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Wilson, Taylor, Zamarro, Gema, Anderson, Kaitlin, & McKenzie, Sarah

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Examining Racial Disparities in School Discipline Throughout the Pandemic

Taylor Wilson, University of Arkansas

Gema Zamarro, University of Arkansas

Kaitlin Anderson, American Institutes for Research

Sarah McKenzie, University of Arkansas

Abstract

This study examines trends and disparities in school discipline, with a special focus on the COVID-19 pandemic and the persistence of racial gaps in exclusionary practices. Using student-level data from Arkansas spanning 2017/18 to 2022/23, we explore the relationship between disciplinary outcomes and student race. Findings reveal that while overall disciplinary incidents declined during the pandemic school closures, racial disparities in exclusionary discipline persisted, particularly affecting nonwhite students. Our analysis highlights the influence of district-level factors on these disparities, suggesting systemic differences between school districts. Our results underscore the need for continued equitable disciplinary policies in a post-pandemic education system.

Keywords

school discipline, exclusionary discipline, COVID-19

1. Introduction

School discipline has long been a focus of research due to its impact on students' academic and social outcomes. In particular, exclusionary practices, such as suspensions and expulsions, which remove students from their learning environment, remain widespread within the education system (Mallett, 2016). These exclusionary practices are linked to negative consequences for students, including lower academic performance (Arcia, 2006; Cobb-Clark et al., 2015), increased risk of school dropout, and greater involvement with the juvenile justice system (American Academy of Pediatrics, 2013).

Researchers have documented significant racial disparities in disciplinary practices and outcomes (Anderson & Ritter, 2017; Gregory et al., 2010; Ritter & Anderson, 2018; Barrett et al., 2018). For example, while Black students make up one-sixth of children in schools they account for about one-third of suspended and expelled students, nationally (U.S. Department of Education, Office for Civil Rights 2014). Similarly, in a review of the available literature, Gregory et al. (2010) reported that exclusionary practices were more frequently applied to Black, Latino, and American Indian students compared to their white peers, contributing to the widening achievement gap. In Arkansas, Anderson and Ritter (2017) found that, pre-pandemic, Black students were disproportionately subjected to exclusionary discipline, even after accounting for factors such as the type and severity of infractions. Ritter and Anderson (2018) also found that Black students received harsher punishments than their White counterparts. Finally, using data from Louisiana, Barrett et al. (2018) further highlighted that these inequities disproportionately affected low-income students and students of color.

The COVID-19 pandemic introduced significant disruptions to schooling, raising important questions about its potential impact on disciplinary practices. Starting in 2020, school

closures led to highly varied learning experiences for students across the United States, and as students navigated extended periods away from in-person instruction and adjusted to post-pandemic learning environments, it is important to examine how these unprecedented circumstances may have influenced disciplinary trends and whether racial gaps in exclusionary discipline persisted during the pandemic. However, while the pandemic's impact on other educational outcomes is well-documented (Zamarro & Camp, 2024; Patrinos et al., 2023; Callen et al., 2024; Kuhfeld et al., 2022; Fahle et al., 2023; Goldhaber et al., 2022; Polikoff et al., 2023), less is known about its impact on school discipline.

Three recent studies reveal that discipline incidents might have declined during school closures in the 2019/20 school year but returned to near pre-pandemic levels with the resumption of in-person learning in 2021/22. In this respect, Anderson, McKenzie, and Wilson (2023) showed this to be the case for the state of Arkansas. Although there is some evidence of the decrease in discipline incidents during the pandemic, likely attributable to a shift toward virtual learning, there is limited evidence on the severity of disciplinary actions during this period. Moreover, questions remain about whether the pandemic's impact on discipline disproportionately affected certain student groups and how disciplinary outcomes evolved as the pandemic progressed. Using data from one unknown school district in the U.S., Rodriguez and Welsh (2022) find that despite a decline in overall suspensions, African American students still experienced suspensions at higher rates than their peers during the pandemic. However, using data from the U.S. state of Michigan, Anderson and Dhaliwal (2025) find that overall, suspension rates returned to pre-pandemic levels by 2021/22, but rates of suspension for students most likely to be excluded from school (students with disabilities and Black students) experienced more significant and sustained declines through May 2023. Given the limited research available and

the lack of consistency in the results, more work is needed to fully understand disciplinary outcomes through the pandemic.

This study contributes to the limited literature on the effect of the pandemic on school discipline outcomes. In particular, we use student-level discipline data from the state of Arkansas from 2017/18 to 2022/23 and analyze trends in school discipline over time, focusing on the impact of the pandemic and persistence of racial/ethnic gaps. Our analysis addresses the following research questions:

1. What are the trends in disciplinary outcomes in Arkansas during the school years 2018/19 through 2022/23?
2. Controlling for factors that could reasonably predict disciplinary consequences—such as type of infraction, order of infraction (e.g., repeat offenses), and school level (elementary vs. secondary)—does a student's race predict the type of consequence received? How did this effect change throughout the pandemic?
3. After further accounting for district-level effects, student characteristics, and factors that could predict disciplinary consequences (type of infraction, order of infraction, and school level) does a student's race continue to predict the type of consequence received? How did this effect change throughout the pandemic?
4. To what extent did schools' exposure to in-person instruction during 2020/21 relate to subsequent disciplinary outcomes (infractions and consequences) in 2021/22 and 2022/23?

Our findings reveal that racial disparities in exclusionary discipline persisted throughout the pandemic, even as the overall number of disciplinary infractions declined. However, controlling for district-level factors significantly reduced the likelihood of nonwhite students

receiving exclusionary discipline, indicating that these disparities are driven more by differences across school districts than by differences within school districts. Finally, districts with greater exposure to in-person instruction in 2020/21 saw lower subsequent odds of exclusionary consequences and select infraction types (e.g., drug/alcohol; major nonviolent), but higher odds of truancy, indicating that instructional mode shaped the post-pandemic discipline mix.

The rest of the paper is organized as follows. In Section 2, we provide a detailed description of the data and sample used in the analysis, including the student and district-level variables we used, as well as the time periods that frame the study. Section 3 outlines our empirical approach. In Section 4, we present the results, highlighting the trends in school discipline and the key findings regarding the persistence of racial gaps throughout the pandemic. Finally, Section 5 discusses the implications of these findings for policy and practice, offering recommendations for addressing the inequities in school discipline.

1. Data and Sample

This study uses administrative data from Arkansas public schools, maintained by the Office of Education Policy and the Department of Education Reform at the University of Arkansas, encompassing all Arkansas students in grades K-12. This administrative dataset enables us to track student discipline patterns pre-pandemic, during, and post-pandemic, examining the infractions students committed and the consequences assigned for each.

Our data is structured at the student-infraction level, with each observation representing a recorded disciplinary infraction from the 2017/18 to the 2022/23 school years. Recorded discipline data in the State of Arkansas includes 19 infraction codes and 13 consequence codes that schools use to document disciplinary events. To simplify the analysis and ensure

consistency, we followed the framework established by Anderson and Ritter (2017) to group infractions based on their likelihood of resulting in exclusionary actions in the following categories: Drugs and Alcohol, Major Violence/Weapons, Minor Violence/Weapons, Major Non-Violent, Minor Non-Violent, and Truancy. Similarly, consequences are categorized into three groups: (1) exclusionary, which includes Out-of-School Suspension (OSS), a recommendation for Alternative Learning Environment (ALE) placement, and Expulsion; (2) exclusionary plus In-School Suspension (ISS); and (3) warnings, which encompass warnings and no action consequences.

Additional student-level data used in the analysis include demographic information such as gender, race, grade level (categorized as middle and high school, using elementary school as the reference category), special education status, limited English proficiency status, and eligibility for free or reduced-price lunch (FRL). To enhance the analysis, we merged school-level data to incorporate information about each student's school, such as school size, percentage of Hispanic, Black, and White students, and percentage of students eligible for FRL. Additionally, we added district-level mode of instruction data, to determine the time students participated in in-person learning in the 2020/21 school year, as districts shifted back to more in-person learning.

2. Methods

We first present a descriptive analysis of trends in disciplinary outcomes across the pandemic years, providing a foundational understanding of how student infractions and consequences evolved. Next, we investigate the relationship between students' infractions and school characteristics. This analysis provides further insights into the potential heterogeneous trends in disciplinary outcomes across different types of schools. Using student-level logistic

regression models, we examine how school composition influences the types of infractions students incur. Specifically, this model, as described in (1), includes variables for different school characteristics (percent FRL, percent Limited English Proficiency (LEP), percent Special Education (SPED), percent Hispanic, Black, and White) ($\boldsymbol{S}_{id}$), student grade level (secondary or elementary[1]) ($Secondary_{it}$), and the sequence of the infraction committed (with the first infraction used as the reference category) ($InfractionNumber_{it}$). Our models also include district-level fixed effects (∂_d) to control for time-invariant differences across districts, including for example disciplinary practices, reporting practices, and other policies, programs, and procedures that might influence discipline outcomes. The results help identify patterns in the distribution of infractions across school environments.

