ABSTRACT

Title of Thesis: PUSHED OUT: ANALYZING ACADEMIC ACHIEVEMENT AND THE SCHOOL-TO-PRISON PIPELINE

Ever Sheplee, Bachelor of Arts, 2025

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I advance current knowledge on the school-to-prison pipeline by identifying a potential pathway by which students are pushed out of educational systems and into the criminal justice system. Suspensions are a common disciplinary practice in school that involve the physical removal of a student from their educational environment, disrupting their education and increasing their chances of falling behind and eventual involvement with the criminal justice system. I examine if students with lower academic performance are more likely to be suspended. I use data from the Future of Families and Child Well-Being Study to estimate the correlation between grades and likelihood of suspension while also testing if race moderates this relationship. I find that students with lower grades are more likely to be suspended, even when controlling for other covariates including behavioral issues. I find no evidence of variation in the relationship by race between Black and non-Black students. Low academic achievement is associated with an increased risk of suspension and may therefore be one pathway by which youth are pushed out of school. These findings imply that suspending students for low grades is counterproductive and contributes to systemic educational and social inequalities. Rather than addressing the root causes of academic struggles, such practices increase a child's likelihood of entanglement with the criminal justice system and should be reassessed.

PUSHED OUT: ANALYZING ACADEMIC ACHIEVEMENT AND THE SCHOOL-TO-PRISON PIPELINE

by

Ever Sheplee

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Introduction

While the number of students being suspended each year is generally declining, the lasting impacts that a school suspension has on a child's academic and delinquent outcomes persist (Rosenbaum, 2020). When students are taken out of school environments, they are put at a disadvantage because they are missing key academic instruction and important socialization (Noltemeyer et al., 2015). The school-to-prison pipeline (STPP) refers to pathways that lead a child from educational environments to the criminal justice system, many of which start with educational exclusion (Cuellar & Markowitz, 2015). School exclusionary punishments 'push' students out of learning environments by expelling or suspending them from participating in educational opportunities and physically removing them from the classroom. Policies and actions that devalue a student's learning and push students out of schools make them more susceptible to harm (Morris, 2016). They are singled out in front of their peers which leads to feelings of social ostracization (Quin & Hemphill, 2014). This exclusion may make students avoid the educational system entirely by dropping out and looking for other means of fulfilling their time, which may result in criminal activity or involvement with delinquent peers (Leban & Masterson, 2022; Hemphill & Hargreaves, 2009). Suspended students miss important classroom instruction and learning, leading to poorer academic performance (Lacoe & Steinberg, 2019).

Many research studies have been conducted to investigate the processes and methods of the STPP, including addressing the unintended consequences of the No Child Left Behind Act (NCLB). When NCLB came to fruition, its intentions were to improve student achievement, however, the flawed policies resulted in an increase in the removal of students from educational environments they should otherwise be in (Dankner, 2018; Holbein & Ladd, 2017). Academic and racial biases of teachers further exacerbate the issue of relying on school exclusionary

punishments to deal with seemingly minor issues in the classroom due to the discretion teachers have and the subjectiveness of offenses (Skiba et al., 2014; Wu et al., 1982). The present study seeks to expand on this body of research by exploring how grades and suspensions are intertwined, specially how underperforming children are pushed out of learning environments through the utilization of suspension which effectively increases the likelihood that these students are put on a path down the STPP. I propose that lower academic performance is associated with increased risk of school suspension.

I test whether academic performance is associated with suspension even when controlling for behavior problems and other correlates of low academic performance and suspension. Race has also been established to be an important factor for who is at risk for entering the STPP due to factors such as discrimination, critical race theory, and cross-racial interactions and dynamics (Bell, 1995; Moody, 2016). I also test if race moderates the relationship between academic underachievement and suspensions, specifically, if underperforming in schools and identifying as Black increases the risk of being suspended. In assessing these relationships, this study expands the body of research on the STPP through the examination of a previously unexplored pathway from schools to the criminal justice system, which could have serious implications for the mechanisms of discipline that schools utilize.

Background

The No Child Left Behind Act

NCLB was designed to improve the quality of education in American schools and ensure that no child fell behind in terms of academic achievement. The law created more transparency in the American education system by holding schools accountable for their students' academic success through assessments and record keeping (No Child Left Behind Act, 2002). However, this also meant that schools would be found liable for the students' academic failures and could face government interference (Dee et al., 2010). While many research studies focus on the impact of NCLB on the STPP, they tend to focus solely on the effects of zero-tolerance policies in schools on predicting outcomes of juvenile delinquency rather than examining the other unanticipated effects of the act (Klehr, 2009). In addition to zero-tolerance policies, NCLB required schools to demonstrate "adequate yearly progress" and minimum performance standards for their children (No Child Left Behind Act, 2002). Children must meet these standards to deem the school "proficient" which, if they fail to meet, would entitle the school to federal interference to address such issues (Goertz, 2005).

