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A Public Health Examination of the Discipline Gap

by Karishma Simone Furtado

A dissertation presented to
The Graduate School
of Washington University in
partial fulfillment of the
requirements for the degree
of Doctor of Philosophy

May 2020

St. Louis, Missouri

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Karishma S. Furtado

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Abstract of the Dissertation

A Public Health Examination of the Discipline Gap

By

Karishma Furtado

Doctor of Philosophy in Public Health Sciences

Washington University in St. Louis, 2020

Professor Ross Brownson, Chair

Education is often positioned as the great equalizer in the United States—a cure all for many social ills, from poverty, to family instability, to exposure to violence. However, disadvantaged students tend, on average, to get a lower quality education. One example of a barrier that impedes educational equity is the discipline gap, or the disproportionate rate of exclusionary discipline like suspension and expulsion experienced by students with disabilities and those from historically disadvantaged racial, ethnic, and gender subgroups. Removing a student from class for punitive reasons puts them at greater risk of academic disengagement, a diminished sense of belonging and support in the academic environment, and additional suspension in the future. All of these consequences may also act as intermediaries between exclusionary discipline and its less proximal outcomes, including lower academic performance, increased risk of dropout, and greater likelihood of interacting with the juvenile justice system. This dissertation applies a public health lens to the discipline gap, examining determinants, outcomes, and interventions. Following a grounding in important context and concepts, I use secondary data from the 2015-16 Civil Rights Data Collection, along with the tools of social epidemiology, to take an intersectional approach to examining three common risk factors of the discipline gap: race, sex, and disability status. With the fuller understanding of the risk faced by student sub-populations, I then use secondary data from the Education Longitudinal Study:2002 to apply a life course perspective to the outcomes of the discipline gap by looking at how suspension

in secondary school is related to voting behavior as an adult. Finally, borrowing from a popular framework for examining health policy, I use data from 15 interviews with school district leaders and advocates to study the barriers and facilitators that influenced school district leaders' decisions to ban OSS—or not—in response to a community advocacy campaign. I close with a comprehensive reflection on the implications of our three studies, both individually and collectively.

Chapter 1: Introduction

1.1 Introduction and Significance

Education is often positioned as the great equalizer in the United States—a silver bullet that can heal all manner of injury, from poverty, to family instability, to exposure to violence, and place students on the path to upward mobility. But disadvantaged students tend, on average, to get a lower quality education.¹⁻³

One example of a barrier that impedes educational equity is the discipline gap. The term “discipline gap” refers to race-based disproportionalities in the application of disciplinary procedures, especially exclusionary discipline measures like suspension and expulsion, to students with disabilities and those from historically disadvantaged racial, ethnic, and gender subgroups.⁴ In the 2013-14 school year, Black students made up 15.5% of public school enrollment but 34.0% of those suspended once, 41.9% of those suspended multiple times, and 30.9% of those expelled.⁵ The disproportionalities were even larger among Black students in pre-kindergarten and early childhood education programs.⁵ (See **Figure 1.1**) The discipline gap was first described in 1975,⁶ and it has since grown, documented consistently in educational institutions of all sizes, structures, and geographies.⁷⁻⁹

Despite its longstanding presence in our education system, the scope and determinants of the discipline gap are not fully understood. The discipline gap is conventionally used to refer to race-based disproportionalities in discipline. However, we know that other traits, like sex and disability status, are strongly associated with being disciplined as well. For a multitude of reasons, including the unavailability of appropriately structured data; a culture of analysis in which controlling for certain “immutable” characteristics (like race, sex, and disability) instead of exploring their complexity is considered acceptable; and the siloed nature of the discourses on those characteristics;

we do not have a clear understanding of how they combine to shape students' disciplinary experiences.

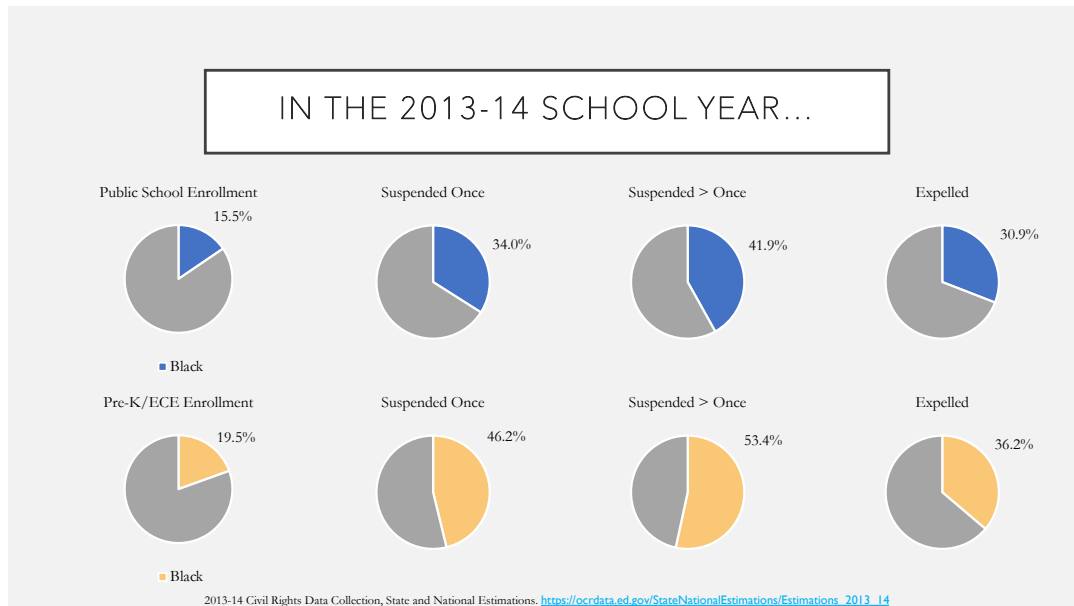


Figure 1.1 The over-disciplining of Black students overall and among pre-K and early childhood education enrollments

A large body of literature attempts to explain why the Black-White discipline gap exists. It has identified overlapping causes of the discipline gap that we can roughly sort into two fundamental categories: (1) a higher rate of behavior among Black students that merits discipline¹⁰⁻¹² and (2) dynamics that inappropriately cause behavior by Black students to be considered more worthy of discipline.¹³⁻¹⁵ The first category can be theoretically further subdivided into (1a) studies that suggests that Black students are fundamentally more likely to misbehave (an assertion for which there is little empirical evidence) and (1b) studies that point to structural differences in opportunity (e.g., unmet essential needs, trauma, poor school climate) as the root causes of misbehavior. The second category contains literature describing implicit bias among educators, inadequate discipline policies, and the other dynamics that cause Black students to be suspended more often, more harshly, and for more subjective reasons than their White classmates. These two categories

undoubtedly feed back on one another. For example, perceptions of unfairness within the school setting, for example, has been shown to lead to more aggressive behavior.¹⁶

Considerable work from the fields of education, psychology, criminal justice, and social work sheds light on the unintended consequences of exclusionary discipline. Removing a student from class for punitive reasons puts them at greater risk of academic disengagement,¹⁷⁻²⁰ a diminished sense of belonging and support in the academic environment,²¹⁻²³ and additional punishment in the future.²⁴⁻

²⁷ All of these consequences may also act as intermediaries between exclusionary discipline and its less proximal outcomes, including lower academic performance,²⁸⁻³¹ increased risk of dropout,³²⁻³⁵ and greater likelihood of interacting with the juvenile justice system.^{14,36-39} Nascent work suggests discipline can (further) destabilize households that are on the brink or in the midst of economic distress.⁴⁰ We also have reason to believe that the effects of exclusionary discipline may extend into adulthood and include criminal activity, victimization, and incarceration.^{41,42} Though estimates of the cost of the discipline gap are emergent, early work finds that, nationally, suspensions in 10th grade led to over 67,000 dropouts among the class of 2004 and cost over \$35 billion in social impact.⁴³

Due to the significant impact of disproportionate discipline on academic and life course outcomes, work is underway across the country to identify interventions that foster disciplinary equity.

Borrowing from the U.S. Department of Education and the U.S. Department of Justice's 2014 jointly-released, first-ever national guidelines on school discipline and climate for public elementary and secondary schools, we can conceptualize the mechanisms behind closing the discipline gap as falling into three categories:⁴⁴ (1) interventions that seek to close the gap by improving school climate and thereby encourage prevention; (2) interventions that seek to close the gap by setting clearer and more appropriate expectations and consequences; and (3) interventions (often policies)

that seek to close the gap by enhancing educator commitment to and capacity for equity and continuous improvement.

The study of the discipline gap has happened primarily in the fields of education, psychology, and criminal and juvenile justice. Few studies have examined the discipline gap as a public health problem. However, health and education are strongly and bi-directionally related.^{45–50} Healthy children learn better, and more educated children and adults achieve better health. Anything that compromises one's education compromises one's health and vice versa. Anything that systematically and disproportionately damages one group's education lays the groundwork for health disparities among that group. Such health disparities abound in the United States.⁵¹ Thus education equity in general and the discipline gap as an example of education *inequity* are matters of public health importance. Acknowledging the connection between education and health, and particularly health equity, the *Community Guide* has issued several recommendations related to youth education and health in its health equity domain.⁵² Moreover, the field of public health has deep roots in social justice.⁵³ Discourses within its disciplines (e.g., social epidemiology, health policy) continue to examine how systemic inequality in our society makes life for certain sub-populations harder, unhealthier, and ultimately shorter than it should be. By viewing the discipline gap as a public health issue, we can bring public health tools to bear on its closing. The social determinants of health framework,⁵⁴ for example, has much to add to the growing conversation around how the conditions in which students live, learn, work, and play explain their behaviors and disciplinary outcomes. Within its five domains (**Figure 1.2**) of economic stability, education, health and health care, neighborhood and built environment, and social and community context, the framework makes space for the damaging effects of prejudice on health, which is highly applicable to our

understanding of the discipline gap. It also provides a structure for imagining how we must plan and work differently to close the discipline gap.

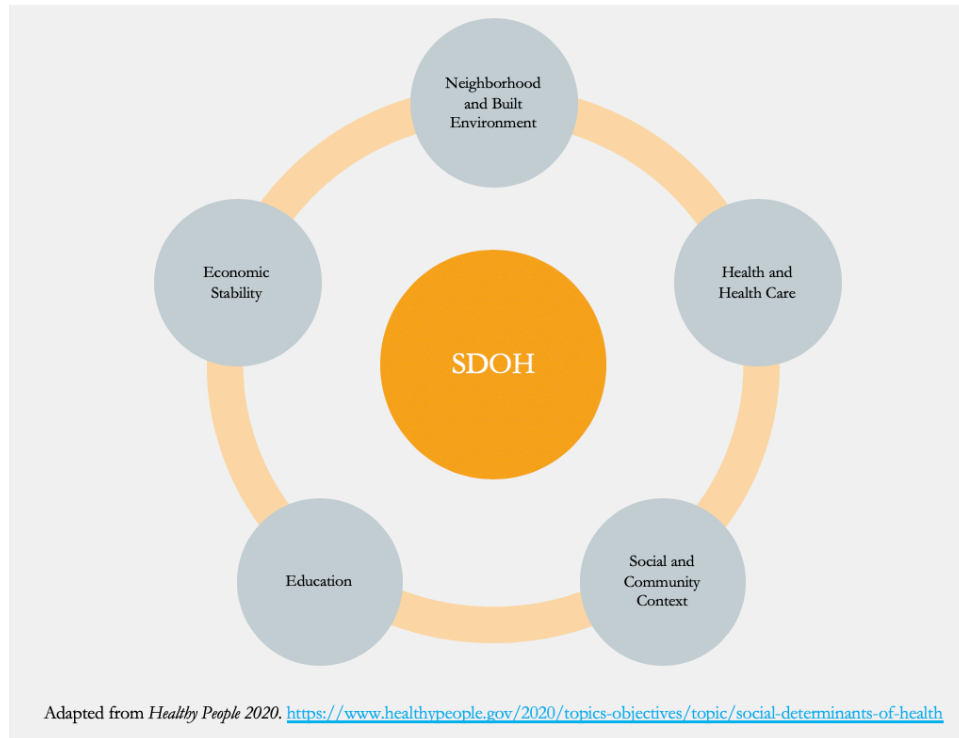


Figure 1.2 The Social Determinants of Health (SDOH) Framework.

1.2 Structure of This Dissertation

This dissertation will apply a public health lens to the discipline gap, examining determinants, outcomes, and interventions. Following a grounding in important context and concepts (Chapter 2), I will use the tools of social epidemiology to take an intersectional approach to examining three common risk factors of the discipline gap: race, sex, and disability status (Chapter 3). With the fuller understanding of the risk faced by student sub-populations, I will then apply a life course perspective to the outcomes of the discipline gap by looking at how suspension in secondary school is related to voting behavior as an adult (Chapter 4). Finally, borrowing from a popular framework for examining health policy, I will study the barriers and facilitators that influenced school district leaders' decisions to ban OSS—or not—in response to a community advocacy campaign (Chapter

5). I will close with a comprehensive reflection on the implications of our three studies, both individually and collectively (Chapter 6).

1.3 Specific Aims

To address some of the gaps described above, this dissertation has the following specific research aims:

1. Challenge the single risk factor approach to traditional epidemiology and the study of the discipline gap and instead apply the tools of social epidemiology to take an intersectional approach to understanding how race, sex, and disability status simultaneously effect risk of OSS.
2. Replicate existing research on the link between youth suspension and adult civic engagement and extend it to include a broader conceptualization of social control in school and a more nuanced operationalization of suspension.
3. Document barriers to and facilitators of district-level decisions to ban OSS and propose a framework for assessing district readiness for such policy work.

By accomplishing these aims, this research will contribute to a fuller understanding of potential unintended ripple effects of the discipline gap along its full existential arc, from determinants to outcomes to interventions. With the findings of this dissertation, we will be able to make a more compelling, evidence-based case for improving school discipline policies, making our schools more equitable, and thereby enhancing the health and well-being of marginalized students.

Chapter 2: Background and Key Concepts

2.1 Schools as Disciplinarians

A central component of the American history and philosophy of public education is the fundamental idea that schools should not only educate but discipline bodies and minds.⁵⁵ As a result, the education system in the United States has consistently been designed to regulate individual and group behavior in the interest of advancing the prevailing moral order and its understanding of what is good, right, and virtuous.⁵⁵ A school's authority to discipline students stems largely from the common law doctrine of *in loco parentis*, which asserts that a school stands in the place of parents during the time when a student is on its campus. Schools have the right—and arguably the responsibility—to discipline students as a result.⁵⁶

The parameters of school discipline are codified in discipline policies that are largely set at the school district level.⁵⁷ Approximately 8% of education funding in the United States comes from the federal government; with the remainder coming from state and local funds.⁵⁸ Every state has a department of education and laws regulating finance, the hiring of various school personnel, attendance, curriculum, and discipline. States also have sizeable discretion when it comes to defining their criminal code. In 2017, for example, the state of Missouri reclassified causing emotional distress and fighting in school from a misdemeanor to a class A felony.⁵⁹ Authority is further divided among school districts managed by a school board representing the local community.⁹ School boards in turn delegate varying amounts of autonomy to individual schools with some exceptions for general rules, including those pertaining to health and safety. School discipline is among the areas that are largely regulated at the school district level with some authority given to individual schools to modify policies.

However, on occasion, federal-level policies have been passed that have nationwide school discipline implications. The most notable example of this is the Gun Free Schools Act of 1994, which formally initiated the launch of the zero tolerance era in schools. ^{4,60}

2.2 Exclusionary Discipline

Exclusionary discipline refers to a school disciplinary action that removes a student from his or her usual educational environment.⁶¹ The two most common forms of exclusionary discipline are suspension and expulsion. Suspensions can be further subdivided into in-school and out-of-school categories.

School administrators' use of out-of-school suspension began as a method of reducing student misbehavior in the 1960s and has been in use since that time.⁶² Out-of-school suspensions can range in length from one or a few days to a week or more. Students can be and often are suspended out-of-school multiple times in a given year or educational career.

Many educators, parents, and educational scholars and advocates have expressed concerns about the advisability of removing students from the classroom, suggesting that doing so might actually promote bad behavior by damaging students' sense of connection, fairness, and belonging in school and that such a response does little to address the underlying causes of the misbehavior.^{63,64}

Moreover, OSS often results in students being removed from school and left unsupervised, an outcome that scholars and advocates find counterproductive at best and actively harmful at worst.⁶² As a result, OSS today is used far less frequently than in-school suspension.⁶²

Due to the controversy over out-of-school suspension, especially pertaining to leaving students unsupervised, in-school suspensions have grown in popularity. In-school suspension programs

might vary from school district to school district (though policies set at the district level may be operationalized differently yielding an unintended degree of variability); however, these programs incorporate several common components including (a) the placement of the student upon arrival to school in a separate classroom away from their peers and regular educational environment, (b) a certified teacher, educational assistant, or both to oversee the student(s) in the in-school suspension classroom, and (c) lunch in isolation.⁶⁵ Although in-school suspension is extremely widespread, it has been plagued with controversy of its own, much of it stemming from civil rights violations, including violations of students' 5th and 14th amendment-rights to due process.⁶⁶

Expulsion refers to the removal or banning of a student from a school for an extended period of time, potentially indefinitely, due to a student persistently violating that institution's rules, or for a single offense of in extreme cases. Under some circumstances, such as bringing a weapon to school, expulsion is mandated by state or federal law. While expulsion has been a disciplinary option since the advent of public education, it became far more common during the tough-on-crime era of the 1970s-1990s.⁶⁷ From 1974 to 1998, expulsions across all grades nearly doubled.⁶⁷

The growing recognition of the harm caused by OSS, the inequities in the way it is used, and the need for less punitive alternatives, arguably make OSS of greater policy relevance than ISS as a target for advancing education equity. Therefore, the papers in this dissertation largely focus on the OSS discipline gap, its determinants, its outcomes, and its interventions. That being said, ISS is more frequently used and represents a greater absolute burden. Some research also suggests that it can damage academic performance, especially achievement in science, technology, engineering, and math (STEM) pathways.⁶⁸⁻⁷⁰

2.3 The Legacy of Zero Tolerance in School Discipline Policies

The culture of discipline in educational settings has changed profoundly over the years. Disciplinary systems today are much more formal, rigid, and regimented. Instead of principals and teachers dealing with misconduct on a case-by-case basis, considering the circumstances of the event, the specific students involved, and the repercussions for the overall safety of the school environment, many school districts now have zero tolerance policies that greatly limit discretion in individual cases, involve law enforcement personnel, and mandate removing students from school on the first offense for a variety of behaviors, such as bringing a weapon to school.⁷¹

These disciplinary policies began in the late 1980s and quickly gained momentum, fueled in large part by rising rates of juvenile arrests for violent crimes, a climate in which young people were increasingly seen as dangerous, George H.W. Bush's extension of the war on drugs, and the broken windows philosophy of crime prevention.⁷² In light of these trends, Congress applied the rhetoric and intention of tough-on-crime laws to the school environment and passed the Gun-Free Schools Act in 1994.⁷³ Zero tolerance policies proliferated in this era and expanded to encompass a wide range of misconduct much less harmful than bringing a weapon to school, like smoking or fighting.⁷¹

By the 1996–97 school year, 79% of schools had adopted zero tolerance policies for violence.⁷⁴ To further encourage these policies, the federal government and states began to increase funding for security guards and other school-based law enforcement officers and later to install metal detectors. Between the 1996–97 and 2007–08 school years, the number of public high schools with full-time law enforcement and security guards tripled.⁶⁰

The most obvious result of the rise in zero tolerance policies is well documented: the widespread use of out-of-school suspension and expulsion increased almost everywhere, with rapid increases in some places. Nationally, the number of secondary (i.e., middle or high school) school students

suspended or expelled over the course of a school year increased roughly 40% from 1 in 13 in 1972–73 to 1 in 9 in 2009–10.⁴ The harshening of school discipline policies has been further driven by the era of mass shootings in schools, beginning with the Columbine tragedy in 1999.⁷⁵

Chapter 3: Falling Through the Cracks: Considering Race, Sex, Disability and Discipline Disproportionality among School-Age Youth

3.1 Abstract

Background: Out-of-school suspension (OSS), a common form of school discipline, has been tied to several adverse educational and life outcomes. Individual characteristics, like being a boy or Black or having a disability, put students at greater risk of OSS. However, few studies examine these risk factors from an intersectional perspective.

Methods: We constructed a multilevel dataset using school-level data for the 29 school districts in the metropolitan St. Louis, MO, region from the publicly available 2015-16 Civil Rights Data Collection. Reverse engineering from cell count aggregates, we reconstituted individual-level race, sex, disability (Individualized Education Program; IEP) status, and OSS history variables, and appended CRDC school-building and district-level variables to them. We applied logistic multilevel regression to the resulting dataset of over 166,000 K-12 students to examine the interaction of race, sex, and disability on the likelihood of OSS.

Results: Being a boy, Black, or having a disability were all significant risk factors for OSS. All two-way interactions of these characteristics were statistically significant ($p < 0.001$); however, the three-way interaction was not significant. The greatest independent risk factor of OSS was being Black (OR=3.89, $p < 0.001$), followed by having an IEP (OR= 2.25, $p < 0.001$), and being a boy (OR= 1.98, $p < 0.001$). Taking into account all the two-way interactions, white females without IEPs had a 1.2% predicted probability of being suspended. Black boys with IEPs were over 15 times as likely to be suspended (predicted probability = 18.8%). At the school-level, Black enrollment was negatively associated with risk of suspension (OR=0.53, $p < 0.001$) and school-wide suspension rate was significantly and positively association with suspension (OR=1.23, $p < 0.001$).

Conclusion: Creating synthetic datasets may be a promising way of building individual-level datasets from aggregated datasets, thereby reducing the risk of ecological fallacies. Students claim and are perceived as holding multiple identities simultaneously. Some “doubly” marginalized student populations like Black boys or Black students with disabilities are at higher risk for suspension than would be expected when considering only one identity. This suggests that a more intersectional approach to the pursuit of educational equity is warranted.

3.2 Introduction

We have long known that different student sub-populations experience school discipline differently. The “discipline gap,” a term most commonly used to describe the disproportionate rate at which Black students are suspended relative to White students, has been documented consistently since 1975.⁶ Similar gaps exist when we compare boys to girls^{26,76} and students with disabilities to students without disabilities.⁷⁷ Looking at each of these three risk factors (race, sex, and disability) alone leads to the conclusion that students with any one of them are significantly more likely to be suspended than those without a given risk factor. However, we know far less about whether or how these identities combine to impact risk of discipline beyond what would be expected from their independent effects.

A theoretical foundation for such an exploration can be found in the work of Black feminist scholar-activists in the 1970s and their efforts to develop frameworks that would broaden feminism’s definition and scope. This culminated in the 1990s and early 2000s in a wave of publications examining the dynamics that exist between racial, class, sexual, immigrant, and disability identities.⁷⁸ Intersectionality Theory emerged from this body of work and was popularized by Kimberlé Crenshaw. In her 1991 article “Mapping the Margins,” Crenshaw discussed how “the violence that many women experience is often shaped by other dimensions of their identities, such as race and class”.^{79(p1)} She further explained that the discourses of feminism, anti-racism, and other movements focused on single dimensions of identity tend not to represent the many ways in which experiences of women of color are the product of intersecting patterns of racism and sexism. Crenshaw noted that “many of the experiences Black women face are not subsumed within the traditional boundaries of race or gender discrimination as these boundaries are currently understood,” and that “the intersection of racism and sexism factors into Black women's lives in ways that cannot be captured

wholly by looking at the race or gender dimensions of those experiences separately.”^{79(p2)} Crenshaw is widely quoted as saying, “If we aren’t intersectional, some of us, the most vulnerable, are going to fall through the cracks.”⁸⁰ Few studies have examined the discipline gap with an intersectional lens.

