Zero Tolerance School Discipline: Implications for Schools, Leaders, and Students

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INTRODUCTION

Objectives

Numerous education stakeholders acknowledge that a safe and orderly school environment is an important element of schooling. For instance, a recent survey suggests that school safety is one of the most important predictors of parental satisfaction with schools (Friedman, Bobrowski, & Geraci, 2006). Similarly, teachers and researchers recognize the importance of school safety as a prerequisite for academic achievement (Cornell & Mayer, 2010). Student behavioral management, or discipline, is an important tool for maintaining a safe school environment.

Zero tolerance (ZT) policies have been one of the more common approaches to school discipline of the last several decades. These policies, which generally require severe punishment for a certain set of predetermined offenses, emerged in the early 1990s and became nearly ubiquitous by the end of that decade (Heaviside, Rowand, Williams, & Farris, 1998). Despite being the subject of very little empirical research (American Psychological Association Zero Tolerance Task Force, 2008), zero tolerance policies have recently become the subject of criticism and have been targeted by school boards and the federal government for modification or removal (U.S. Department of Justice & U.S. Department of Education, 2014). Critics suggest that zero tolerance policies remove administrator and teacher discretion in administering discipline (Divilio, 2014), result in increased use of exclusionary discipline such as suspensions or expulsions (U.S. Department of Justice & U.S. Department of Education, 2014), and disproportionately impact minority students (U.S. Department of Education Office for Civil Rights, 2014). While a handful of studies have examined zero tolerance discipline (Matjasko,

2011; Hoffman, 2014), most of these criticisms of zero tolerance remain understudied. In particular, much of the academic inquiry into zero tolerance has focused on exclusionary discipline or punitive school environments rather than actual zero tolerance policies (American Psychological Association Zero Tolerance Task Force, 2008; Skiba & Knesting, 2001).

This dissertation seeks to inform our understanding of school discipline policies and zero tolerance discipline policies in particular. In the first essay, I examine the operationalization of the term "zero tolerance" in federal laws, state laws, school district policy, and popular media. In the second essay, I estimate the impact of one type of zero tolerance law, state mandatory expulsion laws, on outcomes of suspension rates, dropout rates, administrators' perceptions of problem behaviors, and administrator feelings of influence over discipline. The third essay examines the relationship between principal reported zero tolerance approaches to discipline and student outcomes with a particular focus on differences in the application of zero tolerance to minor versus serious offenses and on the implications for racial equity in discipline.

Overview of Studies

The purpose of this work is to explore the implications of school zero tolerance discipline policies for student outcomes. In order to elucidate this relationship, I divide my dissertation into three parts, each of which explores a different element of zero tolerance discipline. Consequently, each set of research questions draws upon a different data source and employs a different methodological approach. In the following sections, I describe the research questions, data, and methods for each study.

Study 1: Defining "Zero Tolerance": Law, Policy, and Perception

In the first study, I address the following research questions:

1-1) How do federal and state laws codify zero tolerance school disciplinary policy?

1-2) How do school districts codify zero tolerance school discipline policies in district policy documents, and how do these policies vary by district/student characteristics?

1-3) How does the popular media portray school zero tolerance discipline?

1-4) To what extent do the legal and school district codifications of zero tolerance discipline align with each other and with popular media conceptions of zero tolerance discipline?

The first study draws on several data sources. I collected data on federal and state laws through a search of the Westlaw legal database. The federal and state laws represent the legal status of school zero tolerance and discipline laws as of 2013. Data on school district policy comes from a nationally representative random sample (n=219) of school district policy documents including student handbooks, codes of conduct, and school board policy documents. These school district policy documents represent the state of school district policy regarding zero tolerance and school discipline for the 2013-2014 school year. Data on popular media perceptions of zero tolerance discipline were drawn from a sample of recent media articles from two nationally representative newspapers, the *New York Times* and the *USA Today*.

I utilized both a quantitative and qualitative approach to analyzing these three sources of data. I coded federal/state laws, school district policy documents, and media articles for their explicit mention of zero tolerance policies and for the presence of discipline policies that adhere to elements generally considered to be zero tolerance, such as the mandating of expulsion. Through descriptive statistics, I explored ways in which the definition of zero tolerance varies between laws, school district policy documents, and popular media perceptions. The qualitative component of the analysis consists of rich descriptions of the definitions and use of the term "zero tolerance" across each of the domains. Examples of zero tolerance language in federal

laws, state laws, policy documents, and media portrayals are provided to give a clearer picture of the use of this term to describe school discipline in each of the contexts. Additionally, I develop case studies of four school districts, each with a unique combination of zero tolerance policy and mandatory expulsion policy. These case studies exemplify the use of these disciplinary policies while placing them in the context of the broader approach to discipline by the district. The goal of the first study was to provide the reader with a clear understanding of the various definitions of school zero tolerance discipline and an understanding of the ways in which these definitions align or conflict across each of the domains examined.

Study 2: State Zero Tolerance Laws: Implications for Exclusionary Discipline, Dropout, Behavior, and Leader Autonomy

In the second study, I address the following research questions:

2-1) How have state zero tolerance laws, namely those laws that mandate expulsion for a certain offense, changed over time?

2-2) What is the relationship between state zero tolerance discipline laws and rates of exclusionary discipline (suspensions), school leaders' perceptions of control over disciplinary policy, school leaders' perceptions of problem behaviors, and district dropout rates?

2-3) Does this relationship vary by student demographic characteristics such as minority status?

For the second essay, I utilized data from several federal sources as well as original data collected for the purposes of this dissertation. For dependent variables of interest, namely suspension rates and dropout rates, I utilized data from the Office of Civil Rights data collection and the NCES' Common Core of Data, respectively. The OCR data provides suspension data for

a nationally representative set of schools at two year intervals from 1976 to present. This suspension data is disaggregated by race allowing for sub-analyses of these groups. The Common Core of Data includes the number of students dropping out by grade for all reporting school districts in the United States from 1991 to present. For the dependent variables of principal perceptions of problem behaviors and principal perceptions of control over disciplinary policy, I utilized data from the Schools and Staffing Survey (SASS). The SASS provides nationally representative data on principals at various time points between 1987 and 2011. For the independent variables, I gathered data on state level zero tolerance laws through a search of the Westlaw legal database.

The primary methodological approach used in this study exploited state level variation in timing and application of zero tolerance laws to identify the relationship between state zero tolerance laws and the outcomes of interest. I utilized a state fixed effects model in which changes in state zero tolerance law within state were utilized to predict the outcomes of interest while holding constant any time invariant aspects of the state.

Study 3: Zero Tolerance Policies: Implications For Student Outcomes And Disciplinary Equity

In the third study, I address the following research questions:

3-1) What is the relationship between zero tolerance approaches to discipline and student outcomes including misbehavior, suspension, academic achievement, attendance, dropout, and interactions with the criminal justice system?

3-2) Do these relationships vary for zero tolerance disciplinary approaches that are applied to major offenses (weapons, drugs, violence, etc.) versus the application of these approaches to minor offenses (disrespect, skipping class, profanity, etc.)?

3-3) Are the aforementioned relationships moderated by student race?

For the third study, I utilize the National Education Longitudinal Study of 1988 (NELS). The NELS dataset follows a nationally representative set of students from their eighth grade year in 1988 through early adulthood and provides a unique opportunity to explore the relationship between zero tolerance approaches to discipline and student outcomes for both minor and major disciplinary infractions. Unlike many other nationally representative datasets, NELS includes principal survey items that specifically examine school disciplinary approaches. Specifically, the NELS survey asks principals to describe the disciplinary response on the first and second offense to a variety of infractions. For the purpose of this study, I explore three different operationalizations of zero tolerance discipline, each aligning to a common understanding or official policy definition of the term.

My primary approach to analysis for the third study involves ordinary least squares (OLS) regressions with a robust set of control variables for student and family background, previous misbehavior, and school characteristics. In addition to the OLS models, I also run sensitivity checks using models with student fixed effects and other models using instrumental variables. The use of these approaches allows me to explore the relationship between zero tolerance approaches to discipline and a variety of student outcomes. In the primary analyses, I estimate adjusted correlations that represent the relationship between these variables after accounting for observable differences in student, family, and school characteristics. I run separate regressions for measures of zero tolerance responses to major and minor disciplinary infractions in order to assess the relative impact of using zero tolerance approaches to discipline for differing degrees of infractions. In order to assess racial equity in discipline, I explore the

moderating effect of student race on the relationship between disciplinary policy and student outcomes.

Contributions to Theory and Practice

The research undertaken in this dissertation has the potential to contribute to both the body of research on student discipline as well as to the decisions of educational policymakers and practitioners. The first study has the potential to contribute significantly to the discourse and dialogue around school discipline and zero tolerance in particular. As researchers and policymakers focus more attention on zero tolerance discipline, it is critical that the discussions be grounded in an agreed upon understanding of the term "zero tolerance". By exploring the different ways in which this term appears in federal law, state law, in school district policy documents, and in public media, my first study highlights ambiguities and discrepancies in the way the term "zero tolerance" is utilized. By identifying and bringing to light such discrepancies, this study provides a grounding for more nuanced and consistent uses of the term by researchers and policymakers, and, in doing so, may allow for more productive discourse around zero tolerance school discipline.

The second study addresses several important aspects of zero tolerance discipline. First, this study allows for an assessment of the degree to which state zero tolerance laws have contributed to students' experience of exclusionary discipline and high school dropout. In addition, the study speaks to the relationship between such state zero tolerance laws and principals' perceptions of problem behaviors and perceptions of control over school disciplinary policy. By exploring outcomes disaggregated by race, this study also allows for an examination of differential impact of zero tolerance laws by student race.

Finally, my third study fills a void in the literature on school discipline by exploring the relationship between zero tolerance approaches to discipline and a range of student outcomes for both major and minor disciplinary infractions. This study is the first to my knowledge to utilize nationally representative data to explore this relationship while also focusing on the component of racial equity in discipline. Additionally, this study is the first to attempt to disentangle the impact of zero tolerance approaches to discipline for minor offenses and zero tolerance approaches to discipline for more serious offenses. As zero tolerance policies continue to draw national attention from the media and as states consider legislation to scale back zero tolerance approaches to discipline (Blad, 2014), the results of this study hold the potential to inform these discussions and policy decisions. In the following section of this chapter, I review the extant research on zero tolerance discipline in order to frame each of the three studies presented in this dissertation.

Background

The purpose of this review is to provide a concise summary of the research evidence on zero tolerance policies, exclusionary disciplinary measures, and their consequences for equity in student discipline. In this section, I pay particular attention to the historical context in which school zero tolerance policies originated and the parallels between increased uses of get tough policies in the criminal justice system and in the school house.

