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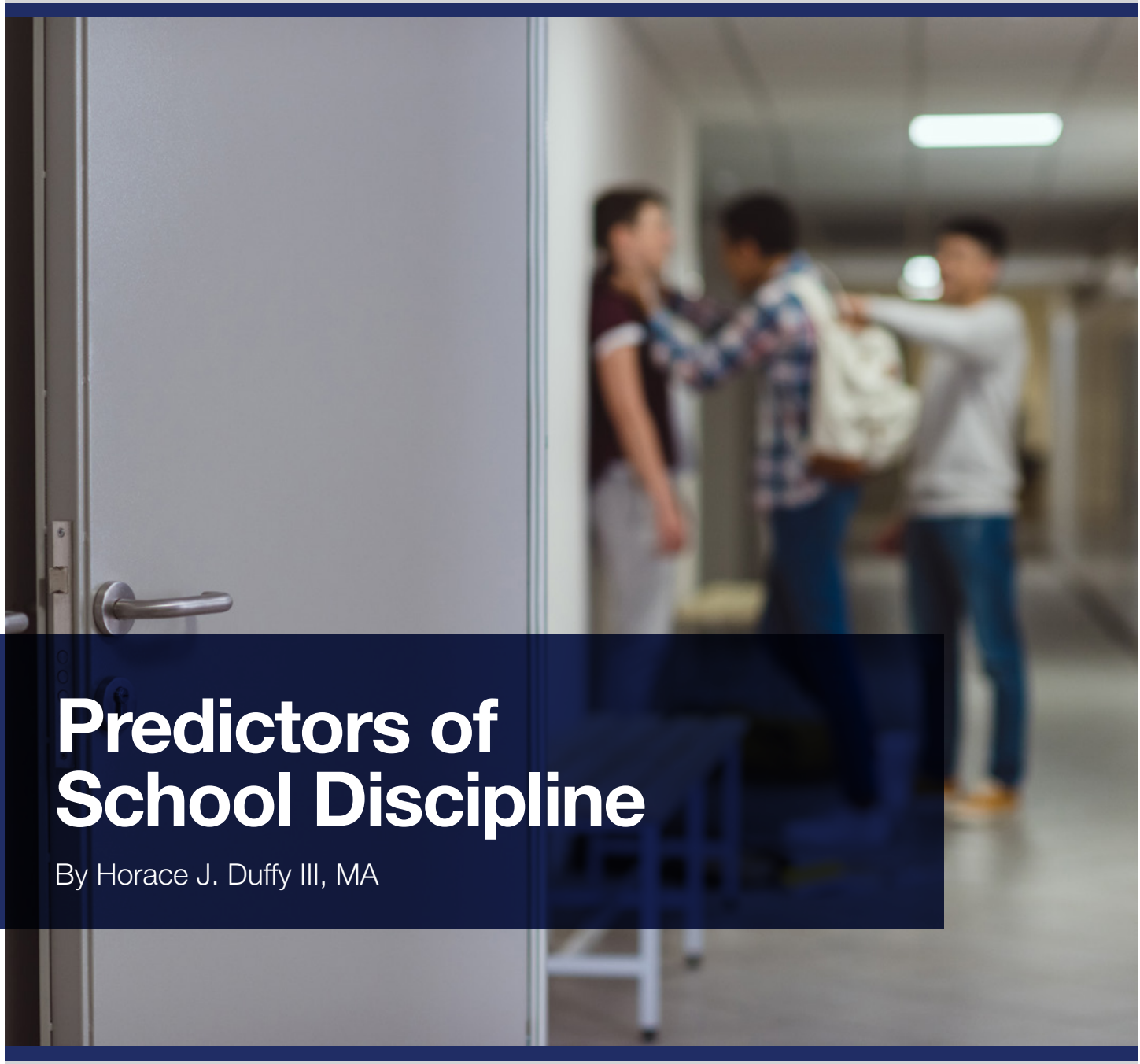

Predictors of School Discipline

By Horace J. Duffy III, MA

Research Brief
for the Houston Independent School District

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Research Brief

Predictors of School Discipline

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This study examines the likelihood that a student will receive a school disciplinary action, such as in-school or out-of-school suspension. Analyses of district-wide data for the 2014–15 academic year indicate that both student and school factors play an important role. Net of other factors, the strongest predictors of school discipline are school racial composition and student race.

