UNIVERSITY OF ARKANSAS | College of Education & Health Professions
Education Reform

WORKING PAPER SERIES

Examining Racial Disparities in School Discipline Throughout the Pandemic

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

May 2025

EDRE Working Paper 2025-05

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 explores trends and disparities in school discipline during the COVID-19 pandemic, focusing on the persistence of racial gaps in exclusionary practices. Using student-level data from Arkansas from 2017/18 to 2022/23, we study how disciplinary outcomes relate to student race while controlling for factors such as the type and frequency of infractions, as well as the school level (elementary vs. secondary). Our findings show that while overall disciplinary incidents declined during the pandemic school closures, racial disparities in exclusionary discipline remained, with nonwhite students particularly affected. The analysis also reveals the role of district-level factors in these disparities, indicating systemic differences across school districts. By addressing gaps in discipline and pandemic research, this study emphasizes the importance of implementing equitable disciplinary policies in the post-pandemic education system.

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, 2003).

Researchers have documented significant racial disparities in disciplinary practices and outcomes (Anderson & Ritter, 2017; Gregory et al., 2010; Ritter & Anderson, 2018; Barrett et al., 2021). For example, while Black students make up one-sixth of children in schools, they account for about one-third of suspended and expelled students (U.S. Department of Education, Office for Civil Rights, 2014). Anderson and Ritter (2017) found that, pre-pandemic, Black students in Arkansas were disproportionately subjected to exclusionary discipline, even after accounting for factors such as the type and severity of infractions. Similarly, 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. Ritter and Anderson (2018) also found that Black students received harsher punishments than their White counterparts. Barrett et al. (2021) 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. Examination of whether racial gaps in exclusionary discipline persisted during and after the pandemic is also essential. While the pandemic's impact on other educational outcomes is well-documented (Zamarro & Camp, 2025; Patrinos et al., 2023; Kuhfeld et al., 2022; 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 might also be the case for the state of Arkansas early in the pandemic.

Although the decrease in discipline incidents during the pandemic is likely attributable to a shift toward virtual learning, there is limited evidence on the severity of disciplinary actions during this period and the evolution afterward. Moreover, questions remain about whether the pandemic's impact on discipline disproportionately affected certain student groups. 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 (n.d.) find that while suspension rates returned to pre-pandemic levels by 2021/22, suspension risk declined significantly and remained lower through May 2023 for students most likely to be excluded from school, particularly students with disabilities and Black students. Therefore, more research is needed to understand the disparities in disciplinary outcomes during and after 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 racial/ethnic disparities. Our analysis addresses the following research questions:

1. What are the trends in disciplinary outcomes in Arkansas during the school years 2017/18 through 2022/23?
2. Controlling 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), do we observe racial disparities on the type of consequence received?
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), do we still observe racial disparities in the type of consequence received?

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 different practices across school districts than by differences in practices within school districts.

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 included in our analysis, as well as the 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 disparities 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 and ensuring a more equitable system moving forward.

2. Data and Sample

This study uses administrative data from the Arkansas Department of Education, as maintained by the Office of Education Policy at the University of Arkansas, encompassing all Arkansas public school 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 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 prior work by Anderson and Ritter (2017) and grouped 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-Violence, Minor Non-Violence, 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). Finally, our analysis also includes school-level characteristics such as school size, percentage of Hispanic, Black, and White students, and percentage of students eligible for FRL.

3. 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 during the pandemic.

Next, we investigate the relationship between infractions and school characteristics. This analysis provides further insights into the potential heterogeneous trends in disciplinary outcomes across different types of schools. Using logistic regression models as presented in (1), we examine how the probability of a student incurring different types of infractions is related to school composition.

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

Specifically, these models include variables for different school characteristics ($\boldsymbol{S}_{id}$) (percent FRL, percent Limited English Proficiency (LEP), percent Special Education (SPED), percent Hispanic, Black, and White, and total enrollment), student grade level (i.e. a student attending secondary education compared with elementary school[1]), and dummy variables for the sequence of the infraction committed by the student ($InfractionNumber_{it}$), with the first infraction used as the reference category. 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 district-level policies, programs, and procedures that might influence discipline outcomes. The results of these models help identify patterns in the distribution of infractions across school environments.

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

Finally, we focus on racial disparities in the consequences assigned to students. For this aim, our second model described in (2) uses logistic regressions to investigate racial disparities in the likelihood of receiving different consequences (e.g., exclusionary discipline, warnings), controlling for the type of infraction committed, student race, grade level, and school characteristics, as described above. To account for differences across districts in disciplinary practices, we run each model with and without district-level fixed effects (∂_d) . 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.

