Beyond Suspension: Informal Discipline in K–12 Schools*

Sarah Komisarow and Siobhan O'Muircheartaigh†

March 5, 2026

Abstract

In this paper we document the prevalence and distribution of informal disciplinary consequences in K–12 public schools and examine how they contribute to disparities in school discipline. Using administrative data from North Carolina, we first describe the landscape of informal disciplinary consequences across grade levels. Informal consequences account for the largest share of disciplinary responses at the elementary school level, particularly in the early grades. In kindergarten, 47% of disciplinary incidents result in an informal consequence, exceeding the share resulting in suspension until fourth grade, while rates are substantially lower in middle and high school. We then examine gaps in informal consequences by student race and socioeconomic status. Decompositions of unconditional gaps show that, much like suspension patterns documented in prior work, these disparities arise primarily within schools. Finally, using two complementary fixed-effects econometric approaches—one focusing on single-student incidents among first-time kindergarteners and another comparing students involved in the same multi-student incidents—we show that Black and economically disadvantaged students are more likely to be suspended and less likely to receive informal consequences relative to their peers.

Keywords: K–12 Education; School Discipline.
JEL: I21; I24; J15.

*We are grateful for helpful suggestions from Ezra Karger, Agustina Laurito, Ying Shi, and Maria Zhu. Komisarow gratefully acknowledges funding from the Duke University Office for Faculty Advancement (Racial and Social Equity in Local Context).

†Sanford School of Public Policy, Duke University, 201 Science Drive, Durham, NC 27708. Emails: sarah.komisarow@duke.edu and siobhan.omuircheartaigh@duke.edu.

1 Introduction

Although exclusionary discipline remains common in K–12 public schools in the United States, overall rates of suspension have declined over the past decade (Leung-Gagné et al., 2022). This trend reflects several shifts in policy, including federal action from the Obama Administration, rollback of state-level "zero-tolerance" policies, and implementation of state-level reforms designed to limit the use of exclusionary discipline (Rafa, 2019). At the same time, lawyers, journalists, and advocates have raised concerns that reductions in formally recorded discipline (e.g., suspensions) may coincide with increased use of less visible forms of removal and exclusion (Green, 2023; Kolodner and Ma, 2022; Mathewson, 2023; National Disability Rights Network, 2022; Payne, 2022). These practices—often called informal exclusionary discipline—involve the removal or exclusion of students from K–12 instructional settings in ways that are unlikely to appear in public reporting systems (Steyer et al., 2025a). Examples include time outs, loss of recess, asking parents to collect a child before the end of the school day or keep them home ("soft suspension"), and encouraging or pressuring parents to disenroll their child from the school ("soft expulsion").

Although some of these concerns have surfaced through investigative reporting and legal advocacy, a qualitative research literature has also documented the use of informal exclusionary discipline through small-scale studies (Bookser, 2025; Cruz and Myers, 2024; Gleit, 2025; Hoffstein-Rahmey et al., 2024; O'Grady et al., 2024; Steyer et al., 2025b). To date, however, the absence of systematically collected administrative data has limited researchers' ability to examine informal exclusionary discipline practices comprehensively (Hoffstein-Rahmey et al., 2024; Murphy et al., 2024; O'Grady et al., 2024; Williford et al., 2024). We address this limitation by leveraging novel information captured within an existing state longitudinal data system to document the full spectrum of K–12 school discipline practices—both formal and informal—at scale. These data allow us to study disciplinary practices that have been difficult to examine quantitatively and largely absent from research and policy discussions.

In this paper, we make two primary contributions. First, we describe the landscape of informal disciplinary consequences in K–12 public schools. We document their prevalence and distribution across school and grade levels and decompose racial and socioeconomic status gaps in informal disciplinary consequences into component parts. Second, we use fixed-effects econometric approaches to integrate informal disciplinary consequences into the existing literature on racial and socioeconomic disparities in school discipline. In doing so, we show how informal disciplinary consequences—a previously unexplored dimension of school discipline—contribute to the patterns of inequality documented using formal discipline outcomes such as suspension.

We begin by using administrative data to document the prevalence and distribution of informal disciplinary consequences across school and grade levels. We find that informal consequences account for the largest share of disciplinary consequences at the elementary level, particularly in the early grades (i.e., kindergarten through second grade). For example, in kindergarten, 47% of all disciplinary incidents resulted in an informal consequence while only 37% resulted in suspension. The percentage of incidents resulting in an informal consequence exceeded the percentage resulting in suspension until fourth grade. At the middle and high school levels, the percentage of incidents resulting in an informal consequence was lower, around 19% and 22%, respectively. To examine these patterns in greater detail, we introduce a classification scheme that distinguishes informal consequences that remove students from the instructional or peer environment ("informal exclusionary" consequences) from those that primarily serve as warnings or signals ("informal cautionary" consequences). This framework allows us to examine variation across school levels and student subgroups.

Next, we examine gaps in informal consequences by student race and socioeconomic status. Decomposition of unconditional racial gaps in informal consequences reveals that—much like suspension patterns documented in prior work (Barrett et al., 2021; Liu et al., 2024)—these disparities arise primarily within schools. At the elementary level, the Black–White gap in informal exclusionary consequences ranges from 1.2–2.5 percentage points across grades,

while the gap in informal cautionary consequences ranges from 2.7–6.1 percentage points. Decomposing these gaps into across-district, across-school within-district, and within-school components shows that more than 75% of the gaps arise within schools. Consistent with prior research, this pattern points to the importance of within-school differences rather than sorting as an important source of disparities (Barrett et al., 2021; Liu et al., 2024). We find similar patterns for socioeconomic status: unconditional gaps in informal exclusionary consequences range from 1.1–2.0 percentage points, and gaps in informal cautionary consequences range from 2.0–3.8 percentage points across elementary grades. Our decompositions indicate that more than 85% of these gaps originate within schools.

Finally, we integrate informal disciplinary consequences into the economics literature on racial and socioeconomic status disparities in suspension. We show that within-school racial and socioeconomic status gaps in suspension are closely linked to differences in the use of informal consequences. Black and economically disadvantaged students are more likely to be suspended and less likely to receive informal consequences relative to White and non-economically disadvantaged students, respectively. Across two complementary empirical strategies and samples—the first involving single-student incidents among first-time kindergarteners and the second involving multi-student incidents involving students of different races and socioeconomic statuses—we produce evidence supporting this interpretation. Finally, we examine a previously unexplored mechanism: infraction type classification. Using multi-student incident data, we show that Black and economically disadvantaged students are more likely to be charged with more severe infraction types within the same incident. Although we do not estimate the aggregate contribution of this channel to overall disparities, these descriptive patterns illuminate the potential for infraction classification to play a role in generating school discipline disparities by race and socioeconomic status.

The paper contributes to two strands of literature. First, we produce quantitative evidence on informal disciplinary consequences in K–12 schools to complement existing qualitative work. Prior research has documented the use of informal practices in early childhood

settings and has shown that despite restrictions on formal exclusionary discipline in early childhood, schools nonetheless use informal practices to remove children (Gilliam, 2005; Gilliam and Shahar, 2006; Giordano et al., 2024). Descriptive qualitative studies in K–12 document the use conferences, parent involvement, warnings, and apologies (Anderson et al., 2019; Skiba et al., 1997; Wegmann and Smith, 2019). Other recent studies capture the perspectives of teachers (Williford et al., 2024) and parents (Wahman et al., 2024) and highlight the variety of informal strategies and the reasons they are used. These include limited staffing, inadequate training to manage complex student behavior (Bookser, 2025; Gleit, 2025; Hoffstein-Rahmey et al., 2024; O'Grady et al., 2024; Steyer et al., 2025b), pressure to meet academic targets, and desires to keep formal discipline rates low (Cruz and Myers, 2024; Steyer et al., 2025b; Williford et al., 2024).

Second, our work contributes to the literature on the formal dimensions of school discipline. Prior research shows that exclusionary practices such as suspension and expulsion are widespread and harmful (see, e.g., Bacher-Hicks et al. (2024); Lacoe and Steinberg (2019)). Students who are economically disadvantaged, Black, male, and/or have disabilities are more likely to experience suspension and to receive longer suspensions than their peers (Anderson and Ritter, 2020; Gopalan and Nelson, 2019), even when conditioning on infraction type (Gilleskie and Li, 2022; Ritter and Anderson, 2018) or comparing students involved in the same incidents (Barrett et al., 2021; Liu et al., 2024; Shi and Zhu, 2022). Much of this literature focuses on middle and high schools, where suspension rates are highest; consistent with this emphasis, some evidence suggests that racial and economic disparities in suspension widen during K–12 (Barrett et al., 2021; Gilleskie and Li, 2022; Gopalan and Nelson, 2019; Liu et al., 2024). In contrast, elementary school—particularly the early grades—has received less attention (Karger and Komisarow, 2024; Lincove et al., 2024). Our work highlights this sensitive developmental period and cautions against exclusive focus on suspension.

Our findings have implications for research and education policy. First, they suggest that narrow focus on suspension results in an incomplete picture of school discipline. Informal dis-

ciplinary consequences constitute a substantial share of disciplinary responses—particularly in the early grades—and thus are a component of the disciplinary process. Second, our results suggest that racial and socioeconomic disparities in school discipline may emerge through a broader set of decision points than previously recognized, including the assignment of informal consequences and the classification of student infractions. Finally, the results highlight the value in expanding data systems and research frameworks to capture the full spectrum of disciplinary consequences. Doing so may improve both scholarly understanding of school discipline and the design of policies aimed at reducing inequities in students' educational experiences.

2 Data

2.1 Data Source and Variables

We obtained administrative data from the North Carolina Education Research Data Center at Duke University. We focus on disciplinary incidents among students enrolled in traditional public schools in North Carolina during the 2015/16–2018/19 school years because information for early grades (K–2) are consistently available and disciplinary incident dates are complete. We exclude COVID-era school years because discipline data collection and reporting changed during this period.

For each disciplinary incident, we observe the date, infraction type(s), consequence(s), and anonymized student identifier(s). Each incident is assigned a unique identifier, which allows us to determine whether it involved one or more students (important for defining our analytic samples; described in more detail in subsection 2.3). Incident data are collected from local school districts by the North Carolina Department of Public Instruction through an online system (North Carolina Department of Public Instruction, 2019). School administrators report disciplinary incidents by selecting one or more infraction type(s) from a pre-populated list. Although multiple infraction types may be recorded, most incidents (92%) involve only one. For incidents with multiple infraction types, we follow previous work

and retain the first (Shi and Zhu, 2022). School administrators also report incident consequences by selecting from a list. Most incidents (92%) have only one recorded consequence, while 6% have multiple consequences and 2% have none.

Using anonymized student identifiers, we match incidents to student-level information including gender, race/ethnicity, economic disadvantage, whether the student is old-for-grade, lagged achievement, and lagged school discipline history. In the data, student race and ethnicity are combined into a single measure, which we refer to throughout as race. Incident dates allow us to control for within-year and lagged school discipline history. For more detail, see Appendix B.