(1) $$logit(InfractionGroup_{it}) = \beta_0 + \beta_1 Secondary_{it} + \beta_2 InfractionNumber_{it} + \beta_3 \boldsymbol{S}_{id} + \partial_d + \varepsilon_{it}))$$

Next, we focus on racial disparities in the consequences assigned to students. For this aim, our second model described in (2) uses student-level logistic regressions to investigate racial disparities in the likelihood of receiving different consequences (e.g., exclusionary discipline, warnings), first controlling for infraction type, student race, grade level, and school characteristics, as described above in (1). To account for differences across districts in disciplinary practices, we then run each model with district-level fixed effects. This approach enables us to explore whether racial/ethnic disparities are driven primarily by differences across or within districts. This distinction is critical for tailoring policy recommendations, which could potentially target school, district, state, or regional-level interventions.

[1] For the purposes of this study, secondary grades are defined as 9th grade and above, while grades K-8 are considered elementary.

(2) $logit(ConsequenceType_{it}) = \beta_0 + \beta_1 Race_i + \beta_2 Secondary_{it} + \beta_3 InfractionType_{it} + \beta_3 InfractionNumber_{it} + \beta_4 \boldsymbol{S}_{it} + \partial_d + \varepsilon_{it})$

Finally, to address Research Question 4, we estimate a third set of models that link districts' exposure to in-person instruction in 2020/21 to disciplinary outcomes in subsequent years.

Context for In-Person Learning in Arkansas. During the 2020–21 school year, Arkansas was one of the few states that required all districts to offer an in-person option, though the extent of implementation varied. While most students had greater access to in-person instruction than in many other states, substantial differences remained across districts in the share of days delivered in person. This variation (illustrated later in Figure 4) provides the basis for our analysis of whether instructional mode during the pandemic helps explain differences in discipline patterns during the recovery period.

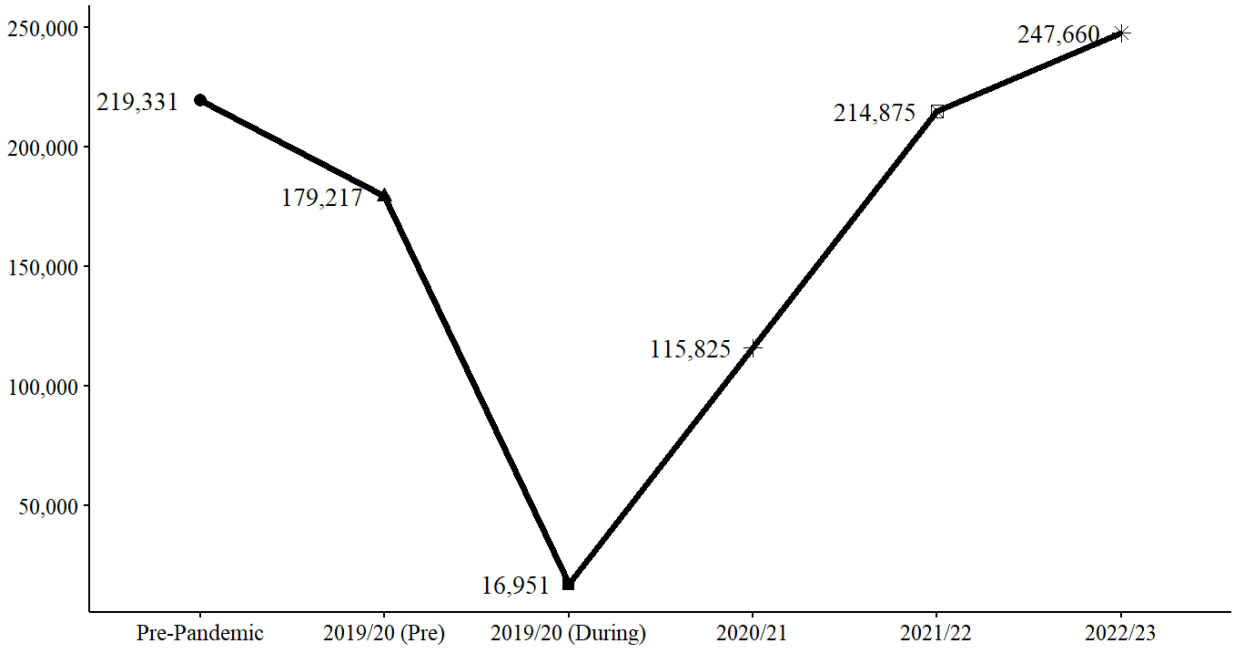
Specifically, we regress the likelihood of different types of infractions and consequences in 2021/22 and 2022/23 on the share of instructional days held in person at the district level during 2020/21. These models include the same student- and school-level controls as above, and present results as odds ratios. This approach allows us to assess whether variation in instructional mode during the height of the pandemic helps explain differences in discipline patterns during the recovery period.

All estimated results are presented as odds ratios, offering a clear interpretation of the likelihood of specific outcomes relative to the corresponding reference categories.

3. Results

We begin by describing trends in disciplinary outcomes from the 2017/18 to the 2022/23 school years. As shown in Figure 1, in the Pre-Pandemic years (2017/18-2018/19), in Arkansas schools, the average number of student infractions was roughly 219,000. However, the number of infractions fell to a total of about 196,000 in 2019/20, with roughly 17,000 infractions occurring at the start of the pandemic. Infraction levels dropped even more in 2020/21, as the pandemic continued. As in-person schooling resumed in school years 2021/22 and 2022/23, the number of infractions rebounded, with approximately 215,000 and 248,000 infractions recorded, respectively in each year.

Figure 1. Number of overall infractions by year.

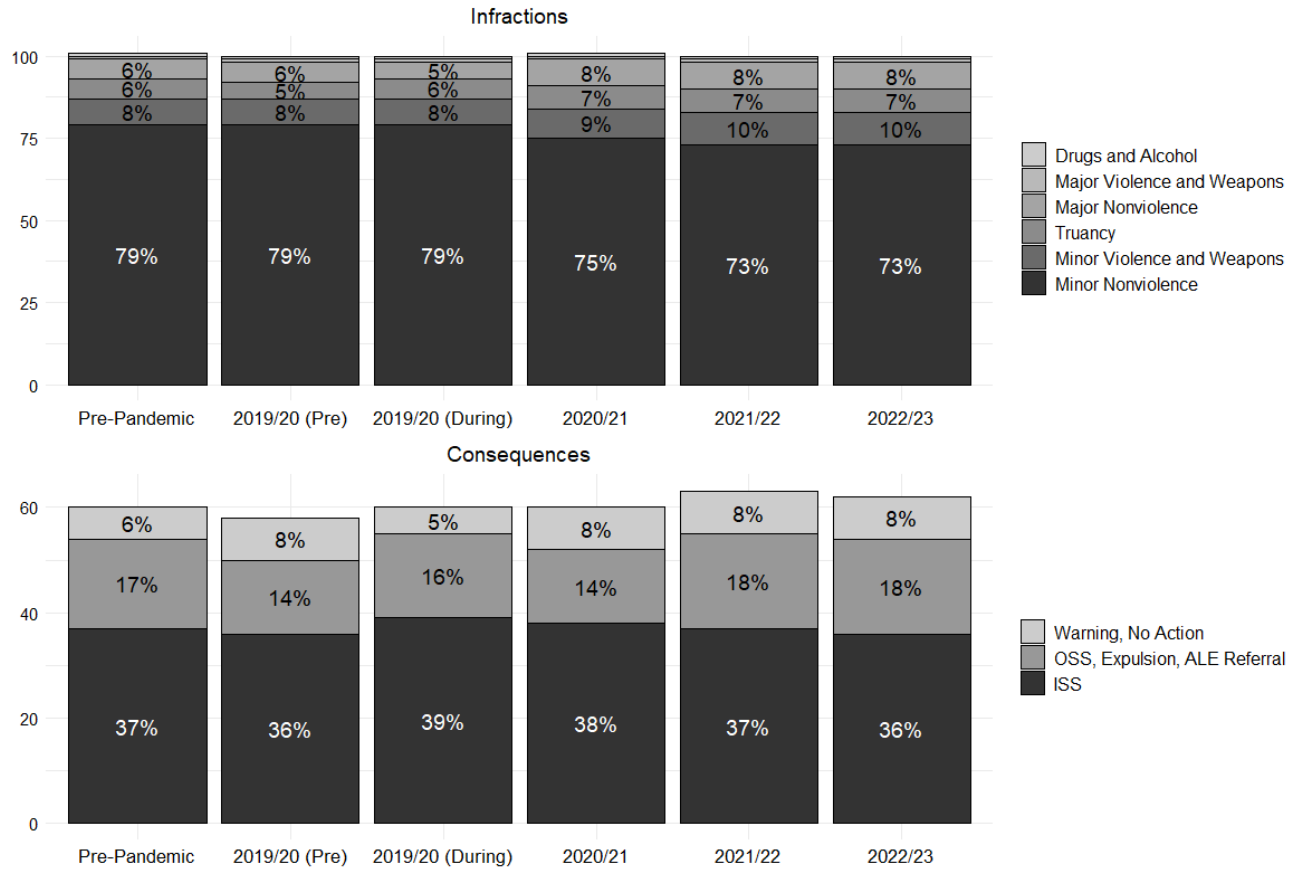


Note. Each color represents a distinct year: blue for 2018–2019, light blue for 2019-2020, yellow for 2020–2021, and red for 2022–2023. The data show a peak in infractions in 2019, followed by a sharp decline in 2021, and a steady increase in recent years.