With these standards in place, schools that are close to failing to demonstrate adequate yearly progress and minimum performance standards could find other methods to save their institutions from government interference. This could include removing students from the district that are not as academically proficient, as their performances with progress checks would bring down the school's total performance. However, it is difficult to demonstrate that schools push out low-achieving students simply for their underperformance academically (Zimmer & Guarino, 2013). When students are suspended, it is most likely due to behavioral concerns, but this should only be taken at face value as there may be deeper, underlying factors at play.

Academic Achievement and Suspensions

Some background that has informed my hypotheses focuses on the circular relationship we see between suspensions, grades, and behaviors. Suspensions can influence a student's grades as they can negatively impact students' assessments of their school environment, indicating that being suspended lessens the bond and commitment a child has to their school (Liu, 2024; Pyne, 2019). More so, when students experience exclusionary discipline, they may feel alienated, disrespected, or unwelcome, leading to a diminished sense of belonging (Jacobsen, 2020; Lynn Mulvey et al., 2017). This weakened connection can reduce their motivation to engage in academic activities, participate in class, or seek support from teachers and peers (Graham et al., 2022). In turn, children are less inclined to care about their performance in school, resulting in lower grades (Lacoe & Steinberg, 2019). However, the inverse relationship of grades precipitating a suspension has not previously been studied.

While this theory has not yet been explored, it is true that more than just disruptive student behaviors contribute to the likelihood of a suspension. Teacher bias, both academic bias and racial bias, play a role in whether or not a student is suspended. Wu and colleagues(1982) found that while low-achieving students do misbehave more than their classmates, they are also more likely to be severely punished by their teachers for their misbehavior. This is likely due to the negative label associated with underperforming academically. Students reported that they are aware of the labels their teachers prescribe to them, as either 'good' or 'bad' students, and that the students labeled as 'bad' are perceived as lazy and worthless (Khan et al., 2019). Some students may internalize their negative label and act out as a result, increasing their likelihood of suspension (Becker, 1963). However, teachers are also victims of their own biases and may take

minor behaviors from these ‘bad’ students more seriously, also increasing their likelihood of suspension (Raffaele Mendez, 2003). Teachers may also increase their surveillance on “at-risk” kids which may increase the risk of suspension regardless of any differences in behavior (Ferguson, 2001). Academic performance influences the label that teachers give to their students (Khan et al., 2019), which ultimately affects their likelihood of suspension, however all the previous research identifies behavioral impacts as the catalyst for the suspension. This study contributes to current knowledge about the role of school punishment by exploring how academic performance can influence suspensions while controlling for behavior.

Behaviors are ultimately the main catalyst for a child being suspended (Gross et al., 2019). Behaviors that often result in a suspension for students include violence, bullying, school rule violations, and disruptive behaviors. These could be things related to dress code violations, violating zero tolerance policies in schools, and talking back to a teacher in front of the class (Liu, 2024; Pyne, 2019). Teachers have discretion when it comes to punishing students but ultimately principals have a lot of power when it comes to exclusionary discipline (Harrell, 2019). Teachers can decide what to bring to principals but principals have the final say on what to do for such serious repercussions. However, research shows that the relationship between teachers and principals is more significant than the relationship between principals and students, and principles will often take the side of their teacher (Welsh, 2023) Biases in both teachers and principals play a role in deciding how to discipline students and different behaviors may result in different consequences based on the principal, the teacher, the student, and the impact the behavior had on the class.

Suspension Disparities By Race

Research has also shown that suspensions unfairly burden students of color (Moody, 2016). Black students are 3.2 times more likely to be suspended than White students (Nowicki, 2018). Some research has been conducted to try to determine why these disparities exist between different demographic groups. White teachers tend to lower their expectations for Black students and place them in lower-level classes which results in lower academic achievement (Dance, 2002). This widens the achievement gap and places Black students at a disadvantage where they are given fewer educational opportunities and not expected to succeed as much as their classmates (Hanushek & Rivkin, 2009).