2.2 Defining and Categorizing Disciplinary Consequences

The main outcomes of interest in this paper are disciplinary consequences, which we classified into four categories: (1) Suspension, (2) Informal Exclusionary, (3) Informal Cautionary, and (4) Other. Suspension consequences capture both out-of-school and in-school suspensions. Informal exclusionary consequences involve loss of instructional time or separation from peers during the school day—such as timeouts, being sent home early, or detention—but fall short of formal suspension. We do not include detentions that occur outside of the regular school day (i.e., before/after school or on Saturdays). Informal cautionary consequences capture warnings (written or oral) and conferences involving administrators, parents, and/or students. The other consequence category accounts for all remaining consequences. For a complete list, see Appendix B.

We code informal disciplinary consequences hierarchically according to the following severity ranking: Suspension, Informal Exclusionary, Informal Cautionary, and Other. This ordering reflects the degree to which each consequence removes students from the instructional and/or peer environment and the extent to which it carries formal administrative consequences. Our classification departs from prior work (e.g., Steyer et al. (2025a)) by distinguishing informal exclusionary consequences, which remove students from instructional

and/or peer settings, from informal cautionary consequences, which primarily serve as warnings.

2.3 Analytic Samples

In this paper, we use four analytic samples. The first includes all disciplinary incidents involving K–12 students and is used to characterize the distribution of informal disciplinary consequences across grade and school levels and to decompose racial and socioeconomic gaps into component parts. The second sample is restricted to single-student incidents among first-time kindergarten students. This sample allows us to focus on students without prior school discipline histories—given their recent entry into K–12 schools—and on incidents where there is no ambiguity about within-incident interactions between students. The third and fourth samples consist of multi-student disciplinary incidents and are restricted to incidents involving students with different racial identities and different socioeconomic statuses, respectively.

3 Descriptive Evidence

We begin by presenting summary statistics on student characteristics, disciplinary incidents, and consequences. Building on this, we then document the use of informal disciplinary consequences in K–12 schools by presenting three key descriptive findings: how the number of disciplinary incidents varies across grade levels, how the distribution of disciplinary consequences evolves as students progress through K–12, and how racial and socioeconomic status gaps in informal disciplinary consequences can be decomposed into between-district, across-school within-district, and within-school components.

3.1 Disciplinary Incidents and Consequences in K–12

Table 1 reports summary statistics for elementary school students in traditional public schools in North Carolina during the 2015/16–2018/19 school years. Column (1) presents characteristics for the full student-year sample. Columns (2)–(5) report characteristics for

subsamples defined by students' prior disciplinary incidents or suspensions. While these subsamples condition on students' discipline histories, our later analyses shift entirely to incident-level data rather than student-by-year data. Students were 25.5% Black, 18.6% Hispanic, 9.4% Other Race/Ethnicity, and 46.5% White; 48.6% were female, 14.3% received special education services, 50.7% were economically disadvantaged, and 8.3% were old-for-grade. Consistent with prior literature, students with prior disciplinary incidents or suspensions were more likely than the full sample to be Black, male, receiving special education services, or economically disadvantaged (Leung-Gagné et al., 2022). Panel B shows that at least one disciplinary incident was recorded for 3.2% of students for Aggressive Behavior, 2.5% for Disruptive Behavior, 2.1% for Bus Misbehavior, 0.8% for Inappropriate Behavior, 0.9% for Insubordination, and 5.9% for Other types. Panel C shows that at least one disciplinary consequence was recorded for 5.9% of students for suspensions, 2.2% for informal exclusionary consequences, 3.8% for informal cautionary consequences, and 2.6% for Other consequences. These descriptive statistics provide the foundation for the subsequent analysis of grade-level patterns and the decomposition of racial and socioeconomic gaps.

Building on these descriptive statistics, we next examine how disciplinary incidents and the distribution of consequences vary across grade and school levels. Although the overall number of disciplinary incidents is lower at the elementary school level than at middle and high school levels, the percentage of incidents resulting in informal consequences is high, particularly in the early grades. Panel (a) of Figure 1 shows that the number of disciplinary incidents increases gradually across grade levels in elementary school. The average number of incidents among students in kindergarten is around 34,000 per year; this number increases monotonically to around 79,000 per year among students in fifth grade. When adjusted for grade-level enrollments, these totals correspond to around 19.5 incidents per 100 students in kindergarten and 35.5 incidents per 100 students in fifth grade.

Panel (b) depicts the distribution of disciplinary consequences by grade level and documents a pronounced shift in the composition of disciplinary consequences. Informal consequences—

defined as the sum of informal exclusionary and informal cautionary consequences—play a prominent role in the early grades. In kindergarten, 47% of disciplinary incidents result in an informal consequence, compared to 37% resulting in suspension. The percentage of incidents resulting in informal consequences declines steadily with grade level, while the percentage resulting in suspension increases. By fifth grade, 32% of incidents result in an informal consequence and 52% result in suspension. In contrast, the proportion of incidents resulting in other disciplinary consequences remains relatively stable at approximately 16% across elementary grades.

We present results for middle and high school levels in Appendix Figure A1. At both levels, incident counts and suspension rates are substantially higher. Across middle school grades, the average annual number of incidents ranges from 78,093–87,391, and approximately 69% result in suspension. Across high school grades, the average annual number of incidents declines from 114,922 in ninth grade to 46,555 in twelfth, while the suspension rate declines from 65% to 57%. Beyond grade-level patterns, Appendix Figures A2 and A3 present the distributions and correlations of district-level consequence rates. These figures reveal substantial heterogeneity in disciplinary practices across districts at the elementary level. Moreover, correlations across suspension, informal exclusionary, informal cautionary, and other consequence rates are weak, suggesting that these measures capture distinct dimensions of disciplinary practice rather than a single underlying propensity to discipline.

3.2 Decomposing Disciplinary Consequence Gaps

After documenting how disciplinary incidents and consequences vary across grade and school levels, we next turn to an analysis of racial and socioeconomic gaps in these outcomes and how they can be decomposed into between-district, across-school within-district, and within-school components. Prior research consistently finds that the majority of unconditional suspension gaps—both Black–White and socioeconomic status—arise from within-schools differences as opposed to sorting across districts or across schools within districts (Barrett

et al., 2021; Liu et al., 2024). We follow the method presented in Barrett et al. (2021) to replicate this finding for suspension and then document that the same pattern holds for informal disciplinary consequences. This approach decomposes observed gaps by estimating how much is explained by differences between districts, differences across schools within the same district, and differences between students within the same school.

Panels (a)-(d) of Figure 2 depict results from the decomposition of Black–White gaps in our four disciplinary consequences—suspension, informal exclusionary, informal cautionary, and other—into component parts attributable to differences between districts, across schools within districts, and within schools. Three key findings emerge from this exercise. First, across all elementary grades, the majority of Black–White gaps in both formal and informal consequences are generated from within-school differences. Within-school differences account for around 70% of gaps in suspension consequences and around 80% of gaps in informal cautionary and other consequences. Within-school differences account for more than 100% of the gap in informal exclusionary consequences because of offsetting negative between-district components, which we discuss in more detail below. Second, sorting across schools within districts explains a smaller (approximately 20–30%) but consistent share of Black–White gaps in all disciplinary consequences. Finally, we find that between-district differences contribute little to Black–White gaps in suspension, informal cautionary, and other consequences but account for a large negative share for informal exclusionary consequences. We interpret these negative between-district components as evidence that Black students are more likely to be enrolled in districts that make less use of informal exclusionary consequences. The decomposition results are remarkably similar across outcomes and grades.

Our results for the decomposition of socioeconomic status gaps (i.e., economically disadvantaged versus not economically disadvantaged students) exhibit broadly similar patterns: across all disciplinary consequences and all elementary grades, within-school differences account for the majority of gaps, while sorting across schools explains a smaller share. Unlike Black–White gaps, however, socioeconomic gaps in suspensions include a meaningful positive

between-district component, which we interpret as evidence that economically disadvantaged students are more likely to be enrolled in high-suspension districts. In contrast, between-district components for the other three disciplinary outcomes are small or negative. We present visual results depicting the decompositions in Appendix Figure A4.

4 Empirical Strategies for Analyzing Disparities by Race and Socioeconomic Status

Building on the descriptive evidence, we implement econometric strategies—following prior work on racial and socioeconomic disparities in school discipline—to examine how disciplinary consequences vary by student characteristics within the same school, controlling for infraction type and school-year factors. Our first approach uses fixed-effects estimation on a sample of single-student disciplinary incidents among first-time kindergarteners. We focus on this restricted sample for two main reasons. Restricting to single-student incidents reduces potential bias from unobserved within-incident differences in student behavior, such as victim-perpetrator dynamics. Prior studies have addressed this issue by analyzing multi-student incidents with students of different races or socioeconomic statuses, but very few multi-student incidents occur at the kindergarten level; we examine multi-student incidents for older elementary students later in the paper. Restricting to first-time kindergarteners also eliminates variation generated by prior school discipline histories. While most prior work controls for prior discipline using one-year lags, these measures may not capture students' full histories, which are likely considered by school administrators when assigning disciplinary consequences. Because school discipline histories accumulate across K–12, residual differences in observed histories could bias estimates of differential consequences; our intentional focus on first-time kindergarteners mitigates this concern. Finally, we further restrict our sample to the five most prevalent infraction types to maintain comparability across incidents.

To isolate the effects of within-school differences in disciplinary outcomes by student characteristics, we estimate a multiple regression equation of the following form:

$$Y_{ikst} = X_i'\Theta + \alpha_{st} + \delta_k + \varepsilon_{ikst} \quad (1)$$

Y_{ikst} is a binary outcome indicating whether a disciplinary consequence (e.g., suspension) was received by student i involved in an incident of infraction type k in school s and year t. The vector X_i includes student race, gender, special education status, old-for-grade, indicator economically disadvantaged indicator, prior achievement, and previous school discipline history (within the kindergarten year only). α_{st} are school-by-year fixed effects, which control for time-varying factors at the school level (e.g., changes in leadership, staffing, or school climate). We also include δ_k to control for systematic differences across infraction types (e.g., aggressive behavior, disruptive behavior, etc.). The idiosyncratic error term, ε_{ikst}, captures unobserved determinants of the outcome. We cluster standard errors at the school level to account for potential within-school correlation in the error term over time.

By controlling for infraction type, school-by-year fixed effects, and student-level within-year discipline history, we interpret the estimated coefficients on race, gender, special education status, and economic disadvantage as evidence of differential assignment of disciplinary consequences across groups. For estimates of Θ to be interpreted as causal, we assume that after accounting for differences across school-years and infraction types, there are no other unobserved student-level factors that are correlated with the characteristics of interest and that influence disciplinary consequence outcomes. Under this assumption, the coefficients reflect differential assignment of consequences across groups. Without it, our estimates still reveal how disciplinary consequences systematically vary with student characteristics within schools.