Maintaining order through student discipline has been a hallmark of modern schools since their inception. In his work, *Art of Class Management and Discipline*, Taylor (1903) recounts disciplinary and behavior management strategies dating back to the times of early Greek schooling. Butchart (1998) describes the structure of the 18th and early 19th century school as relying on "force and fear alone to maintain order" (p. 22). Throughout the 19th

century, various educators made inroads at shifting the approach to school discipline. For instance, Lancasterian education shifted some enforcement of rules onto student monitors while New England approaches focused on building relationships between instructor and student and basing the maintenance of order on the desire of the student to maintain the affection of the teacher (Butchart, 1998).

In the early 20th century, the rise of progressive education and a trust in the power of scientific approaches to discipline took hold in schools. This approach borrowed from the earlier affectionism of the New England pedagogy while also relying on the freedom of child-centered instruction to mitigate the need for aggressive discipline (Butchart, 1998). The progressives' reliance on a scientific approach would, in turn, foreshadow disciplinary approaches of the latter decades of the twentieth century in which educators called for evidence based best practice in both instruction and discipline (Butchart, 1998).

Concurrent to these shifts in disciplinary approaches were shifts in the general view of the development of children into adults. Kett (1977) describes the "rise of the adolescent", the stage between childhood and young adulthood, arising from the work of psychologist G. Stanley Hall. Research on this stage of development led to the creation of a number of child-focused institutions, such as scouting and the YMCA, which focused on the development of the adolescent (Kett, 1977).

Despite movements throughout the 19th and early 20th century away from corporal punishment and towards more child-centered and affectionate modes of discipline, the school-child relationship still maintained a structure of *in loco parentis*, namely one in which schools were given authority to operate in the place of parents and the rights of students were largely unrecognized.

This relationship began to shift in the latter half of the twentieth century. Following on the heels of racial and feminine rights movements, the role of student rights were greatly expanded through a number of seminal court cases (Arum, 2003; Schwartz & Rieser, 2001). Arum (2003) labels the period of the late 1960s and early 1970s as the "student rights contestation period" (p. 5). For instance, in the 1975 case of Goss v. Lopez, the United States Supreme Court ruled that schools must act fairly when disciplining students. Fairness in this context entailed due process procedures such as formal hearings for expulsion (Schwartz & Rieser, 2001). Cases such as this brought about the diminishment of *in loco parentis* and brought about a state in which students retained rights of free speech, due process, and greater protections from arbitrary or unnecessarily harsh discipline (Schwartz & Rieser, 2001).

The view of students as rights bearing individuals free from the parent-like oversight of schools came with certain benefits for students but may have also served to shift societal and school views in ways that were less beneficial. The dissolution of *in loco parentis* and the rise of student rights prompted the viewing of students as adults. Rather than seeing students as children who are prone to mistakes and open to parental guidance, the new view of students cast them as individual rational actors, capable of weighing the consequences of their actions and equally responsible for the outcomes. Under this view, the proper response to an infraction was not that of parental guidance and learning from mistakes but rather a system of punishments mirroring that utilized in the societal criminal justice system. Leading criminologist and social researcher James Q. Wilson advocated for such a treatment of youth and for greater involvement of the criminal justice system in school infractions (Wilson, 1976). Arum (2003) argues that these shifts, prompted in some part through the courts, led to a degradation in moral authority

when it comes to discipline in schools. Concurrent changes in the way society viewed and dealt with crime would serve to usher in approaches of zero tolerance in schools.

In addition to viewing students as more similar to adults, society also shifted to view children as dangerous and as potential threats. The late 1980s and early 1990s witnessed increased media attention on youth crime, gang culture, and juvenile delinquency (Dohrn, 2001). Dohrn describes the view of children as shifting from "innocence to guilt, from possibility to punishment, from protection to fear" (2001, p. 89). The narrative of youth as predators eased the transition from reparative justice to responses that more closely mirrored our treatment of adults.

Beginning in the 1970s, the United States began an abrupt shift towards the use of severe punishment in the criminal justice system. Imprisonment increased dramatically as did approaches of "getting tough" on crime (Lynch, 1999). The use of the term "zero tolerance" appeared first in the criminal justice context as a reference to drug-laws.

While zero tolerance policies have likely always been used on an individual school basis, the large-scale use of zero tolerance arose in response to the 1994 Gun-Free School Act, federal legislation dictating a zero tolerance approach to the possession of guns within schools and mandating expulsion as punishment (Gun-Free School Act, 1994). The appearance of this federal law, in turn, prompted a number of states to adopt similar zero tolerance legislation in order to maintain federal funding (Richards, 2004).

Throughout the 1990s, zero tolerance laws proliferated and their use in schools increased. By the 1996/97 school year, over 90% of schools reported having a zero tolerance policy for weapons and nearly 80% reported a zero tolerance policy for violent acts (Heaviside, Rowand, Williams, & Farris, 1998).

Tragedies that garnered substantive media coverage, such as the Columbine shooting, heightened the notion that children posed a threat (Dohrn, 2001; Richards, 2004). It would not be until the beginning of the 21st century that serious dialogue on the effectiveness of zero tolerance and exclusionary discipline would begin to gain traction. In the next section, I describe the theoretical assumptions that underpin the zero tolerance approach to school discipline.

Theoretical Framework

Theories exist for both the effectiveness and ineffectiveness of zero tolerance discipline in schools. In this section, I put forth competing theories that provide a foundation for considering why zero tolerance policies may or may not be successful at reducing student misbehavior. Specifically, I draw on the criminological concept of deterrence theory (a subset of rational choice theory) as a theoretical justification for the use of zero tolerance discipline but then juxtapose this with theory on adolescent risk-taking which suggests that zero tolerance discipline may not achieve desired outcomes.

Deterrence theory provides the theoretical foundation of zero tolerance policies and severe punishment more generally. This theory was described by classical philosophers in the 1800s (Beccaria, 1764/1983; Bentham 1776/1967) though the underpinnings of the theory were undoubtedly intuited by earlier purveyors of justice. In short, deterrence theory suggests that the presence of punishments will serve to deter actors from committing infractions. The more certain and severe the punishment attached to an infraction, the less likely an individual will be to commit the action. Modern application of rational choice theory to studies of crime has resulted in deterrence theory being framed under this broader framework (Piliavin, Gartner, Thornton, & Matsueda, 1986; Paternoster, 1989); however, the study of deterrence in criminology far predates the application of rational choice theory (Akers, 1990). This theory

dominated the field of criminology throughout the eighteenth century before yielding to views that saw crime as arising from sociological contexts rather than individual choice and focused on more rehabilitative forms of criminal justice (Wilson, 1975; Cordella & Siegel, 1996).

Following the publication of the Martinson Report (Martinson, 1974; Lipton, Martinson, & Wilks, 1975), which questioned the effectiveness of rehabilitative treatment, the 1970s and 1980s saw a resurgence of the study of deterrence theory in the field of criminology and a renewed use of punishments motivated by this theory in the American criminal justice system (Pratt, Gau, & Franklin, 2011). Motivated in part by the application of rational choice theory from economics to the study of crime (Becker, 1974), a resurgence in interest in deterrence theory emerged. Influential work by James Q. Wilson (1975) argued for forceful responses to crime in order to deter individuals from choosing to commit criminal acts. The American criminal justice system responded with increased use of incarceration and various "get tough" policies on drugs and other offenses (e.g., Spelman, 2000).

In the context of schools, the rational choice view of deterrence theory suggests that policies such as zero tolerance which clearly delineate punishments and often attach severe punishments to infractions will serve to prevent students from breaking school rules. Deterrence theory suggests that punishment for infractions should be certain, swift, and severe (Dilulio, 2005), though according to Beccaria (1764/1983) not more so than is necessary to deter the crime. The Department of Education's Office of Civil Rights defines a zero tolerance policy as follows:

> "A zero tolerance policy is a policy that results in mandatory expulsion of any student who commits one or more specified offenses (for example, offenses involving guns, or other weapons, or violence, or similar factors, or combinations

of these factors). A policy is considered "zero tolerance" even if there are some exceptions to the mandatory aspect of the expulsion, such as allowing the chief administering officer of an LEA to modify the expulsion on a case-by-case basis." (Office of Civil Rights, 2014).

The elements of certainty and severity are clearly present in the definition of a zero tolerance policy insofar as the punishment is "mandated" and regards one of the most extreme forms of school punishment, expulsion. Consequently, under the deterrence theory of action, school zero tolerance policies should theoretically prompt students to choose not to commit behavior infractions.

The deterrence theory justification for zero tolerance discipline relies on the assumption that the individuals are rational actors who both have access to the necessary information and can process such information to arrive at the optimal decision regarding their action. While such an assumption may not apply to the youngest of students, such as those in elementary schools, research suggests that students who have reached adolescence do in fact have the ability to reason and, in fact, do so at a level that is comparable to adults (Reyna & Farley, 2006). Adolescents tend to assess the risks and consequences of various actions in ways that are not dissimilar from adults (Beyth-Marom, Austin, Fischoff, Palmgren, & Jacobs-Quadrel, 1993). Furthermore, interventions aimed at improving adolescent knowledge of risks and consequences have largely produced few changes in actions (Ennett, Tobler, Ringwall, & Flewelling, 1994; Trenholm, Devaney, Fortson, Quay, Wheeler, & Clark, 2007).

Despite adolescents' ability to reason and their knowledge of the risks of certain actions, there exist theoretical reasons to believe that the deterring effect of zero tolerance policies will not result in decreases in unwanted student behavior. First, younger students such as those in

elementary school do not possess the developed reasoning ability and knowledge base of adolescents and therefore violate the assumptions of deterrence theory. Even for adolescents, emerging research from neuroscience and developmental psychology suggest that adolescents are prone to risk-taking behavior despite their developed ability to reason (Reyna & Farley, 2006).

Bioecological theory suggests that students are influenced by the contextual factors surrounding their development (Bronfenbrenner & Morris, 2005). Peers provide one such contextual factor that has been shown to have a particularly pronounced influence on the decision-making of adolescent youth. For instance, experimental evidence of a simulated driving task demonstrates that adolescents, as compared to adults, partake in significantly higher risk-taking behaviors when observed by peers (Gardner & Steinberg, 2005). A growing body of evidence suggests that neurobiological characteristics of the adolescent brain may be associated with a disproportionate focus on rewards rather than costs of actions when in the presence of peers (Doremus-Fitzwater, Varlinskaya, & Spear, 2010; Chein, Albert, O'Brien, Uckert, & Steinberg, 2011).