Figure 2 illustrates the distribution of infraction and consequence types over time. "Minor Nonviolence" remains the most common infraction category, accounting for 73-79% of all infractions annually. Minor Violence and Weapons, and Truancy both increased from pre- to post-pandemic, with Minor Violence and Weapons rising by 2 percentage points from about 8% pre-pandemic to 10% in the school years 2021/22 and 2022/23.

Looking at the use of different types of consequences for students' infractions, ISS (In-School Suspension) remains the most common disciplinary action, followed by OSS (Out-of-School Suspension), Expulsion, or ALE Referral (Alternative Learning Environment) and Warning/No Action. The frequency of ISS remained relatively constant throughout the pandemic ranging from 36 to 38% of the disciplinary actions. In contrast, the use of OSS, Expulsion, or ALE Referral increased after the pandemic, from 14-17% before and during, to 18% after. Warning/No Action consequences saw a slight dip from 8% in 2019/20 (Pre-Pandemic) to 5% in the onset of the pandemic that year but returned back up to 8% in the following years.

Figure 2. Distribution of infractions and consequences over time.

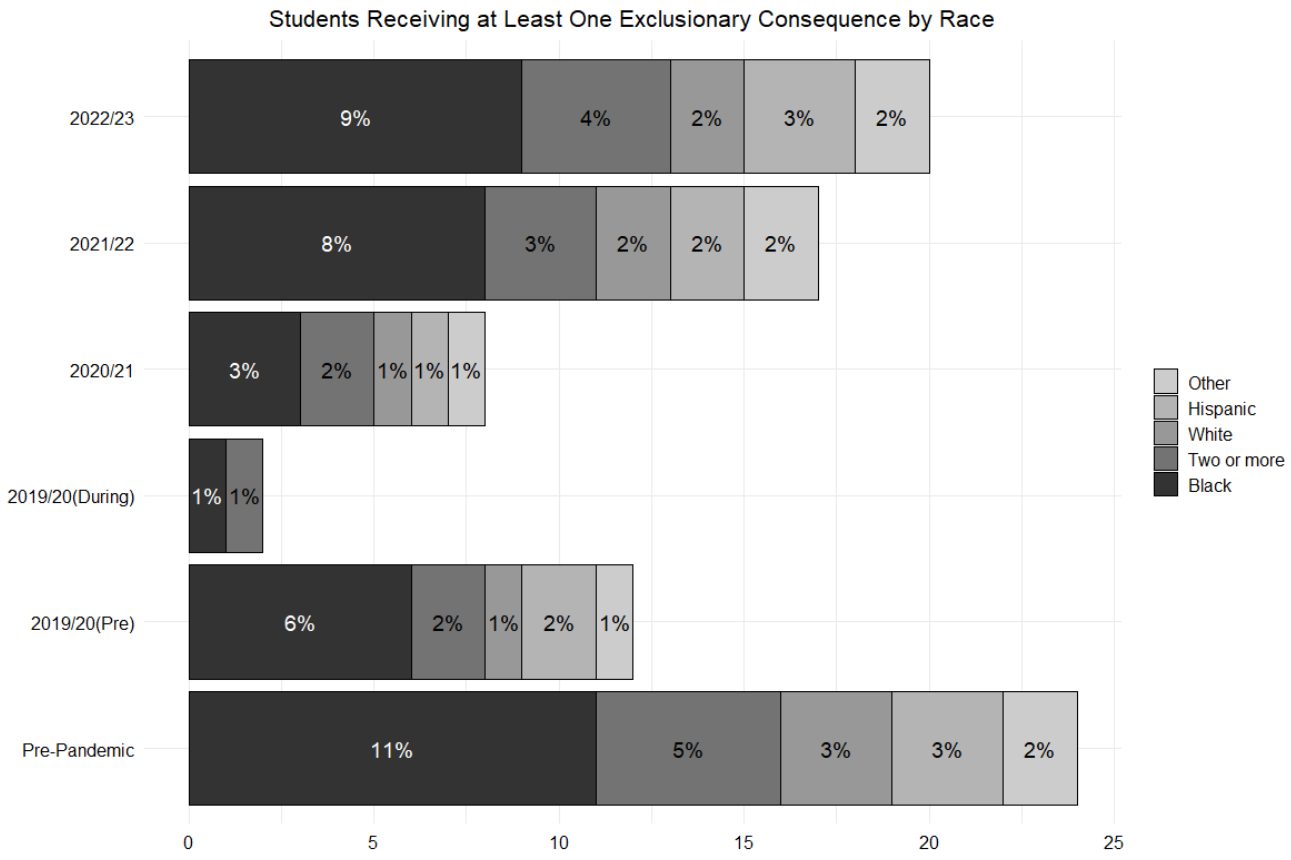


Note. Only infractions and consequences making up 5% or more of the distribution per year are included in the visuals.

We next study, descriptively, the presence of racial disparities in the use of exclusionary discipline. For this purpose, Figure 3 shows the percentage of students with at least one OSS, Expulsion, or ALE Referral consequence by race and school year. We observe that Black students receive more severe consequences at disproportionately higher rates than their peers in all time periods except for the onset of the pandemic in 2019/20. In the Pre-Pandemic school years, 11% of Black students received at least one exclusionary consequence, a significantly higher rate than that of other racial groups. While the pandemic reduced the number of overall

disciplinary actions in 2020/21, the rate for Black students was still 3%, compared to 1% for White students. Post-pandemic, exclusionary discipline for Black students rose again to 9% in 2022/23, significantly higher than for White (2%) and Hispanic students (3%).

Figure 3. Percentage of students with at least one exclusionary consequence (OSS or expulsion), by race.



Infractions

We next study the relationship between different types of infractions and school characteristics using logistic regression models as described in Section 3. The unit of observation is at the student-year level, with students contributing multiple observations if they appear in multiple years. Tables 1 and 2 display the odds ratios from these models, predicting the

likelihood of a reported infraction based on school-level characteristics. The models analyze six categorized infraction types: Drugs and Alcohol, Major Violence and Weapons, Minor Violence and Weapons, Major Nonviolence, Minor Nonviolence, and Truancy[2].

Each model includes both school- and student-level controls to account for student demographics and school composition. Specifically, the models control for the percentage of students at the school eligible for Free or Reduced-Price Lunch (FRL), classified as Limited English Proficiency (LEP), identified as White, and receiving Special Education (SPED) services. Student-level covariates indicating grade level and infraction order are also included. Additionally, district-fixed effects are included to account for time-invariant district-level differences.

The sample for each model consists of all student-year infraction observations, with the reference group varying depending on the analysis. For models predicting individual infraction types (e.g., Drugs and Alcohol), the reference group includes all other types of infractions. However, in comparisons between major and minor infractions within a category (e.g., Major vs. Minor Violence and Weapons), the reference group consists of the minor infraction category. To analyze trends across different stages of the pandemic, we group school years as follows: 2017/18 and 2018/19 are categorized as pre-pandemic ("Pre"); the 2019/20 school year is divided into pre-pandemic ("20 Pre," August 2019–February 2020) and during-pandemic ("20

[2] These models are estimated as a series of binary logistic regressions. In each model, the dependent variable is a specific infraction type, and the reference group differs based on the comparison being made. For models examining major violence and weapons infractions, the reference group consists of minor violence and weapons infractions. Similarly, for models examining major nonviolence infractions, the reference group consists of minor nonviolence infractions. In models predicting individual infraction categories (e.g., Drugs and Alcohol or Truancy), the reference group includes all other infraction types.

During," March–December 2020) periods; and the subsequent school years—2020/21, 2021/22, and 2022/23—are analyzed separately.

Table 1 shows that across all years, secondary school students were much more likely than elementary students to commit both drug/alcohol and truancy infractions. For drug/alcohol infractions, their odds were roughly three to four times higher (Odd ratios ranging from 2.87 to 3.73), while for truancy the difference was even greater, with odd ratios at 4.73–5.53.