Background

One source of educational disadvantage is exclusionary punishment, or punishment that removes the student from the classroom, (Edwards 2016; Morris and Perry 2016; Sikba et al. 2014). Students receiving out-of-school suspensions (OSS) or in-school suspensions (ISS) experience decreased instructional time, are isolated from the greater school community, and could disengage from school altogether. Punitive school practices are also associated with lower standardized test scores, as well as increased likelihood of entering the justice system (Nicholson-Crotty, Birchmeier, and Valentine 2009; Perry and Morris 2014). In HISD, students with a disciplinary incident by the 8th grade have increased odds of dropping out (Torres, Bancroft, and Stroub 2015). Although there are negative consequences due to school suspensions, schools are tasked with providing a safe learning environment for both students and educators. When well-planned and well-delivered instruction and classroom management systems have not been sufficiently effective for particular students, suspension is one of the few tools educators have in dealing with student misbehavior. It can serve to diffuse classroom conflict which benefits the teacher, the student in the conflict, and other students in the classroom not directly involved (Henderson and Friedland 1996). Schools must deal with student misbehavior without also harming the punished students.

Prior research consistently finds that the most frequently disciplined students are black students, male students, and students classified as special education (Fabelo 2011; Losen et al. 2013; Morris & Perry 2016; Skiba et al. 2000; Wu et al. 1982). These student groups are at a higher risk of not just being disciplined in schools but are also more likely to face unequal contact with the criminal justice system. Although past research has identified the student-level characteristics that are most predictive of which students are disciplined, studies have only recently explored the role that the racial composition of schools plays in the discipline process. For example, the percentage of black students in schools is associated with an increase in the likelihood that all students, black or otherwise, will be disciplined (Edwards 2016; Welch Payne 2010). However, research has primarily focused on a school's black population, with very few studies (if any) exploring the impact of Latino or Hispanic students on disciplinary outcomes.

Using data from the Houston Independent School District (HISD), which is majority Hispanic/Latino, this study analyzes both the student and school characteristics that play a role in discipline.

Research Questions

R1: How does the use of disciplinary action vary by school racial composition (both the percentage of black students and the percentage of Latino students)?

R2: How does the use of disciplinary action vary by student characteristics (e.g., race, gender, economic disadvantage, aptitude)?

Data and Methods

Data

The sample used for this study is from the 2014–2015 academic school year and includes 199,549 students from K through 12th grade. Pre-school students faced exclusionary disciplinary outcomes during this year, but out of 15,048 students, only 108 experienced disciplinary action. Due to the small number of cases, they were excluded from this study. In 2016, HISD changed the suspension policy by restricting the use of exclusionary disciplinary measures for 2nd grade and lower.

Table 1. Percentages of All HISD Students Compared to Disciplined Students in HISD

	K-12 Students	Disciplined Students
Race/Ethnicity		
American Indian	0.19	0.19
Asian/PI	3.76	0.72
Black	24.81	41.37
Hispanic	62.66	54.34
White	8.65	2.91
Multiracial	0.92	0.46
Gender		
Male	50.88	63.81
Female	49.12	36.19
Aptitude		
SpEd	7.74	12.69
Gifted	16.57	4.68
Economic Status		
Disadvantaged	74.17	78.95
Homeless	1.92	3.25
Sample Size	199,549	23,814

Measures

Dependent Variable

Disciplinary action, for this study, is defined as whether a student received an OSS, ISS, assignment to a disciplinary alternative education program (DAEP), or any other disciplinary action in response to truancy or other state-reported disciplinary violations. While these types of disciplinary consequences differ in severity, collectively they are important for providing a full understanding of how discipline varies.

Predictor Variables

Individual student characteristics include race/ethnicity, gender, special education classification, gifted/talented (GT) status, and whether or not a student is economically disadvantaged. The school level variables are the percentage of black students and the percentage of Latino students.