Steinberg (2008) advances a framework suggesting that adolescents and teenagers experience increased needs for reward-seeking, especially in the presence of peers, while not having developed cognitive control systems, a necessary component for self-regulation. He suggests that beginning with the pubertal transition, neurological changes in dopaminergic pathways and oxytocin receptors increase the adolescent's desire for rewards in the presence of peers (Steinberg, 2008). This reward seeking behavior peaks at around age 15, coinciding with the early years of high school. Simultaneously, adolescents are only beginning to develop the cognitive control components of the prefrontal cortex and across cortical area connections that

are related to the ability to inhibit impulsive behavior (Steinberg, 2008). Under this framework, recognizing undesirable actions as a somewhat "inevitable" component of the adolescent experience and responding in ways that are educative and restorative may be more effective than zero tolerance discipline.

While criminal infractions increase through early adulthood (Marvell & Moody, 1997), research suggests that early misbehavior is predictive of later infractions. Loeber & Dishion (1983) review the literature on male delinquency and find that conduct disorder in early childhood is a significant predictor of later criminal activity. Furthermore, rates of criminal infractions are greater for males, individuals from low-SES backgrounds, and minorities (Ellis, Beaver, & Wright, 2009). This suggests that the influence of childhood infractions on later life crime may disproportionately affect these subgroups.

Literature Review

This section provides a synthesis of the research on school discipline and zero tolerance policies. There is a strong body of evidence for the negative impacts of exclusionary discipline policies on student outcomes and strong evidence for the disproportionate use of disciplinary measures for minority students. However, the body of evidence on actual zero tolerance policies is lacking. This literature review is organized in the following manner: I begin with an exploration of the parallels between zero tolerance policies and the criminal justice system. Following this, I summarize the research on exclusionary discipline and zero tolerance policies. I then discuss the disproportionate use of discipline by student race.

From Criminal Justice to School Discipline

To the extent that school discipline policies reflect broader societal criminal justice systems, lessons regarding the effectiveness of punitive measures in schools such as zero

tolerance may be gleaned from an examination of the literature on criminal justice. In fact, James Q. Wilson noted this parallel in the 1970s when he described increases in school violence following increases in societal violence (1976). The appropriateness of this comparison in more recent contexts is furthered by the use of the term "zero tolerance" in criminal justice prior to its use in the school context. Numerous researchers have documented the massive increase in incarceration rates in the United States over the last several decades (e.g., Spelman, 2000). This increase has coincided with "war on drugs" and general "get tough" on crime policies.

Following the theoretical framework of deterrence theory, the increased likelihood of incarceration as a consequence for violating the law would be predicted to decrease incidences of crime. Several studies have found small negative relationships between increased incarceration and crime rates (Ekland-Olson, Kelly, & Eisenberg, 1992; Levitt, 1995). For instance, Levitt (1995) utilizes prison overcrowding as an instrumental variable to estimate the effect of prison population size on crime rates. He finds that incarceration of one additional individual predicts a decrease in 15 crimes (Levitt, 1995). While these findings hold with the theoretical framing of deterrence theory and reflect the supposed decision making of rational actors, the reduction in crime conflicts with findings of other researchers.

In contrast to the work by Levitt, numerous studies suggest that the increased use of incarceration has had no appreciable effect on crime rates (Marvell & Moody, 1995; Spelman, 2000; Currie, 1998; Lynch, 1999). Lynch (1999) examines the relationship between imprisonment and crime rates between 1972 and 1993 and finds no statistically significant relationship. Even in the case of gun crimes, research fails to find an effect of imprisonment on crimes (Marvell & Moody, 1995). Furthermore, research suggests that not only do severe punishments such as imprisonment have no deterring effect on crime, but that, for the individuals

who are punished, incarceration increases the likelihood of recidivism (Jonson, 2013). Taken as a whole, this work suggests that the theoretical framing of deterrence theory does not generally hold in the broader context of criminal justice.

Student Misbehavior

I operationalize student misbehavior or misconduct as actions by students that violate school rules or expectations. Such misbehavior occurs across a spectrum, ranging from minor infractions such as being late to class or chewing gum to severe infractions such as fighting or bringing a weapon to school. The association between school misbehavior and later life criminal activity has been demonstrated in the literature (Tanner-Smith, Wilson, & Lipsey, 2013). Student misbehavior in school can also be influenced by the given school context. Bronfrenbrenner's bioecological framework provides a means for understanding the contextual effect of school policy and culture on student misbehavior. Contextual risk factors fall under five domains, namely individual, family, peer, school, and community (Bronfenbrenner, 1979; Tanner-Smith, et al., 2013).

Evidence suggests that each of these domains contributes to student misbehavior. Individual characteristics of students may contribute to their propensity to misbehave, but they are also influenced by each of the external domains. Dishion & McMahon (1998) argue that a lack of parental monitoring (family domain) contributes to child misbehavior. Cohen & Felson (1979) view lack of supervision as one of three necessities for crime. Research utilizing nationally representative data explores the relationship between unsupervised time and student misbehavior and finds a positive relationship (Osgood, Wilson, O'Malley, Bachman, Johnson, 1996). A lack of family supervision corresponds to the opportunity theory of crime, namely that unsupervised time offers an opportunity for misbehavior.

The influence of peers on misbehavior is also important. As children reach adolescence, the desire for social acceptance increases and the influence of peers becomes larger (Milner, 2004). While basic tenets of social control theory suggest that strong friendships can serve as a check on misbehavior (Hirschi, 1969), more recent research has found that students typically have friends who are both well behaved and others who are deviant and that the influence of peers can have a nuanced effect that depends on the behavior of the friend group (Haynie, 2002; Sutherland, 1947).

Research suggests that association with deviant peers results in socialization of beliefs that are tolerant to crime and delinquency (Akers, 1988; Giordano, Cernkovich, Pugh, 1986; Haynie & Osgood, 2005). In fact, studies suggest that students who lack friends, classified "loners", are at a lower risk of committing a crime, though they are at a higher risk of other negative outcomes such as depression (Demuth, 2004). Boys are at a particular risk for influence from peer groups, such as gangs (Crosnoe, Erickson, Dornbusch, 2002).

Finally, school is an important context for student behavior. Not only does school serve as the primary place of interaction with peers, schools also represent organizational structures with policies of discipline that can affect student misbehavior. Crosnoe and colleagues (2002) find that schools and family structures can have a mitigating influence on the peer contribution to misbehavior. Gregory & Thompson (2010) study the variance in student misbehavior across students and within students across classes. They find greater variance in the latter, a result that suggests that rates of misbehavior may be highly influenced by the teacher/student pairing rather than by characteristics of the student alone (Gregory & Thompson, 2010). In fact, research suggests that the alignment of student race with teacher race may be an important predictor of disciplinary outcomes (Grissom, Nicholson-Crotty, & Nicholson-Crotty, 2009). These results

suggests that proper placement of students and enhanced focus on the structures and disciplinary policies within a classroom can significantly contribute to the degree to which student misbehavior manifests.

Suspensions/Expulsions

Given the potential influence of school contexts on student misbehavior, attention should be turned to the types of discipline utilized in schools. Recently, much attention has been given to the use of severe punishments such as suspension and expulsion (U.S. Department of Education Office for Civil Rights, 2014). Research shows that suspensions increase as students move from elementary school to middle and high school (Arcia, 2006). A body of research has developed that suggests that the use of suspensions has negative consequences for the students who are suspended. Suspension is predictive of smaller academic gains in reading (Arcia, 2006), increased risk of dropping out of school (Marchbanks, Blake, Booth, Carmichael, Seibert, & Fabelo, 2015), and increased later life anti-social behavior (Hemphill et al., 2006). Evidence from an international comparative study also suggests that suspensions increase the risk of early adolescent tobacco use (Hemphill et al., 2012). Finally, suspensions also predict later interactions with the juvenile justice system (Costenbader, & Markson, 1998).

One limitation of many of these studies is a lack of longitudinal controls for student misbehavior and a lack of focus on the school level policy that prompted the use of suspension/expulsion. Additionally, these studies fail to explore the extent to which school disciplinary policies influence overall school misbehavior levels. It could be the case that the use of suspensions and expulsions has a negative impact on the students who are punished but that the threat of such punishment has a deterring effect on student misbehavior overall. If such a

deterrent effect decreased school misbehavior substantially, it could potentially offset the negative effects of suspension on students who violate the rules.

Zero Tolerance

The use of zero-tolerance policies in schools gained traction in the 1990s. While some school administrators cite the use of zero-tolerance policies and rigid discipline procedures prior to the 1990s, the term "zero-tolerance" and its widespread use spread with the passing of the 1994 Gun-Free School Act (Gun -Free School Act, 1994). This federal legislation mandated a one year expulsion for students found in possession of a firearm on school grounds and linked federal funding to the adoption of state laws requiring this policy (Richards, 2004). Shortly following the adoption of the Gun-Free School Act, many states passed legislation that expanded the zero-tolerance approach to other infractions including weapons, drugs, and assaults (Heaviside, Rowand, Williams, & Farris, 1998; Richards, 2004).

Prior research on zero-tolerance policies is limited. In the mid-2000s, the American Psychological Society (APA) convened a task force whose purpose was to collect and review the evidence on school zero-tolerance policies. While their findings suggest zero-tolerance policies are not effective at reducing student misbehavior, the larger takeaway from the review was the lack of explicit research on zero-tolerance policies. Much of the work reviewed explored the impact of severe disciplinary actions such as suspension or expulsion (American Psychological Association Zero Tolerance Task Force, 2008). While suspension and expulsion are certainly associated with many zero tolerance policies, they can be used in contexts that lack a zero-tolerance approach to discipline. Particularly, zero-tolerance differs from other discipline policies in that it implies a rigid conformity to pre-determined punishments.

In one study that does examine the use of severe disciplinary policies, Matjasko (2011) utilized the nationally representative National Longitudinal Study of Adolescent Health (Add Health) survey to explore the impact of severe disciplinary policies on student outcomes of concurrent and later life criminal behavior. Utilizing hierarchical linear modeling, the author finds that severe disciplinary policies weakly predict decreases in student misconduct, a finding that leads the author to conclude that zero tolerance policies are not effective at reducing crime (Matjasko, 2011). While this finding does not offer support for increased use of zero tolerance policies, it also does not align with the claims in the popular media (e.g., NYTimes Editorial Board, 2014) that zero tolerance policies are increasing student infractions.

There are several limitations to Matjasko's (2011) study. It does not utilize a true measure of zero-tolerance policies. As she points out, the questions in the Add Health survey examine the extent to which schools respond to various infractions with severe punishments on the first offense. While related to zero-tolerance, the author is unable to tease out the consistency with which these punishments are applied. A second limitation is that this study only examined outcomes of crime/misbehavior. Within the school context, other outcomes such as academic performance, attendance, and graduation are also of interest. Finally, the literature points to the importance of race in differential rates of punishment. While included in Matjasko's regressions as a control variable, the interaction between student race and disciplinary policies is not explicitly examined. Questions remain as to whether school level policies of severe punishment are more prominent in schools serving largely minority students and whether these policies affects minorities disproportionately.