Patterns for repeat infractions were more mixed. Students with two prior infractions were slightly less likely to receive a drug/alcohol infraction than first-time offenders, with odds around 0.8–0.9 in several years. The same pattern is held for students with three or more prior infractions, especially before the pandemic. For truancy, however, prior infractions showed a less consistent relationship: odd ratio estimates hovered below and above one, but close to one, across years.

Several school demographic characteristics were also associated with disciplinary outcomes, though the relationships shifted over time. For drug/alcohol infractions, schools with larger shares of students eligible for free or reduced-price lunch (FRL) tended to have lower odds before the pandemic. Following the pandemic in 2022/23, the pattern continued with FRL shares again linked to substantially lower odds of about 0.5. For truancy, we observe similar results with FRL proportions consistently related to lower odds ratios, ranging between 0.02 and 0.25, after the pandemic.

The relationship between drug/alcohol infractions, truancy and the percentage of LEP students appear to have changed with the pandemic. Before the pandemic, schools with higher proportions of LEP students had higher odds of both drug/alcohol and truancy infractions, for

example, nearly seven times higher for drug/alcohol (OR = 6.978) and almost five times higher for truancy (OR = 4.795). Beginning in 2020–21, however, the association flipped: with odds dropping to 0.048 for drug/alcohol and 0.075 for truancy that year. These lower odds remained in subsequent years.

The percentage of White students also showed sharp shifts. Prior to the pandemic, schools with higher shares of White students had significantly higher odds of drug/alcohol infractions (OR = 1.944). In 2019/20, this association reversed, and from then on higher White enrollment predicted lower odds, falling as low as 0.107 by 2022/23. For truancy, we also observed a reduction in the estimated odds: from 2021 onward, schools with higher White proportions were associated with dramatically reduced odds (ORs ranging from 0.001 to 0.011).

Finally, the share of SPED students appears consistently associated with fewer drug/alcohol infractions, with odds in some years reduced by over 99% (e.g., ORs as low as 0.002). However, interestingly, for truancy, we observe a change in the pattern of this relationship with the pandemic. Before the pandemic, schools with higher shares of SPED students had much lower odds (0.030) of students' committing truancy, but this association changed and spiked after the pandemic with higher odds of about 13.9 in 2021/22 and 5.1 in 2022/23.

Table 1: *Logit Results for Drugs and Alcohol & Truancy*

	Drugs and Alcohol						Truancy					
	Pre-Pandemic	**2019/20 (Pre)**	**2019/20 (During)**	**2020/21**	**2021/22**	**2022/23**	**Pre-Pandemic**	**2019/20 (Pre)**	**2019/20 (During)**	**2020/21**	**2021/22**	**2022/23**
Student Level												
Secondary	3.444***	3.728***		3.018***	2.874***	3.326***	4.728***	5.147***		4.924***	5.526***	5.067***
	(0.187)	(0.308)		(0.274)	(0.205)	(0.198)	(0.094)	(0.177)		(0.176)	(0.151)	(0.137)
Second Infraction	0.860***	0.817***		0.898	0.938	0.896**	0.977	0.989		0.967	1.060**	1.024
	(0.041)	(0.057)		(0.073)	(0.055)	(0.045)	(0.020)	(0.031)		(0.033)	(0.026)	(0.025)
Third Infraction	0.748***	0.797**		0.965	0.973	0.957	0.984	1.015		0.911**	1.017	1.104***
	(0.045)	(0.071)		(0.097)	(0.069)	(0.058)	(0.023)	(0.039)		(0.040)	(0.031)	(0.032)
Four + Infractions	0.730***	0.653***		0.745***	0.896*	0.882***	0.891***	1.003		0.774***	0.962*	1.080***
	(0.032)	(0.048)		(0.067)	(0.051)	(0.041)	(0.015)	(0.029)		(0.0278)	(0.022)	(0.023)
School Level												
FRL %	0.835	0.092***		2.545	0.532	0.468*	0.877	0.770		0.020***	0.246***	0.040***
	(0.262)	(0.061)		(1.788)	(0.281)	(0.197)	(0.095)	(0.228)		(0.006)	(0.046)	(0.007)
LEP %	6.978***	0.165**		0.048***	0.194**	0.079***	4.795***	4.360***		0.075***	0.070***	0.129***
	(2.979)	(0.130)		(0.044)	(0.131)	(0.036)	(0.834)	(1.236)		(0.031)	(0.018)	(0.030)
White %	1.944*	0.049***		0.276	0.451	0.107***	0.797	0.794		0.007***	0.011***	0.001***
	(0.688)	(0.034)		(0.217)	(0.289)	(0.051)	(0.128)	(0.212)		(0.002)	(0.003)	(0.000)
SPED %	0.002***	0.049*		0.030**	0.006***	0.025***	0.030***	0.378		0.051***	13.94***	5.113***
	(0.002)	(0.076)		(0.052)	(0.008)	(0.023)	(0.010)	(0.232)		(0.034)	(5.328)	(1.872)
District FE	X	X		X	X	X	X	X		X	X	X
N	419,483	158,985	8,527	97,475	200,065	232,765	423,114	159,120	11,635	100,099	197,826	220,153
R^2	0.0979	0.127		0.109	0.106	0.114	0.193	0.207		0.211	0.212	0.214

Note: The number of incidents during the midst of the pandemic ("2019/20 During") was not enough to include in the analysis. Results are presented in Odds Ratios. Robust standard errors in parenthesis. All models control for student grade level (elementary or secondary), order of infraction, school-level demographic composition percentages, and district fixed-effects. We group school years as follows: 2017/18 and 2018/19 are categorized as pre-pandemic ("Pre"); the 2019/20 school year is divided into pre-pandemic ("20 Pre," August 2019–February 2020) and during-pandemic ("20 During," March–December 2020) periods; and the subsequent school years—2020/21, 2021/22, and 2022/23—are analyzed separately.

Table 2 compares major versus minor infractions within two categories: violent/weapons infractions and nonviolent infractions. The dependent variable is a binary indicator coded as 1 for major infractions and 0 for minor infractions within each category. This means the odds ratios reflect the likelihood of a student receiving a major rather than a minor infraction within each infraction category (i.e. violent/weapons and nonviolent infractions).

Prior infractions played a stronger role for violence and weapons. Students with two prior incidents generally had slightly elevated odds (about 1.25 times higher pre-pandemic) on committing a new violence and weapons infraction, though this effect weakened during the pandemic years and only modestly reappeared afterward. Having three or more prior infractions was a clearer risk factor, with odds of violent/weapon infractions rising steadily from about 1.3 to 1.9 times higher compared to first-time offenders, a result that remained throughout the pandemic. For nonviolent incidents, however, we observe a different pattern: repeat offenders were consistently less likely to be cited again, with odds about 15–35% lower than for first-time offenders, regardless of how many prior incidents they had.

At the school level, FRL share showed divergent patterns depending on the outcome. For major violence and weapons, higher FRL proportions were strongly associated with elevated odds compared to minor violence and weapons incidents, especially around the pandemic: the effect grew from about 1.5 times higher pre-pandemic to over 22 times higher in 2019/20 (Pre) and remained three to four times higher than pre-pandemic levels in subsequent years. In contrast, for major nonviolent incidents compared to minor nonviolent, an increase of FRL shares was consistently associated with lower odds. Schools with larger LEP populations also displayed sharp shifts. Before the pandemic, these schools had far higher odds of violent/weapon infractions, nearly 16 times higher pre-pandemic. Although this relationship weakened

substantially in 2019/20, it reemerged during the pandemic, with odds five to six times higher in 2020/21 and 2021/22. For nonviolence, the trend shifted with the pandemic: LEP shares were associated with greater odds if major nonviolence incidents pre-pandemic, compared to minor nonviolence, but from 2019/20 onward, odds fell to as low as 0.24.

The share of White students was another strong predictor. For major violence/weapon outcomes, higher White enrollment was associated to significantly greater odds both before and during the pandemic, reaching peaks of 14 times higher in 2019/20 and remaining elevated (7–11 times higher) in later years. For nonviolent incidents, however, the pattern was more modest: White enrollment was only weakly associated pre-pandemic, and by 2022/23 the relationship reversed, with odds about 75% lower in schools with larger White populations. Finally, the percentage of SPED students was generally associated with lower odds of both major violence and weapons and major nonviolence both before and throughout the pandemic.

Overall, our results in this section show that despite a decline on disciplinary incidents with the onset of the pandemic, most of the patterns observed pre-pandemic remain with one interesting exception, schools with higher shares of SPED students experience have experienced higher levels of truancy after the pandemic onset. Similarly, students in schools with higher FRL populations were more likely to be reported for major violence and weapons infractions than minor ones, especially just before and shortly after the pandemic.