Analytic Strategy

Given the nature of the data, hierarchal linear modeling was used to account for the nesting of students within schools and to understand how school-level factors operate while accounting for individual student characteristics. Since the dependent variable is binary (1=has disciplinary action, 0=otherwise), a series of logistic regressions were implemented to measure the likelihood of facing disciplinary action.

Results

Descriptive Statistics

Although only 12% of students received a disciplinary action in 2014–2015, disciplined students accounted for around 66,000 disciplinary actions. Out of all disciplinary actions, about 43% were OSS and 52% were ISS. The remaining disciplinary actions include 4% of students who were placed in an alternative school, and almost 1% of students who were classified as other disciplinary action.

Table 1 shows the descriptive statistics for several key variables. Black, male, special education, homeless, and economically-disadvantaged students are overrepresented among disciplined students, while Latino, white, and GT students are underrepresented.

Multilevel Models

Results from a series of logistic regression models are shown in Tables 2 and 3 in the Appendix.

A 1% increase in a school's black population is associated with a 0.02% higher odd of any student receiving an ISS or OSS (see Table 2, Models 1 and 2). Although this number is small, the differences in probability are significant. For example, the average school in HISD has a black student population of about 25% where the predicted probability of any student being disciplined is .09. There are schools in HISD with a student population of almost 100% black, and the probability of being disciplined rises to a predicted probability of .16 when holding other school

and individual factors constant. Students attending intermediate, middle and high schools have higher odds of being disciplined compared to elementary schools (see Table 2, Model 2). Including student characteristics partially mediates the effect of percentage black on receiving disciplinary action, such that a one percent increase in the black population is associated with an increase in the odds of any student being disciplined of about 0.01%.

Although the primary concern for this paper is the effects of school racial composition, the individual student characteristics are also important to highlight. Black students are 3.85 times more likely to receive either an ISS or OSS compared to white students. Although Latino students make up a majority of HISD, they are about 70% more likely to be disciplined compared to white students. In contrast, Asian students are about 68% less likely to be disciplined compared to white students. Both Native American and multiracial students have higher odds of being disciplined compared to white students, and although their populations are very small, these differences are statistically significant.

Male students are about three times more likely to be disciplined than female students. Special education students are about 10% more likely to be disciplined than non-special education students, while gifted/talented (GT) students are about 61% less likely to be disciplined than non-GT students. Limited English Proficiency (LEP) students are not more likely to be disciplined compared to those who are non-LEP.

Students identified as having any economic disadvantage have about 11% higher odds of being disciplined compared to students with no economic disadvantage. Homeless students are 14% more likely to be disciplined compared to students who are not classified as homeless. Although the population of homeless students is very small, the differences are statistically significant.

Black male students are the most disciplined students throughout all school contexts (see Graph 1 in the Appendix). Even at lower levels of percent black, the probability a black male student will receive a disciplinary action is higher than both Latino and white males. Latino males predicted probability of being disciplined is only slightly higher than white males as the percent black students at a campus increases.

In contrast to percent black, a one percent increase in Latino students is associated with a 0.01 decrease in the odds of any student receiving ISS or OSS, but this effect is no longer statistically significant when student level controls are added (see Table 3, Models 1–3). This indicates that student factors are more important than a school's percent Latino.

Discussion and Recommendations

Context matters for school discipline. The odds of any student being disciplined is associated with a school's proportion of black students, but not Latino students. Students attending schools with higher percentages of black students have an increased risk of being disciplined and represents another form of disadvantage for all students. However, the percent Latino did not increase the odds of being disciplined, which is good since the majority of HISD students are Latino.

Although students at schools with higher proportions of black students have an increased risk of disciplinary actions, there are five schools with a student body over 75% black but with low rates of disciplinary action—though they are all early childhood or elementary schools. An additional analysis was conducted examining the numbers of discipline incidents to the numbers of students per school during the 2014–2015 school year. Lockhart Elementary, Atherton Elementary, the TSU Charter Lab School, Kandy Stripe Academy, and Young Scholars Academy of Excellence all had very low rates of discipline incidents. These schools are positive outliers, and their disciplinary practices should be explored and possibly replicated at other elementary schools.