Federal law requires that the administration of discipline within schools take place in a manner that does not discriminate on the basis of a number of student characteristics. Title IV of

the Civil Rights Act of 1964 (42 U.S.C. §§ 2000c et seq) prohibits schools from discriminating on the basis of student characteristics including race, color, religion or national origin. In addition, Title VI prohibits discrimination in the distribution of Federal financial assistance based on similar student characteristics (Title VI, 42 U.S.C. §§ 2000d et seq). Taken together, Title IV and Title VI are meant to provide protection against discrimination across a range of school activities, from academics and athletics to discipline. Despite these legal provisions, mounting evidence suggests that the use of school disciplinary procedures varies systematically across a number of these student demographic categories (Rocque & Paternoster, 2011; Rafaelle-Mendez, 2013).

In particular, a large body of research has documented disproportionate use of severe disciplinary policies for minority students (Skiba et al., 2002; Rocque, 2010). This finding holds across grade levels (Rocque & Paternoster, 2011; Rafaelle-Mendez, 2013). One question of interest to researchers has been the degree to which this disproportionate punishment results from differences in student misbehavior. If it was the case that non-white students committed infractions at a higher rate than their white peers, then this disproportionate level of punishment might be justified. Some evidence has been found that accounting for prior misbehavior may explain the racial gap in elementary school suspensions (Wright, Morgan, Coyne, Beaver, & Barnes, 2014); however, other studies which account for the frequency of student misbehavior find minority status to be a positive predictor of severe punishments (Skiba et al., 2002; Rocque, 2010). Even in studies that examine punishments allotted for the same offenses, minority students are more severely punished (Skiba et al, 2011). Furthermore, research suggests that this disproportionate use of severe punishment for minorities may have long lasting impacts.

Rafaelle-Mendez (2013) finds that suspensions do not result in long-term decreases in behavior infractions.

Recent research has found that zero tolerance policies disproportionately affect black students (Hoffman, 2014). Hoffman explores outcomes associated with expansion of zero tolerance in an urban district. Capitalizing on an abrupt shift in district policy that mandated the use of zero tolerance, he utilizes a difference-in-differences analysis to estimate the impact on minority students. The study finds that the expansion of the zero tolerance policy resulted in a near doubling of expulsions for black students compared to less than a 20% increase for Hispanic students and an approximately 40% increase for White students (Hoffman, 2014). These increases represent nearly 50 more black students being recommended for expulsion than other races despite black students making up less than a quarter of the students in the district (Hoffman, 2014). While zero tolerance policies are hardly the only cause of disproportionate discipline by race, Hoffman's work suggests that they exacerbate this problem.

Concern over the disproportionate influence of school discipline on minority students has prompted recent attention from the U.S. Department of Justice and the U.S. Department of Education. In early 2014, the departments authored a joint Dear Colleague Letter on the Nondiscriminatory Administration of School Discipline. In addition to summarizing the research on the variation in school discipline across racial ethnic groups, the document also offers practical guidance for districts to address the issue and to ensure compliance with federal law (U.S. Department of Justice & U.S. Department of Education, 2014). While not explicitly addressing zero tolerance policies, the departments' list of recommendations does call for individualized responses to misbehavior, a decrease in the use of severe discipline such as suspension, differentiation between first time and repeat offenders, and a decrease in the use of

law enforcement officers for student discipline (U.S. Department of Justice & U.S. Department of Education, 2014). Such suggestions run counter to the typical language and implementation of zero tolerance policies.

Summary

The research base on exclusionary disciplinary policies such as suspension and expulsion supports the claim that these policies predict negative outcomes for the students who experience the punishment (Arcia, 2006). These negative outcomes present themselves both in the immediate academic environment as well as in later life outcomes (Hemphill et al., 2012; Costenbader, & Markson, 1998). Furthermore, research suggests that Black students are disproportionately affected by severe discipline (Rocque & Paternoster, 2011; Rafaelle-Mendez, 2013) and that this disproportionate use of discipline cannot be accounted for by differences in misbehavior (Skiba et al., 2002; Rocque, 2010). Coupled with the negative outcomes associated with exclusionary disciplinary problems, these racial disparities suggest that minority students' academic and life outcomes are being disproportionately impacted by school discipline in negative ways.

Studies of zero tolerance policies suggest that they do not decrease student misbehavior as predicted by deterrence theory (Hoffman, 2014). Furthermore, the issue of equity appears again as zero tolerance policies appear to contribute to the disproportionate use of exclusionary disciplinary policies against Black students (Hoffman, 2014). In short, the research suggest that zero tolerance policies result in more harm than good; however, important questions remain unanswered.

The estimates of the impact of zero tolerance on racial equity in discipline come from a study of a single school district (Hoffman, 2014). Given that racial dynamics vary by context

(e.g., region or makeup of school personnel) (Grissom et al., 2009), it is possible that the influence of zero tolerance could vary across school districts. Consequently, replication of Hoffman's (2014) study in other school districts or, ideally, utilizing nationally representative data is desirable. The second study in this dissertation contributes such estimates using nationally representative data.

Additionally, the studies reviewed explore outcomes of zero tolerance related to behavior infractions (Matjasko, 2011) and disciplinary infractions (Hoffman, 2014). Understanding the impact on other educational measures, such as student achievement would also be desirable. Finally, while Hoffman's work highlights disparities by race, understanding the longer term outcomes (such as future incarceration) overall and for key subgroups would also be of interest. It is possible that the racial inequities extend beyond the punishments doled out by the school district.

Limitations

The work presented in this dissertation admits of certain limitations. In the first study, the available data only allows for explorations of the way in which zero tolerance policies are codified and the way they are discussed in the popular media. While important, these angles may not fully capture the myriad of ways that administrators and teachers implement school discipline policies in the school context. In other words, the implemented or bottom-up policies may differ from the codified or top-down language of the policies due to the actions of those implementing the policies (Lipsky, 1979). Furthermore, while the case studies provide a rich description of the use of zero tolerance disciplinary policies in the context of actual school districts, the findings cannot generalize to all school districts with similar policies. Nevertheless, the case studies provide hypotheses to be tested in future research.

The second study explores the relationship between state zero tolerance laws and rates of exclusionary discipline, dropout rates, principals' feelings of control over discipline, and principals' perceptions of problem behaviors. While the empirical design of this study eliminates many threats to its internal validity, the conclusions that can be drawn are limited to the state mandatory expulsion laws examined. To the extent that schools utilize zero tolerance approaches to discipline for lesser offenses or in ways that differ from that codified in state law, this study cannot address the impact of zero tolerance discipline more broadly defined. A further limitation of this study is the lack of available data on expulsion rates. While the relationship between mandatory expulsion laws and expulsion rates may be mechanical, ideal data would allow for the estimation of the relationship between mandatory expulsion laws and both suspension and expulsion rates. In the absence of such data, the second study focuses only on suspension rates.

The final study, which explores the relationship between zero tolerance approaches to discipline and student outcomes has the advantage of being able to disentangle the impacts of zero tolerance approaches to major and minor offenses; however, it does so in a way that falls short of causal estimates. Given the use of secondary data in which students were not randomly assigned to different school disciplinary environments, the results should be considered descriptive adjusted correlations. I argue, however, that such a descriptive look provides an important contribution given the relative dearth of evidence on zero tolerance discipline that currently exists.

General Overview

The three studies each explore a different component of zero tolerance school discipline. Chapter II provides a descriptive examination of the laws, policies, and popular perceptions of

zero tolerance discipline. Chapter III estimates the impact of state zero tolerance laws on student suspension rates, dropout rates, perceptions of problem behaviors, and perceptions of control over school disciplinary policy. Chapter IV utilizes nationally representative data to explore the relationship between zero tolerance type discipline policies for major and minor offenses and a host of proximal and later life student outcomes. In Chapter V, I provide an overarching summary discussion of the findings, policy implications, theoretical contributions, and suggestions for future research.

CHAPTER 2

DEFINING "ZERO TOLERANCE": LAW, POLICY, AND PERCEPTION

Introduction

School discipline policy represents an important mechanism by which schools meet their obligation to maintain a safe learning environment for all students. Beginning in the 1990s, the term "zero tolerance" became a popular description for the fast-spreading approach to discipline which emphasized severe and uncompromising punishment (Richards, 2004). The term arose largely from the passing of the 1994 Gun-Free School Act, federal legislation which mandated a one year expulsion for possession of a firearm on school property (Gun-Free School Act, 1994). Over the next several years, states moved to enact similar legislation to maintain federal funding, resulting in state laws that expanded the provision to weapon, drug, and assault offenses (Richards, 2004). By the late 1990s, virtually every state had legislation implementing the federal Gun-Free School Act (Richards, 2004), and nearly every school district in the country reported having a zero tolerance disciplinary policy for weapons and other serious infractions (Heaviside, Rowand, Williams, & Farris, 1998).

While zero tolerance policies arose from legislation aimed at serious infractions such as weapons, popular media and other stakeholders have applied the term to a broader range of disciplinary actions. Reporters quote teachers who state that "Any behavior that got a student sent to the principal's office almost automatically resulted in suspension" (Stucki, 2014, para. 2). Others refer to zero tolerance policies as promoting the "school to prison pipeline" through the punishment of "minor infractions" (Kamenetz, 2014, para. 5). A recent publication by the Advancement Project defined zero tolerance as "shorthand for all punitive school discipline policies and practices" (Advancement Project, 2010). These descriptions contrast with the

definition of zero tolerance policies provided by the U.S. Department of Education's Office of Civil Rights (OCR) which states that "a zero tolerance policy is a policy that results in mandatory expulsion of any student who commits one or more specified offenses (for example, offenses involving guns, or other weapons, or violence, or similar factors, or combinations of these factors)" (Office of Civil Rights, 2014, p. 2).

Such anecdotal evidence suggests that there may be a systematic disconnect between the legal requirements of zero tolerance, the school policies which implement these laws, and the understanding of these laws and policies by the general public. In this paper, I explore the distinction between explicit zero tolerance (EZT) laws/policies and mandatory expulsion (ME) laws/policies. EZT laws and policies are those referred to explicitly by the term "zero tolerance" regardless of the punishment mandated or the offenses covered. In contrast, mandatory expulsion laws/policies are those which require expulsion for an offense even if not explicitly using the term "zero tolerance". Mandatory expulsion laws/policies align with the U.S. Department of Education's Office of Civil Rights definition of zero tolerance (Office of Civil Rights, 2014).