Table 2: *Logit Results for Major Violence and Weapons & Major Nonviolence*

	Major Violence and Weapons						Major Nonviolence					
	Pre-Pandemic	**2019/20 (Pre)**	**2019/20 (During)**	**2020/21**	**2021/22**	**2022/23**	**Pre-Pandemic**	**2019/20 (Pre)**	**2019/20 (During)**	**2020/21**	**2021/22**	**2022/23**
Student Level												
Secondary	1.495***	1.658***		1.435***	1.591***	1.315***	1.238***	1.397***		1.494***	1.313***	1.237***
	(0.074)	(0.148)		(0.180)	(0.124)	(0.085)	(0.021)	(0.042)		(0.050)	(0.032)	(0.029)
Second Infraction	1.252***	0.995		0.995	1.076	1.106*	0.826***	0.850***		0.845***	0.876***	0.911***
	(0.070)	(0.083)		(0.097)	(0.070)	(0.062)	(0.016)	(0.023)		(0.026)	(0.020)	(0.020)
Third Infraction	1.513***	1.316***		1.275**	1.143*	1.242***	0.754***	0.764***		0.794***	0.844***	0.833***
	(0.097)	(0.128)		(0.156)	(0.093)	(0.082)	(0.017)	(0.027)		(0.031)	(0.023)	(0.022)
Four + Infractions	1.869***	1.879***		1.716***	1.531***	1.588***	0.662***	0.638***		0.728***	0.732***	0.785***
	(0.089)	(0.137)		(0.162)	(0.093)	(0.078)	(0.011)	(0.018)		(0.023)	(0.016)	(0.012)
School Level												
FRL %	1.512	21.89***		4.407*	3.475**	3.118***	0.676***	0.887		0.379***	0.607***	0.237***
	(0.410)	(14.40)		(3.755)	(1.824)	(1.259)	(0.070)	(0.229)		(0.092)	(0.110)	(0.041)
LEP %	15.99***	0.846		9.352	5.035**	5.987***	1.789***	0.367***		0.238***	0.526**	0.619**
	(8.352)	(0.589)		(13.04)	(3.221)	(2.749)	(0.385)	(0.129)		(0.099)	(0.147)	(0.147)
White %	3.659***	13.90***		7.054**	11.30***	7.766***	1.326*	1.830**		0.893	0.843	0.236***
	(1.365)	(8.839)		(7.010)	(6.668)	(3.576)	(0.224)	(0.513)		(0.269)	(0.186)	(0.050)
SPED %	0.0149***	0.142		0.810	4.862	0.246*	0.412**	0.251**		0.573	0.142***	0.133***
	(0.013)	(0.212)		(1.609)	(5.297)	(0.208)	(0.143)	(0.136)		(0.325)	(0.056)	(0.045)
District FE	X	X		X	X	X		X		X	X	X
N	35,987	14,910	1,000	9,708	23,131	26,891	368,486	151,669	13,196	95,873	172,672	198,900
R^2	0.0777	0.0843		0.0936	0.0771	0.0694	0.0572	0.0691		0.0845	0.0683	0.0590

Note: The number of incidents during the midst of the pandemic ("2019/20 During") was not enough to include in the analysis. Results are presented in Odds Ratios. Robust standard errors in parenthesis. All models control for student grade level (elementary or secondary), order of infraction, school-level percentages,

and district fixed-effects. We group school years as follows: 2017/18 and 2018/19 are categorized as pre-pandemic ("Pre"); the 2019/20 school year is divided into pre-pandemic ("20 Pre," August 2019–February 2020) and during-pandemic ("20 During," March–December 2020) periods; and the subsequent school years—2020/21, 2021/22, and 2022/23—are analyzed separately.

Consequences

We next investigate the likelihood of students from different racial backgrounds receiving different discipline consequences—out-of-school suspension (OSS), expulsion, or a referral to an alternative learning environment (ALE); and warnings—from pre-pandemic years through the pandemic and into recent years. We use logistic regression models described in Section 3 and present our results as odds ratios. For each year of analysis, we ran models with and without district-fixed effects to assess the role of different district-specific factors influencing disparities in discipline.

Expulsion, OSS, or ALE.

Table 3 presents the results for students receiving expulsion, out-of-school suspension (OSS), or referrals to an alternative learning environment (ALE). In models without district fixed-effects (column 1), Black students consistently show significantly higher odds of receiving at least one exclusionary consequence compared to White students, committing the same type of infraction and in the same order, across all years. These disparities are observed in all years and are most pronounced in 2022/23, when the odds ratio (OR) reaches 1.78. Indicating that Black students' odds of receiving exclusionary discipline for the same infraction were almost double those for White students. However, when district-specific factors are accounted for-via district-fixed effects in column 2, the disparities between Black and White students diminish across all years, regardless of the pandemic period. This result indicates that racial differences in exclusionary discipline between Black and White students in Arkansas are a result of differences across districts more than within schools of a given district.

For Hispanic and Other Race students, the models without district fixed effects indicate lower odds of receiving exclusionary discipline in the Pre-Pandemic years. After including district fixed effects, these differences generally disappear in the pre-pandemic periods. However, Hispanic and Other Race students experienced higher odds of receiving exclusionary discipline than white students committing the same infraction as students came back from school closures in 2020-21. For Other Race students this was still the case after comparing students within the same district. However, in the most recent year (2022/23), both Hispanic and Other Race students have significantly lower odds of receiving exclusionary consequences, even with district fixed effects included.

Students identified as Two or More Races show consistently higher odds of exclusionary discipline in models without fixed effects across all years. These disparities are still present in the pre-pandemic and 2020-21 school year analysis including district fixed effects models but are no longer statistically significant in later years.

Turning to school composition, a higher percentage of Hispanic students in a school is associated with higher odds of exclusionary discipline in all years when district fixed effects are included, except for 2020/21 and 2021/22, when the association reverses slightly (OR = 0.969 and 0.981). Similarly, schools with a higher proportion of Black students consistently show increased odds of exclusionary discipline across nearly all models and years. The only exceptions are in 2019/20 (During) and 2022/23, when the relationships become insignificant in the district fixed effects model.

For completeness, we also add in-school suspension (ISS) to our analysis of disciplinary consequences to provide an overall picture of potential racial disparities in the use of harsher consequences for the same type of disciplinary infractions. These results can be found in the

Appendix Table A.1. Overall, the results are very similar to the ones presented above, focusing on exclusionary discipline.

Table 3: *Logistic Regression Results for OSS, ALE, Expulsion Consequences*

	Pre-Pandemic		**2019/20 (Pre)**		**2019/20 (During)**		**2020/21**		**2021/22**		**2022/23**	
	1	2	1	2	1	2	1	2	1	2	1	2
Student Level												
Black	1.565***	1.076**	1.653***	0.984	1.598***	0.947	1.470***	1.047	1.582***	0.957*	1.779***	0.991
	(0.019)	(0.031)	(0.034)	(0.029)	(0.104)	(0.088)	(0.0377)	(0.037)	(0.027)	(0.024)	(0.028)	(0.022)
Hispanic	0.882***	0.929*	0.974	0.857***	1.014	0.977	1.122***	0.898**	1.017	0.898***	0.945**	0.850***
	(0.019)	(0.038)	(0.034)	(0.034)	(0.109)	(0.120)	(0.0437)	(0.040)	(0.028)	(0.028)	(0.024)	(0.024)
Two or More Races	1.290***	1.224***	1.168***	0.961	1.100	0.964	1.341***	1.167***	1.162***	0.997	1.228***	0.974
	(0.040)	(0.072)	(0.061)	(0.054)	(0.187)	(0.178)	(0.072)	(0.068)	(0.044)	(0.041)	(0.040)	(0.034)
Other Race	0.894**	0.952	0.867**	0.893	0.778	0.892	1.338***	1.144*	0.903*	0.911	0.679***	0.799***
	(0.043)	(0.084)	(0.063)	(0.071)	(0.182)	(0.216)	(0.097)	(0.089)	(0.052)	(0.059)	(0.037)	(0.049)
Secondary	1.352***	1.187***	1.683***	1.592***	1.396***	1.303***	1.619***	1.491***	1.591***	1.559***	1.485***	1.620***
	(0.015)	(0.026)	(0.031)	(0.034)	(0.084)	(0.094)	(0.038)	(0.042)	(0.025)	(0.029)	(0.022)	(0.027)
Second Infraction	1.045***	1.071**	1.069***	1.203***	1.075	1.238**	0.974	1.079**	1.050**	1.159***	1.076***	1.200***
	(0.017)	(0.034)	(0.027)	(0.032)	(0.097)	(0.124)	(0.029)	(0.034)	(0.022)	(0.026)	(0.021)	(0.025)
Third Infraction	1.146***	1.181***	1.199***	1.463***	0.969	1.190	1.107***	1.287***	1.125***	1.337***	1.128***	1.344***
	(0.021)	(0.041)	(0.035)	(0.045)	(0.096)	(0.129)	(0.040)	(0.050)	(0.028)	(0.036)	(0.026)	(0.033)
Four + Infractions	1.342***	1.633***	1.262***	1.776***	1.131*	1.699***	1.234***	1.541***	1.202***	1.646***	1.248***	1.787***
	(0.018)	(0.042)	(0.028)	(0.043)	(0.083)	(0.144)	(0.035)	(0.048)	(0.022)	(0.034)	(0.021)	(0.034)
School Level												
% Hispanic	1.068***	1.027***	1.128***	1.031***	1.115***	1.095***	1.065***	0.969***	1.070***	0.981***	1.149***	1.057***
	(0.004)	(0.006)	(0.006)	(0.007)	(0.016)	(0.022)	(0.008)	(0.010)	(0.005)	(0.006)	(0.005)	(0.006)
% Black	1.021***	1.006***	1.013***	1.015***	1.019***	1.006	1.024***	1.022***	1.036***	1.019***	1.018***	1.000
	(0.000)	(0.001)	(0.000)	(0.001)	(0.002)	(0.004)	(0.002)	(0.004)	(0.001)	(0.002)	(0.001)	(0.001)
District FE		X		X		X		X		X		X
N	318,847	108,479	135,960	135,605	12,737	12,017	87,134	86,862	159,679	159,383	186,183	185,685
R^2	0.164	0.244	0.193	0.289	0.197	0.291	0.179	0.268	0.211	0.299	0.201	0.288