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

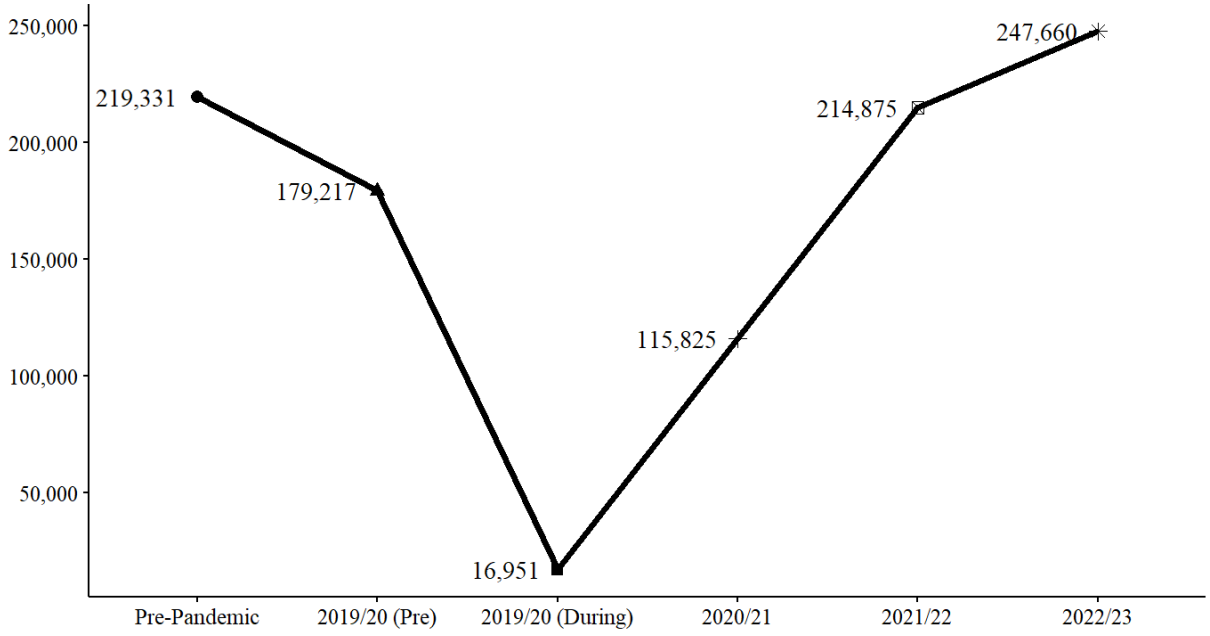
All estimated results are presented as odds ratios, offering a clear interpretation of the likelihood of specific outcomes relative to the corresponding reference categories.

4. Results

We first document the evolution of disciplinary outcomes during the pandemic. As shown in Figure 1, Arkansas schools recorded approximately 219,000 infractions before the pandemic. However, the number of infractions decreased during the school year the pandemic hit (2019-20), reaching only 17,000 infractions recorded during the pandemic school closures. As in-person schooling resumed,[2] starting in school year 2020/21, the number of infractions rebounded, with approximately 215,000 and 248,000 infractions recorded in 2021/22 and 2022/23, respectively.

[2] Schools in Arkansas reopened for in-person learning in 2020/21 after moving to virtual learning amid the COVID-19 pandemic in March of 2020. While school districts could offer multiple modes of instruction during the 2020-21 school year, including remote and hybrid options, the State required that they always offer an in-person option. As a result, in-person learning in Arkansas was more prevalent than in other areas of the country. All students in traditional public schools returned to in-person learning by the 2021-22 school year.

Figure 1: *Number of Overall Infractions by Year*



Note: For the Pre-Pandemic year, we use an average of the total number of infractions for the 2017/18 and 2018/19 school years. The 2019-20 school year is divided into two periods: 2019-20 (Pre) before the school closures in March 2020, and 2019-20 (During) for the rest of the school year, where schools were closed for in-person learning.