As discussed previously, lower-achieving students are more likely to be under surveillance by their teachers (Ferguson, 2001) Their behavior may be more visible or recognizable to teachers, increasing their risk of suspension. This surveillance is heightened when the student is Black. There is already a lack of understanding between White teachers and Black students that often leads to Black stereotypes being perpetuated by teachers. Normal outbursts from a Black child are seen as "aggressive" by teachers and often escalate to over-disciplining the child (Moody, 2016). Adding in the fact that the student is performing lower could further exacerbate these stereotypes and lead to more severe punishments. Teacher biases and stigma associated with different racial groups can add to these disparities (Wu et al., 1982). A Black student may get more harshly punished than a White student for the same act. This communication barrier is often amplified in urban schools where the teachers are middle-class and lack knowledge of urban culture (Dance, 2002). This lack of understanding of

cultural norms can lead to the over-punishing of Black and Brown students and again, take them out of educational environments they should otherwise be in.

I hypothesize that when Black students are falling behind academically, their risk of suspension increases more than non-Black students who also fall behind academically, making race a key interaction term for the relationship between academic performance and suspensions.

Current Study

The current study estimates the relationship between low academic achievement and suspensions. Additionally, the study will examine variation in these associations by race, specifically if being Black will increase the likelihood of suspension when a student has low academic achievement. In answering these research questions, the current study addresses concepts previously overlooked by scholars. Research has examined the negative effect that being suspended has on academic performance (Noltemeyer et al., 2015), but not the inverse relationship. The present study diverges from the previous literature by focusing on how academic performance can predict if a student will be suspended while controlling for behavior. No previous research has studied this pathway into the STPP.

If the findings from this study support the research hypotheses, policymakers can make informed decisions when addressing the concerns associated with underperforming children. They can also assess the impact that race has on disciplinary outcomes and work toward addressing such disparities. Implications for policy changes would include providing academically struggling children with more resources to get them back on track rather than forcing them out of the school system entirely. More so, test scores and requirements to show growth that put pressure on school systems to showcase their children's performance should be

monitored closely and should not influence the oppression of minorities. If schools feel pressured by the government to increase scores by removing children who have a right to education from obtaining that education, there is a significant flaw in the policy at hand. This study seeks to explore a whole new pathway into the STPP that has not been previously studied.

Data and Methods

The Data

I will estimate the relationship between grades and suspension with race as a moderator using data from FFCWS. This stratified, multistage sample collected data for about 5,000 children born in large U.S. cities between 1998 and 2000. Births to unmarried mothers were oversampled at a ratio of 3 to 1, leading to a significant representation of Black, Hispanic, and low-income families (Reichman et al., 2001). This oversampling is valuable for examining the role of race as a moderator in the relationship between grades and suspensions due to the fact that Black students are more likely to be suspended than their peers (Moody, 2016; Nowicki, 2018). Mothers were interviewed shortly after giving birth, while fathers were interviewed either at the hospital or by phone. Follow-up interviews took place when the children were around one (Y1), three (Y3), five (Y5), nine (Y9), fifteen (Y15), and twenty-two (Y22) years old. Mothers and fathers were interviewed when the children were one, three, five, and nine. Beginning with the three-year survey, the child's primary caregiver, typically mothers, were interviewed and continued through the twenty-two-year follow-up. Additionally, the five-year survey and the nine-year survey interview the children's teachers. The children themselves participated in the surveys beginning at year nine. FFCWS collects data on demographic characteristics, physical and mental health information for both the parents and the child, social and behavioral data, family dynamics, educational data, and community and environmental factors.

Analytic Sample

I will use data collected during Y15 and Y22 that asks about the child's academic performance and school outcomes. My sample is limited to respondents who provided data on

my outcome variable of suspension in eleventh grade (N = 4,898). 1,908 participants did not participate in the survey, so there is no data to report for them. Additionally, there are 10 participants with missing data for this survey question and 22 participants who refused to answer the survey item so they have been excluded. Lastly, after dropping 763 missing data observations for all control variables using listwise deletion, the analytic sample size came to N = 2,195 participants.

Measures

Outcome Variable: Suspension in Eleventh Grade

Suspension is a binary measure taken from the Y22 survey. The children participating in the study are asked if they have ever received an out of school suspension and are then specifically asked about each grade, from kindergarten to twelfth grade. I created a binary indicator in which 0 = the child did not report being suspended in eleventh grade and 1 = the child reported being suspended in eleventh grade. I look at suspensions in eleventh grade specifically because grades are only asked in the Y15 survey. Most people are in ninth or tenth grade when they are fifteen years old, meaning I have to look at suspensions afterwards in order to establish temporal ordering, which is crucial to the focus of this study. I chose not to include suspensions in twelfth grade because too much time could have passed between grades the participant received and reporting a suspension nearly three years later. The purpose of this study is to examine if grades can predict suspensions and having grades from ninth grade predict a suspension in twelfth grade is not feasible.