Warnings.

Note: The outcome variable is a binary indicator (1/0) for whether a student received at least one out-of-school suspension (OSS), one alternative learning environment (ALE) referral, or one expulsion during the school year. Results are presented in Odds Ratios. Robust standard errors in parenthesis. All models control for infraction type, order of infraction, student race and grade level, and school percent Hispanic to white ratio and percent black to white ratio. We group school years as follows: 2017/18 and 2018/19 are categorized as pre-pandemic ("Pre"); the 2019/20 school year is divided into pre-pandemic ("20 Pre," August 2019–February 2020) and during-pandemic ("20 During," March–December 2020) periods; and the subsequent school years—2020/21, 2021/22, and 2022/23—are analyzed separately.

On the other end of the disciplinary spectrum, we examine racial disparities in the use of less severe consequences, specifically warnings or no action used for the same types of infractions. Table 4 presents results from logistic regressions predicting the likelihood of receiving a warning, which includes both formal warnings and cases in which no disciplinary action was taken.

Results show that, compared to White students cited for the same infractions, Black and Hispanic students had lower or no statistically significant different odds of receiving warnings in the pre-pandemic years. However, in the early months of the pandemic (2019-20-During), it appeared that within the district, Black and Hispanic students had higher odds of receiving warnings or no action (OR = 1.5 and OR = 1.7, respectively). But, as the pandemic progressed, the pattens returned to those observed pre-pandemic with Black and Hispanic students generally receiving warnings for the same infraction at lower odds than white students.

Students identified as Two or More Races had lower odds of receiving warnings in the Pre-Pandemic, 2019/20 (Pre), and 2022/23 years without district fixed effects. However, once fixed effects were included, these multiracial students had higher odds of receiving warnings in 2021/22 (OR = 1.2). Students categorized as Other Race showed mostly no differences from White students, aside from lower odds in the 2021/22 and 2022/23 model without district fixed effects.

Turning to school-level racial composition, looking across districts, schools with higher percentages of Hispanic students had either lower odds or no difference odds of receiving warnings. When district fixed effects are added, we see slightly lower odds in the Pre-Pandemic years (OR= 0.95), which jump to slightly higher odds in 2022/23 (OR = 1.1). Schools with higher percentages of Black students alternated between modestly lower and higher odds across years in both models. We see in Pre-Pandemic years, higher Black student populations equated to higher odds of students receiving warnings, with the odds lowering in 2019/20 (Pre), going back up again in 2020/21 and 2021/22, and then lowering once again in the most recent 2022/23 school year.

Table 4: *Logit Results for Warning and No Action Consequences*

	Pre-Pandemic		2019/20 (Pre)		2019/20 (During)		2020/21		2021/22		2022/23	
	1	2	1	2	1	2	1	2	1	2	1	2
Student Level												
Black	0.878***	0.998	1.039	0.994	1.251	1.498*	0.856***	0.807***	0.915**	0.946	0.785***	0.955
	(0.038)	(0.059)	(0.035)	(0.047)	(0.174)	(0.315)	(0.039)	(0.053)	(0.033)	(0.048)	(0.025)	(0.043)
Hispanic	0.745***	0.956	0.909	0.999	1.433*	1.742**	0.752***	0.929	0.738***	0.889*	0.709***	0.904*
	(0.065)	(0.085)	(0.055)	(0.064)	(0.293)	(0.402)	(0.059)	(0.077)	(0.043)	(0.054)	(0.035)	(0.049)
Two or More Races	0.577***	0.980	0.813**	0.984	0.701	1.093	0.920	1.158	0.975	1.166**	0.850***	1.039
	(0.079)	(0.140)	(0.068)	(0.091)	(0.278)	(0.473)	(0.084)	(0.116)	(0.069)	(0.088)	(0.051)	(0.067)
Other Race	0.799	0.964	1.024	1.098	0.539	0.428	0.826	1.188	0.826*	1.097	0.535***	0.841
	(0.142)	(0.186)	(0.118)	(0.136)	(0.317)	(0.254)	(0.120)	(0.178)	(0.093)	(0.133)	(0.063)	(0.104)
Secondary	0.575***	0.715***	0.445***	0.583***	0.502***	0.658***	0.471***	0.633***	0.738***	0.839***	0.485***	0.584***
	(0.025)	(0.034)	(0.015)	(0.022)	(0.074)	(0.105)	(0.022)	(0.033)	(0.024)	(0.029)	(0.016)	(0.020)
Second Infraction	0.735***	0.649***	0.650***	0.592***	0.695**	0.604***	0.651***	0.597***	0.729***	0.702***	0.731***	0.680***
	(0.043)	(0.041)	(0.026)	(0.025)	(0.122)	(0.112)	(0.032)	(0.032)	(0.029)	(0.029)	(0.026)	(0.026)
Third Infraction	0.660***	0.561***	0.584***	0.522***	0.376***	0.309***	0.569***	0.524***	0.504***	0.483***	0.618***	0.557***
	(0.045)	(0.040)	(0.029)	(0.028)	(0.091)	(0.076)	(0.037)	(0.036)	(0.027)	(0.027)	(0.028)	(0.026)
Four + Infractions	0.700***	0.551***	0.454***	0.433***	0.502***	0.440***	0.482***	0.447***	0.414***	0.414***	0.501***	0.474***
	(0.032)	(0.027)	(0.018)	(0.018)	(0.071)	(0.069)	(0.025)	(0.024)	(0.017)	(0.018)	(0.017)	(0.017)
School Level												
% Hispanic	0.832***	0.946**	0.898***	1.027	1.006	1.003	0.892***	0.958	0.997	1.008	1.006	1.075***
	(0.029)	(0.024)	(0.023)	(0.023)	(0.046)	(0.057)	(0.027)	(0.030)	(0.012)	(0.014)	(0.009)	(0.014)
% Black	1.008***	1.006	0.990***	0.965***	0.995	1.054**	1.014***	1.006	1.003**	1.014***	0.991***	0.983***
	(0.001)	(0.004)	(0.001)	(0.008)	(0.005)	(0.027)	(0.002)	(0.014)	(0.002)	(0.004)	(0.002)	(0.003)
District FE		X		X		X		X		X		X
N	108,888	86,958	135,960	105,505	12,737	7,508	87,134	68,932	159,679	138,987	186,183	162,023
R^2	0.0195	0.194	0.0358	0.239	0.0235	0.153	0.0325	0.217	0.0229	0.162	0.0304	0.192