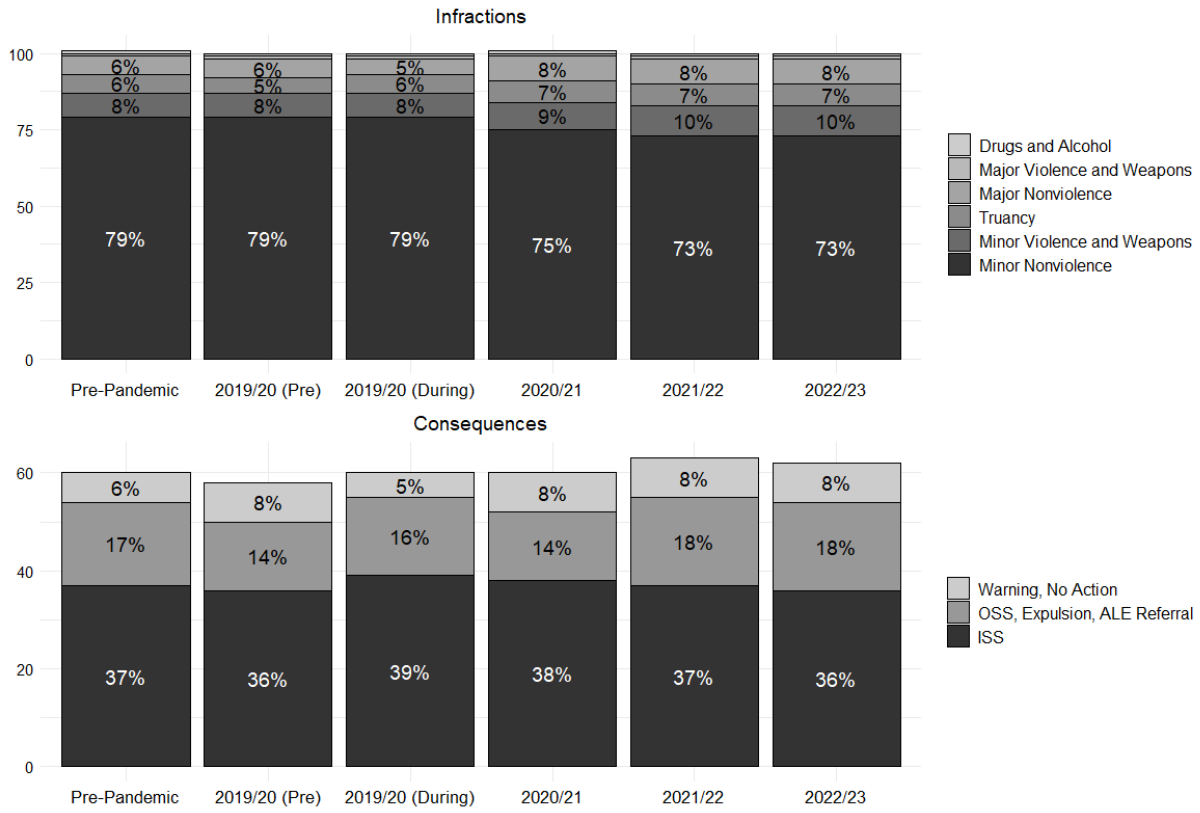
Figure 2 illustrates the distribution of infraction and consequence types over time. Across time, Minor Nonviolence[3] remains the most common infraction category, accounting for 73-79% of all infractions annually, though its share has gradually declined since the pandemic. At the same time, the share of Minor Violence and Weapons, Truancy, and Major Nonviolence each increased by 1-3 percentage points from the pre-pandemic period to 2022/23. Drugs and Alcohol and Major Violence and Weapons infractions remained steady, representing about 1% of infractions throughout the time frame of our analysis.

Looking at the use of different types of consequences for students' infractions, also presented in Figure 2, we observe that In-School Suspension (ISS) remains the most common

[3] Minor Nonviolence encompasses the following infractions: disorderly conduct, insubordination, cellphone, and "other." Minor Violence and Weapons includes explosives, knife, fighting, and student assault. Major Nonviolence includes cyberbullying, PDA, tobacco, harassment, bullying, theft, and vandalism. Major Violence and Weapons includes club, staff assault, gangs, terroristic threats, and guns.

disciplinary action, making up between 36 to 39% of the disciplinary actions across all years. The use of out-of-school suspension (OSS), Expulsion, and alternative learning environments (ALE) referrals dipped during the pandemic, falling from 17% in pre-pandemic years to 14% in 2020/21, likely due to the shift to remote learning, before returning to pre-pandemic levels in 2021/22 and 2022/23 as students fully returned to in-person instruction. Meanwhile, the use of Warnings and No Action was more variable early on but has stabilized at 8% since 2020/21.