Explanatory Variable: Academic Achievement

Academic achievement is operationalized by the average letter grade across four subjects received during the Y15 survey. The survey questions asks "at the {most recent grading period/last grading period in the spring} what was your grade in the following subjects?" Self-reported letter grades were collected in English or language arts, math, science, and history or social studies. Response options range from 1 = A, 2 = B, 3 = C, and 4 = D or lower. The responses for all four subjects were then combined to create an average grade, effectively creating a constructed GPA.

Moderating Variable: Race

FFCWS collects data on race and I will use these data to see if race acts as a moderator, specifically if being Black affects the strength of the relationship between academic performance and suspensions. Race is coded as a binary variable in which 0 = does not identify as Black and 1 = identifies as Black. Combining all non-Black students into one single category allowed for statistical power to remain. More so, prior research finds Black youth at greater risk of suspension beyond White or Hispanic youth. Further, prior research using the FFCWS data found that White and Hispanic youth do not differ significantly in their risk of suspension (Jacobsen, Pace, and Ramirez 2019). Nearly 48% of my participants were Black so to make the categories more balanced, the other races were combined into one category consisting of all of non-Black participants.

Covariates

I use a long list of control variables likely to be associated with suspension and academic achievement. I focused on variables related to demographics, parental involvement, behavior, delinquency, anxiety, and prior suspensions that have been related to the key variables in prior research (Finn & Servoss, 2013; Iselin, 2010; Sullivan et al., 2013). Race is first controlled to establish a relationship between academic achievement and suspensions alone but then added to the analyses to discover if it moderates this relationship. All of the control variables are measured at Y15 with the exception of gender (measured at baseline) and prior suspensions (taken from Y22). A complete list is presented in Table 1 and Appendix C offers descriptions of how all covariates were constructed.

Analytic Approach

Since the outcome variable of being suspended is a binary, a linear probability model will be used in STATA to estimate the association between academic achievement and suspension to test the first research question. To answer the second research question, I will run another linear probability model but include Black as a moderating variable to determine how the relationship varies across race.

Results

Descriptive Statistics

Table 1 presents a description of the sample. It displays the means, standard deviations, and ranges for all the variables used in this study. About 12% of the sample population reported experiencing an out-of-school suspension in eleventh grade. The average constructed GPA for the sample was about a 2.10, which is equivalent to a B- average. Thirty-two percent of the sample reported experiencing an out-of-school suspension prior to eleventh grade. The average rating of school climate was 2.16 and the average rating of trouble at school was 1.78, both of which are on a three-point scale. Nearly 25% of the sample had been stopped by the police and about three percent were actually arrested.

Regarding the demographic information for my sample, nearly 47.4% of the participants are Black, 25.3% are Hispanic, and 19.5% are White. The remaining 7.8% represents individuals who identify with a race that is not listed in the three primary racial categories. For the purposes of my analyses, my sample is 47.4% Black and 52.6% non-Black. The sample is 48.2% male and 51.8% female. The average household income was just under $66,000.

Academic Achievement and School Suspensions

Results of the linear probability regression models are shown in Table 2**.** The relationship between grades and suspensions is weak and positive but statistically significant, meaning that lower grades are associated with a higher likelihood of suspension. A one point decline in grades is associated with a .08 increase in the expected probability of suspension ($p < .001$).

When controlling for covariates, the relationship remains significant but weaker ($\beta = 0.029$, $p < .05$), suggesting that other covariates explain some of the association between

academic achievement and suspension. Prior suspension has the largest positive effect (β = 0.104, $p < .001$), indicating that students with prior suspensions are much more likely to be suspended again. Reporting being stopped by the police is also significantly associated with a higher probability of suspension ($\beta = 0.045$, $p < .05$).

Racial Differences in Predicting School Suspensions

Table 3 depicts the results of linear probability models estimating suspension as a function of covariates separated by non-Black students and Black students. The results indicate that academic performance is a significant predictor of school suspension for both Black and non-Black students. Lower average grades are associated with a higher likelihood of suspension across both groups. Among non-Black students, a one point decrease in academic achievement is associated with a .07 increase in the expected probability of suspension ($p < 0.001$). A similar association is observed among Black students ($\beta = 0.084$, $p < 0.001$). However, both relationships diminish in size and lose statistical significance when controlling for additional covariates (Non-Black: $\beta = 0.020$, $p = 0.237$; Black: $\beta = 0.039$, $p < .05$).