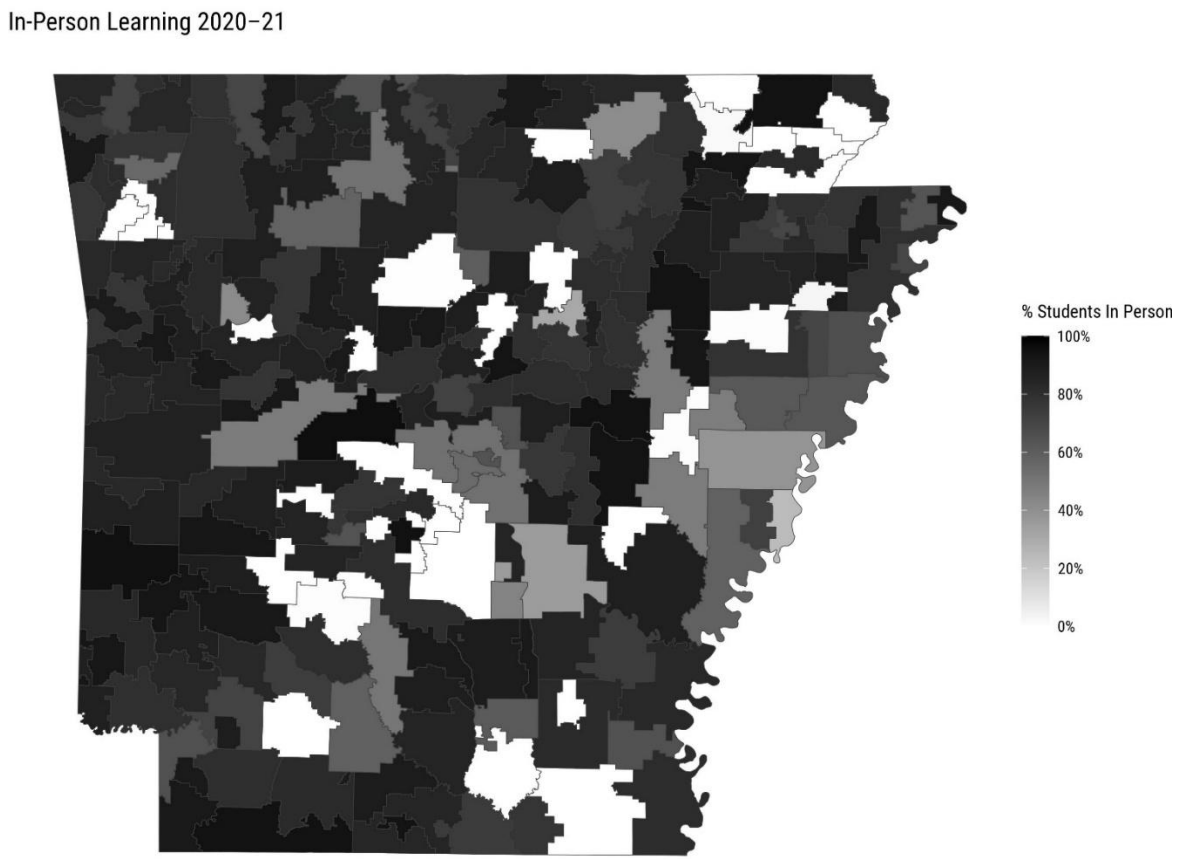
Note: Results are presented in Odds Ratios. Robust standard errors in parenthesis. All models control for infraction type, order of infraction, student race and grade level, and school percent Hispanic to white ratio and percent black to white ratio. We group school years as follows: 2017/18 and 2018/19 are categorized as pre-pandemic ("Pre"); the 2019/20 school year is divided into pre-pandemic ("20 Pre," August 2019–February 2020) and during-pandemic ("20 During," March–December 2020) periods; and the subsequent school years—2020/21, 2021/22, and 2022/23—are analyzed separately.

Impact of In-Person Learning During 2020–21

Finally, to get a better understanding of how the school closures during the pandemic might have related to subsequent disciplinary outcomes, we examine whether the district share of in-person instruction during the pandemic year 2020–21 shaped disciplinary outcomes in subsequent years. As described in our empirical approach, we estimate student-level logistic regression models in which the likelihood of different types of infractions and consequences in 2021/22 and 2022/23 is regressed on the share of instructional days held in person at the district level during 2020/21, controlling for student- and school-level characteristics.

Figure 4 displays the share of in-person instructional days by district in 2020–21, highlighting the geographic variation that underpins our analysis. Districts across Arkansas differed substantially, with some offering nearly all days in person while others provided far fewer. This variation provides the foundation for assessing whether exposure to in-person learning during the pandemic shaped disciplinary outcomes in subsequent years.

Figure 4. In-person learning percentages by district.



As shown in Table 5, we find statistically significant relationships between in-person learning in the district during the 2020-21 school year and the odds of different types of infractions in the following years. Districts with more in-person learning during the pandemic experienced lower odds of drug/alcohol infractions (ORs = 0.634 and 0.730) and lower odds of major nonviolent infractions (ORs = 0.8 and 0.6), as all students returned to in-person learning in 2021/22 and 2022/23. By contrast, in-person learning was associated with higher odds of truancy infractions, particularly by 2022/23 (OR = 1.8). Results for major violence/weapon and major nonviolence infractions show generally a reduction of odds in subsequent years. Overall, these results suggest that districts whose school remain more virtually, experienced high odds of drugs and alcohol, major violence and weapons, and major nonviolence in subsequent years as students returned to fully in-person learning. In contrast, districts with higher rates of in-person learning experienced higher rates of truancy as all students returned to in-person learning.

Table 6 shows that greater in-person learning is consistently associated with reduced odds of exclusionary consequences in subsequent years, but it is also associated with reduced odds of warnings. Districts with higher proportions of in-person learning saw a 33% reduction in exclusionary discipline in 2021/22 (OR = 0.67) and nearly a 50% reduction in 2022/23 (OR = 0.5). In contrast, the odds of receiving a warning were lower in both years (OR = 0.42 and 0.69).

Table 5: *Impact of In-Person Learning During 2020–21, Infractions*

	Drugs and Alcohol		Truancy		Major Violence and Weapons		Major Nonviolence	
	2021/22	**2022/23**	**2021/22**	**2022/23**	**2021/22**	**2022/23**	**2021/22**	**2022/23**
In-Person Learning %	0.634***	0.730***	1.134***	1.770***	0.786**	0.967	0.771***	0.635***
	(0.051)	(0.056)	(0.042)	(0.081)	(0.074)	(0.080)	(0.024)	(0.019)
Student Level								
Secondary	3.227***	3.165***	5.651***	6.103***	1.249***	1.056	1.345***	1.310***
	(0.159)	(0.131)	(0.111)	(0.121)	(0.075)	(0.055)	(0.024)	(0.023)
Second Infraction	0.894*	0.831***	1.073***	1.031	1.098	1.089	0.839***	0.874***
	(0.052)	(0.042)	(0.025)	(0.024)	(0.069)	(0.058)	(0.018)	(0.018)
Third Infraction	0.887*	0.849***	1.049*	1.107***	1.136	1.224***	0.777***	0.774***
	(0.063)	(0.050)	(0.030)	(0.030)	(0.089)	(0.078)	(0.021)	(0.020)
Four + Infractions	0.738***	0.683***	1.001	1.083***	1.458***	1.554***	0.612***	0.661***
	(0.041)	(0.031)	(0.021)	(0.021)	(0.083)	(0.071)	(0.013)	(0.012)
School Level								
FRL %	0.250***	0.309***	0.200***	0.742***	0.276***	0.835	2.196***	1.836***
	(0.037)	(0.045)	(0.013)	(0.047)	(0.047)	(0.122)	(0.119)	(0.102)
LEP %	30.31***	28.27***	33.71***	11.34***	2.955***	2.876***	4.008***	1.975***
	(6.983)	(5.058)	(2.850)	(0.932)	(0.839)	(0.648)	(0.397)	(0.184)
White %	1.039	0.894	0.548***	0.604***	1.005	1.714***	3.647***	2.017***
	(0.122)	(0.098)	(0.025)	(0.027)	(0.108)	(0.159)	(0.147)	(0.081)
SPED %	0.006***	0.033***	11.72***	1.087	43.41***	0.530	0.072***	0.372***
	(0.004)	(0.021)	(2.852)	(0.253)	(29.27)	(0.270)	(0.018)	(0.090)
N	214,831	247,638	214,831	247,638	23,789	27,869	173,250	199,503
R^2	0.0605	0.0558	0.114	0.111	0.0123	0.00918	0.0193	0.0102

Note: Results are presented in Odds Ratios. Robust standard errors in parenthesis. All models control for district in-person learning percentage, student grade level (elementary or secondary), order of infraction, and school-level percentages.

Table 6: *Impact of In-Person Learning During 2020–21, Consequences*

	Exclusionary		Warnings	
	2021/22	**2022/23**	**2021/22**	**2022/23**
In-Person Learning %	0.666***	0.501***	0.422***	0.691***
	(0.021)	(0.014)	(0.022)	(0.036)
Student Level				
Black	1.536***	1.690***	0.867***	0.765***
	(0.027)	(0.027)	(0.031)	(0.025)
Hispanic	1.028	0.959	0.759***	0.716***
	(0.029)	(0.024)	(0.044)	(0.036)
Two or More Races	1.171***	1.236***	1.004	0.853***
	(0.045)	(0.040)	(0.071)	(0.052)
Other Race	0.919	0.694***	0.867	0.541***
	(0.053)	(0.038)	(0.097)	(0.063)
Secondary	1.587***	1.490***	0.730***	0.485***
	(0.025)	(0.022)	(0.024)	(0.016)
Second Infraction	1.052**	1.083***	0.730***	0.732***
	(0.022)	(0.022)	(0.029)	(0.027)
Third Infraction	1.130***	1.140***	0.507***	0.620***
	(0.028)	(0.027)	(0.028)	(0.028)
Four + Infractions	1.213***	1.281***	0.421***	0.507***
	(0.023)	(0.022)	(0.017)	(0.017)
School Level				
% Hispanic	1.072***	1.150***	1.003	1.006
	(0.005)	(0.005)	(0.012)	(0.008)
% Black	1.034***	1.016***	1.000	0.989***
	(0.001)	(0.001)	(0.002)	(0.002)
N	159,640	186,166	159,640	186,166
R^2	0.212	0.204	0.0287	0.0313

Note: Results are presented in Odds Ratios. Robust standard errors in parenthesis. All models control for district in-person learning percentage, infraction type, order of infraction, student race and grade level, and school percent Hispanic to white ratio and percent black to white ratio.