Our second empirical approach uses two samples of disciplinary incidents involving elementary school students in first through fifth grades. We exclude kindergarteners from this analysis because it is not possible to control for lagged achievement or lagged school discipline history. Following previous work, we restrict our samples to multi-student incidents

involving students of (1) different races or (2) different socioeconomic statuses. For each sample, we estimate a multiple regression equation of the following form:

$$Y_{ijt} = X_i'\Gamma + \kappa Ach_{it-1} + \nu Disc_{it-1} + \lambda_j + \eta_{ijt} \tag{2}$$

Y_{ijt} is a binary outcome indicating whether a disciplinary consequence (e.g., suspension) was received by student i involved in incident j during year t. The vector X_i includes race, gender, special education status, an old-for-grade indicator, and an indicator for economic disadvantage. Ach_{it-1} and $Disc_{it-1}$ are controls for one year lagged achievement and school discipline history, respectively. λ_j is an incident-specific fixed effect, which control for all observed and unobserved factors common to the multi-student incident, including the time, place, and school-by-year. The idiosyncratic error term, ε_{ijt}, captures unobserved determinants of the outcome. We again cluster standard errors at the school level. To interpret estimates of Γ as causal, we assume that conditional on incident fixed effects, lagged achievement, and lagged school discipline history, there are no unobserved incident-level factors that are correlated with student characteristics and that affect disciplinary consequences. Under this assumption, our estimates capture differential assignment of disciplinary consequences by race (or socioeconomic status) among students involved in the same disciplinary incident.

5 Results

5.1 Single-Student Incidents Among First-Time Kindergarteners

Table 2 presents estimates of Equation (1). The first three rows present results by student race, in which we compare Black, Hispanic, and students reporting other identities (labeled as "Other Race/Ethnicity") to White students (the omitted group). The results in Column (1) indicate that Black students are 2.4 percentage points more likely to receive suspension as a disciplinary consequence relative to White students. This effect is statistically significant and translates into a 6% increase relative to the baseline of 0.38 for White students (all

baseline means are reported in Appendix Table A1). In Appendix Table A2 we disaggregate this suspension result by suspension type (in-school versus out-of-school) and assess the intensive margin (i.e., the number of days suspended). We find that most of the main suspension result is driven by out-of-school suspensions and that intensive margin effects are qualitatively similar.

Recall that consequences are coded to be mutually exclusive and exhaustive, so the estimates in Columns (2)–(4) of Table 2 illustrate how increases in suspension likelihood are offset by decreases in the likelihood of alternative disciplinary consequences. For Black students, the increase in the likelihood of suspension is primarily explained by a reallocation away from less severe, informal consequences. Specifically, Black students are 1.4 percentage points less likely to receive an informal cautionary consequence compared to White students. We find small negative but statistically insignificant effects for informal exclusionary (-0.6 percentage points) and other consequences (-0.4 percentage points). This pattern suggests that, conditional on the same infraction type and school-year, Black students are more likely to receive the most severe formal disciplinary consequence—suspension—while White students receive more lenient punishment in the form of informal cautionary consequences. We do not find any statistically significant evidence of these patterns for other racial groups.

Economically disadvantaged students also receive more severe punishments relative to their non-economically disadvantaged peers. Results in the fourth row of Table 2 indicate that economically disadvantaged students are 1.1 percentage points more likely to receive suspension relative to their non-economically disadvantaged peers (the omitted group). This increased likelihood of suspension is offset by reduced likelihood of receiving more lenient consequences: economically disadvantaged students are 1.0 percentage point less likely to receive an informal exclusionary consequence and 1.4 percentage points less likely to receive an informal cautionary consequence. Taken together, these estimates suggest substitution away from low-severity consequences toward more punitive consequences for economically disadvantaged students. In Column (4), we find that economically disadvantaged students are also

1.3 percentage points more likely to receive other disciplinary consequences. Disaggregation of the consequences in this category reveals that the increased likelihood of punishment in this category is driven by bus suspension (see Appendix Table A3). Bus suspensions bar students from riding the school bus but do not explicitly exclude them from school; however, in practice, this loss of transportation is a significant barrier to attendance. Because bus suspension is arguably the most severe of the consequences grouped under "Other," the positive estimate is consistent with the overall pattern that economically disadvantaged students receive harsher disciplinary consequences than their non-economically disadvantaged peers.

Although we do not find evidence of the same patterns by gender or special education status, we highlight two suggestive findings for these groups. Results in the fifth row indicate that female students are 1.5 percentage points (6%) more likely to receive an informal cautionary consequences relative to male students and that students receiving special education services are 1.3 percentage points (7%) more likely to receive informal exclusionary consequences compared to their peers without special education status. All results are robust to alternative coding of disciplinary consequence outcomes that does not impose hierarchy nor mutual exclusivity (Appendix Table A4).

Prior economics literature on racial and socioeconomic status disparities in school discipline speaks exclusively to formal consequences (i.e., suspension). Gilleskie and Li (2022) examined disciplinary incidents in North Carolina during an earlier timeframe (2007/08 to 2014/15) using an older elementary school sample (third through twelfth grades) and found that economically disadvantaged students in third through fifth grades were 1.7–2.2 percentage points more likely to receive an out-of-school suspension relative to their non-economically disadvantaged peers; the same paper did not find evidence of racial disparities in these later-elementary grades, however. Our findings illuminate the importance of expanding this analysis to include informal disciplinary consequences, as our evidence suggests that these previously documented suspension disparities are intertwined with the assignment of informal consequences within the broader school discipline process.

5.2 Multi-Student Incidents Among Students of Different Races or Socioeconomic Statuses

Table 3 presents estimates of Equation (2). Panel A presents results from multi-student incidents that involve students of different racial identities. In Columns (1)-(4) we present results estimated using the full sample, where we find that Black students are 2.1 percentage points more likely to receive a suspension consequence (Column 1) and 1.6 percentage points less likely to receive an informal exclusionary consequence (Column 2) relative to White students. These effects are statistically significant and translate into relative effects of 4% (baseline for White students is 0.519) and 9% (baseline for White students is 0.150), respectively.[1]We do not find any statistically significant evidence for students of other racial identities.

In the remaining columns, we divide the full sample of incidents according to whether or not all students involved in the incident were assigned the same infraction type. The specifications in Columns (5)-(8) closely mirror the design adopted in prior work (Barrett et al., 2021; Liu et al., 2024; Shi and Zhu, 2022), which intentionally restricts attention to multi-student incidents in which students were assigned the same infraction type. The benefit of this approach is that it attempts to hold student behavior constant, but the cost is that it shuts down a potential channel through which racial disparities could arise: namely, from differences in how infraction types are assigned to students within the same incident. In Columns (5)-(8) we find that when students are assigned the same infraction type, racial differences in disciplinary outcomes are small and statistically insignificant across all disciplinary consequence categories. These results are consistent with findings at the elementary school level from Barrett et al. (2021) and Liu et al. (2024). In contrast, when students involved in the same incident are assigned different infraction types, large differences in disciplinary consequences emerge. Black students are 4.1 percentage points more likely to

[1]We report baseline means in Appendix Tables A5.

receive a suspension and 3.5 percentage points less likely to receive an informal exclusionary consequence relative to White students.

Because we allow infraction type to vary across students in Columns (9)-(12), our estimates from this sample should be interpreted with caution because they cannot distinguish differences in treatment from differences in behavior. These estimates should therefore be interpreted as descriptive rather than causal. Importantly, however, these estimates capture a potential margin that prior work intentionally ignores: the process by which students are differentially assigned infraction types (i.e., "charged") within incidents. We explore this potential channel descriptively in Appendix Table A7, where we estimate the same multi-student, multi-race within-incident models using an outcome that measures the severity of the assigned infraction (we coded infraction types as "low," "medium," and "high" severity; see Appendix B for details). We find that Black students are 2.9 percentage points more likely to be assigned a medium or high severity infraction type relative to White students involved in the same incident. Although these results should be interpreted with caution, they suggest that infraction classification may represent an important pathway through which disciplinary disparities arise.

Panel B presents results from multi-student incidents that involve students of different socioeconomic backgrounds. We find that economically disadvantaged students are 1.9 percentage points more likely to receive a suspension consequence (Column 1), and 1.1 percentage points less likely to receive an informal cautionary consequence (Column 3) relative to their non-economically disadvantaged peers. These effects are statistically significant and translate into a 5% increase (baseline suspension is 0.378 for non-economically disadvantaged students) and a 4% decrease (baseline informal exclusionary consequence is 0.306 for non-economically disadvantaged students), respectively.[2] In contrast to our previous results, we find evidence of disparities in both the subsample in which infraction type is the same across students and the subsample in which infraction type differs. In the same infraction

[2]We report baseline means in Appendix Tables A6.

subsample, economically disadvantaged students are 0.9 percentage points more likely to receive a suspension and 0.9 percentage points less likely to receive an informal cautionary consequence. In the different infraction sample, economically disadvantaged students are 2.8 percentage points more likely to receive a suspension and 1.7 percentage points (marginally statistically significant) more likely to receive an informal exclusionary consequence. Once again, we interpret the estimates in Columns (9)-(12) with caution. Our findings for differential infraction type assignment by socioeconomic status are similar to those by race: we find that economically disadvantaged students are 1.7 percentage points more likely to be assigned a medium or high severity infraction type relative to non-economically disadvantaged students, which again suggests that infraction classification may play an important role in generating disparities in disciplinary consequence outcomes.

Taken together, our results suggest that Black and economically disadvantaged students are more likely to receive a suspension and less likely to receive more lenient disciplinary consequences (i.e., an informal exclusionary or informal cautionary consequence) than their peers, even when involved in the same disciplinary incident. Prior literature has demonstrated this same pattern in suspensions but has stopped short of examining how these patterns for suspension relate to patterns for more lenient consequences. Our results demonstrate that suspension disparities are mirrored in lenient consequences and that assignment of infraction type may be an important channel in generating these disparities as well.

6 Conclusion

This paper makes two contributions to the study of K–12 school discipline. First, we describe the landscape of informal disciplinary consequences using administrative data from K–12 public schools in North Carolina. We show that informal consequences constitute a substantial share of disciplinary responses at the elementary school level, particularly in the early grades. In kindergarten through fourth grade, informal consequences—including informal exclusionary and informal cautionary consequences—occur more frequently than formal

suspensions, whereas at middle and high school levels, suspensions dominate. We further decompose racial and socioeconomic gaps in informal consequences and find that the majority of disparities arise within schools rather than across schools or districts. These findings extend prior qualitative work documenting informal disciplinary practices (Bookser, 2025; Cruz and Myers, 2024; Gleit, 2025) and highlight the importance of considering informal consequences as a central component of the disciplinary process.