Figure 2: *Distribution of Infractions and Consequences Over Time*

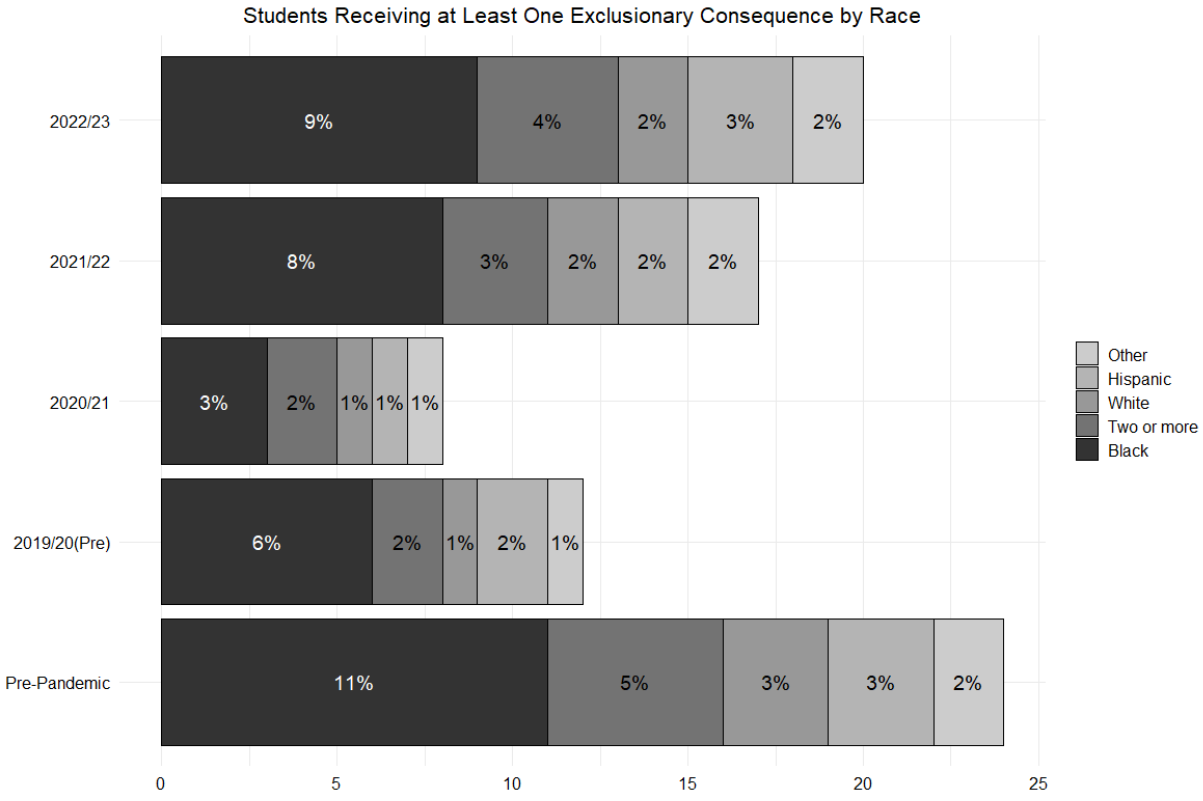


Note: Major Violence and Weapons and Drugs, and Alcohol represented each 1% of infractions across all years, and so their percentages are not displayed on the graph. The Consequences figure proportions do not add to 100% because it includes only the consequence types analyzed in this study; other less frequent categories were excluded from the graph.

We next study, descriptively, the presence of racial disparities in the use of exclusionary discipline. Figure 3 displays the percentage of students receiving at least one OSS, Expulsion, or ALE referral by race and school year. Across all years, Black students receive these more severe consequences at disproportionately higher rates than their peers. In the pre-pandemic years, 11%

of Black students received at least one OSS or expulsion, a significantly higher rate than other racial groups (5% of Hispanic students and 3% of White students). Although the overall number of disciplinary infractions declined in 2020/21 with the pandemic, 3% of Black students still received an exclusionary consequence, compared to 1% of White students. Post-pandemic, rates for Black students rose again, reaching 9% in 2022-23, substantially higher than for White (2%) and Hispanic (3%) students.

Figure 3: *Percentage of Students with at Least One Exclusionary Consequence (OSS or Expulsion), by Race*



Note: We exclude the 2019/20 (During) period, given that all schools were closed for in-person learning and the use of OSS was unlikely.

Infractions

We next study the relationship between different types of infractions students commit and school characteristics using logistic regression models as described in Section 3. The unit of observation is at the student-year infraction level, meaning each student can contribute multiple

observations if they appear in multiple years and/or commit multiple infractions. Tables 2 and 3 display the odds ratios from logistic regression models, predicting the likelihood of a reported infraction as a function of 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[4]. We compute robust standard errors to take into account the fact that students can contribute multiple observations.

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. 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 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. However, in models predicting individual infraction categories (e.g., Drugs and Alcohol or Truancy), the reference group includes all other infraction types.

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 During," March–December 2020) periods; and the subsequent school years—2020/21, 2021/22, and 2022/23—are analyzed separately. Given the significant school-interrupting and declining number of recorded infractions during the school closures of the pandemic period in the year 2019/20, we exclude this time frame from our analysis.

[4] 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.

Table 1 shows that in the Pre-Pandemic years, students in schools with a higher percentage of Limited English Proficiency (LEP) students had significantly higher odds of committing a Drugs and Alcohol (D/A), compared with all other infraction types. However, this relationship reversed beginning in the 2019/20 school year, with students in these schools showing lower odds of D/A infractions in subsequent years. In contrast, students in schools with a higher percentage of Special Education (SPED) students consistently exhibited lower odds of D/A infractions across all years.

For truancy infractions, students in schools with higher percentages of Free and Reduced Lunch (FRL) students and White students had significantly lower odds of infractions beginning in 2020/21. Interestingly, before the pandemic and in the early months of 2019/20, students in schools with a higher proportion of LEP students had much higher odds of truancy infractions (OR= 4.795 pre-pandemic; OR= 4.368 2019/20 (pre)) compared to students in schools with fewer LEP students, keeping all else equal. However, these odds declined notably from 2020/21 through 2022/23.

The relationship between SPED concentration and truancy infractions also shifted over time. While students in schools with more SPED students had lower odds of truancy infractions pre-pandemic and in 2020/21, this trend reversed in 2021/22, when the odds rose sharply (OR= 16.41), remaining elevated in 2022/23 (OR= 5.113). This result might represent the difficulty of returning to in-person learning in schools with higher shares of students with disabilities (Dvorsky et al., 2023). Many students with disabilities saw their IEPs interrupted during the pandemic, which could have resulted in increased absences and truancy post-pandemic.

