle 60% Teachers | Highest 20% Teachers | | Lowest 20% Teachers | Middle 60% Teachers | Highest 20% Teachers |
| Lowest 20% Students | 38% | 41% | n/a | Lowest 20% Students | 31% | 35% | n/a |
| Middle 60% Students | 43% | 39% | 34% | Middle 60% Students | 40% | 40% | 44% |
| Highest 20% Students | n/a | 29% | 25% | Highest 20% Students | n/a | 47% | 46% |

TABLE D2 Predicted Proportion of Students with Passing Math Scores

| | Black Students | | | Hispanic Students | | | |
|----------------------|---------------------|---------------------|----------------------|----------------------|---------------------|---------------------|----------------------|
| | Lowest 20% Teachers | Middle 60% Teachers | Highest 20% Teachers | | Lowest 20% Teachers | Middle 60% Teachers | Highest 20% Teachers |
| Lowest 20% Students | 40% | 40% | n/a | Lowest 20% Students | 38% | 41% | n/a |
| Middle 60% Students | 38% | 35% | 33% | Middle 60% Students | 43% | 46% | 53% |
| Highest 20% Students | n/a | 29% | 30% | Highest 20% Students | n/a | 52% | 52% |

TABLE D3 Predicted Probabilities of Chronic Absenteeism

| | Black Students | | | Hispanic Students | | | |
|----------------------|---------------------|---------------------|----------------------|----------------------|---------------------|----------------------|-----|
| | Lowest 20% Teachers | Middle 60% Teachers | Highest 20% Teachers | Lowest 20% Teachers | Middle 60% Teachers | Highest 20% Teachers | |
| Lowest 20% Students | 33% | 37% | n/a | Lowest 20% Students | 66% | 27% | n/a |
| Middle 60% Students | 30% | 40% | 51% | Middle 60% Students | 47% | 28% | 24% |
| Highest 20% Students | n/a | 36% | 62% | Highest 20% Students | n/a | 20% | 20% |

TABLE D4 Predicted Probabilities of Disciplinary Referrals

| | Black Students | | | Hispanic Students | | | |
|----------------------|---------------------|---------------------|----------------------|----------------------|---------------------|----------------------|-----|
| | Lowest 20% Teachers | Middle 60% Teachers | Highest 20% Teachers | Lowest 20% Teachers | Middle 60% Teachers | Highest 20% Teachers | |
| Lowest 20% Students | 84% | 64% | n/a | Lowest 20% Students | 82% | 67% | n/a |
| Middle 60% Students | 32% | 40% | 30% | Middle 60% Students | 64% | 56% | 70% |
| Highest 20% Students | n/a | 45% | 44% | Highest 20% Students | n/a | 55% | 58% |

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Mission

The Kinder Institute for Urban Research builds better cities and improves lives through data, research, engagement and action.

About

The Houston Education Research Consortium (HERC) is a research-practice partnership between the Kinder Institute for Urban Research and 11 Houston-area school districts. HERC aims to improve the connection between education research and decision making for the purpose of equalizing outcomes by race, ethnicity, economic status, and other factors associated with inequitable educational opportunities.



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