Interaction Between Race and Academic Achievement in Predicting School Suspensions

Figure 1 displays the predicted probability of suspension for Black and non-Black students at varying levels of academic performance. Although academic performance is a continuous variable for my analyses, I chose to recode it into four categories to create a bar chart which was easier for interpretation. The probability of suspension is displayed at the average grades of A (coded as 1), B (coded as 2), C (coded as 3), and D/F (coded as 4). Results indicate that lower academic performance is significantly associated with a higher likelihood of

suspension. Also shown in the graph, at each letter grade, Black students are more likely to be suspended than their non-Black peers. However, I find no evidence of variation in the relationship between low achievement and suspension by race. The interaction between race and academic performance is not statistically significant ($r = 0.0016$, $p = 0.843$). While lower grades are associated with a higher likelihood of suspension, it is not statistically different for Black students compared to non-Black students.

Discussion

The purpose of this study was to investigate the relationship between students' academic performance and the likelihood of receiving school suspensions, with particular attention to the potential moderating role of race. The study suggests that students who underperform academically are at greater risk of disciplinary action. The results revealed a statistically significant relationship between academic performance and risk of suspension. Students with lower grades were more likely to be suspended. This aligns with longstanding concerns that academic difficulties are often treated punitively in educational settings rather than being addressed through supportive interventions (Duarte et al., 2023; Jones et al., 2023). It also supports theories of academic disengagement, which posit that students who are struggling academically may be more likely to exhibit behaviors that are interpreted as disruptive or noncompliant, increasing their risk of exclusionary discipline (Henry et al., 2012; Reinke et al., 2008).

However, contrary to the initial hypothesis and much of the existing research on racial disparities in discipline, this study found no evidence that race significantly moderated this relationship. In other words, the association between academic performance and suspension was statistically similar for both Black and non-Black students. There are several potential explanations for this null moderation effect. One possibility is that the association between lower academic achievement and suspension varies by different categories of race than what I have included in this study (e.g., White-Hispanic and White-Black rather than Black-Nonblack). It is worth noting that while race did not moderate the effect of grades on suspension in this study, that does not mean it does not affect a student's risk of suspension. Black students face a higher baseline risk of suspension independent of academic performance (Moody, 2016; Nowicki,

2018). The mechanisms of these disparities may operate through other channels, such as differential behavior interpretation, implicit bias, or institutional policies, rather than through the interaction between academic achievement and race.

Limitations

Although this study provides valuable insight into the relationship between academic performance and suspension, several limitations should be noted that may have influenced the findings and their interpretation. First, the scope of available data was limited. The study relied on data that did not include qualitative information about students' behavioral incidents, the circumstances of suspensions, or teacher decision-making processes. This lack of context makes it difficult to fully understand *why* certain students were suspended and whether subjective factors played a role. It also limited the sample to only students who were suspended in eleventh grade. Because grades were only asked at year fifteen, I had to focus on eleventh grade specifically. This made the sample size smaller than anticipated.

While the study included race as a key variable, its operationalization was broad and dichotomous, grouping all non-Black students into a single comparison category. This decision, while practical for statistical analysis, may have masked important differences in how other racial and ethnic groups experience discipline. Furthermore, it does not account for the intersecting roles of other social identities, such as gender, which can significantly shape both academic outcomes and disciplinary experiences.

Finally, the model did not include potentially important confounding or mediating variables. For example, factors such as attendance, classroom behavior ratings, school size, or teacher experience could all influence both academic performance and the likelihood of

suspension (Sheryl et al., 2014). The absence of these variables limits the ability to isolate the effects of grades and race on suspension outcomes.

Implications and Future Directions

Building on the findings and addressing the limitations noted above is essential for guiding future research. First, longitudinal studies would provide a better understanding of the temporal relationship between academic performance and suspension. Tracking students over time could help clarify whether academic struggles precede disciplinary action or whether exclusionary discipline leads to subsequent academic disengagement. Mixed-methods approaches that incorporate qualitative data could help explain why certain students are more likely to be suspended and how academic challenges are perceived and addressed within different racial groups.

More so, expanding the scope to include school-level and teacher-level variables would provide deeper insight into what shapes disciplinary outcomes. Examining how teacher expectations, implicit bias, or school disciplinary expectations influence the relationship between grades and suspension could offer a more comprehensive picture of structural inequities. Future studies should consider evaluating interventions and policy changes aimed at reducing disciplinary disparities. For instance, the effectiveness of culturally responsive teaching or bias training could be assessed in terms of both academic and disciplinary outcomes.