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

	Drugs and Alcohol					Truancy				
	Pre-Pandemic	**2019/20 (Pre)**	**2020/21**	**2021/22**	**2022/23**	**Pre-Pandemic**	**2019/20 (Pre)**	**2020/21**	**2021/22**	**2022/23**
School FRL (%)	0.835	0.092***	2.545	0.532	0.455	0.877	0.771	0.019***	0.261***	0.040***
	(0.240)	(0.066)	(1.828)	(0.288)	(0.201)	(0.093)	(0.237)	(0.006)	(0.057)	(0.009)
School LEP (%)	6.978***	0.165**	0.048***	0.194**	0.082***	4.795***	4.368***	0.074***	0.058***	0.129***
	(3.381)	(0.129)	(0.056)	(0.151)	(0.046)	(0.836)	(1.220)	(0.040)	(0.019)	(0.038)
School White (%)	1.944	0.049***	0.276	0.451	0.107***	0.797	0.797	0.007***	0.011***	0.001***
	(0.812)	(0.037)	(0.241)	(0.295)	(0.054)	(0.129)	(0.242)	(0.003)	(0.003)	(0.000)
School SPED (%)	0.002***	0.049**	0.030**	0.006***	0.024***	0.030***	0.377	0.052***	16.41***	5.113***
	(0.002)	(0.075)	(0.051)	(0.008)	(0.023)	(0.011)	(0.246)	(0.038)	(7.617)	(2.324)
N	419,483	158,985	97,475	200,065	232,765	423,114	159,120	100,099	197,826	220,153
R^2	0.0979	0.127	0.109	0.106	0.114	0.193	0.207	0.211	0.213	0.214

Note: Results are presented as odds ratios. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p <0.1

All models control for order of infraction, student grade level, school percent FRL, percent LEP, percent SPED, percent White students, total school enrollment, geographic region, and district fixed effects. School years are grouped as follows: 2017/18 and 2018/19 are categorized as pre-pandemic ("Pre-Pandemic"); the 2019/20 school year is divided into pre-pandemic ("2019/20 (Pre)," August 2019–February 2020) and during-pandemic ("2019/20 (During)," March–December 2020) periods; and the subsequent school years—2020/21, 2021/22, and 2022/23—are analyzed separately. Results for the "2019/20 (During)" period are omitted due to insufficient sample size.

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 a certain group of infractions.

The results for Major Violence and Weapons indicate that students attending schools with a higher percentage of FRL students were significantly more likely to be reported for major violent infractions compared to minor ones in the 2019/20 (Pre) year (OR= 22.48). In 2020/21 forward, these students were still more likely to receive a major violence and weapons infraction compared to a minor one, but this likelihood decreased significantly. Similarly, students who attend schools with higher percentages of LEP students or White students had higher odds pre- and post-pandemic of receiving a major violence and weapon infraction over a minor one.

For major nonviolence infractions compared to minor nonviolence infractions, students who attend schools with a higher percentage of FRL or SPED students had lower odds pre- and post-pandemic. Students attending schools with a higher percentage of LEP and White students had higher odds pre-pandemic (OR = 1.789 and OR = 1.326), but these odds decreased to lower odds in the years following the pandemic.

Overall, the results in Tables 1 and 2 indicate that patterns of infractions, across schools with different characteristics within districts, remain throughout the pandemic, except schools with a higher proportion of FRL, SPED, and LEP students. For schools with higher proportions of FRL students, we observed an increased likelihood of major violence and weapons infractions, compared with pre-pandemic years. Schools serving higher shares of special education students experienced higher odds of truancy post-pandemic. Finally, in schools with higher proportions of LEP students, we observed a reduced likelihood of incidents related to Drugs and Alcohol, Truancy, and Major Nonviolence infractions.

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

	Major Violence and Weapons					Major Nonviolence				
	Pre-Pandemic	**2019/20 (Pre)**	**2020/21**	**2021/22**	**2022/23**	**Pre-Pandemic**	**2019/20 (Pre)**	**2020/21**	**2021/22**	**2022/23**
School FRL (%)	1.512	22.48***	4.629**	4.016***	3.068***	0.676***	0.887	0.379***	0.601***	0.237***
	(0.390)	(14.350)	(3.552)	(1.931)	(1.178)	(0.069)	(0.219)	(0.091)	(0.108)	(0.040)
School LEP (%)	15.99***	0.884	8.594*	4.352**	5.754***	1.789***	0.368***	0.239***	0.538**	0.583**
	(7.445)	(0.565)	(10.190)	(2.668)	(2.551)	(0.365)	(0.126)	(0.102)	(0.152)	(0.138)
School White (%)	3.659***	14.85***	7.245**	12.67***	7.484***	1.326*	1.833**	0.895	0.846	0.229***
	(1.282)	(9.405)	(6.335)	(7.016)	(3.301)	(0.204)	(0.501)	(0.271)	(0.185)	(0.047)
School SPED (%)	0.015***	0.14	0.89	5.728*	0.243*	0.412***	0.251***	0.573	0.139***	0.135***
	(0.013)	(0.195)	(1.592)	(5.901)	(0.197)	(0.135)	(0.131)	(0.324)	(0.055)	(0.046)
N	35,987	14,910	9,708	23,131	26,891	368,486	151,669	95,873	172,672	198,900
R^2	0.0777	0.0844	0.0938	0.0776	0.0695	0.0572	0.0691	0.0845	0.0684	0.0591

Note: Results are presented as odds ratios. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p <0.1

All models control for order of infraction, student grade level, school percent FRL, percent LEP, percent SPED, percent White students, total school enrollment, geographic region, and district fixed effects. School years are grouped as follows: 2017/18 and 2018/19 are categorized as pre-pandemic ("Pre-Pandemic"); the 2019/20 school year is divided into pre-pandemic ("2019/20 (Pre)," August 2019–February 2020) and during-pandemic ("2019/20 (During)," March–December 2020) periods; and the subsequent school years—2020/21, 2021/22, and 2022/23—are analyzed separately. Results for the "2019/20 (During)" period are omitted due to insufficient sample size.