In addition to school context, student characteristics are highly associated with the odds of receiving disciplinary action, especially black male students. When controlling for both percent black and percent Latino, individual student characteristics are highly significant and are

associated with either an increase or decrease of receiving disciplinary action. Across all school contexts, black male students have the highest odds of being disciplined students in HISD.

HISD has already taken important steps to address the disciplinary outcomes found in this study by changing district policy and adopting the best disciplinary practices. Since the 2014–2015 school year, the district has prohibited suspensions of students in the 2nd grade and younger, as well as significantly changed the district's Disciplinary Alternative Education Program (DAEP) referral process. HISD has also implemented positive behavior management practices and restorative justice programs in some schools. These practices effectively deal with student behavior in ways that are less detrimental than harsher forms of punishment (Fronius et al 2015, Gonzalez 2015; Nocera et al 2014).

The first recommendation for HISD is to have all schools either implement or continue to use positive behavioral management practices and restorative justice. These practices reduce the number of suspensions for all students but also closes the gaps in racial disparities in discipline referrals, while also developing positive teacher student relationships and overall school climate (Gregory, et al 2015; Horner et al 2009; Nocera et al 2014). Schools will be able to address student behavior in a safe way while also minimizing the negative effects of harsh disciplinary practices.

The final recommendation is for HISD to continue to study and monitor how race at the student, campus, and district levels plays a role in discipline practices. Racial disparities in school discipline cannot be resolved until educators use data and research to identify the patterns, engage in meaningful conversations about race, and develop systems that directly addresses the way race plays in discipline (Carter et al 2017). By conducting studies like these, HISD is taking steps to better understand student discipline patterns that can improve school discipline, student achievement, and as a result, a more equitable school system. HISD could understand how policy changes and behavioral interventions are working by measuring school discipline in more recent years. Researchers can measure whether the use of discipline action has decreased, as well as whether or not there is a reduction in disparities by student and school characteristics. By continuing to monitor school discipline, HISD can take effective measures to reduce this aspect of school inequality.

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For additional information on the findings presented here, contact the Houston Education Research Consortium at 713-348-2532 or email herc@rice.edu.

Appendix A

Table 2. HLM Logistic Regression of Disciplinary Actions of Individual Characteristics and School Percentage Black

	Model 1	Model 2	Model 3
	Race Composition Effects	Race Composition Effects with School Level Controls	Race Composition Effects with School Level and Individual Student Controls
Percent Black Students	1.021***	1.021***	1.011***
School Level Controls:			
Intermediate School Level		3.960***	4.459***
Middle School Level		4.368***	5.105***
High School Level		2.006**	2.247***
Number of Suspensions per School		1.000	1.000***
Individual Student Characteristics			
American Indian			2.059**
Asian/PI			.321***
Black			3.858***
Hispanic			1.699***
Multiracial			1.612**
Male			3.056***
Special Education Status			1.098***
Homeless Status			1.141*
Gifted & Talented Status			.385***
Any Economic Disadvantage			1.109***
Limited English Proficiency (LEP)			1.052
Interactions			
American Indian * male			0.587
Asian * male			1.244
Black* male			.629***
Hispanic * male			.608***
Multiracial * male			1.003
Constant	0.024	0.012***	.005***
Var(cons)	2.199	1.173	1.031
ICC	0.233	0.263	0.239
N	199549	199549	199549

Note: Odds ratios are presented. Models display HLM logistic regression. Model 1 accounts for only the effects of percent black. Model 2 accounts for all school level covariates and percent Black. Model 3 accounts for all school and individual-level covariates.