Conclusion

This study examined the relationship between academic performance and school suspension, with a focus on whether race moderates that relationship. The results suggest that lower academic achievement is associated with an increased likelihood of suspension. However, contrary to the study's hypothesis, race did not significantly moderate this relationship. I find no evidence that the relationship between academic performance and suspension varies by race for Black versus Non-Black students.

While these findings may suggest some level of consistency in how academic performance relates to disciplinary action, it does not negate the broader and well-documented racial disparities that persist in school discipline (Moody, 2016; Nowicki, 2018). Other mechanisms outside of academic achievement continue to contribute to disproportionate outcomes for Black students.

Overall, the study adds to our understanding of the relationship between academic performance and disciplinary action and highlights the importance of continued inquiry into the structures and practices that shape student outcomes. Reducing suspensions and promoting academic equity requires a comprehensive approach that includes academic support, culturally informed teaching, and structural reforms aimed at dismantling the roots of disciplinary disproportionality. By addressing both academic and behavioral needs within an equity framework, schools can better support all students in achieving success, creating a better future for students and, in turn, our future leaders.

Appendices

Appendix A. Tables

Table 1

Descriptive Statistics for Analytic Sample

Variable	Mean	SD	Min	Max
Outcome Variable				
Out-of-school suspension	0.12		0	1
Explanatory Variable				
Average grades	2.10	0.68	1	4
Control Variables				
Race				
White	0.19		0	1
Black	0.45		0	1
Hispanic	0.24		0	1
Other	0.07		0	1
Sex				
Male	0.48		0	1
Female	0.52		0	1
Household income	65831.80	67280.98	0	999999
Close to mother	2.38	0.85	0	3
Close to father	1.64	1.18	0	3
Anxiety	2.20	0.65	0	3
Impulsivity	3.06	0.82	1.2	4.8
School climate	2.16	0.51	0.2	3
Trouble at school	1.78	0.48	1	3
Prior suspensions	0.32		0	1
Teen delinquency	1.17	1.97	0	19
Tried marijuana	0.20		0	1
Drank alcohol >2-3 times	0.16		0	1
Stopped by police	0.25		0	1
Arrested	0.03		0	1

Source: The Future of Families and Child Well-Being Study (FFCWS).
Note: The sample was limited to observations with non-missing values for measures of children's out-of-school suspension in eleventh grade and all control variables (N = 2,195).

Table 2
Linear Probability Model Estimating Suspension as a Function of Covariates

	No Added Controls		Added Controls	
Variable	β	SE	β	SE
Average grades	0.079***	0.010	0.029*	0.010
Race				
Black			0.008	0.019
Hispanic			-0.006	0.020
Other			0.014	0.028
Sex				
Male			0.041**	0.014
Household income			0.000	0.000
Close to mother			0.006	0.008
Close to father			-0.008	0.006
Anxiety			0.023	0.012
Impulsivity			-0.017	0.010
School climate			-0.002	0.015
Trouble at school			0.026	0.016
Prior suspensions			0.104***	0.016
Teen delinquency			0.005	0.004
Tried marijuana			0.046*	0.020
Drank alcohol >2-3 times			0.024	0.021
Stopped by police			0.045**	0.017
Arrested			0.007	0.040

Source: The Future of Families and Child Well-Being Study (FFCWS). *** = $p < .001$, ** = $p < .01$, * = $p < .05$.
Note: The sample was limited to observations with non-missing values for measures of children's out-of-school suspension in eleventh grade and all control variables ($N = 2{,}195$). The categories of 'White" and 'Female' have been excluded as reference categories for the other race and gender variables to be compared to.

Table 3
Racial Heterogeneity Linear Probability Models Estimating Suspension as a Function of Covariates