Consequences

We next investigated 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); out-of-school suspension (OSS), expulsion, a referral to an alternative learning environment (ALE) or in-school suspension (ISS); 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 most pronounced in 2022/23, when the odds ratio (OR) reaches 1.779. Indicating that Black students' odds of receiving exclusionary discipline for the same infraction were 1.7 times higher than 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 lower odds of exclusionary discipline in all years when district fixed effects are included, except for 2022/23, when the association reverses slightly (OR = 1.015). In contrast, schools with a higher proportion of Black students consistently show increased odds of exclusionary discipline across nearly all models and years. The only exception is in 2022/23, when the relationship becomes 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)**		**2020/21**		**2021/22**		**2022/23**	
	1	2	1	2	1	2	1	2	1	2
Black	1.565***	1.04	1.653***	0.930**	1.470***	1.022	1.582***	0.903***	1.779***	0.927***
	(0.019)	(0.031)	(0.034)	(0.028)	(0.038)	(0.037)	(0.028)	(0.023)	(0.028)	(0.021)
Hispanic	0.882***	1.007	0.974	0.939	1.122***	0.936	1.017	0.919**	0.945**	0.846***
	(0.019)	(0.052)	(0.033)	(0.045)	(0.043)	(0.049)	(0.028)	(0.034)	(0.024)	(0.029)
Two or More	1.290***	1.219***	1.168***	0.944	1.341***	1.158**	1.162***	0.979	1.228***	0.947
	(0.04)	(0.071)	(0.06)	(0.053)	(0.072)	(0.067)	(0.043)	(0.039)	(0.04)	(0.033)
Other	0.894**	1.029	0.867*	0.995	1.338***	1.208**	0.903*	0.943	0.679***	0.806***
	(0.044)	(0.097)	(0.063)	(0.084)	(0.095)	(0.1)	(0.051)	(0.062)	(0.037)	(0.05)
% Hispanic	1.068***	0.999	1.128***	0.985**	1.065***	0.958***	1.070***	0.935***	1.149***	1.015**
	(0.003)	(0.001)	(0.005)	(0.007)	(0.007)	(0.011)	(0.005)	(0.007)	(0.005)	(0.007)
% Black	1.021***	1.003**	1.013***	1.013***	1.024***	1.022***	1.036***	1.015***	1.018***	0.999
	(0.000)	(0.001)	(0.000)	(0.001)	(0.002)	(0.004)	(0.001)	(0.001)	(0.001)	(0.001)
District FE		X		X		X		X		X
N	318,847	108,479	135,960	135,519	87,134	86,862	159,679	159,383	186,183	185,685
R^2	0.164	0.247	0.193	0.293	0.179	0.269	0.211	0.302	0.201	0.29

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p <0.1

The outcome variable is a binary indicator 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. All models control for infraction type, order of infraction, student race, grade level, FRL status, SPED status, LEP status, school percent Hispanic-to-White ratio, percent Black-to-White ratio, school-level FRL percentage, SPED percentage, overall minority percentage, and school region. School years are grouped 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. Results for the "20 During" period are omitted due to insufficient sample size.

Warnings.

On the other end of the disciplinary spectrum, we examine racial disparities in the use of less severe consequences, specifically warnings 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 months preceding the pandemic (2019-20-Pre), it appeared that within the district, these students had higher odds of receiving warnings or no action (OR = 1.083 and OR = 1.174). But, as the pandemic progressed, the pattens returned to those observed pre-pandemic. 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 multirace students had higher odds of receiving warnings in 2020/21 and 2021/22 (OR = 1.180 & OR = 1.163). 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 lower odds of student warnings from Pre-Pandemic to 2020/21. After that, there were no differences between schools with higher and lower percentages of Hispanic students. When district fixed effects are added, we see slightly lower odds in the Pre-Pandemic years (OR= 9.30), which jump to slightly higher odds in 2019/20 (Pre) (OR = 1.084), and again in 2022/23 (OR = 1.120). Schools with higher percentages of Black students went back and forth on slightly lower and higher odds 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)**		**2020/21**		**2021/22**		**2022/23**	
	1	2	1	2	1	2	1	2	1	2
Black	0.878***	0.991	1.039	1.083*	0.856***	0.842***	0.915**	0.976	0.785***	0.989
	(0.038)	(0.061)	(0.035)	(0.052)	(0.039)	(0.055)	(0.033)	(0.049)	(0.026)	(0.045)
Hispanic	0.745***	1.052	0.909*	1.174**	0.752***	1.010	0.738***	0.846**	0.709***	0.938
	(0.061)	(0.114)	(0.052)	(0.090)	(0.055)	(0.096)	(0.042)	(0.065)	(0.035)	(0.062)
Two or More	0.577***	0.973	0.813**	1.025	0.920	1.180*	0.975	1.163**	0.850***	1.043
	(0.079)	(0.140)	(0.068)	(0.095)	(0.084)	(0.118)	(0.069)	(0.087)	(0.051)	(0.067)
Other	0.799	1.019	1.024	1.236	0.826	1.265	0.826*	1.078	0.535***	0.885
	(0.141)	(0.199)	(0.116)	(0.164)	(0.116)	(0.198)	(0.091)	(0.133)	(0.062)	(0.113)
% Hispanic	0.832***	0.930***	0.898***	1.084***	0.892***	0.981	0.997	0.999	1.006	1.120***
	(0.020)	(0.025)	(0.014)	(0.020)	(0.017)	(0.025)	(0.010)	(0.017)	(0.009)	(0.016)
% Black	1.008***	1.008**	0.990***	0.969***	1.014***	1.022*	1.003*	1.017***	0.991***	0.986***
	(0.001)	(0.004)	(0.002)	(0.007)	(0.002)	(0.013)	(0.002)	(0.005)	(0.002)	(0.003)
District FE		X		X		X		X		X
N	108,888	86,958	135,960	105,505	87,134	68,932	159,679	138,987	186,183	162,023
R^2	0.0195	0.196	0.0358	0.245	0.0325	0.230	0.0229	0.166	0.0304	0.196