In her book *Pushout*, education scholar Monique Morris shares numerous examples of how, in essentially all of our systems, including our education system, Black girls are subject to multidimensional stereotypes that are simultaneously influenced by racism and patriarchy and that lead to Black girls being mischaracterized and mislabeled because of the way they dress, act, speak, and look.⁸¹ In their report “Girl Interrupted”, Rebecca Epstein, Jamilia Black, and Thalia Gonzalez use empirical data to show that adults view Black girls as less innocent and more adult-like than their White peers, particularly when between the ages of 5 and 14.⁸² Survey participants perceived Black girls to need less nurturing, less protection, less support, and less comfort. Legal scholar Priscilla Ocen, in her examination of the history of the differential treatment of children based on race, wrote: “[R]ace and gender played a critical role in allocating the benefits and burdens of childhood...[A]s the notion of the innocent, developmental child emerged, white children began to enjoy greater [legal] protections while Black children’s position remained relatively unchanged.”^{83(p1606)} Ocen describes childhood as a construct that is built differently for Black children. As an example, she points to the example of how historic constructions of childhood, innocence, and sexuality influence anti-trafficking law enforcement practices that function in racialized and gendered ways to exclude Black girls from protection and consequently label Black girls who are subject to sexual exploitation as offenders instead of victims.⁸³

Recent research finds that similarly complex and distinct combinations of stereotypes and biases exist for Black boys. In 2014, psychologist Phillip Goff and colleagues published an experimental study that found that Black boys are perceived as older, more culpable for their actions, and guiltier

than their White peers, and as a result, police violence against them was perceived as more justified.⁸⁴ This was true even of experienced police officers in the sample, who, on average, overestimated the age of Black adolescent felony suspects by 4.5 years and consistently found them more responsible for their actions than their White counterparts.^{84,85} These are a few studies in a substantial body of literature investigating disparities in discipline for disaggregated groups, especially Black boys and Latinx boys.⁸⁶⁻⁸⁹ While past work has produced race-gender estimates, fewer studies have theorized, tested, and explained the nature of the intersection effect in a way that advances an understanding of intersectional theory.^{90,91}

The over-representation of Black students,^{92,93} especially boys,⁹⁴⁻⁹⁷ in special education is fairly well established. Once identified as having a learning disability, Black students are more likely to be placed in highly restrictive educational settings,⁹⁸ less likely to be encouraged to leave special education for the general education classroom,⁹³ and more likely to experience poor instructional quality.⁹³ Studies of why these disproportionalities exist have examined historical trends in special education,^{93,99} relationships between teachers and students,¹⁰⁰ and the absence of instructional rigor within special education classrooms.^{101,102} While little research exists exploring how racial and disability biases interact in people's minds, there is an abundance studying each on its own. A 2010 public opinion poll found that about 50% of the public agreed that "learning disabilities are often just laziness."¹⁰³ Over 50% of people believed that learning disabilities are often caused by a child's home environment; 43% of teachers and 31% of educational administrators agreed.¹⁰³ Teachers are more likely to view students negatively when told they have a learning disability.^{104,105} For example, elementary-aged students with learning disabilities found their teachers to be more rejecting than their peers without learning disabilities¹⁰⁶ and teachers hold lower expectations for students with learning disabilities.¹⁰⁷ These studies, contribute to an important foundation to our understanding of which students face the harshest educational realities and why. Much work remains to be done,

however, in extending our ability to consider students and teachers in all their complexity—race, sex, and disability status simultaneously, as a starting point.

The thinness of the literature coming from an epidemiological perspective is, in some ways, unsurprising. Epidemiologists have a broad term for the quantitative artifacts of intersectionality: effect modification (or interaction or effect moderation). It tends to be an underutilized framework for investigating the etiology and impact of disease, especially when it comes to traits that are thought to be immutable, like race and sex. Camara Jones asserted in her 2001 invited commentary in the *American Journal of Epidemiology* that epidemiologists oftentimes fail to look for differences in health outcomes by race and, when we do, we tend not to interrogate the basis of those differences, with dire consequences, including bolstering the ideology of biologic determinism.¹⁰⁸

The magnitude of the discipline gap and its downstream effects underscore the importance of a better understanding of its etiology, and therefore, potential interventions. In the 2015-16 school year, Black boys made up 25% of out-of-school suspensions and Black girls accounted for 14%, despite each group individually comprising 8% of all students.¹⁰⁹ Black students without disabilities are more than three times as likely as their White peers without disabilities to be expelled or suspended.¹¹⁰ From 2014 to 2016, Black students with disabilities in grades K-12 lost 77 more days of instruction on average than White students with disabilities.¹¹¹

Considerable work from the fields of education, psychology, criminal justice, and social work sheds light on the unintended consequences of exclusionary discipline, such as out-of-school suspension. Removing a student from class for punitive reasons puts them at greater risk of academic disengagement,¹⁷⁻²⁰ a diminished sense of belonging and support in the academic environment,²¹⁻²³ and additional suspension in the future.²⁴⁻²⁷ All of these consequences may also act as intermediaries

between exclusionary discipline and its less proximal outcomes, including lower academic performance,^{28–31} increased risk of dropout,^{32–35} and greater likelihood of interacting with the juvenile justice system.^{14,36–39} Nascent work suggests discipline can further destabilize households that are on the brink or midst of economic distress, because of caregivers who have to stay home work to watch their children.⁴⁰ We also have reason to believe that the effects of exclusionary discipline may extend into adulthood and include criminal activity, criminal victimization, and incarceration.^{41,42}

As daunting as the magnitude of the discipline gap seems when we consider one characteristic at a time, it is likely even larger when we consider students more holistically. A more comprehensive understanding of discipline disproportionality will likely also help us correct it. By considering how race, sex, and disability intersect to impact likelihood of out-of-school suspension, we aim provide a fuller understanding of the risks faced by some students.

3.3 Methods

To examine the interactive relationship between race, sex, and disability on risk of out-of-school suspension, we used the publicly available Civil Rights Data Collection (CRDC) produced by the U.S. Department of Education’s Office for Civil Rights. The CRDC includes information from the nation’s public schools on topics including student enrollment, educational programs, and civil rights indicators (e.g., access and barriers to educational opportunity).¹¹² Washington University in St. Louis’ Human Research Protection Office deemed this study non-human subject research because of the entirely secondary, publicly available nature of the data, which lacked individual identifiers.

Creating the Synthetic Dataset

CRDC data are provided at the school building and local education agency (e.g., school district) levels. We wanted to conduct an individual student-level analysis, to avoid the fallacies that are common when using ecological data to draw inferences about individuals, so we created a synthetic dataset built from the school building and district data. This was possible because CRDC enrollment and discipline counts are provided disaggregated by race, disability status, and sex simultaneously. We were able, therefore, to know how many students were enrolled and suspended by every combination of those three variables.

We started with the 2015-16 CRDC dataset and narrowed it down to the 29 non-charter public school districts in the St. Louis metropolitan region (i.e., St. Louis City, St. Louis County, and St. Charles County). The greater St. Louis area was 74.0% White and 18.0% Black according to the 2018 American Community Survey 1-year estimates.¹¹³ Therefore, this urban area provided the racial diversity needed to test our hypothesis. We built our synthetic dataset to represent every student enrolled in a non-charter public school in that footprint. For example, a school with 40 Black boys with a disability enrolled, 10 of whom had been suspended according to the CRDC data, would be represented by 40 rows in our synthetic dataset, one for each of those students. Of those 40 students, 30 would receive a code of 0 or “no” for the suspension variable, or column, and 10 would receive a code of 1 or “yes.” All 40 would receive codes of 1 or “yes” for the “Black,” “male,” and “disabled” variables. We then did the same thing for the remaining seven subgroups (e.g., Black boys without a disability, Black girls with a disability, Black girls without a disability, White boys with a disability) in that school building. We repeated this approach for each of the 414 public school buildings in the 29 districts in St. Louis City, St. Louis County, and St. Charles County.

Included among these buildings were some alternative programs and special-education-only schools. Eligible students with disabilities enrolled in the 22 public school districts in St. Louis County

receive services in their “home” schools from teachers and staff employed by the separate Special School District (SSD), although not all students with disabilities enrolled in those 22 districts are eligible to receive such services. SSD also runs seven of its own schools and programs, where it provides special education services in disability-only settings and technical education to students pursuing vocational studies. Because of SSD’s dual-focus on providing special and technical education, not all students in SSD-run facilities had an IDEA designation. Data for students enrolled in their home schools flow through their home schools and districts, regardless of whether the students receive services from SSD. Data for students enrolled in SSD buildings are included in SSD as a district. After building the individual dataset following the above approach, we appended the building and district-level variables provided by the CRDC to create a three-level dataset.

To prevent student identification, the CRDC suppresses or rounds counts below a certain cell size (the specific practice differs for different student sub-populations, e.g., students with a disability vs. students without a disability). For example, a count of 2 disabled students in a school would have been coded as a negative value to signal a small cell size that was suppressed. We accounted for this by randomly assigning suppressed or rounded cells a value in the range below the suppression or rounding cutoff. We compared this dataset to a version in which suppressed cells were replaced with counts of 0 (the more conservative approach). We then conducted a sensitivity analysis between the two datasets (i.e. the dataset in which the suppressed counts replaced with a random integer and the dataset in which suppressed counts were replaced with a 0). The two datasets performed almost identically (model estimates from each were consistently within 5% of one another). We used the random assignment dataset for the analyses reported here.

Variable Operationalization

The three main independent variables of interest for our analyses were race, sex, and disability. We operationalized race as non-Hispanic Black or non-Hispanic White. While research suggests that other minority racial and ethnic groups are implicated in the discipline gap,^{114,115} the diversity of our geographic catchment area was too limited for a robust statistical analysis of those groups. Sex was defined in the CRDC data as male or female. We defined students with a disability as those with an IDEA, or Individuals with Disabilities Education Act, designation. IDEA students have an individualized education program (IEP), the framework through which special education and related services are provided. The 13 conditions covered by IDEA include specific learning disabilities (e.g., dyslexia), other health impairments (e.g., ADHD), autism, emotional disturbances, intellectual disability, traumatic brain injury, and several physical limitations including speech, visual and hearing impairment.¹¹⁶ A more accurate way of describing our treatment of disability status is “students with an IEP” as opposed to “students with a disability,” as we can be sure that there is mis-identification (both systematic and random over- and under-identification) of disability, however, in the interest of simplicity, we will continue to use “students with a disability.” We discuss misidentification further in the Limitations section.

We also examined several school building and school district characteristics related to suspension based on the literature. At the school level we included enrollment, the percent of enrollment with an IDEA designation, the percent of enrollment that was Black, suspension rate, the average number of administrators per 100 students, the average number of aides per 100 students, and the mean non-salary expenditures per student. At the district level we included enrollment, number of schools, and whether or not the school had a desegregation plan. According to the CRDC, a desegregation order or plan must be “(1) ordered by, submitted to, or entered into with a federal or state court; the Office for Civil Rights (OCR), U.S. Department of Education, its predecessor the

Department of Health, Education, and Welfare, or another federal agency; or a state agency or official,” to ensure that the school district “remedies or addresses...actual or alleged segregation of students or staff on the basis of race or national origin that was found or alleged to be in violation of the U.S. Constitution, Title VI of the Civil Rights Act of 1964, and/or state constitution or other state law.”¹¹⁷

Several of the school and district-level variables were modifications of the versions provided in the CRDC. For example, enrollment counts for students with disabilities were presented by CRDC disaggregated by race and sex. We had to create the total disabled enrollment by summing these counts. We created versions of CRDC’s staffing and expenditure variables that took into account school size by indexing these variables against enrollment (e.g., number of aides per 100 students, non-personnel expenditures per student). We also converted some continuous variables to quartiles because of their wide range in values (e.g., expenditures per quartile, school-level enrollment, district-level enrollment), which can cause convergence errors in multilevel modeling.¹¹⁸

Our outcome of interest was suspension status. We defined this as receiving one or more out-of-school suspensions during the 2015-16 school year. This variable was created as the sum of two CRDC variables: being suspended once and being suspended more than once.

Analytical Approach

Before analysis, we examined all variables for extreme values or outliers, defined as observations more than three standard deviations away from the mean. We examined any such outliers for validity, and, if uncertainty remained, we looked for alternate variables. This is how we came to use the non-personnel expenditures variables as opposed to total expenditures (see the Limitations section for further discussion of data quality). We then began our analysis with descriptive statistics of all the independent and dependent variables of interest. We then performed basic bivariate

analyses of the relationship between the independent variables and the dependent variable. For continuous independent variables we ran t-tests and for categorical independent variables we used the chi-square test. Variables that were important from a theoretical perspective, based on previous literature, or that were significant at $\alpha=0.10$ at the bivariate level were nominated for inclusion in our multivariable analysis.¹¹⁹

To assess the extent to which suspension varied by school building and district, we calculated an interclass correlation coefficient (ICC) using both a linear and logistic regression approach. We considered an ICC of greater than 0.05 to be evidence of considerable clustering that merited a multilevel approach to our multivariable analysis.¹²⁰ The building-level ICC of 0.125-0.161 was moderate, while the district-level ICC of 0.038-0.066 was smaller. Further investigation using log likelihood testing of null models with individual + school building levels, individual + school building + school district levels, and individual + school district levels led us to conclude that the three-level approach fit the data the best. Thus, we proceeded with multilevel logistic regression with three levels: individual, school building, and school district.

Model building then proceeded iteratively, adding first the level-1 variables including the main effects of race, sex, and disability, followed by their two-way interactions, and then their three-way interaction. Starting with the main effects reflected the traditional non-intersectional, risk-factor approach to examining discipline disproportionality. Incorporating the two-way interactions allowed us to investigate intersectionality in risk of discipline in terms of whether the observed combined effects of two variables (race and sex, race and disability, sex and disability) differed from the expected “sum of their parts.” Adding all three two-way interactions helped us determine whether one combination of characteristics carries more weight than the others. Finally, adding in the three-way interaction gave us insight into how all three variables, race, sex, and disability, coincide and

whether their simultaneous effect differed from their individual and two-way effects. After adding all of the level 1 variables, we added the level 2 (school) and level 3 (district) variables. We only considered an intercept-as-outcomes model for levels 2 and 3 because we had neither empirical evidence nor theoretical justification for a slopes-as-outcome model.¹²⁰

As two-way interaction terms were added to the model, their coefficients, as well as those for the main effects in the model, became uninterpretable alone. To interpret these terms, we combined them to calculate risks for students with both risk factors in the interaction (e.g., Black boys) compared to students with neither risk factor (e.g., White girls). The same logic was used to interpret the three-way interaction, taking into account both main effects and the lower-order two-way interactions. Continuing with this more holistic consideration of students' risk, we also calculated predicted probabilities to assess the likelihood of suspension given different student profiles, namely derived from the combinations race, sex, and disability and their independent and interactive effects, as computed from our modeling. The relative excess risk due to interaction (RERI), which gives the part of the total effect of two variables that is due to their interaction, and the percent attributable to interaction (AP), which gives the percent of the combined effect that is due to interaction, were calculated to determine which interactions were most salient.¹²¹

Additional independent variables that were significant at the $\alpha=0.1$ level during bivariate analyses were included in all models. AIC, BIC, and likelihood ratio tests were used to evaluate model fit.

3.4 Results

Descriptive and Bivariate Analyses

Just under 8% of our sample received an OSS during the 2015-16 school year. According to our bivariate analyses, which are summarized in **Table 3.1**, those students were significantly more likely to be Black ($\chi^2=11804.25$, $p<0.001$) and male ($\chi^2=1448.77$, $p<0.001$), and they were also more likely to have a disability ($\chi^2=2176.45$, $p<0.001$).

Table 3.1. Bivariate associations by suspension status

	Never Suspended N=186739 92.1%		Suspended N=16087 7.9%		Test Stat	P-value
	%	N	%	N		
Individual-Level Variables						
Black	33.7	62849	76.8	12351	11804.25	<0.001
Male	50.2	93763	65.8	10592	1448.77	<0.001
Has a disability	14.0	26106	27.7	4455	2176.45	<0.001
School-Level Variables						
Enrollment quartile					32.08	<0.001
1-372	25.1	46781	26.3	4236		
373-582	25.2	47058	24.3	3909		
583-954	24.8	46271	25.8	4149		
955-2133	25.0	46629	23.6	3793		
Number of students with disability per 100 (m, SD)	14.9	6.5	16.5	7.7	24.10	<0.001
Number of Black students per 100 (m, SD)	34.6	35.6	66.0	36.1	105.9	<0.001
Suspension rate (m, SD)	6.8	8.2	20.9	18.1	97.76	<0.001
Number of aids per 100 (m, SD)	1.8	2.3	1.6	3.4	9.37	<0.001
Number of administrators per 100 (m, SD)	0.5	0.8	0.3	0.5	35.33	<0.001
Expenditures per student in \$ quartile					1743.96	<0.001
0.00-44.70	25.8	48178	16.5	2657		
44.71-222.00	24.9	46522	25.6	4112		
222.01-641.00	24.2	45098	37.7	6072		
641.01-1198.00	25.1	46941	20.2	3246		
District-Level						
Enrollment quartile					209.84	<0.001
1-6009	25.6	47728	30.8	4950		
6010-17650	28.9	54022	29.2	4698		
17651- 18220	24.4	25631	23.5	2784		
18221-24470	21.1	39358	16.5	2655		
Number of schools in the district (m, SD)	25.6	18.8	26.8	19.9	7.29	<0.001
District has a desegregation plan	26.4	49206	19.5	3145	357.7	<0.001

Boldface indicates significant at alpha=0.05

At the school level, students who were suspended were more likely to attend a small school (i.e., in the first enrollment quartile) and less likely to attend a large school (i.e., in the fourth enrollment quartile) ($\chi^2=32.08$, $p<0.001$). Compared to students who were not suspended, students who were suspended tended to attend schools with higher rates of students with a disability ($m=16.5$ vs. $m=14.9$, $p<0.001$), higher rates of Black enrollment ($t=105.9$, $p<0.001$), and higher rates of suspension ($m=18.1$ vs. $m=6.8$, $p<0.001$). Students who were suspended tended to go to schools that were lower resourced, with fewer aids per 100 students enrolled ($t=9.37$, $p<0.001$) and fewer administrators per 100 students enrolled ($t=35.33$, $p<0.001$). While these students were less likely to attend a school whose per student expenditures were in the highest quartile, they were also less likely to attend a school whose expenditures were in the bottom quartile ($\chi^2=1743.96$, $p<0.001$).

At the district level, students who were suspended were more likely to attend a smaller district (i.e., in the first or second enrollment quartile; $\chi^2=209.84$, $p<0.001$), with a smaller number of schools ($t=7.29$, $p<0.001$). Suspended students were also less likely to attend a school that had a desegregation plan ($\chi^2=357.7$, $p<0.001$).

Multivariable Analyses: Main Effects of Race, Sex, and Disability and Their Interaction

We present three multivariable models in **Table 3.2**. The first includes the independent effects of race, sex, and disability status, as well as all other independent variables that were significant at $\alpha=0.10$ at the bivariate level. Model 2 adds in the two-way interactions between race, sex, and disability status for a total of three interaction terms. The third model includes the three-way interaction between race, sex, and disability. The models were nested in that each subsequent model included all the variables in the previous model. This meant we could use likelihood ratio tests to statistically determine which model demonstrated the best fit with the data. The fullest model, Model 3, revealed that the three-way interaction term was not statistically significant ($p=0.866$),

though all three of the two-way interactions were ($p < 0.001$ for all). Models 2 and 3 performed very similarly, as a result of the statistically trivial three-way interaction in Model 3. The AIC for Model 3 was larger than that of Model 2, indicating worse fit. Similarly, the likelihood ratio test concluded that Model 2 performed better than Model 1 ($\chi^2 = 320.54$, $p < 0.001$) and Model 3 ($\chi^2 = 0.03$, $p < 0.869$). Thus, we can comfortably conclude that Model 2 is our strongest model.

Based on Model 1, Black students had nearly four times greater odds of being suspended in 2015-16 than White students after adjusting for all other variables (OR=3.89, $p < 0.001$). Boys were nearly two times more likely than females (OR=1.98, $p < 0.001$), and students with disabilities were just over two times more likely than students without disabilities (OR=2.25, $p < 0.001$) to be suspended.

We get a fuller picture of the association between race, sex, disability status, and risk of OSS when we consider the interactions between them. We cannot fully interpret the main effects and the interactive effects when presented as modeling estimates as in **Table 3.2** because those estimates must be considered simultaneously for each subgroup of race, sex, and disability status. Selected predicted probabilities are presented in **Figure 3.1**; all predicted probabilities are in Table 3.3. In panel A of **Figure 3.1**, as well as in Table 3.3, we see the independent effect of race on risk of OSS holding all other variables at their mean levels. Black students had a 9.3% chance of suspension compared to a 2.6% chance among White students, a 3.6-fold difference. In panel B, we stratify the relationship in A by sex resulting in a line for boys and a line for girls. Interaction is visually present when the “slope” of the stratified lines differs from that of the non-stratified line. Black boys had a 14.4% chance of suspension, a risk that was 3.9 times greater than White boys’ 3.7% risk. Black girls had a 7.9% chance of OSS, compared to 1.4% among White girls—a 5.6-fold difference.

In panel C, each of the eight subgroups are compared with all other independent variables held constant at their mean level. Black boys with a disability had an 18.8% chance of being suspended in

2015-16, a rate that is considerably higher than the overall incidence of 7.9% and nearly 16 times higher than the 1.2% risk among White girls without a disability, the least at-risk group. The slopes in the non-disabled panel of C are largely similar to those in panel B. However, among students with disabilities, Black boys had a 2.0-fold greater risk of suspension than White boys (18.8% vs. 9.5%). Black girls with a disability had a 2.7-fold greater risk than White girls with a disability (13.4% vs. 4.9%). Both of these slopes are shallower than expected from the two-way interaction between race and sex. The “penalty” for having a disability seems to be greater for White students. Put another way, a White boy with a disability had a 3 times greater likelihood of suspension than a White boy without a disability (9.5% vs. 3.1%) compared to 1.5 times greater likelihood for a Black boy with a disability compared to a Black boy without a disability (18.8% vs. 12.3%). Similarly, a White girl with a disability had a 4.1 times greater likelihood of suspension than a White girl without a disability (4.9% vs. 1.2%), while a Black girl had a 2.0 times greater likelihood (13.4% vs. 6.7%).