$^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

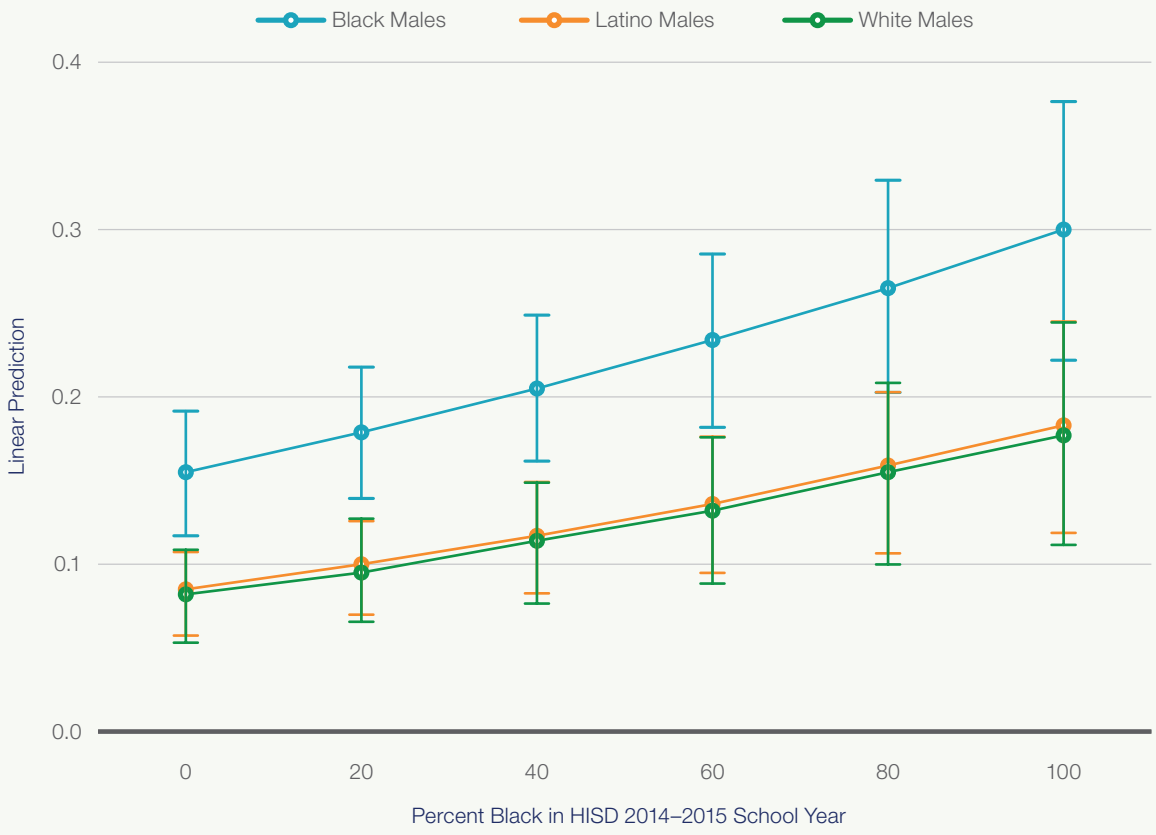
Table 3. HLM Logistic Regression of Disciplinary Actions of Individual Characteristics and School Percentage Latino

	Model 1	Model 2	Model 3
	Race Composition Effects	Race Composition Effects with School Level Controls	Race Composition Effects with School Level and Individual Student Controls
Percent Latino Students	.991*	.993***	.998
School Level Controls:			
Intermediate School Level		3.874***	4.497***
Middle School Level		4.274***	5.150***
High School Level		1.962***	2.286***
Number of Suspensions per School		1.000	1.000
Individual Student Characteristics			
American Indian			2.064**
Asian/PI			.321***
Black			3.878***
Hispanic			1.700***
Multiracial			1.613**
Male			3.055***
Special Education Status			1.098***
Homeless Status			1.142**
Gifted & Talented Status			.385***
Any Economic Disadvantage			1.110**
Limited English Proficiency (LEP)			1.051
Interactions			
American Indian * male			0.587
Asian * male			1.244
Black* male			.630***
Hispanic * male			.608***
Multiracial * male			1.004
Constant	0.071	0.041***	.007***
Var(cons)	2.471	1.492	1.227
ICC	0.233	0.312	0.272
N	199549	199549	199549

Note: Odds ratios are presented. Models display HLM logistic regression. Model 1 accounts for only the effects of percent Latino. Model 2 accounts for all school level covariates and percent Latino. Model 3 accounts for all school and individual-level covariates.

$^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Graph 1. Predicted Margins of Disciplinary Action by Percent Black



Note: Predicted Margins for Full Model

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