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p <0.1

The outcome variable is a binary indicator for whether a student received at least one warning or no action consequence during the school year. All models control for infraction type, order of infraction, student race, grade level, FRL status, SPED status, LEP status, school percent Hispanic-to-White ratio, percent Black-to-White ratio, school-level FRL percentage, SPED percentage, overall minority percentage, and school region. School years are grouped 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. Results for the "20 During" period are omitted due to insufficient sample size.

5. Conclusion

This study provides insights into the disparities in school discipline 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, n.d.; 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 (n.d.) 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.

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 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 (Adukia, Feigenberg, & Momeni, 2025).

References

Acosta, J., Chinman, M., Ebener, P., Malone, P. S., Phillips, A., & Wilks, A. (2019). Evaluation of a whole-school change intervention: Findings from a two-year cluster-randomized trial of the restorative practices intervention. Journal of Youth and Adolescence, 48(5), 876–890. https://doi.org/10.1007/s10964-019-01013-2

Adukia, A., Feigenberg, B., & Momeni, F. (2025, February 1). *From retributive to restorative: An alternative approach to justice in schools* (Stone Center Working Paper No. 25-06). The University of Chicago. https://doi.org/10.2139/ssrn.5141787

American Academy of Pediatrics Committee on School Health (2003). Out-of-school suspension and expulsion. American Academy of Pediatrics Committee on School Health. *Pediatrics*, *112*(5), 1206–1209. https://doi.org/10.1542/peds.112.5.1206

Anderson, K. P., & Dhaliwal, T. K. (n.d.). Student discipline during COVID-19: Infractions and consequences during a time of crisis and change [Manuscript submitted for publication]. American Institutes for Research; Michigan State University.

Anderson, K. P., & McKenzie, S. (2023). Discipline Disproportionality and Policy Reform in Arkansas: Effects of State-Wide Limits on Exclusionary Discipline in Elementary School. *Journal of Education for Students Placed at Risk (JESPAR)*, *29*(3), 207–265. https://doi.org/10.1080/10824669.2023.2168668

Anderson, K. P., McKenzie, S. C., & Wilson, T. (2023). Arkansas Student Discipline Report. *Arkansas Education Reports.* Retrieved from https://scholarworks.uark.edu/oepreport/105

Anderson, K. P., & Ritter, G. W. (2017). Disparate use of exclusionary discipline: Evidence on inequities in school discipline from a U.S. state. Education Policy Analysis Archives, 25(49), 1–30. https://doi.org/10.14507/epaa.25.2787

Arcia, E. (2006). Achievement and enrollment status of suspended students: Outcomes in a large, multicultural school district. Education and Urban Society, 38(3), 359–369. https://doi.org/10.1177/0013124506286947

Barrett, N., McEachin, A., Mills, J. N., & Valant, J. (2021). Disparities in student discipline by race and family income. *Journal of Human Resources*. 56 (3) 711-748. https://doi.org/10.3368/jhr.56.3.0118-9267R2

Cobb-Clark, D., 2010. Disadvantage across the generations: what do we know about social and economic mobility in Australia? Econ. Rec. 86, 13–17. https://doi.org/10.1111/j.1475-4932.2010.00661.x

Dvorsky, M. R., Shroff, D., Larkin Bonds, W. B., Steinberg, A., Breaux, R., & Becker, S. P. (2023). Impacts of COVID-19 on the school experience of children and adolescents with special educational needs and disabilities. Current opinion in psychology, 52, 101635. https://doi.org/10.1016/j.copsyc.2023.101635

Goldhaber, D., Kane, T. J., Patterson, T., Morton E., & Staiger, D. O. (2022). The consequences of remote and hybrid instruction during the pandemic. Center for Analysis of Longitudinal Data in Education Research (CALDER). https://caldercenter.org/publications/consequences-remote-and-hybrid-instruction-during-pandemic

González, T., Sattler, H., & Buth, A. J. (2019). New directions in whole-school restorative justice implementation. Conflict Resolution Quarterly, 36(3), 207–220. https://doi.org/10.1002/crq.21236