Second, we integrate informal consequences into the existing literature on racial and socioeconomic disparities in school discipline. Using fixed-effects estimation on a sample of single-student incidents among first-time kindergarteners and samples of multi-student incidents in older elementary grades, we show that Black and economically disadvantaged students are more likely to receive suspensions and less likely to receive informal consequences relative to their White and non-economically disadvantaged peers. We also document a previously unexplored mechanism: differences in infraction type classification within incidents, which may contribute to disparities in both formal and informal consequences. These patterns help to explain previously documented disparities in suspension (Barrett et al., 2021; Gilleskie and Li, 2022; Liu et al., 2024) and suggest that inequities emerge across multiple stages of the disciplinary process. Taken together, these findings underscore that understanding racial and socioeconomic gaps in school discipline outcomes requires examining the full spectrum of disciplinary practices, not just suspensions.

Several limitations should be noted. As with prior studies using incident (also called "referral") data, we observe only reported incidents, and both the decision to report and the characterization of behavior may be biased (Liu et al., 2024). We do not examine the impacts of informal disciplinary consequences but instead leave this as an area for future study. Nonetheless, our findings have clear research and policy implications: understanding school discipline requires consideration of the full spectrum of consequences, and reforms aiming to reduce discipline disparities must consider not only suspensions but also informal practices and infraction classification processes. Policies aimed at reducing inequities in school

discipline should target the full spectrum of consequences—including informal practices and infraction classification—not just formal suspensions.

References

Anderson, K. P. and Ritter, G. W. (2020). Do School Discipline Policies Treat Students Fairly? Evidence From Arkansas. *Educational Policy*, 34(5):707–734.

Anderson, K. P., Ritter, G. W., and Zamarro, G. (2019). Understanding a Vicious Cycle: The Relationship Between Student Discipline and Student Academic Outcomes. *Educational Researcher*, 48(5):251–262.

Bacher-Hicks, A., Billings, S. B., and Deming, D. J. (2024). The School-to-Prison Pipeline: Long-Run Impacts of School Suspensions on Adult Crime. *American Economic Journal: Economic Policy*, 16(4):165–193.

Barrett, N., McEachin, A., Mills, J. N., and Valant, J. (2021). Disparities and Discrimination in Student Discipline by Race and Family Income. *Journal of Human Resources*, 56(3):711–748.

Bookser, B. A. (2025). "I Wouldn't Really Call It a Suspension, But—It Could Be Called a Suspension": Novel Forms of Discipline in Preschool. *Journal of Research in Childhood Education*, 0(0):1–18. _eprint: https://doi.org/10.1080/02568543.2025.2543873.

Cruz, K. A. and Myers, R. (2024). From "Wait 'Em Out" to Push Them Out: Teachers' Reflections on Passive and Active Modes of Racialized School Exclusion. *Punishment & Society*, 26(5):917–947.

Gilleskie, D. B. and Li, C. (2022). The Equity of Exclusionary School Discipline. *Economics of Education Review*, 90:102303.

Gilliam, W. S. (2005). Prekindergarteners Left Behind: Expulsion Rates in State Prekindergarten Systems. *Yale University Child Study Center*.

Gilliam, W. S. and Shahar, G. (2006). Preschool and Child Care Expulsion and Suspension: Rates and Predictors in One State. *Infants & Young Children*, 19(3):228.

Giordano, K., McKeating, E., Hoffstein-Rahmey, D., and Primus-Dawson, K. (2024). An Examination of Suspension & Expulsion in Community Childcare Centers Two Years into the COVID-19 Pandemic. *Early Childhood Education Journal*, 52(6):1095–1105.

Gleit, R. D. (2025). Brokers and Boundary Managers: School Expulsions amid the Non-Punitive Turn. *Social Problems*, 72(3):944–963.

Gopalan, M. and Nelson, A. A. (2019). Understanding the Racial Discipline Gap in Schools. *AERA Open*, 5(2):2332858419844613.

Green, E. L. (2023). How Educators Secretly Remove Students With Disabilities From School. *The New York Times*.

Hoffstein-Rahmey, D., Giordano, K., Murphy, K. M., Reizin-Friedman, R., and Coyne, A. (2024). Soft Expulsion: What Happens When School-Based Supports aren't Enough. *School Mental Health*, 16(4):1171–1182.

Karger, E. and Komisarow, S. (2024). Ending Early Grade Suspensions. Working Paper 24-950, EdWorkingPapers.

Kolodner, M. and Ma, A. (2022). Kids with Disabilities Face Off-the-Books School Suspensions. *AP News*.

Lacoe, J. and Steinberg, M. P. (2019). Do Suspensions Affect Student Outcomes? *Educational Evaluation and Policy Analysis*, 41(1):34–62.

Leung-Gagné, M., McCombs, J., Scott, C., and Losen, D. J. (2022). Pushed Out: Trends and Disparities in Out-of-School Suspension. Technical report, Learning Policy Institute.

Lincove, J., Mata, C., and Cortes, K. (2024). The Effects of a Statewide Ban on School Suspensions. Working Paper 24-1004, EdWorkingPapers.

Liu, J., Hayes, M. S., and Gershenson, S. (2024). JUE Insight: From Referrals to Suspensions: New Evidence on Racial Disparities in Exclusionary Discipline. *Journal of Urban Economics*, 141:103453.

Mathewson, T. G. (2023). Hidden expulsions? Schools Kick Students Out But Call It a 'Transfer'.

Murphy, K., Giordano, K., Hoffstein-Rahmey, D., Reizin, R., and Coyne, A. (2024). Soft Expulsion: A Solution When There Are No Other Options? *Children and Youth Services Review*, 158:107441.

National Disability Rights Network (2022). Out from the Shadows: Informal Removal of Children with Disabilities from Public Schools. Technical report, National Disability Rights Network, Washington DC.

North Carolina Department of Public Instruction (2019). North Carolina Discipline Data Reporting Procedures: For Use in Reporting 2018-19 Discipline Data and Alternative Learning Program Roster Data. Technical report, DPI Center for Safer Schools.

O'Grady, C. E., Ostrosky, M. M., Corr, C., and Roy, E. (2024). Exploring How Early Childhood Exclusionary Practices Persist for Multiply Marginalized Children. *Early Childhood Research Quarterly*, 68:90–98.

Payne, K. (2022). After Years of Scrutiny, Miami-Dade Schools Reviews Discipline Policies in Response to Grand Jury. *WLRN Public Media*.

Rafa, A. (2019). The Status of School Discipline in State Policy. Technical report, Education Commission of the States, Denver, CO.

Ritter, G. W. and Anderson, K. P. (2018). Examining Disparities in Student Discipline: Mapping Inequities from Infractions to Consequences. *Peabody Journal of Education*, 93(2):161–173. _eprint: https://doi.org/10.1080/0161956X.2018.1435038.

Shi, Y. and Zhu, M. (2022). Equal Time for Equal Crime? Racial Bias in School Discipline. *Economics of Education Review*, 88:102256.

Skiba, R. J., Peterson, R. L., and Williams, T. (1997). Office Referrals and Suspension: Disciplinary Intervention in Middle Schools. *Education and Treatment of Children*, 20(3):295–315.

Steyer, L., Gleit, R., Hawkins, C., Provençal, M., Pearman, F., and Obradović, J. (2025a). Informal exclusionary Discipline Practices in U.S. Schools: Recent Evidence and Policy Considerations. *Social Policy Report*, 38(1-3):3–22. _eprint: https://srcd.onlinelibrary.wiley.com/doi/pdf/10.1002/sop2.70000.

Steyer, L., Provençal, M., Pearman, F., and Obradović, J. (2025b). De Facto Suspensions: Informal Exclusionary Discipline Practices in Public Preschool and Early Elementary Settings. *AERA Open*, 11:23328584251375062.

Wahman, C. L., Steed, E. A., Houston, K., Daniel, J., Williams, B. J., and Esterer, M. (2024). Blame, Shame, and Rejection: Families' Experiences with Preschool Suspension and Expulsion. *Early Childhood Research Quarterly*, 68:214–224.

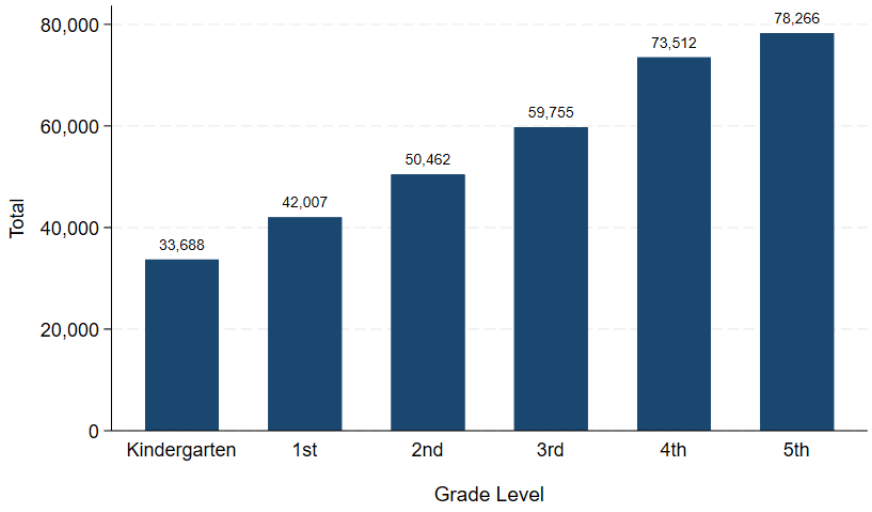
Wegmann, K. M. and Smith, B. (2019). Examining Racial/Ethnic Disparities in School Discipline in the Context of Student-Reported Behavior Infractions. *Children and Youth Services Review*, 103:18–27.

Williford, A. P., Alamos, P., Whittaker, J. E., and Accavitti, M. R. (2024). Missing Out: Kindergarten Teachers' Reports of Soft Exclusionary Discipline Practices. *Early Education and Development*, 35(8):1827–1846.