As pressure mounts for policymakers to reduce the use of exclusionary discipline and to address concerns of racial inequities in school discipline (U.S. Department of Justice & U.S. Department of Education, 2014), it is particularly important to understand the use of the term "zero tolerance". Without information about the actual laws and policies in place, policymakers addressing school discipline may focus on the wrong law or policy. For example, if explicit zero tolerance laws and policies apply only to severe disciplinary infractions such as weapons, then the rolling back of such policies may do little to address issues of concern over the use of exclusionary discipline for minor infractions. In contrast, focusing only on mandatory expulsion

laws/policies may miss a number of laws/policies that apply a zero tolerance approach to discipline. For instance, policies that utilize an alternative consequence, such as suspension, would be overlooked when only examining mandatory expulsion laws/policies. Consequently, understanding the term "zero tolerance" as it is used in the legal, policy, and public contexts has important implications for policymakers setting school discipline policy and for the students subject to such policy.

The purpose of this study is to explore the legal underpinnings of zero tolerance policies, the school district policies which implement these laws, and the public perception of such laws and policies. Drawing on a qualitative examination of legal statutes, school board district policy documents, and media articles, I address the following research questions:

1) How do federal and state laws codify zero tolerance school disciplinary policy?

2) How do school districts codify zero tolerance school discipline policies in district policy documents, and how do these policies vary by district/student characteristics?

3) How does the popular media portray school zero tolerance discipline, and how has this portrayal changed over time?

4) To what extent do the legal and school district codifications of zero tolerance discipline align with each other and with popular media conceptions of zero tolerance discipline?

5) How do zero tolerance discipline policies fit into the broader disciplinary policy of school districts?

For state laws and district policy, I explore these questions across both explicit zero tolerance policies and mandatory expulsion policies. Additionally, I develop case studies of four school districts to exemplify the role of zero tolerance and mandatory expulsion policies within

the context of actual districts. These case studies focus on the state, district, and media portrayals of zero tolerance discipline in their specific context while also providing insight into the fifth research question, namely how such policies fit within the broader disciplinary policy of the school district. Addressing these questions will provide a better understanding of what is meant by school zero tolerance discipline. Increased understanding of zero tolerance laws and policies has the potential to provide information to policymakers and the general public as they discuss and assess the relative merits of such laws and policies.

Theoretical Framework

I draw on the literature on policy implementation to ground the analysis and findings of this study. Policy implementation is often described from either a top-down or bottom-up perspective. The top-down perspective views policy implementation as initiated by higher levels of government and carried out by lower levels that may potentially fail to adhere to the original design (Matland, 1995; Mazmanian & Sabatier, 1983; Van Meter & Van Horn, 1975). The bottom-up perspective, in contrast, views policy as forming from both the policy as designed by the higher level of government (macro-implementation) and from the decisions of on the ground actors at the lower level of government (micro-implementation) (Lipsky, 1979; Matland, 1995). Under this view, changes made to policy by local actors represent less of a failure of implementation and more of an expected adaptation of the policy.

The policy implementation framework views the interaction of differing levels of government as the "multilayer problem" (Hill & Hupe, 2003). Pressman and Wildavsky (1973) contend that if policy implementation must proceed through multiple layers of government then near perfect cooperation between these levels of government is required in order to prevent implementation deficits. The language of implementation deficits assumes a top-down

implementation perspective in which deviation from the original conception of the policy is viewed as faulty (Hogwood & Gunn, 1984); however, from a bottom-up perspective of policy implementation, these deviations may be viewed as acceptable or expected changes to policy (Elmore 1980; Hjern, 1982). Regardless of perspective, the multilayered nature of policy implementation suggests that policies will vary across differing levels of government.

The case of zero tolerance discipline, especially operationalized as mandatory expulsion, can be understood as a case of policy implementation. While a handful of states had mandatory expulsion policies in place in the early 1990s, the passage of the federal Gun-Free School Act in 1994 prompted widespread action by state governments to adopt mandatory expulsion laws. This state action, in turn, prompted districts to adopt policies in line with the state and federal legislation.

From the policy implementation perspective, differences in zero tolerance discipline laws/policies across differing levels of government may be understood as an expected product of the policy implementation process. For instance, during the micro-implementation process, state legislators may implement the federal Gun-Free School Act by expanding the included infractions beyond those included in the federal legislation. Similarly, actors at the school district level make decisions regarding the implementation of state zero tolerance laws. These decisions may include expansion of the policy to include other offenses or could consist of explicit absence of the policy from district policy documents.

The degree of compliance in policy implementation is driven in part by the particular characteristics of the local environment (Walker, 1969). For instance, local district policy makers might respond differently according to the political pressures of their constituencies or competing ideologies of their employees (Trujillo, 2013). Similarly, the coercive nature and

financial incentives used by the higher levels of government to influence the implementation of the policy may prompt lower levels to err on the side of caution by implementing policies that expand upon the minimal requirements of the higher level policy. For instance, while the federal Gun-Free School Act requires expulsion for firearms, a state may implement a policy applying to weapons broadly defined in order to ensure compliance with the federal statute. In turn, a school district might include look-a-like weapons in their policy in order to ensure compliance with the state policy.

Additionally, lower levels of government may implement expanded or revised version of policies in an effort to maintain a feeling of autonomy over their policy context. In the face of coercive action by higher levels of government, lower levels may respond by implementing a revised version of the law in order to exert their autonomy and demonstrate that they are not entirely beholden to the desires of the higher level of government (Conlisk et al., 2005). For instance, May and Burby (1996) find that the success of mandated policies pushed on lower levels of government by coercive means depends in part on the perceived legitimacy of the higher level actor by the lower level actor. This response is consistent with efforts of lower levels of government to maintain at least the perception of local control. In short, at each step down the governmental hierarchy, local governments exercise autonomy to modify, expand, or otherwise revise the policy they implement and are influenced to do so by the unique characteristics of their policy environment.

In summary, the policy implementation framework suggests that policies change as they move through differing levels of government. Given such changes in policy across polities, it is reasonable to assume that public perception of policies will also vary. In particular, the public's understanding of a policy may be shaped by the form of the policy in their local context or by the

form of the policy in the level of government with which they most regularly interact. Consequently, as a guiding framework for this study, this theoretical perspectives suggests the potential for misalignments between zero tolerance discipline laws and policies at different levels of government and between codified laws/policies and popular media perceptions.

Data

Constructs

I operationalize zero tolerance in two ways. The first focuses on laws/policies explicitly called zero tolerance (EZT). The second includes laws/policies that mandate expulsion (ME), aligning with the OCR definition of "zero tolerance". Explicit zero tolerance laws/policies are those whose language utilizes the term "zero tolerance". Consequently, EZT includes some laws/policies that require expulsion, some that require suspension, some that utilize less severe forms of discipline, and others that do not specify the disciplinary response. For instance, a district whose policy document states that the district "has zero tolerance for drugs" would be counted as EZT even if the policy document did not provide any further elaboration on the meaning of this statement.

In contrast, mandatory expulsion laws/policies are those that require expulsion for a given offense. Mandatory expulsion laws/policies may be included in a state or district's EZT policy if the laws/policy include the term "zero tolerance"; however, mandatory expulsion laws/policies can also stand alone. Even when not explicitly using the term, mandatory expulsion laws/policies are considered zero tolerance discipline insofar as they align with the U.S. Department of Education's Office of Civil Rights' definition of zero tolerance (Office of Civil Rights, 2014).

Given these definitions, explicit zero tolerance and mandatory expulsion are not mutually exclusive. States and districts can, and do, have both explicit zero tolerance and mandatory expulsion statutes and policies. In some cases, these laws/policies are one in the same, with laws/policies that both utilize the term "zero tolerance" and mandate expulsion. In other cases, the zero tolerance law/policy and the mandatory expulsion law/policy may be separate laws/policies within the same state or district.

Data Sources

I utilize data from several sources to address the research questions. First, data for the analysis of federal and state zero tolerance laws come from a search of the Westlaw Legal Database. The Westlaw Legal Database contains archived records of federal and state laws by year. I searched the Westlaw Legal Database for current laws (2013) that utilized the term "zero tolerance" or "expulsion" and then, through a reading of specific laws, identified laws that applied to the school setting. Current laws included all statutes in place during 2013, both those passed that year and laws passed in previous years that were still in place.

To address the second research question, specifically how school districts codify zero tolerance policies and how these policies vary by school district, I pulled data from two sources. First, I acquired school district data for all school districts in the country in 2011-2012, the most recent year available, from the National Center for Education Statistics' Common Core of Data (CCD). The CCD provides a rich set of school district level information including student demographics, district size, and district expenditures. From the population of U.S. school districts, I drew a stratified random sample of 300 districts. In order to ensure an adequate number of larger school districts, I stratified the sample by district urbanicity (urban, suburban,

town, and rural). All results presented are weighted to account for the stratification in the sampling.

After pulling the random sample of school districts, I removed school districts (9%) that no longer existed (due to consolidation or the closing of a charter school district, n = 6), and I removed sampled districts that did not directly oversee schools (such as regional education service agencies, n = 18). I refer to the districts that remained (n=274) as the full sample. I then conducted an online search for student handbooks, codes of conduct, or district policy manuals for each of the districts in the full sample. These district policy documents serve as the source of information on school discipline policy for each district. In the majority of cases, the documents were readily available on school websites. For those districts that did not have such documents available via their website, I contacted school district personnel and requested a copy of the student handbook, code of conduct, or district policy manual. The final analytic sample consists of 219 policy documents, corresponding to 80% of the districts in the full sample. Of the documents collected, 84% are student handbooks or codes of conduct within handbooks while the remaining 16% came from school board policy manuals.

Table 1 provides means for characteristics of the school districts sampled, those for which policy documents were located, and those for which policy documents were not acquired. The sample for which policy documents were found differed significantly on a number of measures from those districts for which the policy documents were unavailable. I tested differences between each of the characteristics for districts with policy documents and those without using a Welch's t-test for two samples with uneven variances and uneven sample sizes. Statistically significant differences are indicated in Table 1. As shown, districts for which policy documents were acquired tended to be larger in size (3,654 students to 1,121 students), served

fewer students eligible for free and reduced-price lunch (46% to 61%), and lower percentages of minority students (12% Black to 19% Black). Additionally, districts for which policy documents were found were significantly less likely to be charter school only districts (10% to 41%). Many of the districts missing policy documents were charter school districts consisting of a single charter school. Table 2 shows district characteristics with charter only districts removed from the sample. As shown, districts for which I acquired policy documents were still larger (5,505 students to 2,160 students) and still served fewer students eligible for free and reduced-price lunch (46% to 56%). The omission of charter only districts did, however, shift the difference in student body race such that school districts with acquired policy documents had a larger percentage of Black students (12% to 3%).

Given the observed differences between school districts with acquired policy documents and those without, the analytic sample is not fully representative of the population of school districts in the United States. Consequently, results presented in this study should be interpreted as applying to school districts similar to those with acquired policy documents.