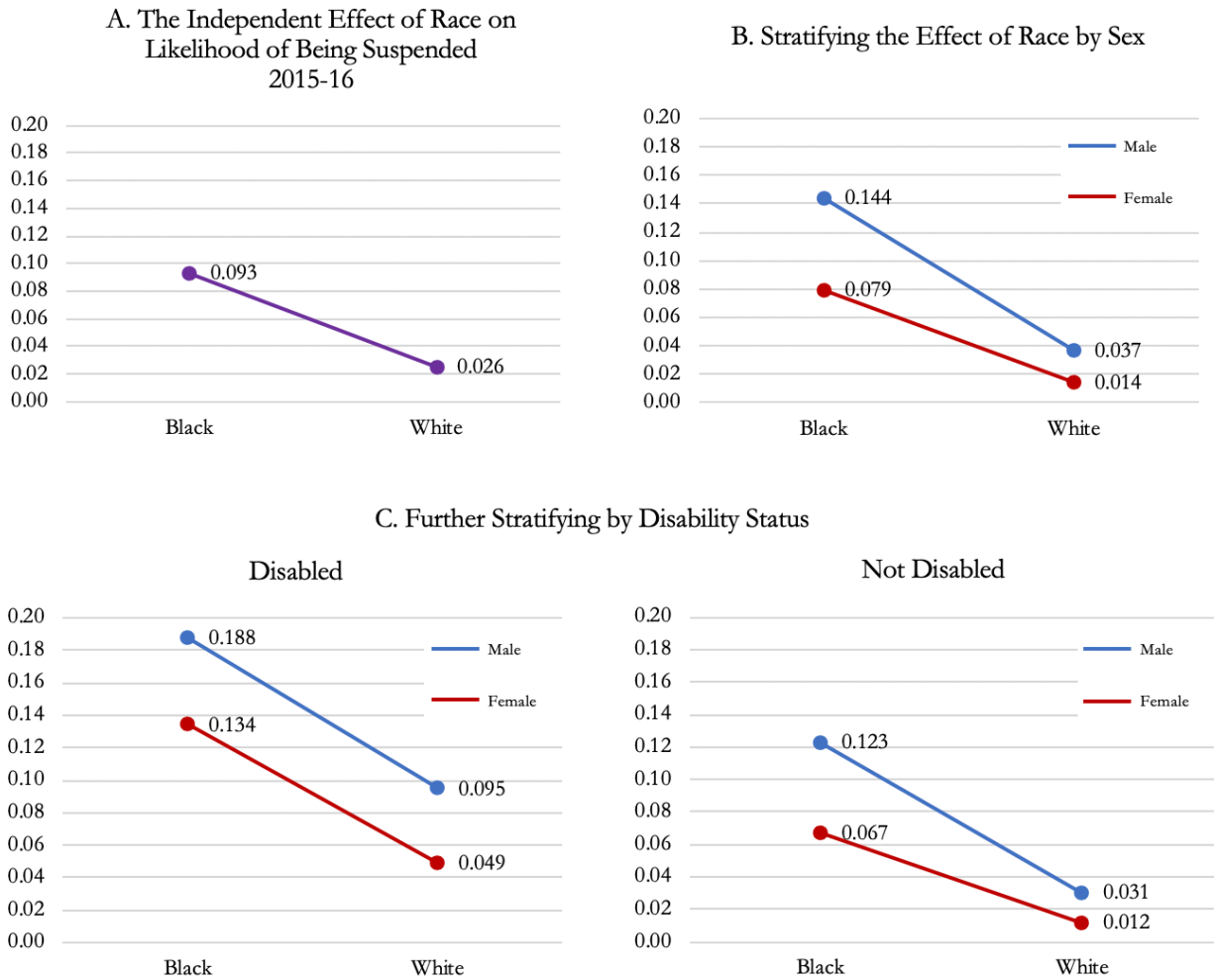


Figure 3.1. Predicted Probability of OSS Based on the Interactive Effects of Race, Sex, and Disability in 2015-16

- The independent effect of race on OSS, controlling for all other variables at their mean levels (Model 1)
- Stratifying the effect of race on risk of OSS by sex, controlling for all other variables at their mean levels (Model 2)
- Further stratifying the effect of sex on the effect of race on risk of OSS by disability status, controlling for all other variables at their mean levels (Model 3)

As can be seen, the “slope” of the line in panel A changes when stratified by sex (panel B), suggesting that sex modifies the relationship between race and risk of OSS. When we further stratify by disability status, we see that the slopes in the disabled and non-disabled panels of C are largely similar to those in panel B, which supports a statistically nonsignificant three-way interaction. However, among disabled students, both slopes are shallower than expected from the two-way interaction between race and sex, suggesting some three-way interaction, though it is statistically nonsignificant

Table 3.2. Results of mixed-effects logistic regression predicting suspension status from race, sex, and disability status

	Model 1: No Interaction Terms			Model 2: Two-way Interaction Terms			Model 3: Three-way Interaction Term		
	Exp (B) =OR	SE (B)	p	Exp (B) =OR	SE (B)	p	Exp (B) =OR	SE (B)	p
Individual-Level Variables									
Black	3.89	0.03	<0.001	5.96	0.04	<0.001	5.94	0.05	<0.001
Male	1.98	0.02	<0.001	2.62	0.04	<0.001	2.61	0.05	<0.001
Has a disability	2.25	0.02	<0.001	4.33	0.05	<0.001	4.29	0.07	<0.001
Black*Male	---	---	---	0.75	0.04	<0.001	0.75	0.05	<0.001
Black*Disabled	---	---	---	0.77	0.05	<0.001	0.77	0.08	0.002
Male*Disabled	---	---	---	0.50	0.04	<0.001	0.50	0.08	<0.001
Black*Male*Disabled	---	---	---	---	---	---	0.98	0.10	0.866
School-Level Variables									
Enrollment quartile									
1-372 (ref)	---	---	---	---	---	---	---	---	---
373-582	0.81	0.06	<0.001	0.82	0.06	0.001	0.81	0.06	0.001
583-954	0.86	0.08	0.046	0.87	0.08	0.081	0.87	0.08	0.095
955-2133	1.10	0.10	0.377	1.13	0.10	0.254	1.13	0.10	0.251
Number of students with disability per 100	1.17	0.27	0.583	1.14	0.27	0.630	1.14	0.25	0.602
Number of Black students per 100	0.53	0.12	<0.001	0.53	0.12	<0.001	0.53	0.12	<0.001
Suspension rate	1.21	0.26	<0.001	1.23	0.26	<0.001	1.23	0.26	<0.001
Number of aids per 1003	0.97	0.01	<0.001	0.97	0.01	<0.001	0.97	0.01	<0.001
Number of administrators per 100	0.89	0.03	<0.001	0.89	0.03	<0.001	0.89	0.03	<0.001
Non-personnel expenditures per student (\$), quartile									
0.00-34.50 (ref)	---	---	---	---	---	---	---	---	---
34.50-213.00	1.72	0.09	<0.001	1.73	0.09	<0.001	1.73	0.10	<0.001
213.01-627.00	1.81	0.11	<0.001	1.82	0.10	<0.001	1.83	0.11	<0.001
627.01-1198.00	1.50	0.13	0.001	1.52	0.12	0.003	1.52	0.14	0.001

Table 3.2. Results of mixed-effects logistic regression predicting suspension status from race, sex, and disability status

	Model 1: No Interaction Terms			Model 2: Two-way Interaction Terms			Model 3: Three-way Interaction Term		
	Exp (B) =OR	SE (B)	p	Exp (B) =OR	SE (B)	p	Exp (B) =OR	SE (B)	p
District-Level									
Enrollment quartile									
1-6009 (ref)	---	---	---	---	---	---	---	---	---
6010-17650	0.74	0.11	0.006	0.74	0.11	0.006	0.73	0.11	0.006
17651- 18220	0.83	0.13	0.147	0.82	0.13	0.131	0.81	0.14	0.132
18221-24470	0.62	0.27	0.082	0.62	0.27	0.081	0.63	0.27	0.084
Number of schools in the district	1.00	0.00	0.303	1.00	0.00	0.306	1.00	0.00	0.308
District has a desegregation plan	1.25	0.16	0.149	1.24	0.15	0.170	1.24	0.16	0.179
RANDOM EFFECTS									
	Est	SD		Est	SD		Est	SD	
School-Level	0.176	0.420		0.174	0.418		0.174	0.418	
District-Level	0.011	0.104		0.013	0.115		0.014	0.116	
MODEL FIT									
	Obs	-LL	AIC	Obs	-LL	AIC	Obs	-LL	AIC
	202826	43649	87342	202826	43489	87028	202826	43489	87030

Boldface indicates significant at alpha=0.05

Table 3.3 Predicted probability of OSS holding all other model covariates at their means

One-way (Main effects)		Model One		
<i>Race</i>				
	Risk of OSS			
Black	0.093			
White	0.026			
Column RR	3.623			
<i>Sex</i>				
	Risk of OSS			
Male	0.057			
Female	0.030			
Column RR	1.923			
<i>Disability Status</i>				
	Risk of OSS			
Disabled	0.080			
Non-disabled	0.037			
Column RR	2.152			
Two-way Interactions		Model Two		
<i>Race*Sex</i>				
	Male	Female	Row RR	
Black	0.144	0.079	1.816	
White	0.037	0.014	2.552	
Column RR	3.951	5.552		
<i>Race*Disability</i>				
	Disabled	Non-disabled	Row RR	
Black	0.196	0.102	1.925	
White	0.076	0.019	4.075	
Column RR	2.576	5.455		
<i>Male*Disability</i>				
	Male	Female	Row RR	
Disabled	0.163	0.089	1.840	
Non-Disabled	0.057	0.022	2.527	
Column RR	2.939	4.036		
Three-way: Race*Disability*Sex		Model Three		
<i>Disabled</i>				
	Male	Female	Row RR	
Black	0.188	0.134	1.398	
White	0.095	0.049	1.929	
Column RR	1.976	2.726		
<i>Non-Disabled</i>				
	Male	Female	Row RR	
Black	0.123	0.067	1.837	
White	0.031	0.012	2.571	
Column RR	4.023	5.630		

RRs are computed by dividing the incidences in the rows or columns specified

Not shown in **Figure 3.1** are the other two-way interactions, race*disability and male*disability. The predicted probabilities of these interactions are documented in **Table 3.3**. As noted from panel C, being disabled lessens the disparity between being Black and being White. While Black students with a disability are 1.9 times more likely to be suspended than Black students without a disability (19.6% vs. 10.2%), White students with a disability are 4.1 times more likely to be suspended than White students without a disability (7.6% vs. 1.9%). Disability similarly seems to more adversely impact girls' risk of suspension. Girls with disabilities were 4.0 times more likely to be suspended than girls without disabilities (8.9% vs. 2.2%). Boys with disabilities were 2.9 times more likely than boys without disabilities (16.3% vs. 5.7%). In all cases, Black students were more likely to be suspended than their White classmates, suggesting that sex and disability status are quantitative effect modifiers as opposed to qualitative modifiers.

Table 3.4. Relative excess risk due to interaction (RERI) and percent attributable to interaction (AP) for two-way interactions

	Relative Excess Risk due to Interaction (RERI) [†]	Percent Attributable to Interaction (AP) [‡]
Disability*Sex	1.948	18.89
Race*Disability	1.773	23.93
Race*Sex	2.983	29.00

[†]The relative excess risk due to interaction (RERI) explains the proportion of the combined effect that is due to interaction. It is calculated as follows, per Knol et al (2011):

$$RERI = RR_{A+B+} - RR_{A+B-} - RR_{A-B+} + 1$$

where A and B are dichotomous risk factors. RR_{A+B+} is the relative risk of the outcome when both factors are present and RR_{A+B-} and RR_{A-B+} are the relative risks when only one risk factor is present.

[‡]The percent attributable to interaction (AP) is the percent of the combined effect that is due to interaction. It is equal to 100 times the attributable proportion, defined by Knol et al as follows:

$$AP = RERI / RR_{A+B+}$$

All incidences for calculating the relative risks needed to compute RERI and AP can be found in **Table 3.3**.

Table 3.4 summarizes the relative excess risk due to interaction (RERI) and the percent attributable to interaction (AP) for each of the combined effects of race and sex, race and disability status, and sex and disability status. The interaction of race and disability explains 18.89% of the combined

effect of the two variables. The interaction of sex and disability explains 23.93% of their combined effect. Just under 30% of the combined effect of race and sex is attributable to the interaction of those two variables.

Multivariable Analyses: Other Independent Variables

Beyond these three independent variables of primary interest, our modeling also revealed that, holding all other variables constant, Black enrollment rate was negatively associated with risk of suspension (OR=0.53, $p<0.001$), which stands in contrast to the bivariate results. In Table 3.2 we report that students who were suspended attended schools with a much higher mean Black enrollment rate than students who were not suspended ($m=66.0\%$ vs. $m=34.6\%$, $p<0.001$). The reversal from the bivariate to the multivariable analysis suggests that one of the other variables, potentially individual race, was confounding the relationship between Black enrollment and suspension. School-wide suspension rate was significantly and positively associated with suspension (OR=1.23, $p<0.001$). For every additional aide per 100 students, odds of suspension fell by 3% (OR=0.97, $p<0.001$). For every additional administrator per 100 students, odds of suspension fell by 11% (OR=0.89, $p<0.001$). There was a consistent, positive relationship between per student expenditure and risk of suspension across all three quartiles compared to the lowest expenditure quartile. Of the district-level variables, the only one that was statistically significant was enrollment. Students in districts in the second quartile of total enrollment were less likely to be suspended than students from districts in the first quartile of total enrollment (OR=0.74, $p<0.006$).

3.5 Discussion

This study is the first we know of to empirically examine whether there is a three-way interaction between race, sex, and disability and a student's risk of out-of-school suspension. We find that, while

the three-way interaction is not statistically significant, the three two-way interactions between race, sex, and disability are.

Of those three two-way interactions, the additive interactions between race and sex (RERI=29.00%) and race and disability status (RERI=23.93%) seem to be of greater salience than the interaction between sex and disability status (RERI=18.89%). The race+sex and race+disability combined effects are also larger than the sex+disability combined effect (RR=10.29, RR= 10.32, and RR=7.41, respectively), underscoring the importance of the race*sex and race*disability interactions from a more practical standpoint.

Black students had a 9.3% risk of OSS in 2015-16. Boys had a 5.7% risk. Black boys had a 14.4% risk. The differences in these numbers suggests, as intersectionality theory predicts, that Black boys' experience of discipline cannot be explained by their race or sex alone. The "benefit" of being a girl is not felt equally across race, though. Though Black boys face the higher absolute risk of OSS, the disparity is larger for Black girls compared to White girls (RR=5.6 compared with 3.9 for Black boys compared to White boys). While White girls see their risk of OSS drop to 1.4%, Black girls' risk is 7.9%. The differences we see in risk of OSS by sex stratified by race may theoretically be partially attributable to differences in perceptions of and biases towards Black boys versus Black girls that come into play when determining whether a given behavior is an infraction and, if so, how or whether it should be disciplined. Several studies have found that Black students are more likely to be disciplined for subjective infractions.^{76,86,122} Some research suggests there might be further differences by sex. Studies have found that Black girls were cited for behaviors that were not in keeping with traditional definitions of femininity while Black boys were more likely to be viewed as physically threatening, violent, and criminal.¹²³⁻¹²⁶

Examining the race*disability status interaction, we see that students with a disability had an 8.0% risk of OSS, Black students had a 9.3% risk, and Black students with a disability had a 19.6% risk. Disability critical race theory (DisCrit) can provide useful guidance for considering the nature of intersectionality behind our findings. DisCrit is a nascent theoretical framework that examines the interdependence of racism and ableism.^{127,128} It is premised upon the social construction of disability and race in a context in which dominant notions of normalcy are White, middle-class, and able-bodied and where any identities that deviate from this are considered socially subordinate.

Annamma et al. write:

We believe that students of color who have been labeled with disabilities live in the same complex world where they do not fit neatly into any one category. However, for students of color, the label of dis/ability situates them in unique positions where they are considered “less than” white peers with or without dis/ability labels, as well as their non-disabled peers of color. In brief, their embodiment and positioning reveals ways in which racism and ableism inform and rely upon each other in interdependent ways.^{127(p5)}

Ultimately, our ability to comment on the nature of the intersections we identified, including the mechanisms that drive them, is limited. More fundamentally, such interrogation falls beyond the bounds of what a statistical approach to investigating intersectionality can accomplish. This point is underscored by an example of Simpson’s paradox found within our analysis. Simpson’s paradox is a type of ecological fallacy wherein trends in an overall population disappear or reverse in the sub-groups of that population, due to the presence of a hidden third variable.^{129,130} As noted, Black students with a disability had a 19.6% chance of suspension, however Black boys with a disability had an 18.8% chance and Black girls with a disability had a 13.4% chance. That is, the average risk of suspension is higher for Black students overall than it is for Black boys and Black girls. Because

of the relatively small size of the deviation, the specific quantitative implications of this instance of the paradox seem to be less important than the overall reminder of the limitations of statistical knowledge. Pearl explains that story and context are crucial when interpreting statistics and that instances of Simpson's paradox are an example of that.^{131,132} Pearl's encouragement urges us to consider the shortcomings of conventional statistical approaches and what extra-statistical knowledge must be applied to make sense of our findings.¹³²

In epidemiological training, we are often encouraged to not only consider statistical significance, but public health and clinical significance when gauging the importance of our findings. We are cautioned that, especially when sample sizes are large, it is quite possible that vanishingly small effect sizes are statistically meaningful but essentially trivial when considered from an applied perspective. We are not commonly warned about the reverse scenario wherein a relationship is found to be statistically nonsignificant, but practically of grave consequence. Examining interactions opens the door for this sort of interpretation. We found that race, sex, and disability status do not simultaneously intersect to create a greater risk of suspension beyond what we would predict from the two-way interactions and main effects of those variables. Yet Black boys with disabilities were nearly 16 times more likely to be suspended than White girls without a disability after controlling for all other variables. Cast in one light, the lack of significance is surprising. Cast in another, this disparity is *what we should expect* based on the main effects of, and two-way interactions between, race, sex, and disability. This more holistic, intersectional perspective of students is easy to bypass when interactions are not considered. One helpful practice is the use of predicted probabilities to “reassemble” individuals into representative sub-groups to compare risk after they've been disassembled into their many characteristics for the purposes of modeling. However, there is room within the field for substantial innovation in its pursuit of intersectional understanding, both in the use of theory and the development and application of quantitative methods.

Predicted probabilities can help translate the individual variables in a regression into a composite sense of overall risk, and it can furthermore allow us to compare overall risk between groups. The discourse on predictive probabilities is robust in journals of statistics, epidemiology, econometrics and the like, where they take on a computational and technical tenor by delving into the nuances and implications of different approaches.^{133–135} However, the conceptual importance of using predicted probabilities and other tools to “zoom out” is relatively lacking. Dozens of articles have established that being Black, being male, and disability are strong risk factors for OSS, yet none have noted that the risk of OSS will predictably fall in the double digits for students who have two or three of those risk factors. We argue that this is because those studies did not go beyond modeling to zoom back out. Our study is a reminder of the importance of using our statistical tool kit to not only rigorously isolate causes and interrogate the etiology of the phenomena we study, but to consider the bigger picture as much as possible as well. This is especially important in social sciences like public health, where we are often studying outcomes that emerge from the complex context of culture, systems, and society.

Our study is also novel because of its creative approach of building an individual student-level dataset when the source data were aggregated at the school building level. An individual unit of analysis is preferable when studying individual-level phenomena because of the risk of ecological fallacy when using higher level units of analysis.¹³⁶ However, aggregated data tend to be far more common than individual-level data. Without individual-level data it is much harder to conduct subgroup analyses of the type we did. We show one way of approximating individual-level data from aggregated data that can help circumvent these threats.

The very large (N=202,826) sample size necessitates careful consideration of practical significance alongside statistical significance. Our study was so highly powered that very small differences were

statistically significant. Almost all of the statistically significant associations fail to exceed an effect size threshold of OR=2.0 (or OR=0.5 or less for protective associations), suggesting that they are of minimal practical significance. Our key variables of interest, race, sex, and disability pass this threshold test.

Limitations and Next Steps

The novelty of our approach comes with several limitations. Key among them is our inability to control for several important covariates, especially at the individual level (e.g., demographics beyond race and sex, previous discipline history, academic achievement). Our model, as a result, is almost certainly underspecified, which could mean the regression coefficients and the predictions are biased. Improvements to the reconstituted dataset could be made by appending geographic and other data. For example, school-level socioeconomic status could be estimated using U.S. Census information for the school's catchment area. Replicating this study with this expanded dataset is critical to making greater claims on causality. Better still would be to perform the replication with data from a national study designed for individual-level analysis (e.g., the National Longitudinal Study of Youth, the Education Longitudinal Study, the National Longitudinal Study of Adolescent to Adult Health), though most such datasets are considerably older and often lack data on disability status.

One of our key independent variables, disability status, was contingent upon having an individualized education plan (IEP), which in turn requires an official recognition from a school, a process that introduces certain biases. Some students with disabilities do not have an IEP. Research has documented higher rates of false positives (over-detection) as well as higher rates of false negatives (under-detection) among Black students.^{137,138} Recent research suggests that, after controlling for confounding, including biological (e.g., low birthweight) and environmental (e.g.,

lower socioeconomic status) that are highly correlated with race, Black students with disabilities are less likely to be identified and receive services.¹³⁹ Information biases like these compromise the validity of our findings.

We also have some concerns about the quality of the CRDC data. While the Office for Civil Rights makes use of many quality assurance and control measures including edit checks embedded in the submission tool, the requirement of an LEA leader or their designee to certify the accuracy their data, and a comprehensive post-submission data quality review process.¹⁴⁰ For the 2015-16 data, that review resulted in outreach to 4,386 LEAs to correct anomalies in the data.¹⁴⁰ Of those requests, 52% were resolved.¹⁴⁰ That means nearly half of the known anomalies remained. Undoubtedly some inaccuracies were never detected. We documented some data anomalies in our analyses. For example, one elementary school in our catchment area reported spending over \$300 million on personnel in the 2015-16 school year. While errors are guaranteed in any large dataset, the overt presence of them in the data we used is concerning.

There are also some nuances to the way education is structured in the St. Louis region, especially for students with disabilities, that complicated our modeling. As noted in the methods section, in much of the region we investigated, education for some students with disabilities is provided through a separate district working largely within other districts. Not only was this unique structure for providing services for students with disabilities not utilized consistently within our dataset (seven districts we examined did not use this model), it also differs from the way services are provided elsewhere in the country. As a result, it compromises both the internal and external validity of our study. We considered leaving SSD out of our analyses because it operates so differently from other districts, but ultimately decided against it because it is such an integral part of the system for

providing services to students with disabilities. Additionally, our data were cross-sectional, which limits the level of causal inference we are able to draw.

Implications for Educators and Education Policy

Despite these limitations, our study makes a meaningful contribution to the education equity and social epidemiology literature. Given the significant adverse effects of out-of-school suspension, including diminished academic achievement, greater disengagement, and increased likelihood of dropout and engagement with the justice system, it is important to reflect on how our findings can help address discipline disparities. First, our study underscores the importance of not only disaggregating by individual risk factors but disaggregating by multiple factors to determine if some sub-groups of students may be at extreme risk. Second, we find that risk of suspension when multiple risk factors like race and sex or race and disability are simultaneously considered are greater than expected from the independent effects of those risk factors. That is, the experience of being Black and having a disability cannot be explained by simply examining the experience of being Black or the experience of being disabled. The same holds for other pairwise combinations of race, sex, and disability. Educators, education policymakers, and researchers must reflect on why these differences exist. Intersectionality theory points to implicit biases as a root cause. Moreover, discipline policies that allow for subjectivity, and therefore bias activation, should be reconsidered. A paradigm shift away from punitive discipline to restorative and trauma-informed discipline seems increasingly appropriate in light of our findings and the generally growing understanding of how inequitably OSS is used and how damaging it can be.¹⁴¹ In our study, Black males with a disability had a nearly one in five chance of being suspended when holding all other variables at their mean levels. Their risk of OSS was 15 times greater than that of White girls without a disability. This disproportionality calls on us to continue to transform the way we structure and utilize discipline by

reforming how suspensions are used, including banning their use under all but the most extreme of circumstances and implementing restorative and trauma-informed alternatives.

3.6 Conclusion

Students hold multiple identities simultaneously. Some “doubly” marginalized student populations like Black boys or Black students with disabilities are at higher risk for suspension than would be expected when considering only one identity. This suggests that a more intersectional approach to the pursuit of educational equity is warranted. We must grow our epidemiological toolkit and make better and more frequent use of the tools we have. The urgency and magnitude of the discipline gap will be underestimated if we fail to consider students’ experiences intersectionally.

Chapter 4: Learning to disengage: Racial disparities in discipline, social control in school, and voting activity later in life

4.1 Abstract

Background: Black students are far more likely to be suspended in schools in the United States. In the decades that this discipline gap has been documented, awareness of its many adverse consequences has grown. More recently, research has turned to the long-term effects of repeated and disproportionate discipline. Schools represent the first public institution with which most individuals experience prolonged, meaningful interaction, and while it might not be an explicit part of the curriculum, students learn important lessons from their school experience about authority, power, civic institutions and their ability to influence each of these. Apathy and disengagement from civic life may be among the long-term consequences of the discipline gap and social control in the form of formal rules and structures (e.g., metal detectors) in schools.

Methods: We tested this hypothesis using voting behavior, an expansion on previous work by Kupchik and Catlaw (2015). With data from approximately 15,369 students who participated in the Education Longitudinal Study, we utilized multilevel logistic regression to examine the association between how often a student was suspended in 10th grade (2002), the number of social control measures in place in their school, and voting behavior between 2004 and 2011. We included two-way interactions between being Black, non-Hispanic and suspension history as well as social control and suspension history to determine whether the effects of discipline and social control on civic engagement were different for Black non-Hispanic vs. non-Black non-Hispanic students.