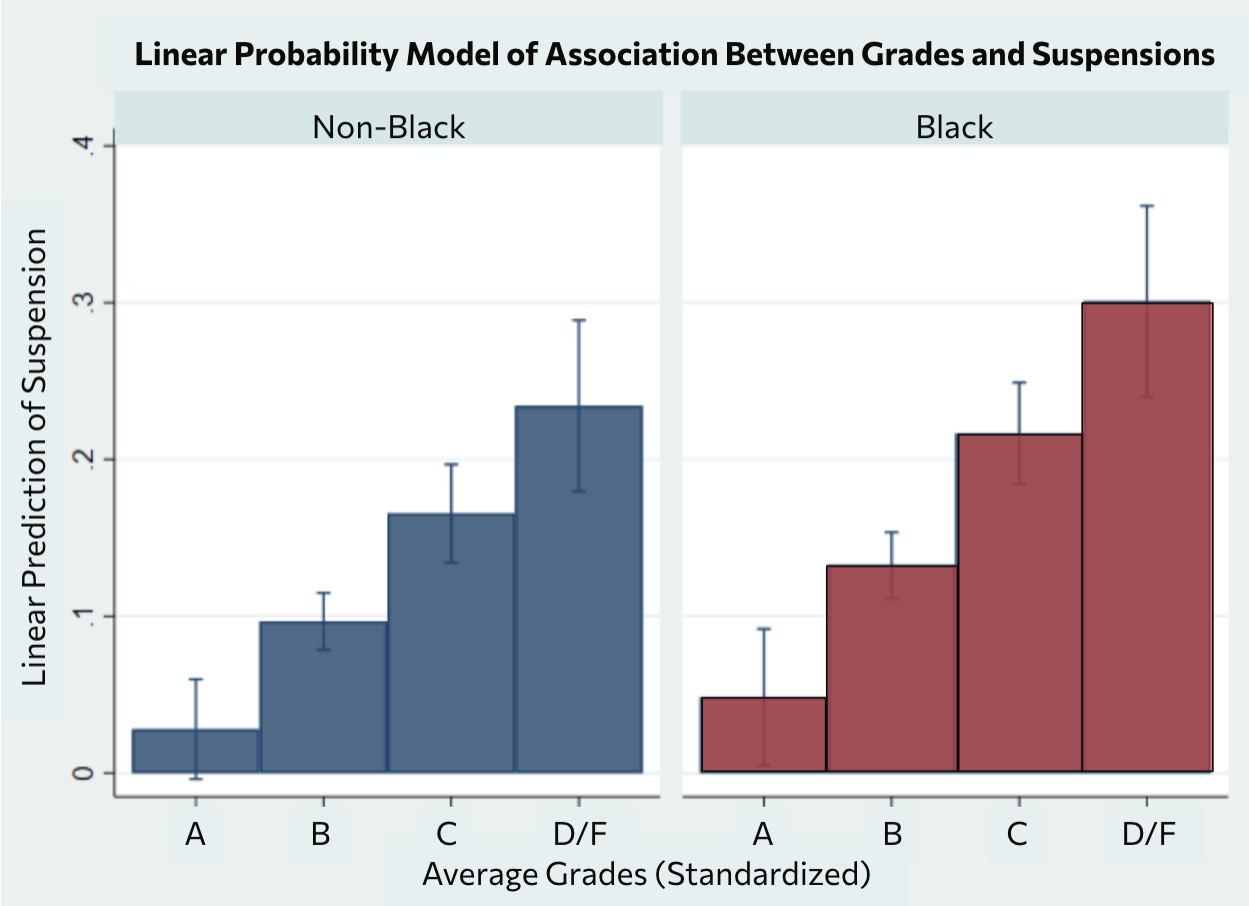
	Non-Black Students		Black Students	
Variable	β	SE	β	SE
No added Controls				
Average grades	0.069***	0.012	0.084***	0.018
Added Controls				
Average grades	0.020	0.013	0.039*	0.019
Male	0.032	0.017	0.055	0.024
Household income	-1.14E-07	1.09E-07	-1.17E-08	2.79E-07
Close to mother	0.016	0.010	-0.007	0.014
Close to father	-0.005	0.007	-0.009	0.010
Anxiety	0.015	0.014	0.034	0.020
Impulsivity	-0.012	0.012	-0.024	0.016
School climate	-0.008	0.018	0.005	0.023
Trouble at school	0.019	0.020	0.035	0.026
Prior suspensions	0.118***	0.021	0.096***	0.024
Teen delinquency	0.011	0.005	0.000	0.006
Tried marijuana	0.061*	0.026	0.031	0.032
Drank alcohol >2-3 times	0.017	0.025	0.021	0.028
Stopped by police	0.061**	0.022	0.026	0.028
Arrested	-0.038	0.061	0.042	0.057

Source: The Future of Families and Child Well-Being Study (FFCWS). *** = $p < .001$, ** = $p < .01$, * = $p < .05$.
Note: The sample was limited to observations with non-missing values for measures of children's out-of-school suspension in eleventh grade and all control variables ($N = 2{,}195$). The categories of 'White" and 'Female' have been excluded as reference categories for the other race and gender variables to be compared to.