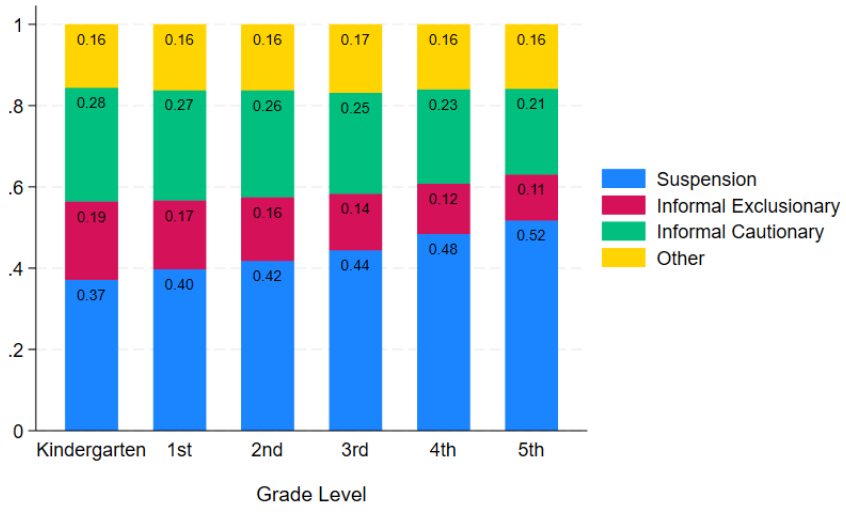
Figures and Tables

Figure 1: Disciplinary Incidents and Consequences, Kindergarten through Fifth Grades

(a) Disciplinary Incidents by Grade Level

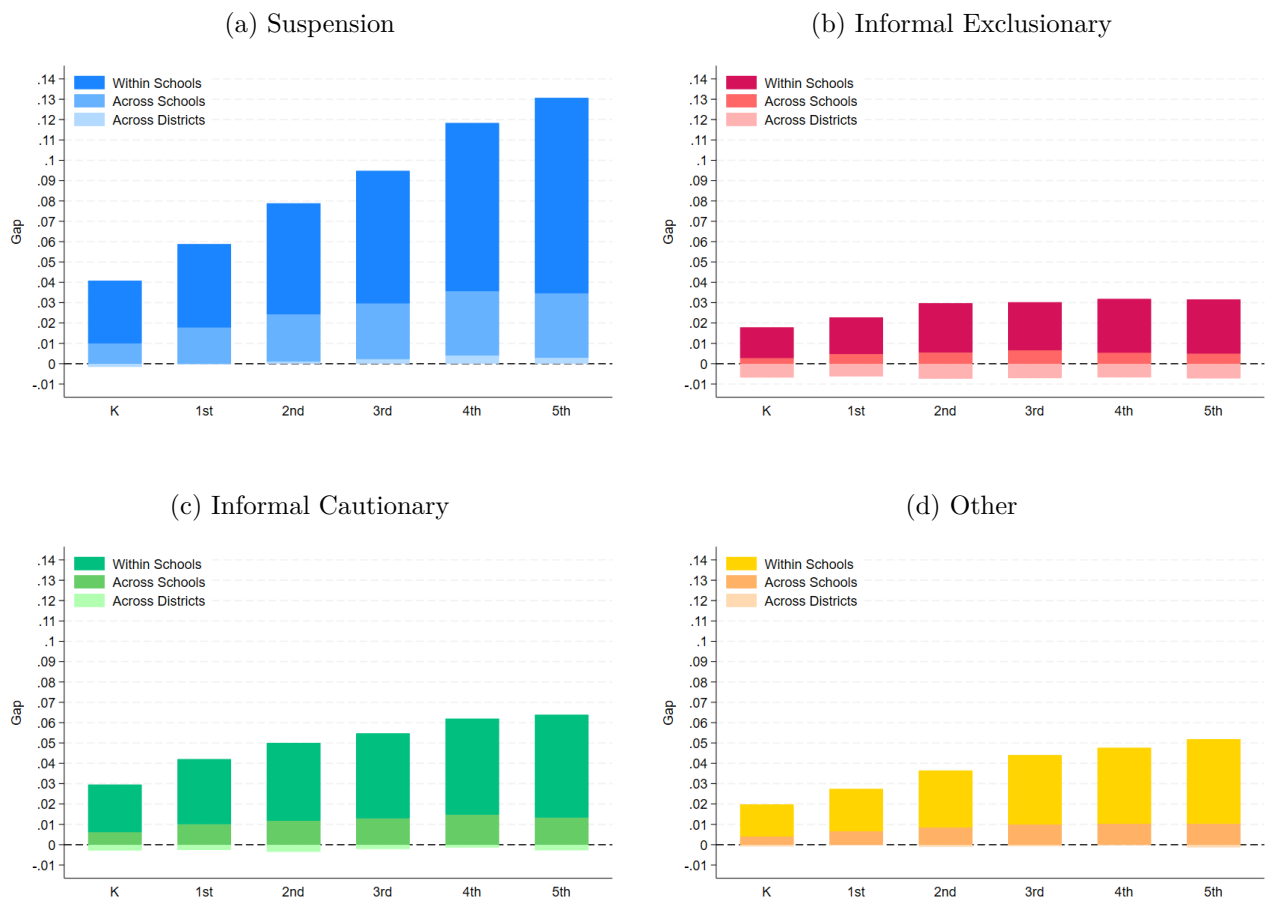


(b) Distribution of Disciplinary Consequences by Grade Level



Notes: Plots use data on all reported disciplinary incidents in North Carolina traditional public schools during the 2015/16–2018/19 school years. Panel (a) shows the average annual number of disciplinary incidents over the four school years. Panel (b) shows the average proportion of incidents resulting in each of four disciplinary consequence outcomes: Suspension, Informal Exclusionary, Informal Cautionary, and Other (all other reported consequences).

Figure 2: Decomposition of Disciplinary Consequence Gaps, Black–White



Notes: Panels (a)-(d) show the results from decompositions of unconditional Black–White gaps in disciplinary consequence outcomes for students in kindergarten through fifth grades. The four panels correspond to four binary consequence outcomes: Suspension, Informal Exclusionary, Informal Cautionary, and Other (all other reported consequences). For each grade and outcome, the unconditional gap is decomposed into three components: (1) differences across districts, (2) differences across schools within the same district, and (3) differences within schools.

Table 1: Descriptive Statistics, Elementary School Students

	(1) Elementary	(2) ≥ 1 Incident	(3) ≥ 2 Incidents	(4) ≥ 1 Suspension	(5) ≥ 2 Suspensions
Panel A. Student Characteristics					
Black	0.255	0.479	0.544	0.531	0.596
Hispanic	0.186	0.122	0.097	0.104	0.079
Other Race/Ethnic.	0.094	0.077	0.073	0.075	0.071
White	0.465	0.322	0.286	0.290	0.254
Female	0.486	0.258	0.217	0.228	0.190
Special Education	0.143	0.224	0.260	0.250	0.290
Econ. Disadvantaged	0.507	0.715	0.757	0.746	0.784
Old for Grade	0.083	0.085	0.089	0.081	0.087
Panel B. Incident Characteristics					
Aggressive Behavior	0.032	0.325	0.452	0.401	0.552
Disruptive Behavior	0.025	0.248	0.386	0.322	0.498
Bus Misbehavior	0.021	0.207	0.265	0.130	0.177
Inappropriate Behavior	0.008	0.051	0.078	0.084	0.119
Insubordination	0.009	0.091	0.159	0.119	0.205
Other	0.059	0.598	0.722	0.671	0.786
Panel C. Consequence Characteristics					
Suspension	0.059	0.581	0.716	1.000	1.000
Informal Exclusionary	0.022	0.214	0.304	0.149	0.210
Informal Cautionary	0.038	0.377	0.486	0.231	0.321
Other	0.026	0.259	0.380	0.195	0.283
N (Student-Year)	2,825,007	280,154	133,650	165,907	70,783

Notes: Observations are at the student-year level. Column (1) includes all students enrolled in traditional public elementary schools in North Carolina during the 2015/16–2018/19 school years. Column (2) includes elementary school students with at least one reported disciplinary incident, and Column (3) includes those with at least two reported incidents. Column (4) includes all elementary school students with at least one reported suspension, and Column (5) includes those with at least two reported suspensions. All student characteristics in Panel (A) are binary. Incident characteristics in Panel (B) are binary and indicate whether the student has at least one incident of the infraction type listed in the row; categories are not mutually exclusive, as some students have multiple incidents. Consequence characteristics in Panel (C) are binary and indicate whether the student has at least one disciplinary consequence in the reported category; categories are not mutually exclusive, as some students have multiple incidents.

Table 2: Estimating the Likelihood of Disciplinary Consequences, Single-Student Incidents Among First-Time Kindergarten Students

	(1) Suspension	(2) Informal Exclusionary	(3) Informal Cautionary	(4) Other
Black (0/1)	0.024***	-0.006	-0.014**	-0.004
	(0.006)	(0.006)	(0.006)	(0.005)
Hispanic (0/1)	-0.008	-0.004	0.014	-0.001
	(0.008)	(0.008)	(0.010)	(0.008)
Other Race/Ethnic. (0/1)	-0.006	-0.007	0.012	0.002
	(0.009)	(0.008)	(0.009)	(0.008)
Economic Disadvantage (0/1)	0.011**	-0.010**	-0.014**	0.013***
	(0.005)	(0.005)	(0.006)	(0.004)
Female (0/1)	-0.008	0.002	0.015***	-0.008*
	(0.005)	(0.005)	(0.005)	(0.004)
Special Education (0/1)	-0.003	0.013**	-0.008	-0.001
	(0.007)	(0.006)	(0.006)	(0.005)
Observations	58,734	58,734	58,734	58,734
Infraction FE	Yes	Yes	Yes	Yes
School X Year FE	Yes	Yes	Yes	Yes

Notes: The sample includes all single-student incidents among first-time kindergarteners during the 2015/16–2018/19 school years. First-time kindergarteners are those not previously enrolled in kindergarten in a prior school year (i.e., the student has not been retained in kindergarten). The dependent variables in Columns (1)–(4) are binary indicators for whether the incident resulted in (1) suspension, (2) informal exclusionary, (3) informal cautionary, or (4) other disciplinary consequences, respectively. All regressions control for student demographics and within-year prior discipline history, including old-for-grade, reading achievement, any pre-kindergarten suspension, number of previous incidents (within school year), and number of previous suspensions (within school year). Heteroskedasticity-robust standard errors are clustered at the school-level. Asterisks indicate statistical significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Estimating the Likelihood of Disciplinary Consequences, Multi-Student Incidents Among First through Fifth Grade Students