The third source of data consists of popular media articles that reference school zero tolerance policies. I selected the *USA Today* and *New York Times* newspapers as national news outlets and identified articles from these papers which reference "school" and "zero tolerance" for the period of 1990 through 2014, representing the period prior to the emergence of zero tolerance policies to present. For the *USA Today*, the sample represents all newspaper articles referencing these terms. Given a larger number of articles referencing these terms in the *New York Times*, I randomly sampled 20% of the articles from the *New York Times*. I further limited the samples to articles about the K-12 education sector and that were topically related to school

discipline. The final sample of *USA Today* media articles consisted of 120 articles while the final sample of *New York Times* articles consisted of 43 articles.

In addition to the two national news sources, I also acquired articles from local newspapers in four communities for which I develop case studies. For these sources, I acquired articles for the last four years that utilized the term "zero tolerance". These news sources provide insight into the local portrayal of zero tolerance discipline in each of these contexts.

Methods

Federal Laws

I began by searching for federal laws pertaining to school discipline that explicitly use the term zero tolerance and those that require expulsion. The search returned no explicit zero tolerance laws and only a single mandatory expulsion law, namely the Gun-Free School Act.

State Laws

I coded state laws using an iterative process with NVIVO 10 software. In the first round of coding, I identified laws that were explicit zero tolerance (EZT), where an EZT law was defined as one labeled "zero tolerance" and pertaining to K-12 schools. For states with EZT laws (n=7), I further coded whether the law required or mandated expulsion, whether the law applied only to weapons, whether the law applied to drug offenses or assaults, whether the law included toy or facsimile weapons, whether the law included minor offenses (defiance, profanity, possession of a cell phone, etc.), and whether the law had specific language allowing case-by-case discretion on the part of school or district administrators. Table 3 shows the complete list of items I coded in the state laws.

The specific items coded for arose in part through formal definitions of zero tolerance, such as the OCR definition, federal legislation such as the Gun-Free School Act, and popular

portrayals of such laws/policies. For instance, both the Gun-Free School Act and the OCR definition of zero tolerance apply the term only to laws/policies resulting in expulsion. The choice to code for applicability to weapons/firearms arose from their prominence in the federal Gun-Free School Act. Furthermore, both federal law and the OCR definition include caveats by which administrators or school board members can modify the expulsion requirement, so I chose to include this characteristic in the list of items to code. Finally, the choice to code the application of these laws to minor offenses or look-a-like weapons arose from popular media reports that have highlighted the application of zero tolerance discipline to minor infractions or non-violent behaviors.

Following the coding of explicit zero tolerance laws, I identified state laws which mandate expulsion. Such laws align with the U.S. Department of Education's Office of Civil Rights' definition of zero tolerance policies, namely those that mandate expulsion for certain offenses. I coded characteristics of these laws in a similar manner to those of the explicit zero tolerance laws. Table 4 displays the full list of characteristics coded along with the proportion of states with laws containing such characteristics.

District Policy Documents

After coding state laws, I identified school district policies that applied to school discipline and coded these policies in a manner similar to the state laws. I began by coding for district policies that utilized the term "zero tolerance". Only 27 of the 219 districts in the analytic sample contained such a policy. Such explicit zero tolerance (EZT) policies were then coded for particular characteristics. Specifically, I coded whether the district policy mandated expulsion, whether the policy applied only to weapons, whether the policy included weapons, whether the policy included serious offenses such as drugs or assault, whether the policy

included toy or facsimile weapons, whether the policy included minor offenses, and whether the policy had language allowing case-by-case discretion on the part of administrators. Table 5 shows the complete list of EZT characteristics coded for in the district policy documents.

In addition to district explicit zero tolerance policies, I also coded district policy documents for mandated expulsion policies. Table 6 shows the complete list of characteristics coded for in both the full sample and by district characteristic subgroups.

Media Articles

I coded the sample of media articles in a manner similar to that of the state laws and district policy documents. Like the laws and policy documents, I coded for whether the article mentioned mandated expulsion, whether the article only mentioned weapons, whether the article mentioned weapons at all, whether the article mentioned serious offenses such as drugs or assault, whether the article mentioned toy or facsimile weapons, whether the article mentioned minor offenses, and whether the article mentioned language allowing case-by-case discretion on the part of administrators.

In addition, I coded for whether the media article mentioned racial disparities, mentioned the goal of fairness in discipline, and whether it mentioned zero tolerance policies decreasing administrator discretion. I coded for these characteristics due to recent concerns that zero tolerance discipline contributes to racial discipline gaps (Hoffman, 2014). Finally, I coded the media articles for whether they had a generally positive portrayal of zero tolerance, a generally negative portrayal of zero tolerance, or were neutral. Positive portrayals included language that described zero tolerance policies as "improving schools" or cited them as necessary steps for improving safety. Negative portrayals included language that described zero tolerance policies in terms such as "a problem" or "failed". Neutral reports were those that reported facts without a

positive or negative connotation or offered a balanced report of positive and negative portrayals. Table 7 shows the complete list of items coded for in the media articles.

Regression Analysis

Next, I sought to understand the relationship between the presence of a state mandated expulsion statute and the presence of such a policy in a school district's policy document. To explore this relationship, I ran ordinary least squares regressions predicting the presence of a district policy mandating expulsion from the presence of a state law mandating expulsion. I explored this relationship for any mandated expulsion law, those applying to weapons/firearms, those applying to drugs, and those applying to assault/physical violence. I began with an examination of the bivariate relationship and then explored the relationship while controlling for a number of district characteristics. Table 1 shows the full list of district characteristics included as controls in these regressions.

Case Study Analysis

Finally, I sought to provide examples of the way in which zero tolerance policies and mandatory expulsion policies are understood in four case study districts. I examine the policies of the district, the laws of the district's state, and the portrayal of the policies/laws in the local media. In addition to providing specific examples of the understandings of zero tolerance in each of these contexts, the case studies also provide a richer picture of the way in which explicit zero tolerance policies and mandated expulsion policies fit within the broader context of school disciplinary policy. While zero tolerance policies have garnered substantial attention from the media and policymakers (NYTimes Editorial Board, 2014; U.S. Department of Education Office for Civil Rights, 2014), they represent only a small component of any individual schools' discipline policy.

In order to provide a richer description of the context of district zero tolerance policies, I developed case studies of four districts' discipline policies through qualitative analysis of the discipline portion of their policy documents. In order to minimize other differences across districts, I first limited the sample to districts that were located in an urban area and that had an enrollment greater than 10,000 students. From this group, I selected four districts, each representing one of the four possible combinations of an explicit zero tolerance policy and a mandatory expulsion policy. Accordingly, one district had neither an explicit zero tolerance policy nor a mandatory expulsion policy, another district had both, and each of the other two districts had one or the other.

The discipline section of the school district policy documents for each of the four districts were read in their entirety. Initial components coded for included the use of a tiered discipline system, the presence of restorative practices for dealing with misbehavior, the degree of specificity given to prohibited behavior, and disciplinary responses. A tiered discipline system is one in which behavioral infractions are organized into tiers with progressively severe punishments for each tier. Restorative discipline practices are those that focus on non-punitive responses to misbehavior, such as peer counseling or positive behavior supports. These items were originally selected due to their alignment or contrast with zero tolerance systems of discipline. For instance, the specificity of prohibited behavior and disciplinary responses touch on the nature of zero tolerance as mandating certain responses to specific infractions while the use of restorative practices of discipline contrasts sharply with the common use of punitive responses under zero tolerance. Likewise, the use of a tiered discipline system demonstrates consideration given to the severity of the misbehavior or the number of times a behavior has occurred, both components that may be seen as lacking in zero tolerance approaches.

Throughout the initial read, other interesting components emerged such as the presence of a student statement of rights and responsibilities, the presence of due process of hearings for discipline, and the use of law enforcement or the juvenile justice system as a response to student misconduct. Each document was read a second time to thoroughly code both the original and emergent domains.

In addition to examining the policy documents for each districts, I conducted a search of media articles in the local newspaper for each district. I collected articles that utilized the term "zero tolerance" in reference to the school setting and that focused on local affairs rather than national events. All articles meeting these criteria in the last seven years (2007-2014) were included in the analysis. I read each article in its entirety and, as with the national media articles, coded for characteristics of the portrayal of zero tolerance discipline. I include a discussion of the local media portrayals in each case study.

Results

Federal Law

Federal law pertaining to schools does not utilize the term "zero tolerance"; however, one mandatory expulsion law, namely the federal Gun-Free School Act of 1994, does exist. The federal mandatory expulsion law applies only to firearms and reads as follows:

> "(1) IN GENERAL- Each State receiving Federal funds under any title of this Act shall have in effect a State law requiring local educational agencies to expel from school for a period of not less than 1 year a student who is determined to have brought a firearm to a school, or to have possessed a firearm at a school, under the jurisdiction of local educational agencies in that State, except that such State law shall allow the chief administering officer of a local educational agency to modify

such expulsion requirement for a student on a case-by-case basis if such modification is in writing." (U.S. Department of Education, 2014)

It was the passage of this federal act which prompted an increase in state zero tolerance laws.

State Laws

The next stage of analysis involved analyzing state laws for explicit reference to zero tolerance (EZT). Table 3 provides results of coding state laws for EZT statutes. As shown, the majority of states (86%) do not refer to their school discipline laws as zero tolerance. Of those that do, the laws are not solely focused on weapons but tend not to apply to minor offenses. The majority of laws called zero tolerance (4 of 7) also do not mandate expulsion. While nearly all (6 of 7) of states with an EZT law include weapons within the law, only one state limits the law explicitly to weapons. Other common infractions to which the term "zero tolerance" is applied include drug offenses and physical assaults.

These findings suggest that state laws do not generally utilize the term "zero tolerance" when referring to laws that apply to school discipline. Nevertheless, it is possible that states have laws that adhere to common understandings of zero tolerance despite not using the term. Table 4 shows results of the coding of characteristics of state laws that mandate expulsion, the definition of "zero tolerance" per the U.S. Department of Education's Office of Civil Rights.

I find that virtually all states (96%) have a law that mandates expulsion for some offense. The two exceptions are Massachusetts and Hawaii. Massachusetts has a law that strongly suggests expulsion for firearm offenses but does not explicitly mandate it. Specifically, Massachusetts' state law states that "(a) Any student who is found on school premises or at school-sponsored or school-related events, including athletic games, in possession of a dangerous weapon, including, but not limited to, a gun or a knife; or a controlled substance as

defined in chapter ninety-four C, including, but not limited to, marijuana, cocaine, and heroin, may be subject to expulsion from the school or school district by the principal" (Policies relative to conduct of teachers or students; student handbooks, M.G.L.A. 71 § 37H).