Appendix B. Figures

Figure 1

Interaction Between Race and Academic Achievement in Predicting School Suspensions



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Source: The Future of Families and Child Well-Being Study (FFCWS).

Note: The sample was limited to observations with non-missing values for measures of children's out-of-school suspension in eleventh grade and all control variables (N = 2,195).

Appendix C. Description of Covariate Constructions

This appendix contains descriptions of how each of the covariates was constructed, as referenced in the 'Data and Methods' section. All of the control variables were taken from the Y15 survey with the exception of gender and prior suspensions.

Gender

The gender of the focal child was collected at the baseline wave. For the purposes of this study, two new dummy variables were created, one for males and one for females.

Household Income

Constructed variable of the primary caregiver's household income. Income was reported in two forms, as an actual amount as a reported range. The FFCWS imputed dollar amounts for those who reported a range of income. If nothing was reported, they use Stata's regression-based impute command to impute household income while controlling for original sample city, age, years of education, race/ethnicity, earnings, immigrant, employed last year, hours worked, total adults in the household welfare receipt, and marital status.

Close to Mother and Father

Closeness between teen and mother and teen and father is measured on a four-point Likert scale ranging from 0 (not very close) to 3 (extremely close).

Anxiety

Participant's anxiety was constructed using six variables drawn from the Brief Symptom Inventory 18 (BSI 18), which is an assessment designed to measure psychological distress and psychiatric disorders. These six items are a modified version of the BSI 18 anxiety subscale. The questions ask, "Thinking about the past four weeks, do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with this?" creating a four-point scale. The statements included the following items: "I have spells of terror or panic," "I feel tense of keyed up'" "I get suddenly scared for no reason," "I feel nervous or shaky inside," "I feel fearful," and "I feel so restless I can't sit still." Cases were scored by computing the mean for all six variables.

Impulsivity

Impulsivity was measured using six variables from an abbreviated form of Dickman's impulsivity scale. The items are coded on a 4-point Likert scale (1= strongly agree and 4= strongly disagree). The statements included the following items: "I will often say whatever comes into my head without thinking first," "I often make up my mind without taking the time to consider the situation from all angles," "Often, I don't spend enough time thinking over a situation before I act," "I often get into trouble because I don't think before I act," " Many times, the plans I make don't work out because I haven't gone over them carefully enough in advance," and "I often say and do things without considering the consequences." Cases were scored by summing the items and dividing by the top value of the Likert scale.

School Climate

School climate is measured using ten variables modified from the Measures of Effective Teaching (MET) Project. The teaching quality items were taken from the MET Project and

adapted to ask about the school as a whole rather than an individual classroom. The items were scored on a 4-point Likert scale (0= strongly disagree and 3= strongly agree) and then averaged to create a scale for school climate.

Trouble at School

Children were asked how often they had trouble since the beginning of the school year in each of four areas: getting along with teachers, paying attention in school, getting homework done, and getting along with other students. The items were scored on a scale of 1= never and 3= often. Items were averaged to create a scale.

Prior Suspensions

Prior suspensions were controlled from kindergarten to tenth grade. In the Y22 survey, participants were asked if they had received an out-of-school suspension from each grade from kindergarten to twelfth grade. Anyone who answered "yes" at any grade from kindergarten to tenth grade was coded as 1 and participants who answered "no" were coded as 0.

Teen Delinquency

Teen delinquency was constructed using 13 items from a teen self-report questionnaire. The survey asks a series of questions about delinquency behaviors and asks if the teen did these things never, 1 or 2 times, 3 or 4 times, or 5 or more times. These values were recorded so never was coded as 0 (Never), 1-2 and 3-4 were coded as 1 (Sometimes), and 5 or more times were coded as 2 (Often). The survey asked about behaviors ranging from violent offenses to damage

to property. The items were summed for a total score where higher values represent higher levels of delinquency.

Tried Marijuana

Participants were asked if they had ever tried marijuana. Participants responding "yes" were coded as 1 and participants responding "no" were coded as 0.

Drank Alcohol More Than 2-3 Times Without an Adult

Participants were asked if they ever had a drink of beer, wine, or liquor, not just a sip or a taste of someone else's drink, more than two or three times in their life when they were not with their parents. Participants responding "yes" were coded as 1 and participants responding "no" were coded as 0.

Stopped by the Police

Participants were asked if they had ever been stopped by the police. Participants responding "yes" were coded as 1 and participants responding "no" were coded as 0.

Arrested

Participants were asked if they had ever been arrested or taken into custody by the police. Participants responding "yes" were coded as 1 and participants responding "no" were coded as 0.

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