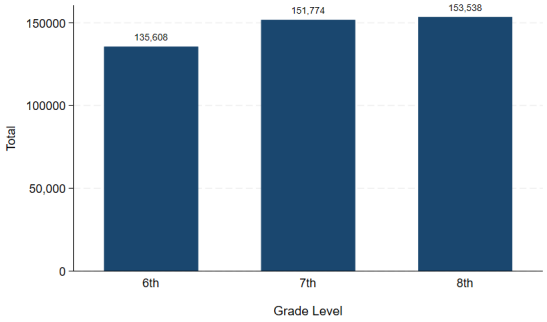
	All Incidents				Same Infraction				Different Infractions			
	(1) Suspension	(2) Informal Excl.	(3) Informal Caut.	(4) Other	(5) Suspension	(6) Informal Excl.	(7) Informal Caut.	(8) Other	(9) Suspension	(10) Informal Excl.	(11) Informal Caut.	(12) Other
Panel A. Multi-Race Sample												
Black (0/1)	0.021***	-0.016**	0.001	-0.006	0.004	-0.001	-0.003	0.000	0.041***	-0.035**	0.003	-0.009
	(0.008)	(0.008)	(0.007)	(0.005)	(0.005)	(0.003)	(0.005)	(0.003)	(0.015)	(0.015)	(0.013)	(0.009)
Hispanic (0/1)	-0.015	-0.012	0.015	0.012*	-0.002	-0.000	0.002	0.001	-0.016	-0.030*	0.025	0.021*
	(0.010)	(0.009)	(0.010)	(0.006)	(0.006)	(0.004)	(0.006)	(0.004)	(0.017)	(0.018)	(0.019)	(0.011)
Other (0/1)	0.011	-0.009	-0.000	-0.001	0.001	0.003	-0.005	0.001	0.026	-0.026	0.004	-0.004
	(0.009)	(0.007)	(0.007)	(0.007)	(0.006)	(0.004)	(0.006)	(0.004)	(0.019)	(0.016)	(0.016)	(0.016)
Observations	63,013	63,013	63,013	63,013	24,212	24,212	24,212	24,212	38,801	38,801	38,801	38,801
Incident FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B. Multi-SES Sample												
Econ. Disadvantaged (0/1)	0.019***	-0.009	-0.011**	0.001	0.009**	-0.000	-0.009**	0.001	0.028***	-0.017*	-0.014	0.002
	(0.005)	(0.006)	(0.005)	(0.003)	(0.003)	(0.002)	(0.004)	(0.006)	(0.008)	(0.009)	(0.009)	(0.006)
Observations	58,229	58,229	58,229	58,229	18,983	18,983	18,983	18,983	39,246	39,246	39,246	39,246
Incident FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample includes multi-student incidents for students enrolled in first through fifth grades during the 2015/16–2018/19 school years. The sample in Panel (A) contains multi-student incidents involving students of different races. The sample in Panel (B) contains multi-student incidents involving students of different socioeconomics statuses. The dependent variables are binary indicators for whether the incident resulted in (1) suspension, (2) informal exclusionary, (3) informal cautionary, or (4) other disciplinary consequences, respectively. Columns (1)-(4) include all incidents, Columns (5)-(8) restrict to the subsample of incidents where all involved students have the same infraction type, and Columns (9)-(12) restrict to the subsample of incidents where students do not have the same infraction type. All regressions control for student demographics, lagged achievement, and lagged school discipline history. Heteroskedasticity-robust standard errors are clustered at the school-level. Asterisks indicate statistical significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

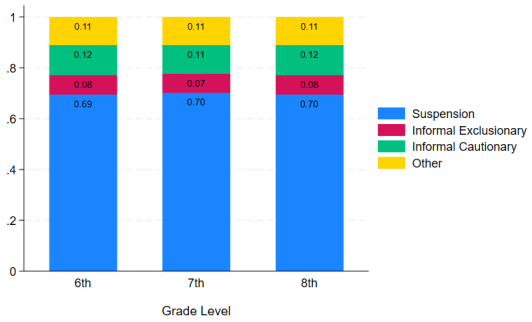
Appendix A: Supplemental Results

Figure A1: Disciplinary Incidents and Consequences, Middle School and High School

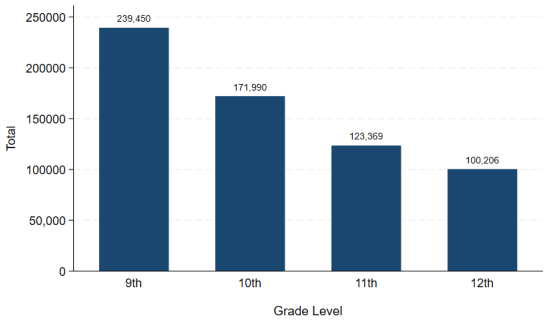
(a) Disciplinary Incidents
Middle School



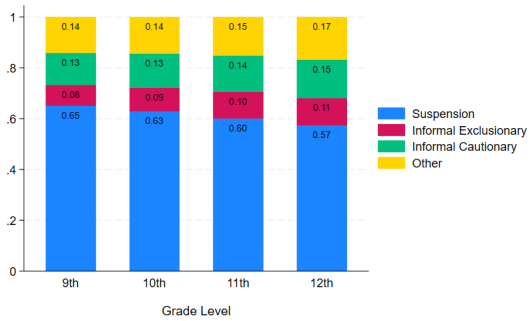
(b) Distribution of Consequences
Middle School



(c) Disciplinary Incidents
High School



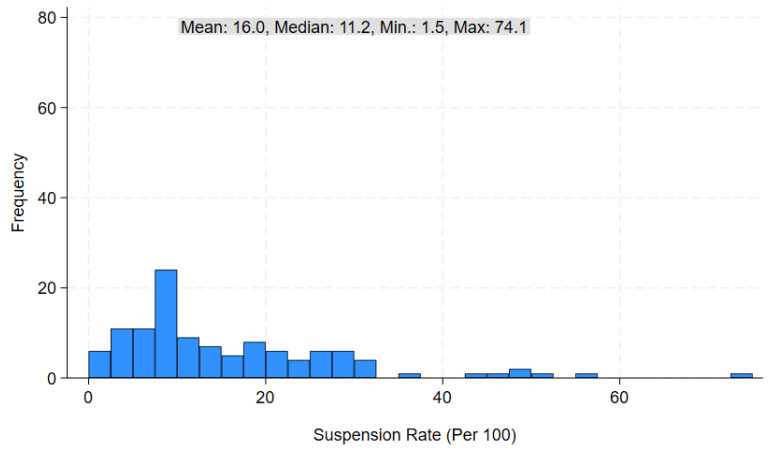
(d) Distribution of Consequences
High School



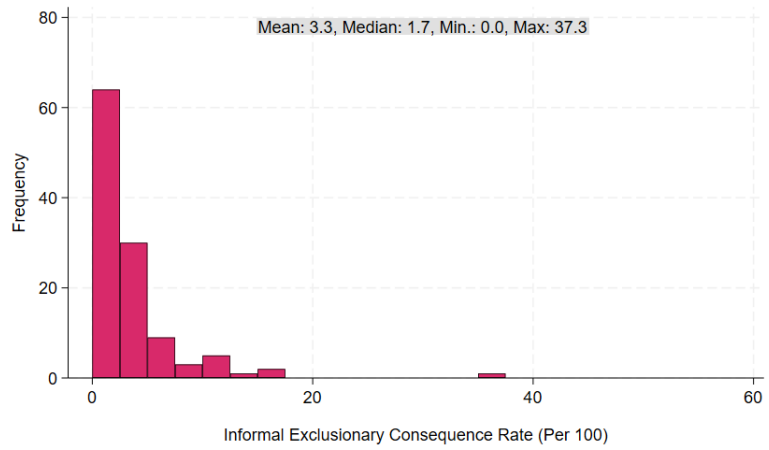
Notes: Plots use data on all disciplinary incidents in North Carolina traditional public schools during the 2015/16–2018/19 school years. Panels (a) and (c) show the average annual number of disciplinary incidents over the four school years, separately for middle and high schools. Panels (b) and (d) show the average proportion of incidents resulting in each of four disciplinary consequence outcomes: Suspension, Informal Exclusionary, Informal Cautionary, and Other (all other reported consequences), separately for middle and high schools.

Figure A2: Distributions of Consequence Rates (Per 100 Students) Across School Districts, Elementary School Level

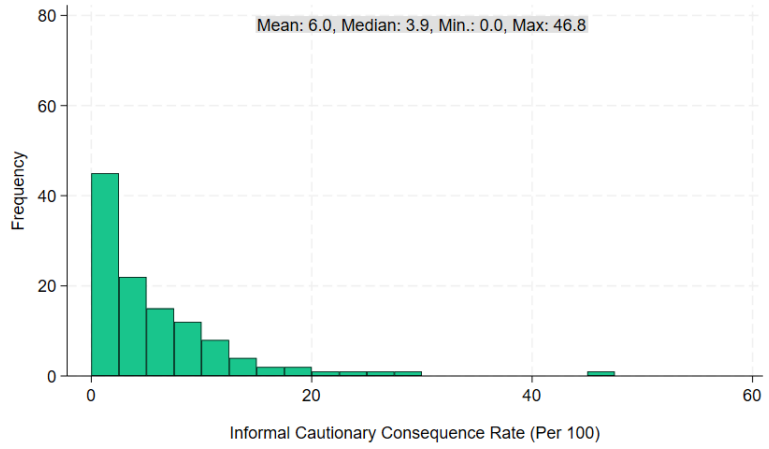
(a) Suspension Rate



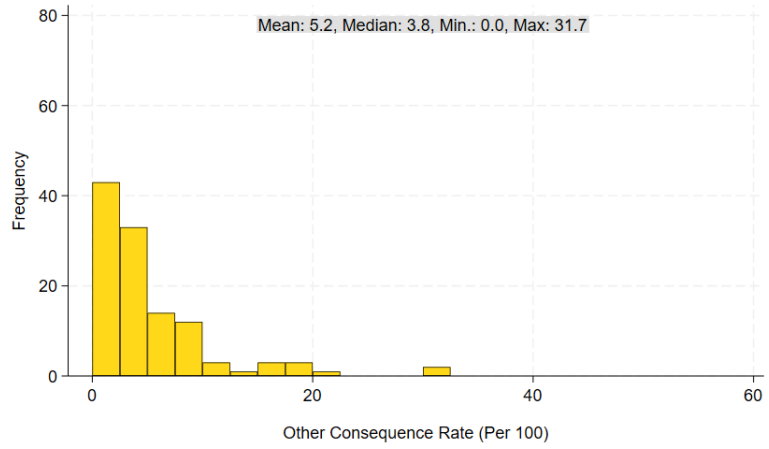
(b) Informal Exclusionary Consequence Rate



(c) Informal Cautionary Consequence Rate



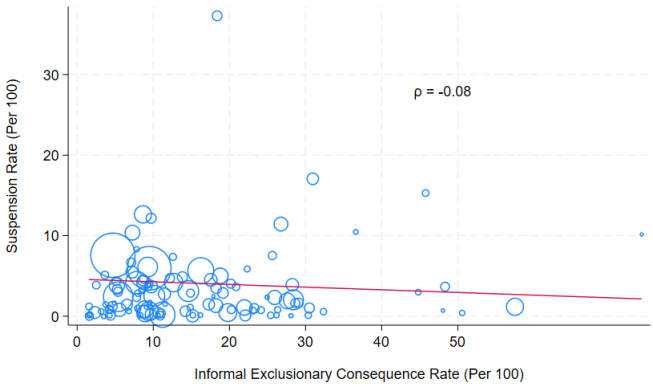
(d) Other Consequence Rate



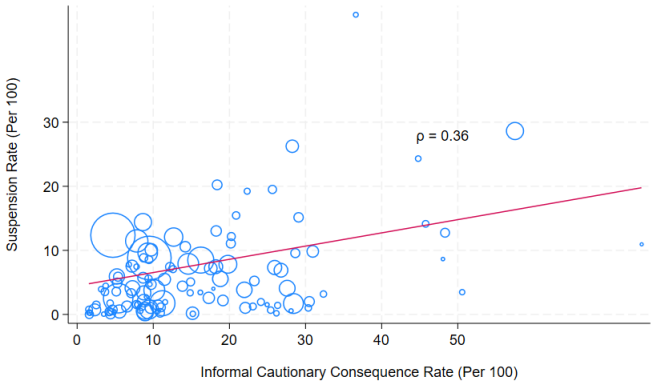
Notes: Histograms are constructed using all disciplinary incidents from North Carolina traditional public elementary schools during the 2015/16–2018/19 school years. District-level consequence rates are calculated per 100 elementary students and averaged across the four school years. Disciplinary consequences are mutually exclusive and classified as Suspension, Informal Exclusionary, Informal Cautionary, and Other (all remaining reported consequences).