Hawaii is unique insofar as it is the only state in which a single school district covers all of the state's schools. Consequently, education regulations in the state tend to take place at the district level rather than in the form of state law, insofar as the alignment between the district and state would make additional state laws redundant.

As shown in Table 4, all states with mandated expulsion include weapons/firearm offenses under their mandated expulsion law and the majority (66%) only apply mandated expulsion to such offenses. Outside of weapon/firearm offenses, assault (22%) and drug (20%) offenses make up the largest categories of offenses to which mandated expulsion is applied. Notably, very few states apply mandated expulsion to look-a-like weapons or minor offenses, such as disrespect or profanity.

District Policy Documents

I analyzed district policy documents explicitly labeled as zero tolerance policies. I searched the district policy documents for instances of the term "zero tolerance". Exploring such EZT policies provides evidence for the way in which district policymakers understand and utilize the term "zero tolerance" in formal policy documents. Table 5 shows results from the coding of policy documents for EZT policies. As shown, very few districts (12%) explicitly utilize the term "zero tolerance" in their policy documents. Column 2 shows sub-coding of these EZT policies conditioning upon having such a policy. I find that among EZT policies nearly two-thirds of policies do not require expulsion and one quarter apply to minor offenses (defiance,

language, possession of a cell phone, etc.). In over one third (38%) of districts, the EZT policy applied only to weapons/firearms.

While most EZT policies did not allow for discretion in the application of the policy, 17% of the school districts with EZT policies did include a clause granting discretion to district officials to amend punishment on a case-by-case basis. For example, the policy document from the Lawrence Township school district in New Jersey describes this discretion as follows: "The hearing will take place within a reasonable time and will be closed to the public. The removal may be subject to modifications on a case-by-case basis by the Superintendent" (Lawrence Township Public Schools, 2014, p. 33) The Lincoln school district provides further details on discretion in discipline by suggesting that administrators should take into account characteristics of the student and the behavior violation. The Lincoln school district (Rhode Island) handbook states that "When considering what constitutes aggravated assault, the factors to be weighed include: age of student(s) involved, seriousness of bodily injury, the state of mind of the individual(s) involved, other factors deemed relevant to the principals or their designee" (Town of Lincoln School Committee, 2014, para. 1).

In addition to explicit zero tolerance laws, I explored characteristics of district mandated expulsion laws. Table 6 shows results from this analysis for the full sample and by different subgroups of districts. For the full sample, I find that the majority of districts (66%) have a mandated expulsion policy, though this percentage is significantly smaller than would be expected given that 96% of states have a mandated expulsion law. As with state laws, I find that district mandated expulsion policies predominantly apply to weapons/firearms offenses (65%) and that approximately 23-24% of districts have such policies for other major offenses such as

drugs or assaults. While no districts have such policies for minor offenses, approximately 1 in 5 districts have such a policy for toy or look-a-like weapons.

I explore differences in the presence of mandated expulsion policies for the top and bottom quartiles of districts by proportion of students eligible for free and reduced price lunch (columns 2-3) and minority students (columns 4-5). I also explore differences across charter only districts and traditional districts (columns 6-7 as well as by urbanicity (columns 8-10). Results of Welch's t-tests for the significance of differences between these comparisons are shown. I find that districts serving a large proportion of minority students are more likely to have mandated expulsion policies for non-weapon offenses such as drugs or assaults. I find that charter only districts are significantly less likely to have a mandated expulsion policy in their policy documents. The presence of mandated expulsion policies does not vary significantly by urbanicity.

Media Articles

The next set of data analyzed consisted of media articles from the *USA Today* and *New York Times*. Figures 1 and 2 show the number of media articles per year analyzed for the *USA Today* and *New York Times* respectively while Figure 3 shows the combined number per year. As shown, the number of articles included from the population of *USA Today* (N=120) is approximately three the number included from the *New York Times* (n=43), though the sampling strategy utilized in selecting *New York Times* articles (20% of all articles) means that the *New York Times* actually published more articles on zero tolerance during this time period than did the *USA Today*.

Both the *USA Today* and *New York Times* demonstrate an increase in media attention given to school zero tolerance policies during the 1999-2001 period followed by renewed interest

in the late 2000s. The large number of articles in 2009 was driven largely by increased coverage in the *USA Today*. These trends in media coverage roughly reflect the rapid expansion of these policies in the late 1990s and renewed interest in their effects on students in the last several years.

I find that the way in which the popular media has portrayed and referred to school zero tolerance policies has shifted over the last two decades. In particular, I find that the media has increased references to the potential impact of such policies on racial disparities in discipline in the last several years and that the media's portrayal has become decidedly more negative towards these policies over time. Tables 7 and 8 present results for the *USA Today* and *New York Times* sets of media articles divided into three year periods from 1994 to present. Table 9 shows similar data for the combined set of media articles from both the *USA Today* and *New York Times*.

For the combined set of media articles across all years, I find that the popular media's references to school zero tolerance discipline have tended to have a large focus on minor offenses. More than one in three media articles referencing school zero tolerance discipline referred to minor offenses in the article. In recent years, the proportion referring to minor offenses reached nearly three out of four articles. Despite the focus on minor offenses, many of the articles couple the discussion of minor offenses with references to more severe offenses such as weapons, assaults, or drugs.

Figures 4 and 5 show the proportion of articles in three year periods that were coded as casting zero tolerance school discipline policies in a negative, neutral, or positive light for the *USA Today* and *New York Times* samples respectively. Figure 6 shows the corresponding breakdown for the combined set of media articles. In the full sample and across both

newspapers, zero tolerance discipline policies were generally referred to in a neutral or positive framing in the period between 1990 and 2000. As time progresses, however, the newspaper articles trend towards a greater proportion of articles that frame zero tolerance policies negatively. From 2012 to 2014, nearly half of the articles referred to zero tolerance school discipline in a negative light and none portrayed such policies as a positive.

Merged Results

Table 10 provides a cross tabulation of districts with explicit zero tolerance and mandatory expulsion. As shown, over half of districts have mandatory expulsion, but only approximately 15% of those districts also have an explicit zero tolerance policy. In contrast, explicit zero tolerance policies are rarer (less than 15% of districts have one), but over two thirds of districts with an explicit zero tolerance policy also have a mandatory expulsion policy. Table 11 shows a cross tabulation of states with explicit zero tolerance and mandatory expulsion. As shown, virtually every state has a mandatory expulsion law; however, not every state with an explicit zero tolerance has a mandatory expulsion law.

Table 12 displays consolidated results of coding of the federal law, state laws, district policies, and media portrayals. The first row shows the presence of either the explicit zero tolerance law/policy or the mandatory expulsion law/policy for the full sample. The bottom half of the table displays characteristics of these laws/policies conditional on the presence of the law or policy. As shown, the rate of explicit zero tolerance policies, though nearly identical for states and districts, is very low. Mandated expulsion laws/policies are more common for both states and districts though significantly more common in state law than district policy. For those states and districts with such laws/policies, explicit zero tolerance laws/policies are more likely to include minor offenses and less likely to include a provision for administrator discretion.

Likewise, mandatory expulsion laws/policies are more likely to include only weapons. Media articles' descriptions of zero tolerance discipline tend to align closer to those of explicit zero tolerance than mandatory expulsion.

Comparing state and district laws/policies reveals that districts, in general, are more likely to include offenses such as assaults, drugs, or minor offenses under their zero tolerance or mandatory expulsion policies despite being less likely to have a mandatory expulsion or explicit zero tolerance policy on the books as compared to state law. Both state law and district policy represent significant expansions over federal law which does not include an explicit zero tolerance law and only includes a mandatory expulsion law for firearms.

Regression Analysis

The next component of my analysis sought to understand the relationship between state laws and school district policies regarding mandated expulsion. Through ordinary least squares regression, I find strong and statistically significant bivariate relationships between the presence of a state mandated expulsion law and a school district's mandated expulsion policy. These relationships remain positive and statistically significant for drugs and assaults, after controlling for a robust set of school district characteristics. Specifically, the presence of a mandated expulsion law in a state statute is predictive of an approximately 20-40% increase in the likelihood that a school district will have a corresponding policy in their policy document. Table 13 shows results of the bivariate and fully controlled regressions.

Case Study Analysis

The final component of my analysis provides examples of the ways in which zero tolerance policies and mandatory expulsion policies are understood in four case study districts. I examine the district policies, the laws of the district's state, and the portrayal of the policies/laws

in the local media. In addition to providing specific examples of the understandings of zero tolerance in each of these contexts, the case studies also provide a richer picture of the way in which explicit zero tolerance policies and mandated expulsion policies fit within the broader context of school disciplinary policy.

Characteristics of the four school districts included in the case studies are shown in Table 14. As shown, the case study districts represented smaller urban districts, ranging in size from 12,500 students to approximately 16,600 students. Each district was diverse, serving a student body that was at least 40% minority, though racial composition varied across districts. Each district represents a unique combination of explicit zero tolerance policy and mandated expulsion policy such that one district has both, one has neither, and the other two districts have one or the other of the policies. In the following sections, I consider each district in turn, focusing both on its use of zero tolerance or mandated expulsion discipline, the greater disciplinary policy context in which these approaches exist, the state laws that govern the district, and the media portrayals of zero tolerance in the district's local newspaper.

Jackson-Madison County School System, Tennessee - Explicit Zero Tolerance Policy and Mandated Expulsion Policy. The Jackson-Madison County School System (JMCSS) serves a smaller metropolitan area in the state of Tennessee. The state of Tennessee ranks in the top ten of all states for arrests of juveniles for violent crimes and is approximately at the median for juvenile arrests for drugs (Puzzanchera, 2014). The district serves a large proportion of Black students and, of the four case study districts, serves the largest percentage (74%) of students eligible for free and reduced price lunch. The district discipline policy utilized in JMCSS includes an explicit zero tolerance policy as well as a mandated expulsion policy. Approximately 8% of all districts examined in this study fall into this category.