Results: We find that repeated suspension and greater numbers of school social control measures are associated with voting activity later in life, and that these effects generally did not differ by race or ethnicity. The relationship between exclusionary discipline and voting behavior was negative and demonstrated a dose-response pattern. Before considering the interaction with race, students who had never been suspended had

19% higher odds of voting regularly compared to students who had been suspended once or twice ($p=0.005$) and those never suspended had a 34% higher likelihood of voting compared with students who had been suspended three or more times ($p=0.035$). The interaction of race with discipline history was significant and negative for students who had been suspended three or more times. While non-Black, non-Hispanic students suspended three or more times were 24.6% less likely to vote regularly than those who were never suspended, Black, non-Hispanic students who were suspended three or more times were 33.2% less likely to vote regularly than those who were never suspended. The relationship between number of social control measures and voting behavior was positive and significant ($OR=1.10$, $p<0.001$). The interaction terms were not consistently statistically significant.

Conclusion: We show the importance of scrutinizing and improving school policies and practices that are racially inequitable not only because they exacerbate racial disparities in educational outcomes, but because they may affect attitudes, perceptions, and long-term behaviors that extend well beyond the school environment. By dampening long-term propensities for civic engagement, racial disparities in the application of school discipline policies may deprive society of a constituency that could advocate for greater equity—in schools and beyond—were it more civically engaged.

4.2 Introduction

Exclusionary discipline measures like suspension and expulsion are disproportionately used on students with disabilities and those from historically disadvantaged racial, ethnic, and gender subgroups. For example, although Black students represent about 15% of enrollment in all US schools, they make up 35% of students suspended once, 44% of those suspended more than once, and 36% of students expelled.¹¹⁰ The disproportionate rate at which Black students experience exclusionary discipline, also known as the “discipline gap,” was first described in 1975,⁶ and it has since grown from a two-fold greater risk in 1972-73 to a 3.8-fold greater risk in 2015-16,¹⁴² and been documented consistently in educational institutions of all sizes, structures, and geographies.⁷⁻⁹

For about as long, the discipline gap has been a subject of interest to scholars, policymakers, practitioners, and advocates within and outside the field of education. Thanks to their efforts, we know today that exclusionary discipline, especially when it is repeated and disproportionate, is strongly associated with academic disengagement,¹⁷⁻²⁰ a diminished sense of belonging and support in the school environment,²¹⁻²³ and future school-based discipline.²⁴⁻²⁷ These consequences in turn pave the way for weaker academic performance,^{30,31} increased risk of drop out,^{31,34} and greater likelihood of interacting with the juvenile and adult justice systems.¹⁴ The “school-to-prison pipeline,” the strong tie between education and lifelong well-being,^{45-47,50} and the role schools play as foundational socializing institutions¹⁴³ require us to think more broadly about the long-term and wide-ranging costs of disciplinary actions taken in school.

Similar to the discipline gap, research recognizes a “civic engagement gap” that is the product of the multifaceted ways that inequality impacts marginalized racial and socioeconomic groups.¹⁴⁴⁻¹⁴⁷

Empirical research largely focuses on micro- and meso-ecological predictors of low engagement¹⁴⁸

including: poor health,¹⁴⁹ negative or misaligned attitudes,¹⁵⁰ lack of civics education,¹⁵¹ and misinformation about the processes required to vote.¹⁵²

Schools represent the first public institution with which most individuals experience prolonged, meaningful interaction. Nearly 90% of all K-12 students and 96% of Black students were enrolled in public schools in 2016.^{153,154} The school setting contributes to adolescents' socialization into many systems and norms, and this socialization goes on to influence perceptions of, and interactions with, the world beyond school.¹⁵⁵⁻¹⁵⁷ Among the ways schools play this role is through their mechanisms of social control. Social control theory suggests that the established values, norms, and rules in a given context act together to control individual and group behavior by both explicit threat of punishment and implicit threat of social stigma or exclusion.¹⁵⁸⁻¹⁶⁰ Schools, as institutions of the state, employ a set of formal mechanisms that convey to students the boundaries of acceptable behavior.^{161,162}

Exclusionary disciplinary actions like suspension as well as security measures like surveillance cameras, metal detectors, and campus-based law enforcement officers are among the formal social control mechanisms that late 20th and early 21st century schools used more frequently in low-SES and high concentration Black neighborhood schools, despite the fact that the majority of school violence events happen in high-SES, high concentration White schools.¹⁶³ Perceptions of disproportionate, intense, or biased discipline and school security measures may lead to Black students feeling that the rules are unfair and enforced inconsistently, and that their schools are designed to benefit others over them.^{164,165} Little is known, however, about whether students transfer these perceptions, if they exist, to other public and civic activities.

Students are acculturated into democratic attitudes, capacities, and practices within the school setting. Given compulsory attendance requirements for American children, schools are a natural institution for wide-scale civic preparation,¹⁶⁶ and they can offer students curricular opportunities for

civic learning.^{167,168} The most concretely measurable and widely measured aspect of civic engagement is voting. Of the voting-age population, turnout in 2016 was just 55.7%.¹⁶⁹ Among the voting age examined in this study (18-26), voter turnout tends to be lower than all other older age categories, with 20% of 18-29 years-olds voting in 2014 and jumping to 36% in 2018.¹⁷⁰ Recent new coverage also documents resurgent efforts to suppress voter turnout among the youngest voters.¹⁷¹

When applied to the example of voting, social control theory suggests that disproportionately disciplined students may be more likely to conclude that other institutions of the state do not serve their best interests, thereby prompting them to withdraw from traditional engagement activities like voting.¹⁷² Existing literature suggests that civic disengagement is infectious in this sense: experiences with one governmental institution can influence perceptions of and willingness to interact with another.¹⁷³ Dual motivation theory adds that adolescence represents a particularly formative period for the development of civic attitudes, that schools are a key domain in which those attitudes are formed, and that civic engagement as in adolescence forms the foundation of engagement as an adult.¹⁷⁴ Thus, disproportionate discipline as a youth could depress civic engagement, namely voting activity, later in life. The broader implications of this would be widespread, given that civic engagement is a necessary component of a healthy and equitable democracy.

The association between disproportionate discipline and civic disengagement was examined by Kupchik and Catlaw in their 2015 investigation of the connection between school discipline, social control, and civic engagement – which they operationalized as volunteerism and voting activity later in life.¹⁷² Kupchik and Catlaw proposed that harsh punishment and tight security in schools disempower students and impress upon them a lack of ability to influence their environment, which runs counter to the tenets of democratic, participatory, and inclusive education. They explain their fear that “the contemporary school discipline regime is preparing students for disengaged political

and civic futures and that the lessons of compliance and obedience translate to a lack of participation once they become young adults.”^{172(p101)} Their study found that disciplined students were less likely to vote as adults, that other social control and school security measures like metal detectors and bars on windows had no effect on voting, and that these effects did not differ by race. While an important first attempt at answering this question, as will be discussed in later sections, Kupchik and Catlaw used operationalizations of discipline history, social control, and voting activity that were constrained by the dataset they were using and that were advantageous in some ways, but limiting in others.

Our study builds on Kupchik and Catlaw’s work by broadening the theoretical basis for a connection between exclusionary disciplinary experience and social control in school and civic engagement in adulthood. We examine the impact of exclusionary discipline and social control on civic engagement, namely voting, in adulthood and whether those impacts differ by race. We focus on voting as our measure of engagement because we believe that voting operates differently than volunteerism and because of a particular interest in the connection between voting disparities and racial equity more broadly. Further, establishing the empirical link between school institutional policy action, school discipline, and civic engagement has potential to support school policy change that decreases disproportionate application of exclusionary discipline, the school-to-prison pipeline, and subsequently improves democratic engagement in civic life.

Now is a particularly important time to be studying the civic engagement outcomes of the discipline gap. Rates of school discipline have increased at the same time that school victimization rates, teacher reports of threats, and school-based homicides have all declined.^{175,176} Harsh responses to school transgressions have been increasingly the norm in recent years in the wake of the Gun Free Schools Act of 1994, when Congress authorized public-school funding subject to the adoption of

zero-tolerance policies, and the Columbine High School massacre which catalyzed further rapid and widespread adoption of such policies.^{4,60} We also live in a time of extreme political polarization and strife. A civically engaged electorate—including, and perhaps especially, within marginalized subgroups—is a fundamental component of a healthy and equitable democracy. The National Academies of Sciences, Engineering, and Math recently proposed including voting as a leading health indicator in the Healthy People 2030 Framework.¹⁷⁷ Schools are positioned to support or suppress such an electorate; this study contributes to literature for educators to intentionally do the former, not the latter.

4.3 Methods

Data

We sought to expand upon Kupchik and Catlaw’s study and determine whether exposure to different types of social control and exclusionary discipline in adolescence affect voting behavior as an adult, independently or as an interaction with race. To answer this question, we used data from the National Center for Education Statistics’ Educational Longitudinal Study: 2002 (ELS:2002). The ELS:2002 is a nationally representative, longitudinal study of 10th graders in 2002 (i.e., the “base” or “beginning” year (BY)), 12th graders in 2004 (F1 or “follow up 1”), and follow-ups in 2006 (F2) and 2012 (F3).¹⁷⁸ Participants entered the study at age 16 and were most recently surveyed at age 26 (F3).

¹⁷⁸ The full ELS:2002 sample, which was used for the analyses discussed here, includes over 15,000 individual participants from 750 schools in the base year.¹⁷⁸ While more recent data are available from other sources (e.g., ELS’ successor, the High School Longitudinal Study of 2009 While more recent data are available from other sources (e.g., the High School Longitudinal Study of 2009 and beyond), ELS:2002 allows for the ordinal operationalization of school discipline experience, unlike

most other datasets), ELS:2002 allows for the ordinal operationalization of school discipline experience, unlike most other datasets.

ELS:2002 used a stratified, two-stage sampling design, with schools selected as the primary sampling unit followed by a random selection of students from those schools in the second stage.¹⁷⁸

Variables

Individual disciplinary history and school-level social control measures in school were the two primary independent variables of interest for this study. Disciplinary history was operationalized as the number of times students were suspended in-school or out-of-school in the base year (i.e., 10th grade). While in- and out-of-school suspension are oftentimes examined separately in the school-discipline literature, there is evidence that in-school-suspension acts almost like a prodrome of out-of-school suspension³¹ and, therefore, studying the two together may present a more complete picture of a student's disciplinary profile. These two variables were combined and top-coded to yield an ordinal composite with response options never, once or twice, and three or more times.

Social control was operationalized using responses to 25 school-level variables like the presence of metal detectors and security guards (**Table 4.1**). Kupchik and Catlaw investigated social control by examining several measures individually within their models (i.e., each measure was included in the model as a separate independent variable). This approach allows for the assessment of the effect of each variable and offers valuable information on where to act in the case that effects differ.

However, examining each independently assumes that there are no cumulative “dose” effects that only become apparent when social control measures are assessed collectively. To determine whether such collective effects existed, we used a composite measure of social control equal to the sum of social control measures in place at the student's school.

In addition to these key independent variables, we included individual demographic variables such as education level at F3, English language fluency, sex, and household income at F3. Several adolescent household features, most of which were collected in ELS:2002 through a parent survey, were also considered, including parental education, household income, and household size. We also included a composite measure of a student's number of academic risk factors. This sum variable included items such as having a sibling who has dropped out of school; having changed schools two or more times (excluding changes due to school promotions) and having repeated at least one grade.

Based on Kupchik and Catlaw's findings, which were based on the earlier findings of McFarland and Thomas that youth extracurricular activities predict adult political engagement, we also controlled for extracurricular involvement by investigating two overall measures of extracurricular activities: hours per week spent on extracurriculars and number of extracurricular activities.^{150,172} These variables represent potential confounders of the path between discipline in school and voting activity as an adult. A series of variables pertaining to perceptions of school (e.g., fairness of teachers, interest of teachers in the student) were also included.

Finally, we included a set of school-level independent variables that were theoretical confounders. These consisted of type of school type (i.e., public vs. private), school urbanicity, percent free and reduced lunch, school-level in- and out-of-school suspension rates, and total enrollment size.

In keeping with the central research question of this study, we included race (Black, non-Hispanic vs. non-Black, non-Hispanic) as a potential effect modifier of the relationship between both discipline and voting and social control measures and voting. While Hispanic ethnicity has been found to be associated both with disproportionate discipline and voting behavior, we focused on the experiences of Black students because the magnitude of the discipline disparity is considerably greater than among Hispanic students.⁸⁷

Table 4.1. School characteristics included in count of social control measures

<i>Built environment measures</i>	<i>Security personnel measures</i>
Locks on inside of classroom door	Entrances/exits monitored by guard
Bars on classroom windows	Observed security guard
Entrances/exits locked during day	Use paid security at any time during school hours
Observed metal detectors	Use paid security as students arrive or leave
Observed fencing around entire school	Use paid security at school activities
	Use paid security outside of school hours/activities
<i>Dress-related measured</i>	Use paid security at other time
Require students to wear uniforms	
Enforce strict dress code	<i>Procedural measures</i>
Students wear ID badges	Random metal detector checks on students
Teachers wear ID badges	Require students pass through metal detector
Other personnel wear ID badges	Closed campus for students during lunch
Visitors wear ID badges	Require drug testing for any students
Require clear book bags/ban book bags	
	<i>Electronic surveillance measures</i>
	Entrances/exits monitored by video
	Use security cameras to monitor school

Our dependent variable was a composite voting activity variable constructed from responses to five voting questions pertaining to 2004 to 2011 local, state, national, and presidential elections as well as whether the individual is registered to vote. We created a composite variable consisting of voting activity during all elections for which a given respondent was age eligible. Specifically, for some students who were not yet of age, this meant not including the 2004 election in their potential voting

activity total. Voting activity conditioned on age eligibility was then categorized into a binary variable defined as the bottom tercile (“low voting activity”) vs. the top two terciles (“moderate-to-high voting activity” or “regular voter/voting activity”). This operationalization deviates from that used by Kupchik and Catlaw, who looked at responses to a Likert-scale question on frequency of voting (i.e., “how often do you usually vote...”) at two time points separately. By looking at early adulthood and established adulthood separately, the authors were able to draw rudimentary conclusions about the duration of effects. They also might have had theoretical reasons for anticipating age effects. We collapsed voting behavior captured across two waves of data, two years (2006) and eight years (2012) after high school. We elected to use this operationalization in order to have a fuller, more granular picture of voting behavior. We ultimately recoded the variable into its binary form to align with our interest in understanding how individuals with low voting behavior might differ from those with moderate or higher levels of voting behavior. We also created a second version of the voting outcome variable that excluded participation in the 2008 presidential election. Voter turnout for that election was abnormally high, especially among voters of color (Black turnout exceeded White turnout for the first time in history),¹⁷⁹ and we had concerns that this could confound our analyses. We used the modified version to conduct a sensitivity analysis to determine whether voting activity for that election was skewing our analyses. Results are discussed below.

Missing Data

The base year sample for the ELS:2002 study consisted of 15,362 respondents. In the subsequent three follow ups in 2004, 2006, and 2012, sample size fluctuated from 14,989 to 14,159 to 13,250. Data were missing for at least one of the variables above for about 20% of the observations. To address the missing data, we used multiple imputation by chained equations (MICE) through the R mice package. Before beginning this procedure, the dataset was trimmed to include only the variables of broad theoretical importance due to a concern about inadequate computing power to

conduct multiple imputation of the full dataset of over 15,000 observations across over 4,000 variables. In the MICE approach, each variable is imputed using its own imputation model, which allows for MICE to handle different variable types (e.g., continuous, binary, categorical, ordinal).¹⁸⁰ In keeping with White et al., who suggest that the number of independent imputation rounds (M) should be at least equal to the percentage of incomplete cases in the dataset, we conducted 20 rounds of imputation (M=20).¹⁸⁰ The imputation model was broad and inclusive, though care was taken to exclude any variables that had no predictive value for the missing data (e.g., ID variables). We then ran the models based on each of the 20 imputed files. The results were aggregated using Rubin's rules and the pool() function in the mice package.¹⁸¹

Analytical Approach

Prior to multivariable analyses, all variables of interest, both dependent and independent, were assessed descriptively and at the bivariate level. For descriptive analyses, we used panel weights and the Stata svy survey design tools to longitudinally account for the non-random sampling approach used to identify participant schools.¹⁸² Chi-squares tests were used to evaluate the relationship between categorical variables and the outcome of voting activity (low vs. moderate-to-high) and independent samples t-tests were used for continuous variables.

We used multilevel logistic regression to assess the relationship between school discipline and social control and civic engagement. A multilevel approach was hypothesized to be appropriate due to the clustered nature of the data (e.g., students are nested in classrooms, classrooms in schools, schools in districts). We confirmed that clustering was present and multilevel modeling was necessary by calculating an intraclass correlation coefficient (ICC) to estimate the percent of the variance in voting activity that is explained at the school level (level 2). An ICC of greater than 0.05 or 5% was the threshold for using multilevel modeling.¹²⁰

We used an iterative approach to model building. We first added all of the level 1 variables. We then added the level 2 (school) and level 3 (district) variables. We only considered an intercept-as-outcomes model for levels 2 and 3 because we had neither empirical evidence nor theoretical justification for a slopes-as-outcome model.¹²⁰ We followed the general rule of thumb that only covariates that were significant at $\alpha=0.10$ at the bivariate level should be loaded into the model at each of the aforementioned stages.¹¹⁹ Variables that were of great theoretical importance were included even if they failed this preliminary significance test. Our first model looked at only main effects. In the second model we added the interaction between Black, Non-Hispanic race and ethnicity and discipline history. In the third model we included a second interaction term between Black, non-Hispanic and social control.

One virtue of multilevel modeling is that it structurally takes into account the complex nature of some survey data as opposed to addressing such complexities via a model-based (e.g., weighted) approach. By using multilevel modeling, some argue that using survey weights is unnecessary.^{183–185} While survey-provided school- and individual-level weights were used for all descriptive analyses, they were not included in inferential analyses.

4.4 Results

Descriptive and Bivariate Findings

Of the 15,370 individuals in the imputed dataset, 55.8% of them were non-Hispanic White, 13.4% were non-Hispanic Black, 10.0% were non-Hispanic Asian, 1.0% were non-Hispanic American Indian or Alaska Native, and 4.7% were multiple races and non-Hispanic. Approximately 15.0% were Hispanic. Black students accounted for 25.3% of students suspended once or twice and 24.9% of students suspended three or more times. Approximately 47.3% of all participants were regular

voters (i.e., moderate-to-high voting activity) with 53.8% of White participants and 46.44% of Black participants falling into this category.

Table 4.2. Bivariate analyses of adolescent and adult predictors of voting activity as an adult

	Overall		Low Voting Activity N=8086		Moderate-to-High Voting Activity N=7283		Test Stat	P-value
	%	N	%	N	%	N		
Disciplinary/Social Control Exposure								
Suspension/Expulsion History							163.888	<0.001
Never	85.6	13159	82.3	6655	89.3	6504		
Once or twice	8.6	1329	10.4	841	6.7	488		
Three or more times	5.8	889	7.4	598	4.0	291		
Social control measures (mean, SD)	11.0	3.6	10.8	4.2	11.2	3.9	15.308	0.004
School ever-ISS rate (mean, SD)	11.6	10.2	12.6	11.8	10.4	11.0	12.228	<0.001
School ever-OSS rate (mean, SD)	8.0	7.5	8.5	7.9	7.4	7.8	9.446	<0.001
Demographics								
Race								
White, non-Hispanic	55.8	8579	49.0	3962	63.4	4617	337.274	<0.001
Black, non-Hispanic	13.4	2054	13.6	1100	13.1	954	1.037	0.309
Asian, non-Hispanic	10.2	1565	12.5	1011	7.6	554	104.834	<0.001
American Indian, Alaska Native, non-Hispanic	1.0	154	1.0	81	1.0	73	3.457	0.063
Multiple, non-Hispanic	4.7	724	5.0	404	4.4	320	3.079	0.079
Hispanic	15.0	2299	18.8	1520	10.7	779	206.084	<0.001
Native English speaker	82.3	12653	76.4	6178	88.9	6475	434.188	<0.001
Female	50.2	7717	45.9	3711	55	4006	126.268	<0.001
Age in 2002 (mean, SE)	16.5	0.0	16.5	0.0	16.4	0	1.043	0.317
Youth Household Features								
Household Income							467.075	<0.001
<\$35,000	32.6	5013	39.3	3178	25.2	1835		
\$35,001-\$75,000	39.2	6017	38.2	3089	40.2	2928		
\$75,001-\$200,000	24.6	3787	20.0	1617	29.8	2170		
>\$200,000	3.6	552	2.5	202	4.8	350		
Single parent/guardian household	23.3	3584	25.5	2062	20.9	1522	47.456	<0.001
Highest parental education							442.202	<0.001
Some high school	6.1	941	8.4	679	3.6	262		
High school	20.0	3073	23.5	1900	16.1	1173		
Some college	32.6	5016	33.3	2693	31.9	2323		
College or more	41.3	6347	34.9	2822	48.4	3525		
Number of dependents in household (mean, SD)	2.7	1.1	2.8	1.5	2.6	1.3	6.761	<0.001
Number of academic risk factors in 10 th gr (mean, SD)	1.1	0.7	1.2	1.2	0.9	1.0	20.863	<0.001
Adult Household Features								
Received public assistance in 2011	18.9	2899	23.7	1916	13.5	983	275.334	<0.001
Number of dependents (mean, SD)	0.7	0.7	0.8	1.5	0.5	0.9	16.705	<0.001

Table 4.2. Bivariate analyses of adolescent and adult predictors of voting activity as an adult

	Overall		Low Voting Activity N=8086		Moderate-to-High Voting Activity N=7283		Test Stat	P-value
	%	N	%	N	%	N		
Extra-Curricular Involvement								
Hrs of wkly extracurricular activity in 01-02 (mean, SD)	4.7	4.9	4.1	5.5	5.3	5.8	13.449	<0.001
No. of school-sponsored activities in 03-04 (mean, SD)	2.1	1.3	1.8	1.7	2.4	1.9	21.684	<0.001
Perceptions of School Environment‡								
Students get along well with teachers	75.9	11670	72.9	5895	79.3	5775	89.497	<0.001
Teachers are interested in students	76.1	11697	74.5	6024	77.9	5673	25.311	<0.001
Teachers praise my efforts	65.5	10062	64.9	5248	66.1	4814	2.565	0.109
Misbehaving students get away with it	51.8	7960	51.7	4180	51.9	3780	0.123	0.725
School rules are fair	54.8	8415	52.1	4213	57.7	4202	52.057	<0.001
Punishment is the same no matter who you are	61.9	9515	62.1	5021	61.7	4494	0.269	0.603
Often feel put down by teachers	13.2	2031	14.5	1172	11.8	859	24.160	<0.001
Other School Features								
Control							282.288	<0.001
Public	78.8	12108	83.9	6784	73.1	5324		
Catholic	12.2	1871	9.0	728	15.7	1143		
Other private	9.0	1390	7.1	574	11.2	816		
Urbanicity							2.629	0.269
Urban	33.9	5206	33.3	2693	34.5	2513		
Suburban	47.9	7364	48.2	3897	47.6	3467		
Rural	18.2	2800	18.5	1496	17.9	1304		
>50% Free/Reduced Lunch	12.9	1985	13.54	1095	12.22	890	1.34	0.154
School enrollment in 01-02							116.758	<0.001
<800	34.4	5293	31.6	2555	37.6	2738		
800-1599	38.5	5913	38.0	3073	39.0	2840		
1600-1999	20.1	3092	22.3	1803	17.7	1289		
2000+	6.9	1062	8.0	647	5.7	415		

‡Strongly Agree or Agree

Boldface indicates significant at alpha=0.05

To begin examining the relationship between discipline history and social control in school and our dependent variable, voting activity, we conducted bivariate analyses by voting activity level (**Table 4.2**). These preliminary analyses provide some support for our hypothesis that students with harsher disciplinary histories are less likely to vote. We see a negative dose-response relationship between disciplinary history and voting activity. Students who were suspended or expelled once or twice were

less likely to demonstrate moderate or high voting activity than those who were never suspended or expelled, and those who were disciplined three or more times are least likely to engage in moderate or high voting activity ($\chi^2=163.8$ $p<0.001$). On average, individuals with low voting activity attended schools with higher rates of out-of-school ($m=12.6\%$ vs. $m= 11.0\%$, $p<0.001$) and in-school ($m=8.5\%$ vs. $m= 7.4\%$, $p<0.001$) suspension. Individuals demonstrating low voting activity were also more likely to attend a school with lower numbers of social control measures ($m=10.8$ vs. $m=11.2$, $p=0.004$).