4. Conclusion

This study provides insights into school disciplinary outcomes during the COVID-19 pandemic, emphasizing the persistent challenges faced by nonwhite students. While overall disciplinary infractions declined during the pandemic, likely due to shifts to remote learning, Black and Hispanic students continued to receive more severe consequences than their White peers, even for comparable infractions. These disparities persisted across multiple years and remained significant after controlling for factors such as infraction type, frequency, and school level. At the same time, overall, Black and Hispanic students presented lower odds of receiving warnings than White students for the same infractions. Similarly, while students of Two or More Races received more warnings in 2020/21 and 2021/22, they received fewer in all other years.

Two studies out of Michigan and an" urban emergent" district in the Southeastern US also analyze student discipline throughout the pandemic (Anderson & Dhaliwal, 2025; Welsh, 2022). As we find in our study, both found that suspension rates dropped to near zero during the pandemic and returned to near pre-pandemic rates when in-person instruction resumed. The Michigan study found that Black students and Special Education students had consistent reduction in discipline rates. Yet, our current study and the urban emergent district study find that African American students were still disproportionately receiving more severe discipline actions despite the decrease of overall infractions during the pandemic. However, our findings also reveal that district-level factors account for much of these racial disparities. When district fixed effects are included in the models, the disparities between Black and White students largely disappear or even reverse, suggesting that differences across districts, rather than within schools, drive unequal disciplinary outcomes. In other words, some districts in Arkansas that enroll more nonwhite students apply harsher disciplinary practices overall.

In terms of the evolution of the type of infractions committed, we observed that overall, the patterns across school characteristics remained through the pandemic, with three significant exceptions. Students in schools with higher FRL populations were more likely to be reported for major violence and weapons infractions than minor ones, especially just before and shortly after the pandemic. While this pattern diminished over time, it remained notable, suggesting an increased association between school poverty concentration and harsher labeling of student behavior. At the same time, schools serving higher shares of special education students experienced higher odds of truancy post-pandemic, representing the potential challenges that students with special needs might have faced due to the school interruptions. Last, schools serving higher percentages of LEP students experienced a significant drop in odds in all infraction categories except Major Violence and Weapons.

When looking at infraction levels, Anderson & Dhaliwal (2025) found that violence, weapons, and property infractions saw sustained declines in 2022/23, and the risk of drug, alcohol, or tobacco infractions increased in the last two years of their panel. We find in Arkansas that Major Violence and Weapons (compared to Minor Violence and Weapons) continued to be higher for students in schools with higher percentages of FRL, LEP, and White students throughout and after the pandemic.

Our analysis also considers how the extent of in-person instruction during the 2020/21 school year shaped subsequent disciplinary outcomes. We find that schools with greater in-person learning experienced lasting reductions in exclusionary discipline and certain categories of infractions, particularly drug/alcohol, major violence/ weapons, and major nonviolent offenses. At the same time, in-person learning was linked to higher rates of truancy in subsequent years and fewer warnings, highlighting how shifts in attendance structures might have influenced

student behavior. These results suggest that the mode of instruction during the pandemic not only affected academic learning but also had consequences for patterns of school discipline.

Given the complex relationship between race, discipline, and district characteristics, our research calls for continued attention to ensuring equitable disciplinary practices, particularly in the post-pandemic era when students remain in need of academic recovery. Policymakers and educators must collaborate to design and implement strategies that not only reduce the overall use of exclusionary discipline but also mitigate the racial disparities that continue to affect marginalized student groups. Research has shown that restorative justice practices and other 27 positive behavioral interventions may help decrease these inequities (Acosta et al., 2020; Weaver & Swank, 2020; Gonzalez et al., 2018; Wilson et al., 2020). A recent study analyzing Chicago Public Schools' adoption of Restorative Justice finds a 15% decrease in arrests after implementation (Anjali et al., 2025).

The pandemic served as a natural experiment, disrupting established patterns but failing to dismantle deep-seated inequities. As schools continue to support student academic and social recovery, eliminating the disproportionate removal of nonwhite students from the classroom must be a primary concern. The path forward requires a committed shift in focus from school-level interventions to systemic, district-level reform to ensure a more equitable and supportive learning environment for all students.

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Appendix

Table A.1: *Logit Results for OSS, ALE, Expulsion & ISS Consequences*

	Pre-Pandemic		2019/20 (Pre)		2019/20 (During)		2020/21		2021/22		2022/23	
	1	2	1	2	1	2	1	2	1	2	1	2
Student Level												
Black	1.657***	1.136***	1.666***	1.001	1.533***	0.959	1.419***	1.046*	1.424***	1.010	1.441***	0.994
	(0.025)	(0.024)	(0.023)	(0.021)	(0.069)	(0.064)	(0.027)	(0.028)	(0.019)	(0.019)	(0.018)	(0.018)
Hispanic	1.087***	0.934**	1.325***	1.035	1.194***	0.996	1.306***	0.967	1.449***	1.121***	1.221***	1.006
	(0.028)	(0.026)	(0.029)	(0.027)	(0.082)	(0.080)	(0.034)	(0.030)	(0.027)	(0.025)	(0.022)	(0.021)
Two or More Races	1.509***	1.142***	1.214***	0.964	1.289**	0.968	1.277***	1.071	1.305***	1.058*	1.251***	1.030
	(0.058)	(0.049)	(0.040)	(0.037)	(0.132)	(0.114)	(0.047)	(0.045)	(0.034)	(0.032)	(0.029)	(0.028)
Other Race	1.527***	1.347***	1.770***	1.377***	1.570***	1.368**	1.968***	1.293***	2.294***	1.552***	1.526***	1.245***
	(0.077)	(0.075)	(0.072)	(0.067)	(0.195)	(0.206)	(0.092)	(0.069)	(0.084)	(0.067)	(0.052)	(0.049)
Secondary	1.346***	1.363***	1.492***	1.599***	1.495***	1.519***	1.871***	2.031***	1.705***	1.900***	1.612***	1.914***
	(0.018)	(0.022)	(0.018)	(0.024)	(0.060)	(0.076)	(0.029)	(0.041)	(0.019)	(0.027)	(0.017)	(0.025)
Second Infraction	1.092***	1.198***	1.122***	1.271***	1.083	1.246***	1.070***	1.180***	1.058***	1.201***	1.073***	1.204***
	(0.023)	(0.028)	(0.019)	(0.024)	(0.067)	(0.088)	(0.021)	(0.027)	(0.016)	(0.021)	(0.016)	(0.020)
Third Infraction	1.111***	1.300***	1.183***	1.445***	1.195***	1.422***	1.102***	1.291***	1.101***	1.360***	1.120***	1.351***
	(0.026)	(0.033)	(0.023)	(0.032)	(0.081)	(0.110)	(0.027)	(0.036)	(0.020)	(0.028)	(0.019)	(0.026)
Four + Infractions	1.115***	1.480***	1.152***	1.645***	1.116**	1.628***	1.138***	1.517***	1.086***	1.601***	1.082***	1.646***
	(0.019)	(0.028)	(0.017)	(0.029)	(0.055)	(0.096)	(0.021)	(0.033)	(0.015)	(0.025)	(0.014)	(0.024)
School Level												
% Hispanic	1.066***	1.065***	1.156***	1.044***	1.225***	1.120***	1.058***	0.911***	1.086***	0.975***	1.275***	1.145***
	(0.008)	(0.007)	(0.006)	(0.007)	(0.026)	(0.026)	(0.007)	(0.011)	(0.005)	(0.006)	(0.008)	(0.008)
% Black	1.009***	1.007***	1.004***	1.012***	1.008***	0.984***	1.024***	1.063***	1.021***	1.007***	1.024***	1.011***
	(0.001)	(0.001)	(0.000)	(0.001)	(0.002)	(0.005)	(0.003)	(0.009)	(0.001)	(0.002)	(0.001)	(0.001)
District FE		X		X		X		X		X		X
N	108,888	108,106	135,960	135,289	12,737	12,200	87,134	86,741	159,679	159,104	186,183	185,458
R^2	0.0942	0.220	0.131	0.284	0.127	0.254	0.123	0.277	0.141	0.295	0.158	0.299