Figure A3: Correlations Between Disciplinary Consequence Rates, Elementary School Level

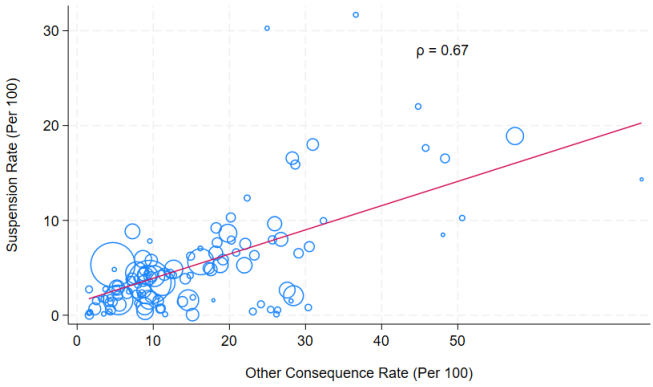
(a) Informal Exclusionary and Suspension Consequences



(b) Informal Cautionary and Suspension Consequences



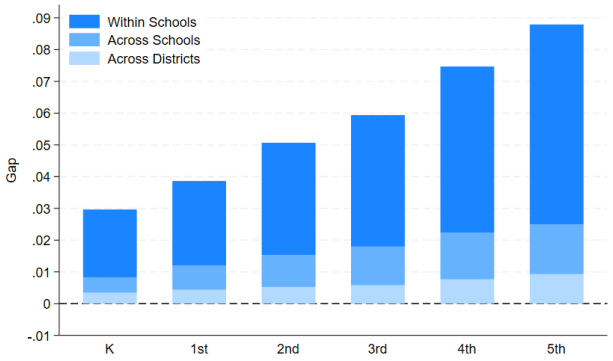
(c) Other and Suspension Consequences



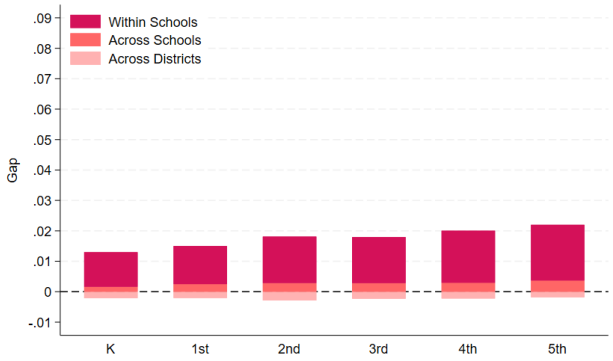
Notes: Plots are constructed using data on reported disciplinary incidents from North Carolina public elementary schools during the 2015/16–2018/19 school years. District-level consequence rates are calculated per 100 elementary students and averaged across the four school years. Disciplinary consequences are mutually exclusive and categorized as Suspension, Informal Exclusionary, Informal Cautionary, and Other (all other reported consequences).

Figure A4: Decomposition of Consequence Gaps, Socioeconomic Status (Economic Disadvantage)

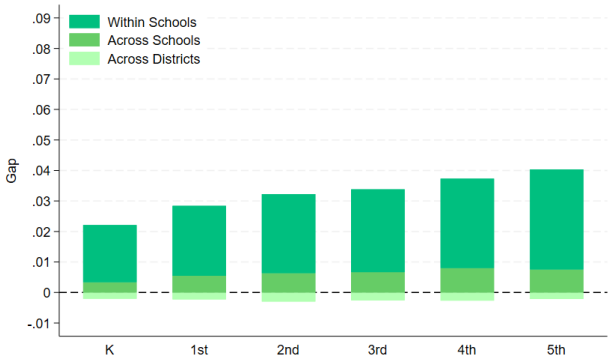
(a) Suspension



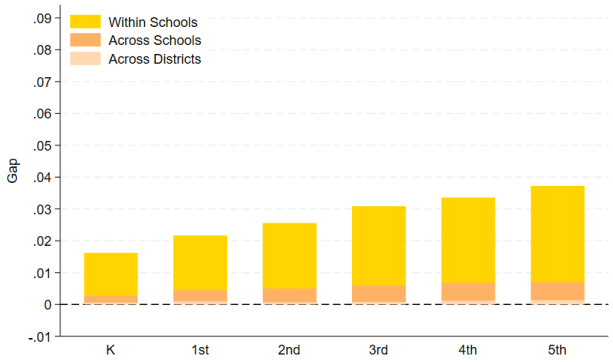
(b) Informal Exclusionary



(c) Informal Cautionary



(d) Other



Notes: Panels (a)-(d) show the results from decompositions of socioeconomic status (economically disadvantaged versus not economically disadvantaged) gaps in disciplinary consequence outcomes for students in kindergarten through fifth grades. The four panels correspond to four binary consequence outcomes: Suspension, Informal Exclusionary, Informal Cautionary, and Other (all other reported consequences). For each grade and outcome, the unconditional gap is decomposed into three components: (1) differences across districts, (2) differences across schools within the same district, and (3) differences within schools.

Table A1: Baseline Means, Single-Student Incidents Among First-Time Kindergarten Students

	(1) Suspension	(2) Informal Exclusionary	(3) Informal Cautionary	(4) Other
Black (N=27,271)	0.478	0.152	0.233	0.137
Hispanic (N= 5,616)	0.368	0.188	0.293	0.152
Other Race/Ethnic. (N= 4,302)	0.425	0.170	0.254	0.151
White (N=21,545)	0.380	0.226	0.257	0.137
Econ. Disadvantaged (N=14,785)	0.442	0.172	0.241	0.146
Not Econ. Disadvantaged (N=43,949)	0.386	0.220	0.275	0.119
Female (N=11,761)	0.397	0.182	0.274	0.147
Male (N=46,973)	0.435	0.184	0.243	0.137
Special Education (N=13,182)	0.428	0.207	0.233	0.132
No Special Education (N=45,552)	0.428	0.177	0.254	0.141

Notes: This table reports the share of disciplinary incidents resulting in each consequence type, by student subgroup. Outcomes are mutually exclusive and sum to one within rows. Sample sizes for each subgroup are shown in parentheses. Consequences (columns) are mutually exclusive and categorized as Suspension, Informal Exclusionary, Informal Cautionary, and Other (all other reported consequences).

Table A2: Estimating the Likelihood of Suspension, Single-Student Incidents Among First-Time Kindergarten Students

	Any Suspension (0/1)			By Suspension Type		Intensive Margin	
				OSS (0/1)	ISS (0/1)	OSS Days	ISS Days
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Black (0/1)	0.049***	0.026***	0.024***	0.027***	-0.004	0.058***	0.012*
	(0.010)	(0.006)	(0.006)	(0.006)	(0.005)	(0.014)	(0.006)
Hispanic (0/1)	-0.003	-0.008	-0.008	0.004	-0.012*	0.005	-0.009
	(0.012)	(0.008)	(0.008)	(0.007)	(0.006)	(0.016)	(0.009)
Other Race/Ethnic. (0/1)	0.024*	-0.001	-0.006	0.012	-0.019**	0.017	-0.007
	(0.013)	(0.009)	(0.009)	(0.008)	(0.008)	(0.018)	(0.011)
Economic Disadvantage (0/1)	0.037***	0.009*	0.011**	0.015***	-0.004	0.031***	-0.001
	(0.008)	(0.005)	(0.005)	(0.005)	(0.004)	(0.012)	(0.005)
Female (0/1)	-0.015**	-0.005	-0.008	-0.010**	0.002	-0.018	-0.002
	(0.006)	(0.005)	(0.005)	(0.005)	(0.004)	(0.011)	(0.007)
Special Education (0/1)	-0.002	0.001	-0.003	0.033***	-0.035***	0.024*	-0.038***
	(0.007)	(0.007)	(0.007)	(0.006)	(0.006)	(0.013)	(0.008)
Observations	58,734	58,734	58,734	58,734	58,734	58,734	58,734
Year FE	Yes	Yes					
Infraction FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
School FE		Yes					
School X Year FE			Yes	Yes	Yes	Yes	Yes

Notes: The sample includes all single-student incidents among first-time kindergarten students during the 2015/16–2018/19 school years. First-time kindergarten students are those not previously enrolled in kindergarten in a prior school year (i.e., the student has not been retained in kindergarten). All regressions control for student demographics and prior discipline history, including old-for-grade, reading achievement, any pre-kindergarten suspension, number of previous incidents (within school year), and number of previous suspensions (within school year). Heteroskedasticity-robust standard errors are clustered at the school-level. Asterisks indicate statistical significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A3: Estimating the Likelihood of Bus Suspension, Single-Student Incidents Among First-Time Kindergarten Students

	(1)	(2)	(3)
Black (0/1)	0.014***	0.002	0.001
	(0.004)	(0.003)	(0.004)
Hispanic (0/1)	0.001	-0.004	-0.003
	(0.005)	(0.005)	(0.005)
Other Race/Ethnic. (0/1)	0.018***	0.008	0.008
	(0.006)	(0.006)	(0.006)
Economic Disadvantage (0/1)	0.011***	0.013***	0.014***
	(0.003)	(0.003)	(0.003)
Female (0/1)	-0.013***	-0.012***	-0.012***
	(0.004)	(0.003)	(0.003)
Special Education (0/1)	-0.013***	-0.010***	-0.009***
	(0.003)	(0.003)	(0.003)
Observations	58,734	58,734	58,734
Year FE	Yes	Yes	
Infraction FE	Yes	Yes	Yes
School FE		Yes	
School X Year FE			Yes

Notes: The sample includes all single-student incidents among first-time kindergarten students during the 2015/16–2018/19 school years. First-time kindergarten students are those not previously enrolled in kindergarten in a prior school year (i.e., the student has not been retained in kindergarten). The dependent variable is bus suspension (0/1), previous considered as part of the other consequence category. All regressions control for student demographics and prior discipline history, including old-for-grade, reading achievement, any pre-kindergarten suspension, number of previous incidents (within school year), and number of previous suspensions (within school year). Heteroskedasticity-robust standard errors are clustered at the school-level. Asterisks indicate statistical significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Estimating the Likelihood of Disciplinary Consequences, Single-Student Incidents Among First-Time Kindergarten Students (Consequence Outcomes Are Not Mutually Exclusive)