Adults who demonstrated higher levels of voting activity reported different academic and extracurricular experiences at the secondary level relative to their less civically engaged counterparts. Individuals with moderate or high levels of voting activity spent on average 1.2 more hours per week involved in extracurricular activities and participated in more activities ($\chi^2=13.4$, $p<0.001$ and $\chi^2=21.7$, $p<0.001$ respectively). As students, these individuals were more likely to agree or strongly agree that they got along well with teachers, that teachers were interested in them, and that rules were fair, and they were less likely to believe that they were often put down by teachers ($p<0.001$ for all). Those demonstrating moderate-to-high voting activity were also more likely to go to a private school and a smaller school ($\chi^2=282.3$, $p<0.001$ and $\chi^2=116.8$, $p<0.001$ respectively).

Individuals with moderate-to-high voting activity levels were more likely to be White, non-Hispanic ($\chi^2=337.3$, $p<0.001$). Individuals with higher levels of voting activity were also more likely to be native English speakers and from higher income and smaller households as youths ($p<0.001$ for all). These individuals had 0.2 fewer academic risk factors on average and their parents were more educated ($\chi^2=20.0$, $p<0.001$ and $\chi^2=442.2$, $p<0.001$ respectively). As an adult, they were less likely to receive public assistance ($\chi^2=275.3$, $p<0.001$) and had fewer dependents ($\chi^2=16.7$, $p<0.001$).

Several variables examined were not statistically significant at the bivariate level including student age, school urbanicity, school-level percent of students receiving free or reduced lunch, student perceptions of whether teachers praise them, whether students get away with misbehaving, and whether punishment is the same no matter who you are.

Multivariate Results

At the outset of multivariable analysis, to determine whether a multilevel modeling approach was needed, we calculated the ICC for hierarchical logistic models as well as the ICC for linear regression. Both approaches yielded a similar ICC (0.10 using the logistic approach, 0.12 using the linear approach) that was greater than the 0.05 threshold, indicating that multilevel modeling was necessary.

We then compared the fit of the unconditional growth model containing school discipline and social control as a fixed effects only with the unconditional growth model incorporating them as both fixed and random effects. Comparing AIC and -log likelihood values led to the conclusion that the fixed effects (random intercepts) model demonstrated better fit with the data and was used for all subsequent modeling.

As described in the Methods section, we specified three models containing no interaction terms (Model One), one two-way interaction term (Model Two), and two two-way interaction terms (Model Three). A comparison of AIC values showed that all three models performed similarly well. Likelihood ratio tests found that Models Two and Three showed slightly better fit with the data, and Model Three performed the best of all by a narrow margin ($\chi^2=12.3$, $p=0.047$). However, its AIC value was trivially better. Given this, along with the fact that the second interaction term (race*social control) in Model Three was not statistically significant, to aid with interpretation and in the interest

of parsimony, Model Two, which includes only the race*discipline history interaction term was considered the final model that will be interpreted further here.

All of the models presented were also computed using the modified outcome variable that did not include the 2008 Presidential election and down-ticket races. While the effect sizes for the discipline history and social control variables were slightly larger in these versions of the analyses, suggesting some negative confounding, the associations remain directionally consistent, indicating that the confounding was quantitative as opposed to qualitative. The results presented in **Table 4.3** reflect the models using the original outcome variable.

The negative dose-response relationship between discipline history and voting activity remains intact after controlling for youth and adult sociodemographic features, propensity toward civic engagement (i.e., participation in extracurriculars), perceptions of the school environment, and school-level features. In Model 1, students who were suspended one or two times over their high school tenure had approximately 19.5% lower odds of demonstrating moderate or high voting activity relative to those who were never disciplined ($p=0.003$). The interaction of race and discipline history was significant for students who had been suspended three or more times. Taking the main and interaction effects into account (Model 2), Black, non-Hispanic students suspended three or more times, had an odds of voting regularly that were 33.5% lower than non-Black, non-Hispanic students who had never been suspended ($OR = \exp(\ln(0.764) + \ln(0.871)) = 0.665$). Holding all other variables constant, the number of social control measures in school was positively and significantly associated with voting activity. Every additional social control measure in place was associated with a 1.3% increase in the odds of regular voting ($p=0.002$).

With respect to socio-demographics, Black participants were no more or less likely to vote regularly than non-Black participants. However, Asian individuals were significantly less likely to demonstrate

moderate-to-high voting activity as were individuals who identified as multiple races and individuals who identified as Hispanic (OR=0.69, $p<0.001$; OR=0.81, $p=0.012$; OR=0.80, $p<0.001$, respectively). Native English speakers were significantly more likely to vote more often (OR=1.75, $p<0.001$). Females had 50% greater odds of voting more often (OR=1.50, $p<0.001$). While household income was a positive predictor of increased voting behavior when holding all other variables constant, being in a single parent household was not significant nor was household size. Having the highest level of parental education compared to the lowest level was significant (OR=1.25, $p=0.014$). Accounting for all other variables, each additional academic risk factor was associated with 12% lower odds of demonstrating regular voting behavior (OR=0.88, $p<0.001$). Of the adult household features, receiving public assistance was associated with 39% lower odds of regular voting (OR=0.61, $p<0.001$).

Extracurricular involvement was positively associated with voting activity with each additional activity increasing odds by 11.3% ($p<0.001$). Students with positive perceptions of school generally went on to vote more often as adults. Agreeing or strongly agreeing that students get along well with teachers (OR=1.22, $p=0.003$), that school rules are fair (OR=1.15, $p=0.033$) were both positively and significantly associated with voting. Conversely, students who felt they were often “put down” by teachers were less likely to vote (OR=0.83, $p=0.044$).

Of the school level variables, only being a Catholic or non-Catholic private school was statistically significant after accounting for all other variables (OR=1.21, $p=0.007$ and OR=1.20, $p=0.030$).

School-wide OSS and ISS rate were not significant at the multivariable level.

Table 4.3 Results of mixed-effects logistic regression predicting voting behavior from disciplinary and social control history

	Model 1: No Interaction Terms			Model 2: Race*Discipline Interaction Terms			Model 3: Race*Discipline and Race*Socia Control Interaction Terms		
	Exp (B) =OR	SE (B)	p	Exp(B) =OR	SE (B)	p	Exp(B) =OR	SE (B)	p
FIXED EFFECTS									
Disciplinary/Social Control Exposure									
Suspension History									
Never (ref)	---	---	---	---	---	---	---	---	---
Once or twice	0.835	0.064	0.005	0.805	0.073	0.003	0.465	0.164	<0.001
Three or more times	0.746	0.079	0.035	0.764	0.092	0.003	0.656	0.195	0.031
Number of social control measures	1.014	0.004	<0.001	1.013	0.004	0.002	1.009	0.004	0.046
School ever-ISS rate (mean, SD)	0.793	0.217	0.245	0.790	0.217	0.281	0.781	0.217	0.257
School ever-OSS rate (mean, SD)	0.737	0.298	0.381	0.727	0.298	0.287	0.737	0.298	0.307
Interaction Terms									
Suspension History*Black, Non-Hispanic									
Never (ref)	---	---	---	---	---	---	---	---	---
Once or twice				0.917	0.144	0.059	0.878	0.367	0.086
Three or more times				0.871	0.174	0.021	0.789	0.445	0.014
Number of social control measures *Black, Non-Hispanic§	---	---	---	---	---	---	1.013	0.011	0.112
Demographics									
Black, non-Hispanic	1.082	0.058	0.166	0.954	0.139	0.739	0.876	0.154	0.392
Asian, non-Hispanic	0.681	0.073	<0.001	0.685	0.073	<0.001	0.684	0.073	<0.001
American Indian, Alaska Native	0.868	0.194	0.474	0.878	0.193	0.504	0.886	0.193	0.534
Multiple, non-Hispanic	0.810	0.082	0.010	0.814	0.081	0.012	0.813	0.081	0.011
Hispanic	0.795	0.061	<0.001	0.802	0.061	<0.001	0.800	0.061	<0.001
Native English speaker	1.743	0.060	<0.001	1.754	0.060	<0.001	1.756	0.060	<0.001
Female	1.507	0.035	<0.001	1.503	0.035	<0.001	1.506	0.035	<0.001
Youth Household Features									
Household Income									
<\$35,000 (ref)	---	---	---	---	---	---	---	---	---
\$35,001-\$75,000	1.158	0.045	0.001	1.115	0.045	0.001	1.152	0.045	0.001
\$75,001-\$200,000	1.267	0.056	<0.001	1.266	0.055	<0.001	1.264	0.055	<0.001
>\$200,000	1.376	0.105	0.002	1.365	0.104	0.002	1.363	0.104	0.002
Single parent/guardian household	1.010	0.051	0.062	1.101	0.051	0.060	1.098	0.051	0.065
Highest parental education									
Some high school (ref)	---	---	---	---	---	---	---	---	---
High school	0.890	0.090	0.199	0.884	0.090	0.174	0.885	0.090	0.180
Some college	1.071	0.089	0.435	1.063	0.088	0.484	1.066	0.088	0.468
College or more	1.258	0.090	0.011	1.247	0.090	0.014	1.251	0.090	0.013
No. of dependents in household	0.978	0.012	0.077	0.977	0.012	0.076	0.978	0.012	0.081
No. of acad. risk factors in 10 th gr	0.881	0.022	<0.001	0.881	0.022	<0.001	0.881	0.022	<0.001

Table 4.3 Results of mixed-effects logistic regression predicting voting behavior from disciplinary and social control history

	Model 1: No Interaction Terms			Model 2: Race*Discipline Interaction Terms			Model 3: Race*Discipline and Race*Socail Control Interaction Terms		
	Exp (B) =OR	SE (B)	p	Exp(B) =OR	SE (B)	p	Exp(B) =OR	SE (B)	p
Adult Household Features									
Received public assistance in 2011	0.614	0.047	< 0.001	0.614	0.047	< 0.001	0.613	0.047	< 0.001
Extra-Curricular Involvement									
Hours of weekly extracurricular activity in 01-02	1.002	0.003	< 0.001	1.002	0.002	0.362	1.002	0.003	0.377
Number of school-sponsored activities in 03-04	1.114	0.010	< 0.001	1.113	0.010	< 0.001	1.113	0.010	< 0.001
Perceptions of School Environment‡									
Students get along well with teachers	1.213	0.032	0.003	1.223	0.036	0.003	1.100	0.032	0.003
Teachers are interested in students	1.020	0.028	0.473	1.021	0.031	0.453	1.021	0.028	0.445
School rules are fair	1.155	0.024	0.036	1.150	0.027	0.033	1.053	0.024	0.044
Often feel put down by teachers	0.851	0.026	0.042	0.834	0.029	0.044	0.900	0.026	0.046
Other School Features									
Control									
Public (ref)	---	---	---	---	---	---	---	---	---
Catholic	1.224	0.072	0.006	1.214	0.072	0.007	1.213	0.072	0.030
Other private	1.205	0.082	0.024	1.195	0.082	0.030	1.195	0.082	0.046
School enrollment in 01-02									
<800 (ref)	---	---	---	---	---	---	---	---	---
800-1599	0.974	0.052	0.622	0.973	0.052	0.618	0.973	0.052	0.618
1600-1999	0.890	0.067	0.081	0.886	0.066	0.072	0.884	0.066	0.066
2000+	0.927	0.093	0.419	0.932	0.094	0.458	0.930	0.094	0.441
RANDOM EFFECTS									
	Est	SD		Est	SD		Est	SD	
	0.108	0.328		0.110	0.332		0.109	0.334	
MODEL FIT									
	Obs	-LL	AIC	Obs	-LL	AIC	Obs	-LL	AIC
	15370	-	20961	15370	-10311	20954	15370	-	20953
		10307						10313	

Boldface indicates significant at alpha=0.05

4.5 Discussion

In 2015, Kupchik and Catlaw published the first empirical study of the relationship between school discipline, school security, and civic engagement in early and mid-adulthood. Using ADD Health

data from the 1994-1996 school years with adult observations from 2001-02 and 2008-09, they found that discipline suppresses voting activity and civic engagement, that school security was not associated with either outcome, and that these effects did not differ by race or ethnicity. Kupchik and Catlaw's thoughtful analysis called on those of us who study the discipline gap to think broadly about the consequences of exclusionary discipline and punitive and controlling educational environments. Our study heeds that call and extends Kupchik and Catlaw's exploratory work.

Our findings largely align with and deepen those of Kupchik and Catlaw. We found that disciplinary exposure as an adolescent is tied to a diminishment in voting activity. However, our effect sizes are slightly larger than those documented in the earlier study. Kupchik and Catlaw found that the odds of a student voting years later were 12% lower among those suspended. Before considering the interaction of race with discipline history, we found that, among students suspended once or twice the odds of voting regularly as an adult dropped by 16.5%. Moreover, among those suspended three or more times, the odds of voting regularly were 25.6% lower. This novel dose-response trend suggests that it is important to consider the cumulative effect of repeated suspension, and it lends some support to a causal relationship between discipline and voting activity.¹⁸⁶ It also aligns with a potential underlying mechanism whereby discipline alienates students from their educational environment and undermines their trust in authority as well as their perception that they can exert influence over their governing bodies. This mechanism is further supported by the significant odd ratios associated with perceptions of the school environment. Students who believed their teachers were encouraging and invested in them and that rules were fair and enforced consistently were more likely to vote later in life, which may reflect a sense of confidence in the benevolence of other public institutions. At the bivariate level, students who were suspended were less likely to feel positive about their educational environment, and these attitudes grew more negative among students suspended three or more times. An examination of these perceptions as mediators of the

relationship between discipline and voting behavior would be an illuminating way of testing whether repeated discipline is teaching students a lasting lesson about the fairness of authority, the extent to which public institutions serve them, and their sense of power within institutions. While our study improves upon Kupchik and Catlaw's by looking beyond the binary conception of discipline, it still only looked at suspension history as a three-level ordinal variable. Future studies that look at discipline even more granularly (e.g., a continuous count of suspensions or days suspended, concentration of suspensions) would be valuable.

It is also possible that civic engagement is lowered for Black adults because repeated suspension places them at increased risk of becoming felons (i.e., the "school-to-prison pipeline") and having their voting rights revoked. While the ELS:2002 contains two incarceration variables, pertaining to reasons for dropping out of school and for deciding not to pursue education, the responses to these questions were lumped into an "other" category to prevent disclosure. About 330 and 150 respondents fell into the other categories for reason for dropout and reason for not continuing studies, respectively. While disenfranchisement due to incarceration is almost certainly responsible for some of the relationship we find between suspension and voting behavior, its impact in the ELS data is likely small.

A diminished sense of trust in and attachment to the school environment that transfers to perceptions of other public institutions may explain the differential results we report by race. Kupchik and Catlaw found there to be no significant difference in the effect of discipline on civic engagement for Black vs. White students, which they reported as surprising. We draw similar conclusions when looking just at students suspended one or two times. We found that adverse effects of repeated suspension (i.e., being suspended three or more times) on voting behavior were more acute for Black, non-Hispanic students compared to all other students. While non-Black, non-

Hispanic students suspended three or more times were 24.6% less likely to vote regularly than those who were never suspended, Black, non-Hispanic students were 33.2% less likely. These findings could indicate that the “dose” of discipline needed to alienate students from civic institutions must be adequately substantial: suspending a Black student once or twice does not damage their perceptions in the same way that suspending them three or more times does.

We should be concerned about the differential impact of discipline on voting by race not only because our results suggest that the effect is felt more acutely by Black students, but because they experience suspension far more commonly than other students. In 2014 Black students represented about 15 percent of enrollment and made up 35 percent of students suspended once and 44 percent of those suspended more than once.¹¹⁰ In the same year, one in five Black boys and one in eight Black girls were suspended.¹⁸⁷ Suspensions could be contributing to racialized voter disengagement in epidemic proportions.

Based on theory, we expected social control to have a similarly negative relationship with voting behavior. We were surprised, therefore, to document a statistically significant *positive* relationship between the two: for every additional social control measure, a student’s odds of voting regularly as an adult increased by 1.4% ($p < 0.001$). Given that most schools use at least ten such measures, this effect size has more practical significance than one might think. Our findings disagree with those of Kupchik and Catlaw, who found that there was no relationship between security measures in school and voting later in life. Notably, they looked at each security feature individually, so their study was not well suited to exploring the collective effects of social control measures. Our study suggests that student perceptions of social control measures in school are more complex than we thought. It is possible that a lack of social control in school disrupts order and undermines safety, thereby compromising school attachment and belief in the power of public institutions to secure stability.

While we are unaware of research examining this full mechanism, some studies have found that students feel that school security measures are protective.¹⁸⁸⁻¹⁹⁰ One multilevel study of 54,350 middle- and high school students found that greater use of security cameras inside the school was related to lower perceptions of safety, equity, and support, while moderate use of cameras outside the school and the presence of security officers was related to higher perceptions of support.¹⁸⁸ Perceptions differed by race, with Black students more likely to feel positively about the presence of security measures ensuring safety.¹⁸⁸ Notably, the authors found no significant moderating effect of race on the relationship between security measures and perceptions of equity, suggesting that perceptions of equitable treatment in school were not impacted by differences in quantity or position of security cameras or the presence of security officers.¹⁸⁸ In short, the influence of social control measures in schools is complex and dependent not only on the structure of those measures, including type, quantity, and location, but on characteristics of the students they are intended to control or protect.

An appreciation of this complexity is growing among the field of scholars studying school security. For example, social reproduction theory has been widely utilized by such scholars to critique the use of harsh security measures. The framework draws on the seminal works of economists Samuel Bowles and Herbert Gintis (1976), as well as sociologists Pierre Bourdieu and Jean-Claude Passeron (1990), who examined how schools reproduce socioeconomic inequality.^{191,192} Scholars, including Kupchik, have used this framework to explain the unequal distribution of school security, namely by asserting that schools serving historically marginalized populations, especially poor and non-White students, operate with more punitive assumptions regarding safety and disciplinary needs and use harsher security measures than schools serving a largely middle-class White population.^{67,193,194} However, recent studies by some of the same scholars fail to empirically support social reproduction theory. Kupchik (2010) and Lyons and Drew (2006), for example, found that high schools serving

lower-income students of color and those serving middle-class White students adopted similarly harsh, exclusionary security measures.^{67,195} This likely reflects the increased use of crime control as the prevailing paradigm for governing risk in schools, as seen in the widespread required use of zero-tolerance policies and financial incentives for using police and criminal justice practices, especially in the wake of gun violence tragedies in schools, like Sandy Hook and Newtown.¹⁹⁶

Deeper examination suggests that, while the extensive use of security measures may be commonplace in schools – especially high schools, regardless of the racial and socioeconomic composition of their student bodies – there may be important differences in the specific measures used. Sociologist Paul Hirschfield, for example hypothesizes that different security technologies are expected at middle-class (but not lower-class) schools.¹⁹⁷ Surveillance cameras, for example, may be acceptable in schools of privilege in a way that metal detectors are not. The former are unobtrusive while the latter are an unambiguous form of control that come with a clear physical cost and inconvenience for students. Kupchik and Ward found that, after controlling for several factors, student race was strongly and positively associated with the use of metal detectors in school, but was not associated with the use of cameras, law enforcement officers, or locked gates.¹⁹⁸ Law scholar, Jason Nance, similarly found that certain combinations of social control measures were more strongly associated with the racial composition of the school than others.¹⁹⁶

Our study examined social control measures collectively, which makes it impossible to know whether the dynamics documented by Nance, Kupchik, and Ward may be at play. However, even those dynamics fall short of explaining why there might be a positive relationship between social control and voting regularly, though theoretically we can assume that, when social control is healthy, it exerts a positive influence on behavior outcomes. What does seem clear, however, is that further, more nuanced study is needed that considers how individual social control measures influence

students (i.e., Kupchik and Catlaw’s approach), as well as clusters of security measures (i.e., Nance’s approach), and the full suite of measures at a school (i.e., our approach) act on students’ perceptions of their school, educators, and education.

Once we have a clearer sense of how to examine social control measures, studying how they may differentially impact Black students will be an important next step. While we included an interaction term in this study to assess this question, it is difficult to unpack what our findings might mean. The inconclusive AIC, likelihood tests, and statistical significance suggest that effect modification by race may be an important consideration in the question of how race interacts with social control to impact civic engagement, but that more modeling work is warranted.

Limitations and Next Steps

This study’s findings regarding the potential long-term implications of disproportionate discipline and social control in schools on civic engagement should be tempered by its several shortcomings. While our ordinal operationalization of school discipline history is an improvement over a binary (ever/never) operationalization, we were only able to use three levels. A more continuous operationalization (e.g., a continuous count of suspensions or days suspended, concentration of suspensions) would be better. While our data are more recent than Kupchik and Catlaw’s (2006-2012 vs. 2002-2009), they are still fairly old. In the past decade, security features at school have changed substantially with technological developments, especially in light of tragedies like Newtown and Sandy Hook, which catalyzed a wave of school security enhancements. Any study that seeks to draw anything more than associations between an exposure (discipline/social control in school) and an outcome (voting) separated by many years must deal with several threats to validity, many of which are not feasibly addressed through study or analytical design. Similarly, the composite social control measure was more rudimentary than is ideal, given the aforementioned nuance in the way

such measures are perceived by students. Future studies that look at differences in the dimensions of social control (summarized in Table 4.1) and that explore weighting social control measures by their relative presence or some other metric would be useful.

The current study, therefore, can only draw associative conclusions. Future studies should use additional analytical approaches, such as propensity score methods, to mitigate selection bias emerging from observational data and structural equation modeling to examine potential mechanisms through mediation. Key variables like parental voting activity, which is significantly correlated with child voting behavior,¹⁹⁹ were not available and therefore could not be considered as potential confounders. We did not investigate school suspension as mediators of the relationship between student delinquency and civic engagement. Kupchik and Catlaw examined the former mechanism and found no consistent signs of suspension being a mediator. Another interesting mediational model that would align well with the theoretical orientation of this study would look at measures of sense of belonging and support in school as an intermediate between suspension and civic engagement. The highly social and cultural nature of both discipline and voting make this subject matter a good candidate for a mixed methods approach. Qualitative methods would be useful in learning more about attitudes that drive voting behavior, including loss of hope, lack of trust, and sense of fairness.

4.6 Conclusion

Researchers and advocates are becoming increasingly aware of the unintended consequences of disproportionate disciplinary experiences in school. Building on the work of Kupchik and Catlaw, we suggest that educational inequity may have additional insidious, long-term effects on the broader American political and economic ecosystems wherein conclusions developed by students about the

fairness of rules and their enforcement and the intended beneficiaries of our policies and systems are applied to adult engagement in civic life (i.e., voting). We find that repeated suspension is associated with diminished voting activity later in life and that this effect is more pronounced for students disciplined three or more times, especially if they are Black, non-Hispanic. These findings underscore the importance of scrutinizing and improving school policies and practices that are functionally racially inequitable, not only because they feed into racial disparities in educational outcomes, but because they may affect attitudes, perceptions, and behaviors that extend well beyond the school environment and that may shape the electorate. By dampening long-term propensities for civic engagement, racial disparities in the application of school discipline policies may deprive society of a constituency that could advocate for greater equity—in schools and beyond—were it more civically engaged.

Chapter 5: “This is Not a Sprint. It’s a Marathon”: Barriers and Facilitators to Banning OSS in One Metropolitan Area

5.1 Abstract

Background: The discipline gap is an entrenched barrier to education equity and lifelong wellbeing.

Discipline policy change is one of the most promising approaches to addressing it.

Methods: We conducted a comparative case study of five school districts in a single metropolitan area to identify barriers to and facilitators of a policy ban on out-of-school suspension in the wake of concerted community campaign to advocate for that change in the region in 2016, one year after the Ferguson Commission’s report and two years after the death of Michael Brown and the civil unrest that followed. Kingdon’s Three Streams framework was used to structure interviews with advocates (N=6) and leaders (N=9) in the case districts. Case districts were selected to represent the four tiers of commitment to banning OSS emerging from the community campaign.