Gregory, A., Skiba, R. J., & Noguera, P. A. (2010). The achievement gap and the discipline gap: Two sides of the same coin? Educational Researcher, 39(1), 59–68. https://doi.org/10.3102/0013189X09357621

Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E., & Liu, J. (2022). Projecting the potential impact of COVID-19 school closures on academic achievement. Educational Researcher, 49(8), 549–565. https://doi.org/10.3102/0013189X20965918

Mallett, C. A. (2016). The school-to-prison pipeline: A critical review of the punitive paradigm shift. Child and Adolescent Social Work Journal, 33(1), 15–24. https://doi.org/10.1007/s10560-015-0397-1

Patrinos , H., Vegas, E., & Carter-Rau, R. (2023, August 23). An Analysis of COVID-19 Student Learning Loss. *Oxford Research Encyclopedia of Economics and Finance.* https://doi.org/10.1093/acrefore/9780190625979.013.893

Polikoff, M., Clay, I., & Silver, D. (2023). Beyond test scores: Broader academic consequences of the Covid-19 pandemic on American students. Center on Reinventing Public Education.

Ritter, G. W., & Anderson, K. P. (2018). Examining Disparities in Student Discipline: Mapping Inequities from Infractions to Consequences. *Peabody Journal of Education*, *93*(2), 161–173. https://www.jstor.org/stable/48543991

Welsh, R. O. (2022). School Discipline in the Age of COVID-19: Exploring Patterns, Policy, and Practice Considerations. *Peabody Journal of Education*, *97*(3), 291–308. https://doi.org/10.1080/0161956X.2022.2079885

U.S. Department of Education, Office for Civil Rights. (2014). Civil Rights Data Collection: Data snapshot (school discipline). https://ocrdata.ed.gov/assets/downloads/CRDC-School-Discipline-Snapshot.pdf

Weaver, J. L., & Swank, J. M. (2020). A case study of the implementation of restorative justice in a middle school. RMLE Online, 43(4), 1–9. https://doi.org/10.1080/19404476.2020.1733912

Wilson, M. A. F., Yull, D. G., & Massey, S. G. (2020). Race and the politics of educational exclusion: Explaining the persistence of disproportionate disciplinary practices in an urban school district. Race Ethnicity and Education, 23(1), 134–157. https://doi.org/10.1080/13613324.2018.1511535

Zamarro, G. & Camp, A. (2025). "COVID and Schools," in Live Handbook of Education Policy Research, in Douglas Harris (ed.), Association for Education Finance and Policy. https://livehandbook.org/k-12-education/miscellaneous/covid-and-schools/.

Appendix

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

	Pre-Pandemic		**2019/20 (Pre)**		**2020/21**		**2021/22**		**2022/23**	
	1	2	1	2	1	2	1	2	1	2
Black	1.657***	1.102***	1.666***	0.968	1.419***	1.022	1.424***	0.949***	1.441***	0.927***
	(0.024)	(0.024)	(0.023)	(0.021)	(0.026)	(0.027)	(0.019)	(0.018)	(0.018)	(0.017)
Hispanic	1.087***	0.862***	1.325***	0.936**	1.306***	0.892***	1.449***	0.973	1.221***	0.924***
	(0.026)	(0.030)	(0.028)	(0.029)	'(0.033)	(0.032)	'(0.027)	(0.026)	(0.022)	(0.023)
Two or More	1.509***	1.134***	1.214***	0.957	1.277***	1.057	1.305***	1.038	1.251***	1.005
	(0.057)	(0.048)	'(0.040)	(0.036)	(0.047)	(0.044)	(0.034)	(0.031)	(0.029)	(0.027)
Other	1.527***	1.272***	1.770***	1.287***	1.968***	1.203***	2.294***	1.364***	1.526***	1.162***
	(0.077)	(0.076)	(0.075)	(0.069)	(0.095)	(0.072)	(0.086)	(0.065)	(0.053)	(0.050)
% Hispanic	1.066***	1.048***	1.156***	0.992	1.058***	0.896***	1.086***	0.868***	1.275***	1.025***
	(0.005)	(0.008)	(0.006)	(0.008)	(0.006)	(0.009)	(0.005)	(0.006)	(0.006)	(0.008)
% Black	1.009***	1.003**	1.004***	1.012***	1.024***	1.074***	1.021***	1.004***	1.024***	1.008***
	(0.001)	(0.001)	(0.000)	(0.001)	(0.002)	(0.005)	(0.001)	(0.002)	(0.001)	(0.001)
District FE		X		X		X		X		X
N	108,888	108,106	135,960	135,203	87,134	86,741	159,679	159,104	186,183	185,458
R^2	0.0942	0.221	0.131	0.287	0.123	0.279	0.141	0.299	0.158	0.303

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p <0.1

The outcome variable is a binary indicator for whether a student received at least one out-of-school suspension (OSS), one alternative learning environment (ALE) referral, one expulsion, or one in-school suspension (ISS) during the school year. All models control for infraction type, order of infraction, student race, grade level, FRL status, SPED status, LEP status, school percent Hispanic-to-White ratio, percent Black-to-White ratio, school-level FRL percentage, SPED percentage, overall minority percentage, and school region. School years are grouped 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. Results for the "20 During" period are omitted due to insufficient sample size.