	(1) Suspension	(2) Informal Exclusionary	(3) Informal Cautionary	(4) Other
Black (0/1)	0.024***	-0.004	-0.013**	-0.004
	(0.006)	(0.006)	(0.006)	(0.005)
Hispanic (0/1)	-0.008	-0.005	0.013	-0.001
	(0.008)	(0.008)	(0.010)	(0.008)
Other Race/Ethnic. (0/1)	-0.006	-0.008	0.013	0.002
	(0.009)	(0.008)	(0.009)	(0.008)
Economic Disadvantage (0/1)	0.011**	-0.009*	-0.016***	0.013***
	(0.005)	(0.005)	(0.006)	(0.004)
Female (0/1)	-0.008	0.002	0.014***	-0.008*
	(0.005)	(0.005)	(0.005)	(0.004)
Special Education (0/1)	-0.003	0.013**	-0.007	-0.001
	(0.007)	(0.006)	(0.006)	(0.005)
Observations	58,734	58,734	58,734	58,734
R-Squared	0.46	0.32	0.33	0.35
Infraction FE	Yes	Yes	Yes	Yes
School X Year FE	Yes	Yes	Yes	Yes

Notes: The sample includes all single-student incidents among first-time kindergarten students during the 2015/16–2018/19 school years. First-time kindergarten students are those not previously enrolled in kindergarten in a prior school year (i.e., the student has not been retained in kindergarten). The dependent variables in Columns (1)–(4) are binary indicators for whether the incident resulted in (1) suspension, (2) informal exclusionary, (3) informal cautionary, or (4) other disciplinary consequences, respectively. The outcomes are not mutually exclusive. All regressions control for student demographics and prior discipline history, including old-for-grade, reading achievement, any pre-kindergarten suspension, number of previous incidents (within school year), and number of previous suspensions (within school year). Heteroskedasticity-robust standard errors are clustered at the school-level. Asterisks indicate statistical significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A5: Baseline Means, Multi-Student, Multi-Race Incidents Among First through Fifth Grade Students

	(1) Suspension	(2) Informal Exclusionary	(3) Informal Cautionary	(4) Other
Black (N= 4,035)	0.518	0.147	0.200	0.134
White (N= 3,704)	0.519	0.150	0.211	0.121
Econ. Disadvantaged (N= 2,163)	0.528	0.146	0.195	0.131
Not Econ. Disadvantaged (N= 5,576)	0.496	0.154	0.233	0.117
Female (N= 1,459)	0.459	0.125	0.252	0.164
Male (N= 6,280)	0.532	0.154	0.194	0.119
Special Education (N= 1,790)	0.555	0.132	0.185	0.128
No Special Education (N= 5,949)	0.508	0.153	0.211	0.127

Notes: The unit of observation is student-incident. This table reports the share of disciplinary incidents resulting in each consequence type, by student subgroup. Outcomes are mutually exclusive and sum to one within rows. Sample sizes for each subgroup are shown in parentheses. Consequences (columns) are mutually exclusive and categorized as Suspension, Informal Exclusionary, Informal Cautionary, and Other (all other reported consequences).

Table A6: Baseline Means, Multi-Student, Multi-SES Incidents Among First through Fifth Grade Students

	(1) Suspension	(2) Informal Exclusionary	(3) Informal Cautionary	(4) Other
Black (N=38,995)	0.410	0.165	0.294	0.131
Hispanic (N= 6,549)	0.334	0.177	0.332	0.156
Other Race/Ethnic. (N= 2,774)	0.395	0.177	0.286	0.142
White (N= 9,911)	0.368	0.206	0.287	0.140
Econ. Disadvantaged (N=20,145)	0.402	0.168	0.292	0.138
Not Econ. Disadvantaged (N=38,084)	0.378	0.185	0.306	0.132
Female (N=12,401)	0.375	0.156	0.332	0.137
Male (N=45,828)	0.398	0.179	0.287	0.136
Special Education (N=12,869)	0.396	0.194	0.280	0.130
No Special Education (N=45,360)	0.393	0.168	0.301	0.138

Notes: The unit of observation is student-incident. This table reports the share of disciplinary incidents resulting in each consequence type, by student subgroup. Outcomes are mutually exclusive and sum to one within rows. Sample sizes for each subgroup are shown in parentheses. Consequences (columns) are mutually exclusive and categorized as Suspension, Informal Exclusionary, Informal Cautionary, and Other (all other reported consequences).

Table A7: Estimating the Likelihood of Severe Infraction Types, Multi-Student Incidents

	(1) Medium/High	(2) High
Panel A. Multi-Race Sample (N= 38,801)		
Black (0/1)	0.029**	0.016*
	(0.015)	(0.008)
Hispanic (0/1)	0.005	0.006
	(0.016)	(0.010)
Other (0/1)	0.018	0.002
	(0.023)	(0.012)
Panel B. Multi-SES Sample (N= 39,246)		
Econ. Disadvantaged (0/1)	0.017**	0.007
	(0.009)	(0.006)
Incident FE	Yes	Yes

Notes: The sample includes multi-student incidents for students enrolled in first through fifth grades during the 2015/16–2018/19 school years. The sample in Panel (A) contains multi-student incidents involving students of different races. The sample in Panel (B) contains multi-student incidents involving students of different socioeconomics statuses. The dependent variables are binary indicators for whether the incident resulted in a medium- or high- severity infraction type (Column (1)) or a high-severity infraction type (Column (2)). All regressions control for student demographics, lagged achievement, and lagged school discipline history. Heteroskedasticity-robust standard errors are clustered at the school-level. Asterisks indicate statistical significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix B: Data Description

Description of Data Source

We obtained student-level data from the North Carolina Education Research Data Center (NCERDC) at the Center for Child and Family Policy at Duke University. More information on this data source and procedures to obtain the data can be found here: https://childandfamilypolicy.duke.edu/north-carolina-education-research-data/.

Student Characteristics

- **Race/Ethnicity:** Black, Hispanic, White, Other Race/Ethnicity (coded as mutually exclusive and exhaustive binary indicators)
  - Other Race/Ethnicity combines Asian, American Indian, Multi-Racial, and Native Hawaiian/Pacific Islander
  - We combine students who identify as Asian, American Indian, Multi-Racial, and Native Hawaiian/Pacific Islander because of small sample sizes in the incident data
- **Gender:** Male, Female (coded as mutually exclusive and exhaustive binary indicators)
- **Special Education:** Binary indicator equal to one if student has an Individualized Education Plan (IEP)
- **Economic Disadvantage:** Binary indicator equal to one if student is from economically disadvantaged background
- **Old for grade:** Equal to one if student is older than age 5 at the beginning of kindergarten
- **Reading Test Scores:** For students enrolled in kindergarten through second grades, we consider student achievement in reading on the Dynamic Indicators of Basic Early Literacy (DIBELS) test. For students enrolled in third through fifth grades, we consider student achievement in reading on the End-of-Grade (EOG) test. All test scores are normalized using the statewide mean and standard deviation within subject, year, and grade level

Coding of Disciplinary Consequences

Our four categories were developed by considering the following two dimensions: First, we consider whether the consequence is reported as part of the child and/or school's administrative record (formal vs. informal), and second, we consider whether the consequence excludes a child from the instructional or peer environment (exclusionary vs. non-exclusionary). Our four categories thus correspond as follows: Suspension (formal and exclusionary), Informal Exclusionary (informal and exclusionary), Informal Cautionary (informal and non-exclusionary), and Other. Although the two dimensions allow for the possibility of a "formal and non-exclusionary" category, we do not observe any instances of this in our data.

- **Suspension:** Out-of-School Suspension, In-School Suspension

- **Informal Exclusionary:**Timeout, Sent Home Early, In-School Detention, Lunch Detention
- **Informal Cautionary:** Conference, Administrative Conference with Parent, Administrative Conference with Student, Student Written Warning, Student Oral Warning
- **Other:** Supervised Activities, Corporal Punishment, Alternative School, Alternative Learning Program, Community Based or Other Agency ALP, Report to Law Enforcement, After School Detention, Bus Suspension, Student Pays Restitution, Revoke Driving Privileges, Work Detail, Homebound Instruction, Saturday Academy, DJJDP Alternative Program, NCDPI Alternative Program, EC Serve LTS in ALP, Other, School Related Arrest, Unilateral change in placement (EC only), Hearing held, no change in placement (EC only), Hearing held, change in placement (EC only), Before School Detention, Referral to Community Agency, Restriction of School Privileges, Tobacco Awareness Class, Drug/Alcohol Class

Coding of Infraction Types

- **High:** Assault resulting in a serious injury, Assault involving the use of a weapon, Assault on school personnel not resulting in a serious injury, Homicide, Possession of a firearm or powerful explosive, Possession of a weapon (excluding firearms and explosives), Robbery with a dangerous weapon, Robbery without a dangerous weapon, Rape, Sexual offense, Sexual assault not involving rape or sexual offense, Taking indecent liberties with a minor, Kidnapping, Unlawfully setting a fire, Communicating threats, Extortion, Fighting, Bomb threat, Assault on student, Assault–other, Assault on non-student w/o weapon & not resulting in serious injury, Assault on student w/o weapon & not resulting in serious injury, Violent assault not resulting in serious injury, Robbery without a weapon, Robbery with a firearm or explosive device, Physical attack with a firearm or explosive device, Threat of physical attack with a firearm, Threat of physical attack with a weapon, Threat of physical attack without a weapon
- **Medium:** Possession of controlled substance in violation of law–cocaine, Possession of controlled substance in violation of law–marijuana, Possession of controlled substance in violation of law–Ritalin, Possession of controlled substance in violation of law–other, Alcohol Possession, Affray, Disorderly conduct, Harassment–verbal, Hazing, Aggressive behavior, Insubordination, Harassment–sexual, Possession of tobacco, Use of alcoholic beverages, Use of controlled substances, Use of narcotics, Possession of chemical or drug paraphernalia, Bullying, Burning of a school building, Sale of controlled substance–cocaine, Sale of controlled substance–marijuana, Sale of controlled substance–Ritalin, Sale of controlled substance–other, Distribution of a prescription drug, Use of tobacco, Possession of a prescription drug, Gang activity, Discrimination, Possession of student's own prescription drug, Possession of another person's prescription drug, Cyber-bullying, Under the influence of alcohol, Under the influence of controlled substances, Harassment–Racial, Harassment–Disability, Harassment–Sexual orientation, Harassment–Religious affiliation, Indecent Exposure

- **Low:** Honor code violation, False fire alarm, Truancy, Dress code violation, Inappropriate language/disrespect, Gambling, Falsification of information, Theft, Bus misbehavior, Property damage, Inappropriate items on school property, Disruptive behavior, Possession of counterfeit items, Use of counterfeit items, Other School Defined Offense, Being in an unauthorized area, Cell phone use, Disrespect of faculty/staff, Excessive display of affection, Excessive tardiness, No Immunization, Leaving class without permission, Leaving school without permission, Mutual sexual contact between two students, Other, Skipping class, Cutting class, Skipping school, Physical exam, Late to class, Misuse of school technology, Repeat offender, Inappropriate Behavior