Findings: The five school districts we studied experienced different dynamics within and between the problem, politics, and policy streams, which left them differently responsive to the shock of #Ferguson and the KKIC initiative. In the districts where we documented the most aggressive policy changes to reduce OSS (District A and District C), we saw a potent combination of leadership, resources, and vision. These district leaders diagnosed the discipline gap problem as a symptom of a fundamentally flawed or incomplete philosophy and culture of discipline and set their sights on changing that culture. For different reasons, District B, District D, and District E were not able or willing to commit similar resources.

Conclusion: Ultimately, banning OSS is a step along what must be a slowly- and responsively-traversed arc from a punitive philosophy of discipline to a healing approach. It should be neither the first nor the last step in that arc.

5.2 Introduction

Educators; the parents, students, and communities they serve; and education policy makers are increasingly aware of the disproportionalities in the way schools discipline students.^{4,123,200} Motivated by the desire to avoid the myriad adverse effects of the discipline gap,^{19–22,30,31,201,202} many in these groups have worked to close the gap by advocating for and implementing a variety of interventions. Borrowing from the U.S. Department of Education and the U.S. Department of Justice’s jointly-released, first-ever national guidelines on school discipline and climate for public elementary and secondary schools, we can conceptualize the mechanisms behind closing the discipline gap as falling into three categories.⁴⁴

The first of these categories contains interventions that seek to close the gap by improving school climate and thereby encouraging prevention. These interventions, including Positive Behavioral Interventions and Supports (PBIS)²⁰³ as well as Social-Emotional Learning (SEL)^{204,205} approaches operate from the assumption that, by fostering a healthier, more positive climate, educators can help all students engage in the desired learning activities and avoid problem behaviors.

The second category consists of interventions that aim to close the gap by setting clearer and more appropriate expectations and consequences for students. Approaches, including like the de-adoption of zero-tolerance policies,^{71,206} the use of restorative practices,²⁰⁷ and the removal of highly subjective behavioral categories (e.g., “insubordination”) as grounds for discipline, focus on clarifying school discipline policies and ensuring that the consequences defined in those policies are well calibrated to the inciting behavior and consistently applied.

The third category of interventions involves those that attempt to close the gap by enhancing school practitioner commitment to and capacity for equity and continuous improvement. This domain includes implicit bias trainings that make educators aware of their biases and how to minimize

them.²⁰⁸ It also contains efforts to use ongoing disproportionately-focused monitoring and evaluation to track discipline and other disparities.

All of the above interventions can be implemented at a multitude of levels. At the highest level are federal efforts, which are largely non-existent. The Obama administration issued some guidance pertaining to discipline disproportionality and has used its authority to push states and school districts to work to address those disproportionalities,¹¹⁰ but the Trump administration rescinded it.²⁰⁹ The Every School Succeeds Act, the most recent version of the Elementary and Secondary Education Act (ESEA) of 1965, replacing No Child Left Behind (NCLB), governs federal K-12 funding and places conditions on state receipt of funding. Under ESSA, states must disaggregate and report indicators by student sub-groups, but it allows states to select which indicators it tracks, with school discipline being one option.²¹⁰ A notable exception to the general absence of the federal government in the discipline gap policy space is the Equity in IDEA Act, which ensures that students with disabilities are protected from overidentification, segregation, or harsh discipline.

The next level contains statewide interventions that attempt to improve disciplinary outcomes by setting state laws. Several states have passed legislation reforming school discipline policies including Arkansas, California, Colorado, Connecticut, Delaware, the District of Columbia, Florida, Illinois, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Nebraska, New Jersey, North Carolina, Oregon, Rhode Island, South Carolina, Texas, and Virginia.^{141,211} State-level efforts fall into three general categories: 1) improving record-keeping and reporting, 2) amending the types of disciplinary actions that can be taken by restricting or revoking zero-tolerance policies or limiting the maximum length of suspensions, and 3) mandating or encouraging the use of approaches that are more restorative or that otherwise improve school culture and environment.

District-wide interventions fall into another category, one that has seen a great deal of action due to the policy-setting authority that sits at the school district level. As of the 2015-16 school year, 23 of the 100 largest school districts in the country had implemented reforms that limited the use of exclusionary discipline and encouraged the use of non-punitive or restorative strategies.²¹² In a 2014 survey of 500 district superintendents, 84% of respondents reported that their districts had updated their disciplinary policies and codes of conduct in the past three years.²¹² The majority of these actions are focused in the Expectations and Consequences category (e.g., limiting the use of suspensions or expulsions, de-implementing zero tolerance policies, decreasing the length of suspensions, and limiting the use of police and arrests in schools).

Finally, at the most granular level, we have interventions that are implemented at the individual school level, where determined school leaders have the greatest flexibility to act. Much of the work being done at the school level happens quietly. If it is publicized at all, it's in school board meeting minutes and building newsletters.

Despite the increased effort to address the discipline gap, and the appeal of doing so through policy as opposed to more impermanent programmatic approaches, little is known about how policies such as those described above were forged. Several frameworks, however, attempt to broadly characterize how policy changes occur. Kingdon's Three Streams framework is key among them.²¹³ This well-known model considers how policy interventions are received within the networks that create, promote, and ultimately approve them (or not). Kingdon argues that for a policy to undergo significant change, a window of opportunity must arise that results from the confluence of three separate "streams"—problem, policy, politics.

The problem stream refers to the dynamic environments in which a policy issue is brought to the attention of stakeholders. Consideration of this stream includes an assessment of how issues are

framed, how they compete for attention, and the environmental or precipitating factors that change all of the above. This stream can be fast-moving and quick to change course due to the flighty nature of human attention. The policy stream describes the actual policy-based solution proposed in response to the issue at hand. These solutions emerge from a “policy primeval soup,”^{213(p43)} or the iterative process by which policies are proposed, reconsidered, and modified by stakeholders whose opinions on the issue are potentially shifting. This stream moves more slowly than the problem stream, as this process of developing solutions takes time. As a result, policy solutions are often waiting in the wings for the right window of opportunity comes along. The politics stream depicts the interpersonal and political dynamics necessary for policymakers to feel they have the motive and opportunity to turn a proposal into a policy. Shifts in administration, partisan or ideological balances, mood, and interest group pressure are all considered in the politics stream.

Occasionally, and oftentimes as a result of a crisis or unanticipated event, according to Kingdon, the two or all three streams start to come together to open a window of opportunity during which advocates or “policy entrepreneurs,” can more effectively advance their agenda—especially if they know how to manipulate their environment and facilitate the joining of the streams (e.g., by connecting policy solutions to problems).

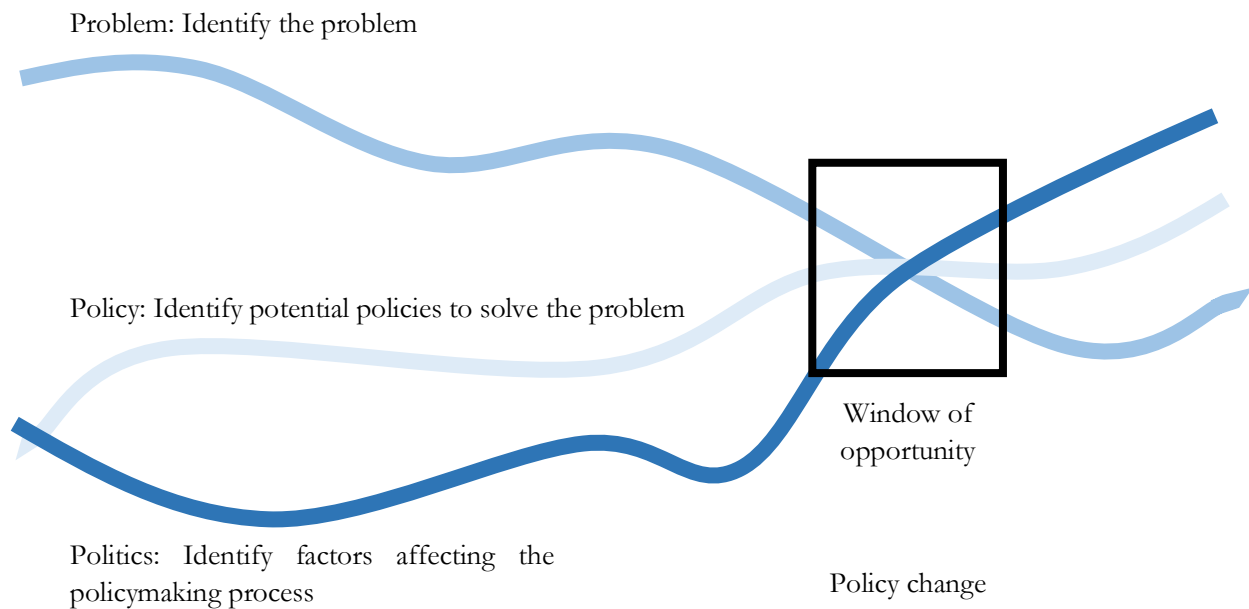


Figure 5.1. Kingdon's Three Streams

Adapted from Dodson, Brownson, and Weiss, 2012.^{214(p439)}

According to the Kingdon framework for public policy agenda setting, three generally independent streams, policy, problem, and politics, occasionally come together opening a window of opportunity for advancing a specific policy change.

Such an application of the Kingdon framework in the education setting, while not completely unprecedented, is quite novel. Previous applications have largely focused on statewide education policy as opposed to local policy changes.^{215,216} In this study, we examine one community initiative to ban out-of-school suspension in the 30 school districts in one Midwestern metropolitan area. The Keep Kids in Class Initiative (KKIC) took place in 2016, catalyzed in large part by the killing of unarmed Black teenager Michael Brown, Jr. by police officer Darren Wilson, the subsequent intense civil unrest often referred to as #Ferguson, and the Governor-sanctioned process to examine the root causes of the unrest and produce the Ferguson Commission report. KKIC consisted of partners from five education advocacy organizations using one-on-one meetings with leaders from all 30 districts and district-specific data to call for commitments to ban OSS. Leaders were invited to share those commitments at a large culminating community event in Fall of 2016. Some districts committed to banning OSS as soon as the following school year. Others did not make any

commitments at all. The initiative's varying success from district to district provides a natural experiment within which to conduct a comparative case study. Namely, we seek to understand the policy, problem, and political barriers and facilitators that contextualized school districts' willingness to change their discipline policies.

5.3 Methods

Data Sources

To address our research questions, we conducted a comparative case study of five districts representing different commitments to banning OSS at the end of the 2016 KKIC initiative. We used primary data, collected from interviews with district leaders (i.e., superintendents, assistant superintendents, school board members) and advocates as well as secondary information from the news media; district websites; the local office of the metropolitan voluntary desegregation program; and several key repositories of data, including the National Center for Education Statistics, the state Department of Elementary and Secondary Education, and the American Census Survey.

Case Selection

We selected the five districts to ensure we had representation of each of the levels of commitment offered at the KKIC culminating event:

Tier 0: No commitment made.

Tier 1: Commitment to reduce OSS for pre-k - 3rd graders, while exploring alternative forms of school disciplinary practices and supports that keep child and teacher well-being at the center.

Tier 2: Commitment to ban OSS for pre-k-3rd graders in the 2018-2019 school year and implement alternative forms of school disciplinary practices and supports that keep child and teacher well-being at the center.

Tier 3: Commitment to banning OSS for pre-k-3rd graders in the 2017-2018 school year and implement alternative forms of school disciplinary practices and supports that keep child and teacher well-being at the center.

These tier definitions largely came from the KKIC initiative itself. We obtained the data on which districts made tier commitments from the archives maintained by one of the institutional organizers of the KKIC initiative. To further narrow down to a subset of schools from each tier as well as to gather feedback on data collection instruments (e.g., interview guides), we assembled an advisory council comprised of 10 advocates engaged in education equity work in the metropolitan region. These 10 individuals were identified because of their historical involvement in the KKIC initiative and the 30 districts that served as the sampling frame for this study. We gathered the advisory council's perceptions of district readiness and ability to ban OSS via an online survey. We used the insights from this survey, along with school characteristics as measured using the data sources listed above, to select schools that covered all four tiers, that represented a wide range of readiness and ability according to the advisory council, and that were diverse in terms of their characteristics, including size, location, and wealth. We selected one district to represent each tier, with the exception of Tier 1, which was represented by two districts because of its disproportionate size. Of the 30 school districts in the metropolitan area, 18 made Tier 1 commitments, two made Tier 2 commitments, one made a Tier 3 commitment, and seven made no (Tier 0) commitments. The case selection and recruitment framework is visualized in **Figure 5.2**.

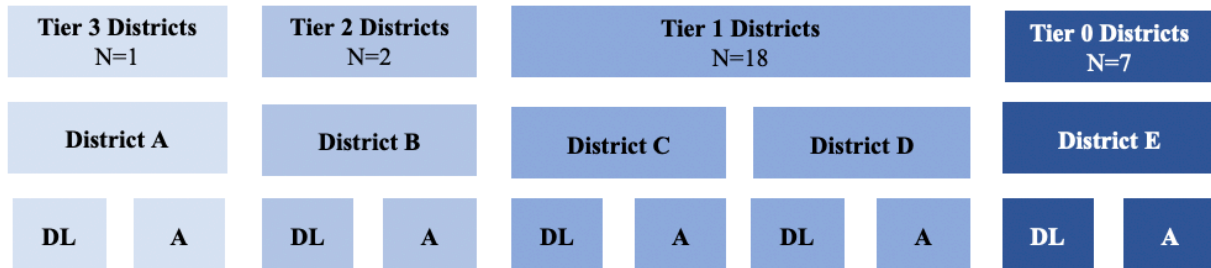


Figure 5.2. Case selection and recruitment framework.

Recruitment

After the case districts were identified, we assembled a contact list of leaders and advocates in each district. We initially defined leaders as school board members and superintendents, but that definition grew to include assistant superintendents through snowball sampling as interviews were conducted. Advocates were individuals involved in pushing for discipline policy change through a formal organization. Members of the advisory committee were considered eligible to participate in the study as an interviewee. Other inclusion criteria, for both district leaders and advocates, included being willing to undergo the informed consent process, fluency in English, and over age of 18. District leaders had to have spent at least one academic year in the district prior to the KKIC initiative. Advocates had to have experience in organizing or advocacy work in a case district.

Recruitment consisted of an email invitation and, as necessary a follow up email. Recruitment began with advocates due to their existing relationships with the primary investigator, who works at an advocacy organization helped plan the KKIC initiative. Interviewees were given a \$20 Amazon gift card for their time. A total of 20 advocates and leaders were invited to participate, of which 15 agreed and were interviewed for a 75% response rate. The Washington University Institutional Review Board approved this study.

Data Collection

The second author conducted 13 Interviews with 15 participants from the five case districts. Interviews were semi-structured, 45-minutes in length, and conducted in-person or over the phone. With participant consent, all interviews were audio recorded. An interview guide derived from Kingdon's Three Streams was used to structure the conversation with both advocates and leaders and to gather information about facilitators and barriers to making their 2016 KKIC tier commitment as well as change since that point. Small modifications to the guide as well as strategic probes were used to delve into interviewees' specific areas of work focus. The second author took field notes during the interviews.

Data Analysis

Audio recordings of interviews were sent to an external service for transcription. Before reading the transcripts, first and second authors came to consensus on an analysis plan, guided by the research questions and specific study aims. The first and second authors agreed to limit inductive analysis to pre-coding, structured coding, and evaluation coding using NVivo 12 as the primary qualitative analysis tool. The second author built an initial codebook draft of structural codes,^{217(pp98-101)} based on the question paths to file and organize the data within and across school district cases, and evaluation codes to identify and label themes that correspond with the research questions. The first author reviewed and approved the codebook, making amendments to ensure that the focus of analysis remained within the scope of the research questions. The final codebook is available upon request.

The second author then executed three phases of analysis for each transcript: pre-coding, structural coding, and evaluation coding, writing memos at the completion of each district transcript group. Structural codes, defined by Saldaña (2016), as a method that “applies a content-based or conceptual

phrase to segments of data that relates to a specific research question used to frame the interview,^{217(p98)} were determined before coding began and were derived directly from the interview guide. They were used to file and organize the data; this method was chosen based on the work of Guest et al (2012) and MacQueen et al (2008),^{218,219} who assert that it is particularly appropriate for qualitative, comparative case study, projects that involve multiple participants across cases and employ semi-structured data gathering protocols designed to create indexes of major themes. This method is also useful to limit the scope of analysis to the specific study aims when developing a team-based codebook.²¹⁹ Evaluation coding, according to Saldaña (2016), Patton (2008, 2014) and Rallis & Rossman (2003), is useful for studies that examine policy change in organizational settings, “particularly across multiple sites and extended periods of time,”^{217(p161)} as the comparative case approach to examining school-district policy windows of opportunity over time, herein, entails.^{217,220–}
²²² The method requires application of codes designed to identify and organize data from participant transcripts about awareness and knowledge, attitudes and motivation (Problem), behavior and participation, discourse, capacity (Politics), and systemic conditions (Policy).²²³ Thus, evaluation codes were used to identify and label themes that corresponded with the study’s research questions around how participants perceived their district’s conception of Kingdon’s three streams during the timeframe of interest. Within each district, advocate transcripts were analyzed before school district leaders, and the cases were reviewed in order of highest to lowest 2016 Tier commitment (Tier 3 → Tier 0). Themes that arose from the interview data that extended beyond the scope of the agreed upon study aims were captured in memos for reference in future research.

Upon completion of all three rounds of coding for each district, the second author reviewed the memos for each district and organized themes into two matrices designed to capture themes according to code type: unique and shared elements for each structural code, among and across the

district cases; and facilitators and barriers according to each of Kingdon's streams, within and across districts cases.

The first author compiled secondarily available district characteristics, including size and racial composition, governance models, wealth, academic performance, and discipline disparities. (**Table 5.1**)

The second author wrote descriptions of each case district and compiled a table of the thematic facilitators and barriers. The first author read all the transcripts in the same order that the second author conducted the coding analysis, wrote memos for each case district, and created their own list of facilitators and barriers for each district without reading the second author's analytic memos. The first author then read and augmented the second author's case descriptions and list of facilitator and barrier elements. Together, the first and second authors developed the final case descriptions and table of facilitators and barriers (Table 5.2). A draft of the findings was shared with the interviewees as a validity check. Interviewees were given invited to provide feedback. The second author compiled that feedback and proposed modifications accordingly.

5.4 Results

As visualized in Figure 5.3, of the five districts we studied, four made commitments during the KKIC initiative to reduce suspensions through bans on out-of-school suspension for pre-K through 3rd graders and/or through other teacher and student supports. District A followed through with the level and type of change they committed to making. District B implemented measures to reduce suspensions but did not ban it as they committed to doing. District C made stronger policy changes than they committed to in 2016 and ended up banning OSS for students in pre-K through 5th grade. District D committed to reducing suspension but did not implement any measures to achieve as

much, as far as we could tell. Finally, District E made no commitments during KKIC, but since then has implemented some supports to reduce suspension. A summary of the barriers and facilitators can be found in Table 5.2. The sources for the data in the district sketches can be found in Table 5.1. Case descriptions for each district are provided below.

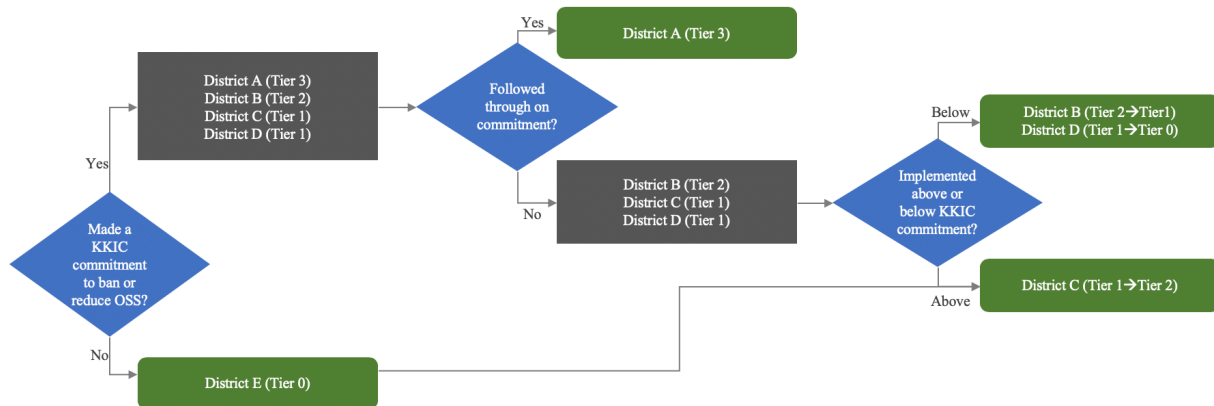


Figure 5.3. Flowchart of district commitments and actions.

District A Case Description

District A (Tier 3) was the only district that committed to banning OSS in the 2017-2018 school year as part of the KKIC initiative. The district followed through on that commitment.

District A Sketch

District A is a relatively small but growing, inner-ring suburban school district with a 2019 enrollment of 1,386 students spread across four school buildings. Enrollment has increased for the past 14 years, following a steady improvement in the district’s academics since the early 2000s. With these increases has come a growing concern about gentrification. In 2017, the median household income was \$53,432 and median home value was \$186,500, though the financial profile of residents of the district likely follows a more bi-modal distribution. Approximately 36% of students receive free and reduced lunch.

Table 5.1 Case District Characteristics

	<i>District A</i>	<i>District B</i>	<i>District C</i>	<i>District D</i>	<i>District E</i>
Region	Inner-ring central suburb	Inner-ring northwest suburb	Mid-ring south suburb	Mid-ring north suburb	Outer-ring west suburb
Size and Racial Composition					
Total Enrollment (2019) ¹	1,386	3,171	5,788	17,014	20,897
Number of Schools ²	4	8	9	33	31
Avg. Student : Teacher Ratio (2019) ¹	13	17	16	16	17
% Black (2019) ^{1,3}	19%	94%	10%	79%	8%
% White (2019) ^{1,3}	63%	2%	78%	16%	76%
% Asian (2019) ^{1,3}	*	*	*	*	9%
% Multiple Races (2019) ¹	10%	*	*	*	*
# of VICC students (2019) ⁴	0	0	99	0	1280
Governance					
Board selection model ⁵	Elected	Appointed	Elected	Elected	Elected
Academic Performance					
Math Proficiency (2019) ¹	53.8%	7.3%	66.5%	24.7%	58.7%
English/Language Arts Proficiency (2019) ¹	56.8%	15.4%	73.3%	32.8%	66.7%
Percent Free and Reduced Lunch (2019) ¹	36.1%	96.6%	11.8%	63.5%	13.4%
District Wealth					
Avg. Total Teacher Salary (2019) ¹	\$59,000	\$57,000	\$70,000	\$59,000	\$63,000
Median household income (2017) ⁶	\$53,432	\$32,938	\$93,728	\$57,476	\$105,509
Median home value (2017) ⁶	\$186,500	\$70,400	\$315,500	\$113,600	\$329,200
Discipline Disparity					
Relative Risk of Black vs White OSS (2015-16) ⁷	4.2	1.3	8.8	2.8	4.1

* Indicates values that were suppressed by the Missouri Department of Elementary and Secondary Education due to small sample size

1. Missouri Department of Elementary and Secondary Education, Missouri Comprehensive Data System At-A-Glance tool.

<https://apps.dese.mo.gov/MCDS/home.aspx>

2. National Center for Education Statistics <https://nces.ed.gov/ccd/districtsearch/>

3. Missouri Department of Elementary and Secondary Education, Missouri Comprehensive Data System Reports and Resources.

https://apps.dese.mo.gov/MCDS/Reports/SSRS_Print.aspx?Reportid=6c5b805c-5af7-4c33-be41-dc2b83ded4aa

4. Voluntary Interdistrict Choice Corporation

5. District websites

6. American Census Survey-Education <https://nces.ed.gov/Programs/Edge/ACSDashboard/2926850>

7. Furtado, K., Duncan, A., Kocher, J., Nandan, P. (2019). Falling Through the Cracks: Disparities in Out-of-School Suspension in St.

Louis at the Intersection of Race, Disability, and Gender. Retrieved from forwardthroughferguson.org

Relative to the other districts studied, *District A* has a diverse student body that is 19% Black, 63% White, and 10% multiple races. The average student-to-teacher ratio of 13:1 is smaller than the statewide average (17:1), and the average teacher salary of \$59,000 is higher than the statewide average (\$51,220) but is approximately the same as the other districts profiled. The district is governed most proximally by a seven-person elected school board whose members serve staggered three-year terms.

District A Case Description

District A (Tier 3) was the only district that committed to banning OSS in the 2017-2018 school year as part of the KKIC initiative. The district followed through on that commitment.

District A Sketch

District A is a relatively small but growing, inner-ring suburban school district with a 2019 enrollment of 1,386 students spread across four school buildings. Enrollment has increased for the past 14 years, following a steady improvement in the district's academics since the early 2000s. With these increases has come a growing concern about gentrification. In 2017, the median household income was \$53,432 and median home value was \$186,500, though the financial profile of residents of the district likely follows a more bi-modal distribution. Approximately 36% of students receive free and reduced lunch.

Relative to the other districts studied, *District A* has a diverse student body that is 19% Black, 63% White, and 10% multiple races. The average student-to-teacher ratio of 13:1 is smaller than the statewide average (17:1), and the average teacher salary of \$59,000 is higher than the statewide average (\$51,220) but is approximately the same as the other districts profiled. The district is governed most proximally by a seven-person elected school board whose members serve staggered three-year terms.

District A: Problem

Because of its long history as a school district with considerable racial diversity, and the growing concern about gentrification, the leaders of *District A*, both within the academic administration and on the school board, are fairly accustomed to engaging with racial dynamics. Dedicated structures including data task forces equipped district leaders with a clear understanding of racial disparities in a wide array of academic experiences and outcomes, including discipline. These structures were born out of a comprehensive transformational leadership project that began several years ago, under the leadership of the then-superintendent. The current superintendent, who has served for about nine years, was highly involved in that transformation and developed a research-based model to build upon it that the district uses to acclimate new teacher hires to the district. The transformational leadership project also established a shared vision for the district, with all staff on board and aware of their role in getting there.

District leaders were not surprised by the data presented during the KKIC campaign because they had been finding the same disparities in their own analyses. Conversations framing the disparities in terms of racial and gender equity were effective at convincing stakeholders of the importance of taking action. Focusing on the experiences of very young students was also a compelling frame. A counter framing of the ban as anti-safety made some parents wary of the potential policy change, which prompted advocates and leaders to address safety considerations when discussing the issue. Racial disparities in general and the discipline gap specifically benefited from the attention and energy catalyzed by the death of Michael Brown and #Ferguson.

District A: Politics

The long-standing efforts to address district disparities smoothed the internal political path to banning OSS at *District A*. Staff, unified by the district's commitment to serve all students well along

with the efforts made over years to solidify and operationalize that commitment at multiple levels, were largely supportive of the ban. Educators in the district had concerns about what they would use instead of suspension, and the alternatives implemented came with learning curves, but both of these challenges were addressed by the work the district was doing to implement support structures and alternatives. Leading these efforts was a superintendent with a strong social justice orientation who was willing to risk her professional capital to make the root cause changes needed to make her district more equitable. She saw #Ferguson as a “*turning point*” for her unapologetic determination to address racial disparities in the district through policy and practice change. Her confidence that the staff were not only supportive of the ban but eager to take action towards equity created a safe environment for advancing the policy change. The school board was also supportive of the ban and supporting policies.

Advocates and school district leaders agreed that the community outside of the school leaned “progressive,” and ideologically aligned with work to increase education equity. However, safety was a persistent concern among parents that made it important to explain the proposed policy change carefully, with a focus on how safety would be prioritized.

In the region beyond *District A*, the residual energy from the killing of Michael Brown; the Ferguson Commission’s calls to action pertaining to education equity and, specifically, banning OSS; and new collaborations among education equity-focused advocacy and professional groups to catalyze the implementation of those calls to action created additional political impetus to change discipline policies. Indeed, the KKIC initiative was one example of such a collaboration that used pressure and partnership to push for change. For *District A* leaders, the arrival of these partners and the growing demand to close the discipline gap helped them to feel like they weren’t alone in their work.

District A: Policy

The policy change requested by the KKIC initiative, namely a ban on OSS, fit well within the policy ecosystem developing in District A. In the months and years leading up to the KKIC, District A had begun implementing a variety of programs and policies, including trauma-informed and restorative approaches and positive behavioral supports, that would reinforce a ban on OSS. The presence of these approaches made the ban plausible. The superintendent was a champion for changing the school's culture around discipline and was willing to allocate substantial resources to a high-quality implementation of the ban and the supporting structures. This was all facilitated by the relatively small size of the district. With a total of three buildings (one each at the elementary, middle, and high school levels) and an early childhood center, coordinating the necessary professional development to support successful policy implementation was less resource intensive and complicated than it would have been in a larger district.

Adherence to the Safe Schools Act (SSA), which required suspension or expulsion for certain violent and drug-related offenses was described as a potential barrier to eliminating PreK-3rd grade OSS, but leadership credit trauma-informed and restorative, disciplinary practices across the district to preventing behavior at the elementary level that would trigger SSA's exclusionary requirements. SSA violations were also allowed as exceptions to the ban.

District B Case Description

District B (Tier 2) committed to banning PreK-3rd grade OSS policy by the 2018-2019 school year and implementing alternative disciplinary practices and supports that keep child and teacher well-being at the center in the meantime. They did not implement a ban, but, according to study participants, they have implemented alternative practices.

District B Sketch

District B is a small-to-medium inner-ring suburban school district with an enrollment of 3,171 students in 2019. It serves a predominantly Black (94%), low-income (96.6% free and reduced lunch) student population. In 2010, the district absorbed a nearby failing school district, despite being under-resourced itself.²²⁴ Then vice-president of the State Board of Education explained that the students from the failing district couldn't be moved into nearby high-performing, wealthier districts because "you'd have civil war."²²⁵ In September of 2012, *District B's* academic performance was so low that it lost its state accreditation and had to pay to send students who requested it to area school districts. In 2014, nearly insolvent after paying over \$8 million to transfer approximately 1000 students to other area districts, *District B's* school board was removed from power by the state Board of Education, who then appointed a Joint Executive Governing Board to oversee the district.²²⁶ The appointed board model remains in place, though the district regained provisional accreditation in 2018. Academic performance seemed to be rebounding, though in 2019, 15.4% of students were proficient in English language arts and 7.3% were proficient in math. Average teacher salary (\$57,000) and average student-to-teacher ratio (17:1) are in-line with state averages and most of the other districts we examined.

District B: Problem

Objectively, the discipline gap manifests differently in *District B* because of its almost entirely Black student population. The issue is less about Black students' higher risk of suspension relative to their White classmates, and more about the high rate of suspension overall. In 2012, over 25% of students were suspended.²²⁷ According to the advocates and leaders who engaged in this study, *District B* acknowledged they had a discipline issue, perhaps in part because of the media attention the district received both for its connection to Mike Brown and, earlier, because of its loss of accreditation and the subsequent tumult. They framed the issue as one of opportunity equity: all

students deserved a high-quality education that is differentiated to their specific needs. However, district leaders also observed that the district has a reputation of being violent and unsafe, an issue that, for many, eclipsed the magnitude and severity of the discipline gap. At the time of the KKIC campaign in 2016, the district was still unaccredited and was losing students to surrounding districts, at considerable cost. These issues also competed with the discipline gap for attention.

District B: Politics

The KKIC initiative engaged with *District B* during a pivotal political time in the district's history. Unaccredited and facing pressure from state-level authorities, legislators, and others to dissolve or consolidate, the district remained largely because of community voice. According to an advocate who later became a school district leader,

“the community really came alive”

to keep the district intact during this time. But community attention was focused elsewhere, namely the accreditation and transfer crisis. Effective for the 2014-15 school year, the state of Missouri appointed a Joint Executive Governing Board to replace the locally elected school board that remains in place today. Such a board, without the pressure of local electoral politics, is not as directly influenced by community advocacy efforts. In August 2014, barely a month after that board took power, Mike Brown (a recent graduate of the district) was killed, earning the district national notoriety as unsafe. Advocates and district leaders described these events -- and the demands to focus on safety and stability that they precipitated -- as political barriers to adopting a policy change to ban PreK-3rd grade OSS, despite local and regional pressure to do so. As one advocate said,

“I think it was a lot for District B to be dealing with so many different things at once... accreditation, then Mike Brown, then suspensions, right?... So, I think it’s part of why we were a little bit more lenient in terms of what the commitment was that came out of there. To get any kind of commitment was a victory.”

District B: Policies

Because of a lack of resources, a patchwork quilt of support from external organizations, and the unwillingness to ban OSS because of, among other reasons, safety concerns, the solution that has emerged in *District B* takes a decidedly programmatic approach, as opposed to a policy approach. Upstream of these barriers are state and federal policies that precipitated many of them. In 2001, the federal No Child Left Behind Act was passed. It enacted punitive measures for school districts deemed to be underperforming. These measures led to *District B*’s loss of accreditation in 2012. Leaders also referenced Missouri’s Safe Schools Act as a major barrier to disciplinary policy change. The Safe Schools Act required school districts to suspend or expel students who committed certain violent or drug-related infractions for 180 days (one school year), though superintendents were allowed to override this.²²⁸ Combined with *District B*’s aforementioned reputation as a violent school district, and the district’s sparse financial resources, a policy-based ban on OSS was not considered viable. Instead, the district has taken a programmatic approach to providing comprehensive, wrap-around services; curricular modifications; and building operational changes. This approach is predicated on what leaders describe as a thorough and ongoing re-evaluation process –

“the board in general asks: what are the services that our children need to be successful? And we try to work to provide those services. Where can we find the resource[s] to pay for that? And then how do we measure that impact?”

The answers to those questions have led to program changes and partnership with local organizations that specialize in restorative practices, trauma-informed approaches, social emotional learning, positive behavioral supports, and nutritional supports.

District C Case Description

District C (Tier 1) committed to reducing Pre-K - 3rd grade OSS, while exploring alternatives to exclusionary discipline. Participants of this study indicate that they followed through on those commitments. In 2019, the district banned pre-K- 5th grade OSS.

District C Sketch

District C is a moderate-sized, mid-ring suburban school district with a 2019 enrollment of 5,788 students, 78% of whom were White and 10% of whom were Black (down from 26% in 2008).²²⁹ Academic performance in the district is considerably stronger than statewide, with 73.3% of students proficient in English language arts and 66.5% proficient in math. Partly because of the school district's strength, the neighborhood and school district have experienced steady growth and benefit from a large financially stable population. Median household income in 2017 was \$93,728 and median home value that year was \$315,500. Reflecting this relative wealth, the district's average teacher salary of \$70,000 in 2019 was considerably higher than that of the other districts we examined and the state average. Just under 12% of *District C*'s students received free or reduced lunch in 2019, the lowest rate of all the districts we studied. In 2019, the district received 99 students from the metropolitan area's voluntary desegregation program.

District C's participation in the desegregation program and its relatively homogeneous student population echo a long history of racial tension. The city was founded in 1853 as an enclave for middle- and upper-middle White families who worked in the city and wanted to be able to retreat from it at the end of the day. In 1892, *Maple Park*, a mostly-Black community, was founded just past

City C's southern edge. Over the subsequent decades, *Maple Park* was systematically denied access to essential infrastructure, including banking, development, and municipal services.²³⁰ The profoundly unequal distribution of resources between *City C* and *Maple Park*, along with *Maple Park's* annexation by *City C* in 1991, has laid deep roots of racial mistrust among Black residents of *City C* that have been compounded in recent history by the avoidance and denial of racial tension among White leaders in the City.²²⁹

District C: Problem

Largely because of the racial dynamics in the district and as a city, interviewees described a high level of familiarity within the district with conversations about race and racial disparities. Advocates and district leaders alike were aware of District C's discipline gap before the KKIC initiative due in part to the findings of a task force established in 2015 that focused on the district's racial disparities in achievement. The task force yielded a data-heavy report in Spring of 2016 that pointed at the discipline gap and Black students' resulting lost days of instruction as a driver of the "achievement gap" and called for changes to discipline practices. Advocates and district leaders identify this data-driven problem definition as a facilitator of the district's willingness to commit to reducing suspensions during the KKIC initiative and to ultimately banning OSS in 2019. Framing the discipline gap as a solution to the achievement gap catalyzed action.

Additional framings came into play after the KKIC initiative, when in 2019, District C was cited by the state for disproportionality in discipline rates among Black students with disabilities. The federal Individuals with Disabilities Education Act (IDEA) includes specific protections for Black students with disabilities. According to IDEA, when a state identifies a district as significantly disproportionate, it must require the district to reserve funds for early intervening services to address the overrepresentation. However, up until 2016, the way states measured disproportionality varied

greatly.²³¹ This changed after the passage of the Equity in IDEA regulations in 2016 and their delayed implementation in 2019, which required states to apply standardized processes for measuring disproportionality in discipline.²³² This citation merged conversations that had been happening about race and disability equity in separate corners of the district and among largely separate advocates.

District C: Politics

As noted above, *City C* has a deep history of racial tension. Deeply segregated, the city's *Maple Park* neighborhood has been at the center of unrest throughout the 20th century.²³³ In 2008 a resident of *Maple Park* who believed racial conspiracy had kept his construction company from receiving lucrative business contracts for city development projects shot and killed five White residents at a City Council meeting before he was killed by police.²³⁴ Response to this and other incidents of racial unrest reveal a persistent tension between those who see these dynamics as the grounds for an ongoing buzz of concerned citizens looking to engage with issues of equity, and those who do not think *City C* has a "race issue." The Ferguson uprising, and subsequent Ferguson Commission report, were described as the most recent catalysts to engage with racial equity.

Advocacy efforts were described as a crucial facilitator to policy change by both district leadership and the advocates themselves. A highly mobilized community action group had formed in the wake of #Ferguson and one advocate shared that it used the Ferguson Commission report as a

"blueprint for how to deal with racial equity in our region...It says eliminate pre-K through third [suspension]."

District C was one of its target school districts for implementing the Ferguson Commission's call to reform school discipline policies. The group worked within *District C*'s structures to push for change.

An advocate described how “*consistent and persistent*” relationship building and attention to the dynamics of the school board and administration led to key opportunities for advancement in the policy change process. Advocates strategically approached all school board candidates to build support for banning OSS before their appointment to the board. Members of the group served on the achievement gap task force and seeded the call to decrease suspensions in the report. Discipline policy reform, advocates pushed, would help close the achievement gap. In 2017, one advocate urged a school board member to recruit the head of the disciplinary task force, a retired principal, for the interim superintendent position. She was ultimately hired in that capacity. This was a noteworthy political factor in and of itself.

As a time-limited executive with a social justice orientation, the interim superintendent did not have the worries of an earlier-in-career superintendent who needed to think about maintaining the political and professional capital needed to keep their job. Instead the interim superintendent came out of retirement and was focused on establishing a legacy of discipline reform. She began putting in place structures to methodically interrogate and change the district’s culture around discipline and draft a new discipline policy. It became clear that changing discipline culture would require deep and personal work.

“One of the things that most surprised me when we started this work was how personal this shift was for people...I didn't realize how much this work butts up against how people raise their own kids at home, how they were raised, how their schooling went. Because I think what happened, what we found really quickly, was people could get very defensive, because it could feel like not only are you saying shift what you do here, but you're questioning what I'm doing as a parent in my home.”

Confronting individual philosophies of discipline and building from there cultivated widespread buy-in. With board and administrative alignment in place, the district was able to design and enact a process to adopt the new discipline policy, which banned OSS, in 2019.

When the search for a permanent superintendent failed, the interim received a three-year contract extension, which allowed her to start implementing the policies she had just finished changing. The district was thoughtful in its implementation plans and took its time to ensure every school building had what it needed to implement the new policies. District leaders explained,

“it was probably some of the best planning and discussion and development that we’ve done as a team, and probably also equally the hardest thing we’ve done so far.”

Leaders say they’re still at least two years away from full implementation and staff buy in. They noted that

“if this is done well it is a culture shift and culture shifts take time” and that people who *“think that they’re going to get it done in a year or two, they’re crazy.”*

Inviting parents to learn about and experience the new approaches to discipline, like restorative circles, created ambassadors for the new policy that helped assuage parent concerns.

District C: Policies

The KKIC initiative came to District C shortly after the task force on closing the achievement gap released its report calling for a reduction in suspension. District leaders were ready to commit to reducing suspension but could not promise to ban OSS. Concerns about Safe Schools Violations and school safety meant that an outright ban on OSS was not possible. In 2017, the interim superintendent, who was a champion for discipline reform, was appointed. Her first step was a year-long community group tasked with examining the district’s core beliefs about discipline. The group

spent four months reading and discussing. The superintendent let the group guide itself and refrained from telling them what changes needed to be made:

“It didn’t happen by telling people they could not do something. It happened by telling people ‘start over and think about your kids and design something that’s good for them.’”

The policy the group wrote banned OSS for pre-K through 5th grade students, with exceptions for Safe Schools Violations, and called for positive behavioral supports, restorative and trauma-informed alternatives, and a social-emotional curriculum.

District D Case Description

District D (Tier 1) committed to reducing Pre-K - 3rd grade OSS, while exploring alternatives to exclusionary discipline. School district leadership was unresponsive to our requests to participate in the study; advocates expressed doubt that the district adhered to this commitment. Our data for *District D*, and therefore the findings we can claim, are limited and more based on archived, largely news media, coverage of the district.

District D Sketch

District D is a large mid-ring school district with a 2019 enrollment of 17,014 students distributed across 33 buildings. The student body is 79% Black and 16% White. Academic performance in the district was lower than the state average and most of the other districts examined in this study with the exception of *District B*. In 2019 approximately 32.8% of students were proficient in English language arts and 24.7% were proficient in math. Student to teacher ratio (16:1) and average teacher salary (\$59,000) were comparable to most of the other districts in the case set.

The city of *City D* has a long-standing and steadily declining manufacturing base. Average household income for the city was \$57,476 in 2017 and median home value was \$113,600. The hollowing of

City D's manufacturing core has led to economic stagnation in the city that has affected the school district. Enrollment in the *District D* is down by over 2,000 students compared to 2008. The district's assessed value declined by 22% between 2008 and 2016, which led to deficit spending for several years, with a low point in 2014, when the district ran a nearly \$13 million deficit.²³⁵ Things came to a head in 2016. For years prior, the district had been using reserves to maintain all of its instructional programs.²³⁶ In 2016, reserves threatened to drop below the minimum level allowed by district policy. This prompted even more aggressive cuts than the district had already been making.

District D: Problem

All the advocates who attempted to work with *District D* during the KKIC initiative described district administrators who did not seem interested in or concerned by the discipline gap in their schools. While district leaders did attend the Regional School Assembly, where they made a Tier 1 commitment, one advocate suggests that a Tier 0 classification might be more appropriate, given the district's unwillingness to engage with the process in the lead-up to the Assembly. One possibility is that the district's extreme financial difficulties were absorbing too much attention from everyone, including the superintendent, school board, and parents, for the discipline disparity issue and advocacy efforts to gain traction.

District D: Politics

From the news coverage of the time, we can conclude that the ongoing financial instability came with several political implications for the district. Right before the KKIC initiative, the board announced a plan to cut \$6 million from the district's budget by, among other things, eliminating approximately 30 teaching positions and ending elementary music and physical education.²³⁷ Outcry from parents and students was intense that spring and into fall.²³⁶⁻²³⁸ Parents began organizing and, in early 2017, with over 6,000 resident signatures, they were granted their request for the state to

formally audit the school district, which they suspected was misspending money.^{201,239} The state auditor released a report in 2018 giving the district a rating of “fair” and pointing to some weaknesses in the district's cash handling internal controls and procedures as well as some suspect purchases, suboptimal procurement processes, and a small amount of theft.²⁴⁰ District leaders may not have felt that they had the political capital to engage with another thorny issue, like discipline disproportionality, especially in an environment with such low trust among parents in the district and specifically its leaders.

Advocates described the following additional political factors as barriers to a policy change: recent superintendent turnover, a process of teacher contract negotiations demanding administrative and school board attention, and general administrative unwillingness to engage with the local and regional advocacy efforts that were under way. One advocate summarized it succinctly:

“I think District D is an example of what just happens when you have poor management. You have folks that are stubborn and unwilling to change. I went to community gatherings that they had, breakfasts, I've had sit-downs with various folks across the administration... I think the tragedy about District D is that that's a community that cares and is passionate about the education of the children, and it's not reflected in the administration.”

Multiple advocates attributed dynamics surrounding these events as barriers to engagement with discussions concerning a policy change. But the issue of discipline wasn't far from the surface for long. The same contract negotiations that some contacts described as keeping district leaders from engaging with KKIC led *District D* students from staging a walk out in spring of 2017. In response, the district suspended hundreds of students, many of them seniors, en masse. Many asserted that the district's response was neither just, nor proportionate with the “offense,” nor clearly supported by the discipline code. One parent commented to the news media, “The message that I am getting

from here is your narrative has to fit our narrative and if it doesn't fit our narrative then we are going to drop the hammer on you."²⁴¹

District D: Policies

According to the advocates we spoke to, the conversation with district leaders about the discipline gap in District D did not proceed far enough to get a sense of their thoughts on the OSS ban as a policy solution.

District E Case Description

District E ("Tier 0") did not engage with the Regional School Assembly or publicly commit to making any changes regarding Pre-K - 3rd grade disciplinary policy.

District E Sketch

The largest school district that we examined, *District E* is an outer-ring suburban school district that enrolled 20,897 students in 2019. The district is moderately racially diverse, largely because of large non-White and non-Black student sub-populations. In 2019, 76% of students were White, 8% were Black, and 9% were Asian. Set amidst a predominantly middle- and upper-middle class population, the median household income was \$105,509 and the median home value was \$329,200 in 2017. Just over 13% of students receive free or reduced lunch. The district has a reputation for its academic strength and robust offerings. In 2019, 66.7% of students were proficient in English language arts and 58.7% were proficient in math. *District E* receives more students through the metropolitan voluntary desegregation program than any other district. Approximately 35%, or 1280, of the students that used that program, went to *District E* in 2019. This mostly, if not entirely, Black group of students comprised the majority of *District E's* Black student enrollment. That desegregation program has diminished considerably in the past years, from 14,000 students participating in the

1990s to just under 4,000 students in 2019.²⁴² The program is due to end in the near future.²⁴² Partly as a result, the *District E* school district has seen a decline in its Black student enrollment.

District E: Problem

Advocates suggest that the relatively small and likely shrinking (due to the ending desegregation program) Black student population has contributed to the deprioritization of the discipline gap in *District E*. When they approached the superintendent during the KKIC initiative, advocates describe receiving a defensive and dismissive response. The *District E* district leaders who were interviewed for this study defined their discipline gap problem around as one of racial equity as well as a disability equity issue, recognizing that Black students with disabilities are suspended at disproportionately higher rates. While interviewees acknowledge this issue at the high school level, they do not see it at the elementary level. The discipline gap appears to be framed, in *District E* administrators' minds, as an issue among older students. Said one district leader,

"I think that the reason why we didn't get involved...is that we're not disproportionate at elementary suspensions. We're disproportionate at secondary level suspensions."

Interviewees also describe an implicit framing by parents of banning OSS as being anti-consequences and weak on safety and something of a slippery slope. By banning OSS for pre-K through 3rd graders, the district would be

"opening the floodgates to banning it for older students and inviting chaos."

District E: Politics

Advocates and district leaders described the political climate at the time of the KKIC initiative as unwilling to engage. Leaders ascribe the unwillingness to political factors related to an impending superintendent turnover and financial troubles that have since stabilized. Advocates described

experiencing resistance from the previous superintendent that they attributed to the majority white and conservative demographic of the district. One advocate was a person of color and alumni of the district and suggested that worsening racial tensions might have been a barrier to engaging with policy changes that are directly related to racial disparities. A leader described a community fear that,

“eliminating OSS would mean going to the other end of the spectrum.”

Rather than suspending for the slightest infraction, the district would become so permissive that it would no longer be a safe place. Vocal parents holding these opinions put political pressure on leadership during the time of the KKIC initiative.

District E: Policies

The OSS ban proposal did not gain much traction in *District E*. Interviewees suggest that district leaders’ conceptualization of the discipline gap as an issue faced by their older students impeded leaders’ willingness to commit banning OSS for pre-K through 3rd graders. Interviewees also pointed to the realities of being such a large district as a barrier to a making sweeping policy change with substantial implementation requirements. *District E* has thousands of educators spread across 30 buildings. District-level policy implementation functions among building-level administrators similarly to how the federal government engages with states. While district level policy would apply to all buildings, one leader described, the human resources required to roll out its implementation with integrity in all buildings would mean major prioritization in budgets and staff time. The district gives buildings a considerable autonomy to take actions that are best suited to their specific needs. Because of all of these factors, there was and remains little appetite for make district-wide policy change. Instead, a variety of interventions, including social emotional learning, restorative practices, and trauma-informed practices, have been implemented in a more programmatic way at the building level. District leaders also referenced the federal Safe Schools Act as a barrier to district-wide policy

change, namely that it requires suspension or expulsion for certain drug-related and violent offenses. One area of district-wide policy change has been subjectivity in the discipline code. Interviewees describe recent efforts to address some of this, especially around the concept of “insubordination.”

Table 5.2. Comparative analysis of facilitators and barriers to district commitment to the OSS ban across Kingdon’s Three Streams

	<i>District</i>				
	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
District Commitments and Changes					
Committed to ban OSS in the 2016-17 school year (Tier 3)	X				
Committed to ban OSS in the 2017-18 school year (Tier 2)		X			
Committed to reduce suspensions during KKIC initiative (Tier 1)			X	X	
Made no commitment during KKIC initiative (Tier 0)					X
Adopted OSS ban by January 2020	X		X		
Implemented other programs or policies to reduce OSS:					
Social emotional learning		X	X		X
Restorative practices	X	X	X		X
Trauma-informed practices	X	X	X		X
Positive behavioral supports	X	X	X		
Food/Nutrition support`		X			
Facilitators					
<i>Problem (How the issue is understood, what it is competing with)</i>					
Dedicated structures in place for measuring disparities	X		X		
Racial equity framing	X		X		
Gender equity framing	X		X		
Disability equity framing		X	X		X
Youth innocence and vulnerability framing	X				
Not mutually exclusive with safety framing	X				
Achievement gap framing			X		
Familiarity with engaging with race and racial disparities	X		X		
Shared staff vision for future	X				
Urgency and attention driven by #Ferguson crisis	X		X		
Common language from the Ferguson Commission	X	X	X		
Media attention					
<i>Politics (Dynamics that influence policymakers’ motives and opportunities to turn a proposal into a policy)</i>					
Shared staff vision for future	X				
Ongoing aligned culture shift	X		X		
Ongoing implementation of alternatives	X				
Deeply committed superintendent	X		X		
Superintendent with social justice orientation	X		X		
Superintendent turn over			X		

Table 5.2. Comparative analysis of facilitators and barriers to district commitment to the OSS ban across Kingdon’s Three Streams

	<i>District</i>				
	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
Progressive external community	X		X		
Political will catalyzed by #Ferguson	X		X		X
Focused pressure from community advocates			X		
Perception of support from community of practice	X				
Support from school board	X		X		
Support from district parents	X				
Advocates integrated into district structures			X		
Parents cultivated as ambassadors			X		
<i>Policies (The solution proposed in response to the issue)</i>					
Policy playbook from Ferguson Commission	X		X		
Significant resources allocated for implementation	X		X		
Slow, thoughtful implementation	X		X		
Supporting structures implemented in advance and maintained	X	X	X	X	
Equity in IDEA			X		X
Barriers					
<i>Problem (How the issue is understood, what it is competing with)</i>					
Anti-safety framing	X	X	X		X
Anti-consequences framing			X		X
Reputation for violence		X			
Other major issues competing for attention		X			X
Discipline gap not viewed as an issue			X		X
<i>Politics (Dynamics that influence policymakers’ motives and opportunities to turn a proposal into a policy)</i>					
Staff/teacher misgivings about alternatives	X	X	X		
Learning curves associated with alternatives	X	X	X		
Community focused on other issues		X	X		
Appointed school board		X			
Non-local school board		X			
Denial of “race problems”			X		
Low community trust in school				X	
District leaders did not have trust capital to change policy				X	
Superintendent turnover				X	X
<i>Policies (The solution proposed in response to the issue)</i>					
Appeal of programmatic approach		X			X
Inadequate resources for policy approach		X			X
Safe Schools Act	X	X	X	X	X
Daunting implementation logistics					X

5.5 Discussion

The five school districts we studied were in different places before and after the KKIC initiative. While the paths each district took and the policymaking environments they traversed while doing so differed in their totality, much can be learned from the similarities and dissimilarities in certain facilitators and barriers. All five districts experienced the shock of the killing of Black teenager Michael Brown, Jr. at the hands of a police officer. All were present as #Ferguson became international shorthand for racial unrest in the face of systemic inequities; concurrently, #BlackLivesMatter became a welcome rallying cry for some, a confusing accusation for others, and a peripheral news media story for those who chose to not engage in the conversation. All were named as accountable bodies in the Ferguson Commission's calls to action, many of which focused on education reform, and one of which explicitly demanded discipline reform, including a ban on OSS for pre-K through 3rd grade students.²⁴³

Who Heeded the Call

However, these environmental conditions were received differently in each district. Leaders of *District A* and *C* were galvanized to take action to reduce disparities in their schools. *District B*, where Michael Brown went to school, was thrust into the spotlight as an example of urban violence in school. *Districts D* and *E*, in the far reaches of the County, did not seem to feel the shock waves as acutely. Leaders and communities in those districts alike may not have felt they had a race issue. As gauged by advocates and administrators in lower levels of leadership, the superintendents and school boards of those districts didn't identify with the issues of #Ferguson. In Kingdon's framework, a crisis can bring the three streams of problem, politics, and policy together to open a window of opportunity for policy change. In the example studied here, #Ferguson opened that window only

partially, thus yielding the partial success of the KKIC initiative and the policy entrepreneurs contained within it. The reasons why the window opened in some districts but not others are located in the complex interplay of the three streams.

Embracing Complexity

In the districts where we documented the most aggressive policy changes to reduce OSS (*District A* and *District C*), we saw a potent combination of leadership, resources, and vision. These district leaders diagnosed the discipline gap problem as a symptom of a fundamentally flawed or incomplete philosophy and culture of discipline and set their sights on changing both. Superintendents and, in a supporting role, school boards, changed policies and practices in the service of this foundational goal. Acknowledging the deep roots of culture, leaders allowed the change management process to take time and allocated considerable resources to support it. Leaders leveraged their own professional capital and the support of advocates and allies on their boards to create change processes that spanned years. Those processes included building staff-community structures that read literature, reflected on data, proposed changes, thought deeply about how to roll out those changes, and approached implementation slowly and comprehensively. Even still leaders recount being surprised by the depth of work required to change their discipline culture. While the places the change management work took them were, in some ways, surprising, the process made space and time for those surprises. They grappled with teachers' trauma and wellness, they engaged with parent concerns and philosophies of discipline. Wrap around supports including trauma-informed practices, restorative alternatives to exclusionary discipline, positive-behavioral supports, and social emotional learning curricula were implemented. For both *District A* and *District C*, this work had been underway well before the KKIC initiative. When advocates from that campaign approached district leaders, committing to make the changes requested was not a stretch. They were already

headed in that direction. These district leaders saw the KKIC advocates as a community of support providing partnership alongside pressure and as political tailwinds as opposed to headwinds.

Haste and Wasted Effort

In these districts, the window was ready to open when the crisis (#Ferguson) happened and the policy entrepreneurs (KKIC advocates) called for a ban on OSS. District leaders were explicit about how comprehensive and thoughtful the preparation process must be to support a policy change. Examples from outside of our study form a compelling counter-example of what happens when the window is forced. The Los Angeles Unified School District (LAUSD) is the second largest school district in the country. It was among the first to ban OSS for defiance and implement restorative justice alternatives.^{244,245} However, those policy changes were not supported by work to shift culture or otherwise prepare educators for the transition. In 2015, two years after the ban on OSS for defiance was implemented, 307 of the LAUSD's 900 campuses had received any training under the district's five-year restorative justice plan.²⁴⁶ Teachers were, "walking a fine line between extreme stress and a[n] emotional breakdown."²⁴⁶ Faced with a sense that they did not have better alternatives, educators starting calling the police to respond to discipline issues.²⁴⁶ Some administrators reportedly started sending disruptive students home without recording them as suspensions.²⁴⁶ While suspension numbers went down, climate seemed to suffer, especially among teachers; the change seemed unstable and incomplete.

Resources: Necessary but Not Sufficient

In some of the districts we studied, Kingdon's window of opportunity did not open because a severe lack of resources made the problem stream particularly slow-moving and stubborn. Being able to invest the time and resources in culture change is a privilege that some districts do not have. *District B* was a powerful example of a school system that was stretched too thin to take on the discipline

ban policy change. The superintendent there saw discipline rates as an issue (though not necessarily the disparity, since the district is almost entirely Black). That's why he made a Tier 2 commitment during the KKIC initiative. However, he could not spare the resources to do more than respond to the high discipline rates programmatically and through third-party support providers (e.g., a local food non-profit provides elementary students with in-class breakfast). With over 90% of his students receiving free or reduced lunch, the district was already being called on to provide its students with health care, extended meals, clean clothes, school supplies, and other basic needs. Moreover, District B was widely perceived by its community as struggling with violence. That reputation was echoed in the broader community with the help of the media during and after #Ferguson—Michael Brown graduated from *District B* and the district received a lot of media attention as a result. District B's extreme financial and legal difficulties following its loss of accreditation added to the list of challenges that were prioritized ahead of the discipline gap.

While necessary to ensure stable and durable discipline policy change, having resources was not sufficient. *District E* was, by many measures, including median household income and median home value, the best resourced district we studied. However, the problem stream proved resistant for leaders in this district. The Health Belief Model (HBM) was developed to explain why individuals take health-related action—or why they do not.²⁴⁷ It seems applicable to understanding why some leaders, including those in *District E*, were unmoved by the KKIC initiative and #Ferguson. The HBM posits that a person's readiness to act is a function of their perceived (1) susceptibility to a threat, (2) severity of that threat, (3) benefits of responding, and (4) barriers to responding. According to our informants, during KKIC, *District E's* leaders were not convinced that the discipline gap—or racial disparities in general—were a major problem. In the absence of a deeper commitment to discipline culture change, the ban on OSS called for by the KKIC advocates probably did not seem likely to be effective. The district's very large size posed a substantial

implementation barrier that kept its leaders from taking policy action. Instead it has settled for a more programmatic approach. *District D's* leaders seemed to be similarly unconvinced.

Leveraging Alternative Framing

Perhaps because leaders in *District E* did not believe that the school had a race issue, advocates and support staff there reported using a disability equity as opposed to racial equity framing of the discipline gap. Informants also described this framing in *District C*, where it was ultimately more successful. Utilizing a disability frame to ultimately address racial disparities is a compelling example of interest convergence.²⁴⁸ Disability framing was also effective in *District B*, a majority Black district that did not have a racial discipline gap because of its extremely small White student population. In *District A* and *District C*, where informants reported a greater comfort engaging with race, with especially active racial-equity-focused advocates and leaders present, racial equity was the prevailing framing. The achievement gap, or the racial disparity in academic outcomes, was also leveraged to rally support, with exclusionary discipline like OSS positioned as damaging to quality classroom time and therefore academic performance. All school districts had to confront parent concerns of safety and consequence-free, uncontrolled classrooms. District leaders navigated these concerns by inviting parents to learn more about the new approaches and by ensuring them that there were exclusions to the ban on OSS, including Safe Schools Act violations (e.g., bringing a weapon to school).

Limitations and Next Steps

Our findings should be considered in light of several study limitations. We only examined five school districts in a metropolitan area that contains thirty or more. While we tried to select districts that would be representative of the remaining 25 in terms of sociodemographic characteristics, we were undoubtedly only partially successful at doing so. While we almost certainly fail to achieve generalizability, our findings may be transferable and applicable to other contexts and districts,

though, as Lincoln and Guba assert, this is a determination that must be made by the reader.²⁴⁹ We are more likely to pass this scrutiny for some districts we examined than for others. Our coverage of *District D* was especially thin. Despite reaching out to several leaders in that district, we were not able to secure any interviews with them. The advocates we spoke to that had worked in *District D* shared a similar experience. In one sense this affirms our experience, but ultimately it means that we were not able to gain much second-hand knowledge of the district. We were able to use archival data from news coverage of the district, but we were still hesitant to draw many conclusions in the absence of more primary data. Across all the districts and the six advocates with whom we spoke, we gathered a great deal of advocacy insights that largely fell outside of the scope of this paper. A future study will be needed to engage fully with that content area and such questions as how leader perceptions of advocacy affected the impact of those efforts and what advocacy approaches were more and less effective and why. Finally, an important piece of context was also absent from this study, largely because of scope constraints. One school district, *District X*, the largest in the region, banned OSS before the KKIC initiative. Its path to doing so bears some resemblance to the fraught story of LAUSD. We were able to glean some insight from some advocates that we interviewed who were active in *District X* and pushed for the ban, but we did not have thorough coverage of it. That, combined with the district's very different involvement in the KKIC initiative, drove our conclusion to not include it as a case in this study. However, a future study that included it would be illuminating and could yield a more comprehensive framework for reforming school discipline.

5.6 Conclusion

The discipline gap is an entrenched barrier to education equity and lifelong wellbeing. Discipline policy change is one of the most promising approaches to addressing it. However, without a clear understanding of the root causes of the discipline gap and the implementation of support structures

to address them, simply banning OSS is unappealing to key policymakers and influencers and would likely be ineffective. Ultimately, banning OSS is a step along what must be a slowly- and thoughtfully-traversed arc from a punitive philosophy of discipline to a healing approach. It should be neither the first nor the last step in that arc.

Chapter 6: Implications and Conclusions

6.1 Dissertation Overview

This dissertation spanned the arc of the discipline gap, from determinants, to outcomes, and finally to interventions. We found that an intersectional approach to understanding the discipline gap is necessary to accurately gauging the risk students in some sub-groups experience, that the outcomes of disproportionate discipline may be felt at the ballot box, and that there are several common barriers to and facilitators of banning out-of-school suspension.

This dissertation has taken some initial steps toward using the tools of public health to examine the discipline gap. **Table 6.1** summarizes the key implications of each of the three papers contained within this dissertation. These implications are largely discussed in greater depth in chapters 3-5, so they will not be individually explained here. However, there are some implications that emerge at a higher level if we step back and consider the three papers collectively.

6.2 Research Implications

The prevailing emergent implication for the research space is the need to continue examining the discipline gap—and other social phenomena—as matters of public health importance.

First, we need to develop and better and more regularly utilize tools for considering students holistically. We saw the value of using advanced quantitative approaches, including multilevel modeling, three-way interactions, and predicted probabilities, when we applied an intersectional lens to our examination of the discipline gap in chapter 3. In so doing, we found that the discipline gap is much wider for some sub-groups contained within the populations we have long known to be at elevated risk. Simultaneously, we saw how those same tools still fell short of allowing us to

adequately grasp the complexity of the discipline gap. We reflected upon the tempting simplicity of taking a risk-factor approach to understanding outcomes and how a failure to “re-assemble” individuals into their complicated, multi-faceted wholes, leads to a potentially dangerous miscalculation of risk and a host of downstream intervention, contextual factors, and policy consequences. While epidemiology and public health have much to add to the discipline gap discourse, they also have much to learn from related disciplines (e.g., education, political science, systems science). We also need high quality surveillance datasets, of the sort that are common in the public health space, that combine nuanced discipline indicators alongside more conventional social, mental, behavioral, and physical health indicators.

Second, we should continue to stretch established frameworks for causality to determine how or if they apply in the context of socially produced outcomes like the discipline gap. In chapter 2 we saw how the introduction of the dose-response concept to our understanding of how discipline related to civic engagement revealed important findings. We were only able to test a rudimentary (3-level “dose” variable) version of this concept, though. Future studies should continue in this vein and look at discipline more continuously. Ultimately, in addition to applying existing standards for causal inference, the field of public health should question whether modifications must be made to those standards when studying social phenomena. The Bradford Hill framework, arguably the most popular framework for causal inference, was developed to understand classic epidemiologic associations.¹⁸⁶ Public health must engage with the question of whether this and other similar frameworks apply to the social determinants of health if we hope to effectively address health outcomes through their social determinants.

Third, we should continue to look for the fallout of the discipline gap beyond the space and time of school. In chapter 3 we found an association between school discipline and voting behavior years

later. Literature on the school-to-prison pipeline has similarly shown how the ripple effects of school discipline extend well after students leave school and can catalyze that departure in a deeply damaging way.^{197,250} These examples notwithstanding, the bulk of the literature on the outcomes of the discipline gap focuses on psychosocial health in school (e.g., sense of belonging and support) and academic performance.^{17,19,20,22,31} It would be helpful to look for physical and behavioral health outcomes, where the literature is essentially nonexistent. This type of research would likely help in elevating the profile of the discipline gap as a public health issue. A qualitative or mixed-methods approach would also be useful for exploring the questions spawned by quantitative analyses.

6.3 Policy and Practice Implications

The discipline gap is the result of a complex confluence of factors and it leads to a host of unintended consequences for students. However, the school-based structures that shape disciplinary practices were largely established without taking into consideration this complexity or those outcomes. The policy and practice implications of this dissertation emerge from this disjoint and they largely call on educators and education policymakers to seriously examine their discipline practices, the undesired outcomes of those practices, and the nature of the work that must be done to make sustained change.

A public health adage is “what gets measured, gets done.”²⁵¹ There are large gaps in surveillance data for the discipline gap. To address these, education leaders must establish systems and processes for auditing their discipline practices on a regular basis and in a transparent manner. This should include simultaneously disaggregating data by race, sex, and disability, as well as discipline action taken, and infraction. The federal Department of Education provides additional guidance on what data to collect and how best to report it to various stakeholder groups.⁴⁴ Some reporting is already required

to be in compliance with certain statutes and state and federal agencies, but it is unclear the extent to which districts use those data themselves. In chapter 5 we shared how the school districts that were most successful at banning OSS began by examining their data.

Second, educators should be prepared to act on the disparities they identify in their data. School districts have a great deal of autonomy when establishing their codes of conduct. While some federal and state policies exist that mandate specific disciplinary actions be taken in response to certain offenses, the parameters of those policies tend to be tightly circumscribed, so they leave much room for innovation beyond their boundaries. Education leaders should consider what their data say about what sub-groups of students are being suspended the most, what sub-groups are disproportionately at risk, what infractions are being used to justify discipline, and how discipline severity differs across and within sub-groups and infraction categories. Banning OSS, eliminating “insubordination” and other highly subjective infraction categories, and implementing restorative and trauma-informed alternatives are all policy changes that have been made to discipline codes across the country.^{141,212}

Finally, education leaders should recognize that fundamentally addressing the discipline gap will require a paradigm shift in the philosophy and culture of discipline. Cultivating that shift is intensely relational and slow work. If large policy changes are made without doing this deeper work, they will be unstable or will simply push the disparity to a slightly different space. We saw this in the discussion of LAUSD in chapter 5. The same chapter also explored how, in the districts where policy change was most successful, that change emerged from a roaming and comprehensive district-wide conversation among educators, parents, and administrators, about the purpose of discipline in their school; the mission, vision, and values of their school; and the unintended consequences of their disciplinary policies. In addition to leading to the conclusion to ban OSS,

these conversations also laid the groundwork for the alternatives and supports that needed to be in place to ban OSS in a healthy and sustainable way.

6.4 Advocacy Implications

Education is a personal and important topic for a lot of people. It is viewed by many as a fundamental right.²⁵² It impacts children and is widely seen as a springboard to lifelong well-being.²⁵³ For these and other reasons, education is the target of substantial advocacy efforts. While this dissertation did not, for the most part, apply an advocacy lens, our findings might be relevant to this group of stakeholders. Thus, we put forth a few possible recommendations

Advocates should look for opportunities to collaborate with advocacy efforts in other disciplines. Chapter 5 briefly discusses how interest convergence between disability equity advocates and racial equity advocates yielded helpful new framings, relationships with policymakers, and policy levers for pushing for a ban on OSS. Public health research on dissemination and implementation can provide guidance on utilizing framing strategies to influence state and local policy makers.^{254,255} Chapter 3 shows that focusing on one identity is an artificial simplification that leads to the underestimation of discipline risk for Black students with disabilities and Black boys. Relatedly, framings pertaining to long-term consequences may be effective at elevating interest in closing the discipline gap. Chapter 4 points to the civic engagement consequences of repeated suspension. Abundant evidence exists about the school-to-prison pipeline.^{14,197,250} Awareness of the economic costs of the discipline gap is also growing. These framings on the social tolls of discipline disproportionality may be more compelling to some than racial equity or disability equity.²⁵⁶

Leveraging community policy documents as a shared blueprint can be a powerful catalyst to advocacy efforts. As we saw in Chapter 5, the most active advocacy groups in the KKIC initiative

used the Ferguson Commission report as a springboard for specific policy action. A similar approach can be taken with the windows of opportunity that often open in the wake of a crisis, as is discussed in the Kingdon framework for policy change.

6.5 Conclusions

This dissertation examined the discipline gap, a phenomenon that, while not on the agenda of most public health experts, is nonetheless an issue of public health importance. Certainly it is not a conventional or immediate threat to population health in the way that infectious and chronic diseases can be. However, it is undeniably a profound threat to the equitable education of our youth, which in turn impacts health and well-being across their life course. If students who are at disproportionate risk for suspension perceive bias and racial prejudice to drive their disciplinary experiences, as has been shown to be the case in other studies,^{257,258} then those perceptions of a toxic educational environment—and potentially beyond—may also negatively impact their health. Both the education→health and racism→health mechanisms are contained within the social determinants of health framework.⁵⁴ For these reasons, it behooves the field of public health to engage with the discipline gap, to bring to bear its measurement and statistical tools to further elucidate the causes and effects of discipline disproportionality, to innovate and collaborate when those tools fall short or fail, and to leverage findings to advance the appropriate interventions and policy solutions. In so doing, the field of public health can help achieve education equity, and through it, health equity.

Table 6.1. Implications of dissertation

	Research	Practice & Policy	Advocacy
[Determinants] Intersectionality	Develop and better utilize tools for considering students holistically. Continue pushing from risk factor epidemiology to social epidemiology.	Disaggregate school discipline data by race, sex, and disability status to look for especially at-risk sub-groups. Include in these analyses the infractions that lead to discipline broken down by sub-group. Modify codes of conduct in light of findings from disaggregation analyses. Consider how exclusionary discipline should be used and what types of infractions should be considered grounds for discipline.	Collaborate with advocacy efforts in adjacent spaces (e.g., racial equity and disability equity). Inroads, framings, and policies in those spaces can possibly be leveraged to advance your cause.
[Outcomes] Civic Engagement	Continue looking for dose-response relationships between discipline and outcomes. Move beyond “ever-never” to ordinal or continuous operationalizations that consider length of suspension, # of suspensions, etc. Use a mixed methods approach to further study the mechanisms behind the association between discipline and diminished voting activity.	Acknowledge the role that school plays in socializing students into society and culture. Consider the long-term unintended consequences of repeated and disproportionate exclusionary discipline when drafting and modifying codes of conduct and the conditions under which such disciplinary actions can be taken.	Utilize the long-term unintended consequences and costs of exclusionary discipline as part of the framing for limiting its use.
[Interventions] Banning OSS	Study the consequences of banning OSS in the absence of adequate supports and alternatives. What are the impacts on administrators, educators, students, and parents. Include perceptions of the discipline gap as an issue and will to continue addressing it.	Acknowledge that meaningfully addressing the discipline gap requires culture change around the philosophy of discipline and the purpose of schools. Do not ban OSS in a vacuum. Consider the supports needed to make such a ban as natural and comfortable as possible. Take the time to establish those supports before the ban and sustain them after.	Use community policy documents as a shared blueprint for action. Embed in school district structures to push for change. Do not push for a ban of OSS alone. Package it alongside needed alternatives and implementation supports.

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