The district resides in one of the few states, Tennessee, that explicitly utilizes the term "zero tolerance" with regard to school discipline in its state statutes. Within a statute that provides regulations for punishment of weapons, drug, and assault offenses, zero tolerance discipline is referenced as follows:

> "It is the legislative intent that any rule or policy designated as a zero tolerance policy means that violations of that rule or policy will not be tolerated, and that violators will receive certain, swift and reasoned punishment. Reasoned punishment may include a spectrum of disciplinary measures designed to correct student misbehavior and promote student respect and compliance with codes of conduct and board policies. A zero tolerance violation shall not necessarily result in a presumptive one (1) calendar year expulsion except for those types of student misconduct set forth in § 49-6- 3401(g). It is the legislative intent that the local school boards shall retain responsibility for development of disciplinary policies and student codes of conduct including assurances that students are afforded fair due process procedures. Nothing in this section shall be construed to prohibit assignment to an alternative school for those students under suspension or expulsion including students engaging in misconduct set forth in § 49-6- 3401(g)" (Written policies for safe and secure learning environment free of drugs, violence and weapons; disciplinary sanctions, § 49-6-4216)

As noted, the state's mandatory expulsion law is closely tied to its reference to zero tolerance. In particular, the above statement regarding zero tolerance discipline refers to another law that specifically requires a one calendar-year expulsion for certain offenses. The state's mandatory expulsion law represents one of the more comprehensive among states, covering

firearms, drugs, and assaults. Specifically, the language of the mandatory expulsion law reads as follows:

> "Notwithstanding this section or any other law to the contrary, a pupil determined to have brought to school or to be in unauthorized possession on school property of a firearm, as defined in 18 U.S.C. § 921, shall be expelled for a period of not less than one (1) calendar year, except that the director may modify this expulsion on a case-by-case basis. In addition to the other provisions of this part, a student committing aggravated assault as defined in § 39-13-102 upon any teacher, principal, administrator, any other employee of an LEA or school resource officer, or unlawfully possessing any drug including any controlled substance, as defined in §§ 39-17-403 -- 39-17-415, controlled substance analogue, as defined by § 39-17-454, or legend drug, as defined by § 53-10-101, shall be expelled for a period of not less than one (1) calendar year, except that the director may modify this expulsion on a case-by-case basis." (Suspension of students, Expulsion of students, § 49-6- 3401(g))

State law and district policy match closely in the case of JMCSS. In particular, both contain explicit zero tolerance in addition to mandatory expulsion laws/policies.

JMCSS' zero tolerance policy includes a number of offenses. Specifically, the zero tolerance policy applies to weapons, drug offenses, assault, and electronic threats. The first three of these offenses (weapons, drugs, and assault) appear commonly across districts and in state law; however, the inclusion of electronic threats represents a less common offense to include in the zero tolerance policy. The interaction between state law and district policy is apparent in the

district's presentation of the zero tolerance policy. Specifically, the district policy document cites state law for each area of misconduct to which zero tolerance policies apply.

In JMCSS, the zero tolerance policy encompasses the mandatory expulsion policy. In particular, each of the misbehaviors explicitly included in the zero tolerance policy entails a mandated one year expulsion. The policy document states that "Zero-tolerance offenses set forth in Policy 6.309 requires expulsion for a period of not less than one (1) calendar year unless modified by the director of schools" (Jackson-Madison County Board of Education, 2014, p. 2) The final clause of this statement is an important and common component of mandated expulsion policies. Specifically, the clause gives the director or superintendent of schools the authority to modify the required expulsion on a case-by-case basis. This language closely mirrors that of the federal Gun-Free School Act and the language of many corresponding state laws. As with the choice of misbehaviors to include in the zero tolerance policy, it appears that JMCSS ' policy is driven in part by the language of state and federal laws.

JMCSS' zero tolerance and mandatory expulsion policies also include a link to the criminal justice system. Specifically, the policy states that violations of the zero tolerance behaviors will result in the juvenile justice system being contacted. With recent policy attention given to the "school to prison pipeline", the inclusion of the juvenile justice system in the disciplinary policy provides an explicit link between these policies and the broader criminal justice system in JMCSS. This connection is important, in part, because unlike the policies themselves, it does not necessarily arise as a result of state law but appears to be an additional component included at the discretion of the school district.

Stepping back to the broader context of the district's discipline policy, the district utilizes a tiered system, classifying student misconduct along four tiers. The bottom tier represents

minor offenses that should be handled by the classroom teacher. The second tier and above move to more severe offenses that may be handled by the principal or other administrative designee. The top tier represents violent acts that endanger the health of students, including fighting, drugs, and weapons. Interestingly, across all tiers of discipline, JMCSS utilizes a punitive approach to discipline. Even at the bottom tier, that representing minor offenses to be dealt with by the teacher, the recommended responses include demerits and corporal punishment. While counseling is also listed as an option, there is a noticeable absence of reference to positive behavioral supports, peer intervention, or other restorative methods of discipline. This trend holds across the higher tiers as well. Tier 2, which addresses offenses such as tobacco, tardies, and insubordination, recommend responses such as detention and in-school suspension (ISS). Expulsion, alternative school, and police contact are utilized at tiers 3 and 4. Notably, JMCSS was the one case example that recommended corporal punishment as a possible response to misconduct. Corporal punishment was recommended across all four tiers, meaning that even minor offenses could result in this response.

In contrast to the largely punitive recommendations of the tiered system, the district's discipline policy did offer a few examples of positive or restorative discipline practices. Their discipline policy began with a statement of rights and responsibilities of students and also included explicit language stating that the principal "shall apply the Code uniformly and fairly to each student at the school without partiality and discrimination" (Jackson-Madison County Board of Education, 2014b, p. 1). Nevertheless, the restorative approaches to discipline were often coupled with punitive measures. For instance, the policy document notes that drug and alcohol counseling should be made available through the school for students who break rules

pertaining to controlled substances. This positive response, however, is accompanied by a requirement that law enforcement also be notified in such cases.

Of the four case study districts, JMCSS is the only which included an explicit zero tolerance policy and a mandatory expulsion policy in its district policy documents. A search of the local newspaper, the Jackson Sun, revealed over 30 articles for the previous seven years, a substantially higher number than any of the other three locales. In contrast to Burbank, where zero tolerance discipline was only mentioned twice in the local media outlet, JMCSS' newspaper has widely covered the topic.

The majority of the media articles in Madison County focus on individual instances of violations of the school's zero tolerance policy that also resulted in mandatory expulsions. Such coverage may be a product of heightened occurrences of such infractions in the area. In 2008, an article reporting on a weapon on campus mentions that it was the fifth such incident that year. The majority of the reported incidents involved firearms being brought into the school or onto a bus. Unlike in some other locales where firearms appeared to be inadvertently brought to school, such as having been left in a vehicle after a hunting trip, the majority of cases in Madison County appeared intentional. In one case, a student describes his reason for having a handgun at school as being for the purpose of scaring another student. In addition to coverage of firearm offenses, the media articles from Madison County also made frequent note of drug violations. In one report, a number of students were suspended due to possession and distribution of prescription drug medication.

Despite a heavy focus on zero tolerance and mandatory expulsion, the media articles from Madison County also revealed consideration and use of superintendent discretion in the application of discipline. Board members noted that the "disciplinary board has the discretion to

make decisions on a case-by-case basis, including the length of expulsion and whether the student would be sent to alternative school" (The Jackson Sun, 2010, January 16). In at least one case involving drugs, the superintendent adjusted the length of the expulsion while, in other cases, the school board advocated on behalf of a student for leniency from the superintendent.

The views on zero tolerance in the Madison County media appeared mixed. An opponent of the policy wrote an editorial suggesting that district officials "hands shouldn't be bound by a blind system policy. In almost every case, common sense, not policy, should rule the day" (Watson, 2007, December 30). Others urged in the opposite direction, supporting zero tolerance and suggesting that a greater reliance on law enforcement was also called for. One candidate for school board explicitly advocated for zero tolerance discipline in her campaign. Other individuals seemed to recognize a tension between policy, safety, and common sense. One school official noted that "A lot of boys used to get up and go hunting before school started. ... But it's a different world now" (Smith-King, 2008 January 26).

In summary, JMCSS' approach to discipline, while organized in a tiered system, relies heavily on punitive measures and implements these measures for minor offenses. The presence of an explicit zero tolerance policy and a mandatory expulsion policy align with this strict approach to maintaining school order and are reflected in the broader conversation within the community's media as well as in state statutes.

Anderson School District, South Carolina - No Explicit Zero Tolerance Policy but Mandated Expulsion Policy. The Anderson School District nearly mirrors the Jackson-Madison County School System in size but serves a smaller proportion of minority students (43%) and smaller proportion of students eligible for free and reduced price lunch (55%). The district discipline policy utilized in the Anderson School District does not include an explicit

zero tolerance policy but does include a mandated expulsion policy. Approximately 55% of sample districts fall into this category. The state of South Carolina, in which the Anderson School District resides, ranks near the median of states on the arrests of juveniles for violent crime and below the median for juvenile arrests for drug offenses (Puzzanchera, 2014) and has explicit laws requiring certain offenses to be tried in adult court (Addie, Adams, & Firestine, 2011).

The state statutes for South Carolina align with the district policies. In particular, the state's laws do not reference zero tolerance explicitly but do include a mandatory expulsion law. Unlike the state law governing the Jackson-Madison County School System, the mandatory expulsion state law for the Anderson School District only applies to firearms. The law reads as follows:

> "The district board must expel for no less than one year a student who is determined to have brought a firearm to a school or any setting under the jurisdiction of a local board of trustees. The expulsion must follow the procedures established pursuant to Section 59-63-240. The one-year expulsion is subject to modification by the district superintendent of education on a case-by-case basis. Students expelled pursuant to this section are not precluded from receiving educational services in an alternative setting. Each local board of trustees is to establish a policy which requires the student to be referred to the local county office of the Department of Juvenile Justice or its representative" (Expulsion of student determined to have brought firearm to school, § 59-63-235)

Aligning with the state law, the Anderson School District's mandated expulsion policy pertains only to firearms infractions. As with the mandated expulsion policies in the Jackson-Madison

County School System, the language in the Anderson School District policy document is drawn largely from state legal requirements. In particular, the district policy document includes a direct reference to the federal Gun-Free School Act and reads as follows:

> "The board will expel any student who brings a firearm to school. The term firearm is defined extensively in the U.S. Code, but generally means a gun or other destructive device (explosive, incendiary). The period of expulsion for firearm offenses generally will be no less than one calendar year." (Anderson School District Five, 2014, p. 14)

The description of the policy goes on to give the superintendent the ability to modify the expulsion on a case-by-case basis and also includes a requirement that the district notify the Department of Juvenile Justice.

The school discipline policy of the Anderson School District provides explicit guidance on the use of law enforcement in matters of student discipline. While the mandatory expulsion law does require contacting the juvenile justice system in cases of firearm violations, the broader policy regarding law enforcement allows for substantial discretion. Particularly, the policy suggests that law enforcement, of which the School Resource Officer is included, be contacted in situations of "illegal activity" or where actions pose "danger to the health or safety of others" (Anderson School District Five, 2014, p. 20). The document suggests that school officials should assess the situation before contacting law enforcement by taking into account the danger posed by the action and other characteristics such as the student's age. At the point that law enforcement is contacted, the school does not exercise further authority in determining the legal responses taken by law enforcement. While such a policy represents a willingness to utilize law

enforcement, it also limits the use of this approach as a required response to student misconduct and emphasizes discretion in the use of law enforcement.

The broader context of the Anderson School District's discipline policy is one marked by a focus on student's rights and a balance of positive and negative responses to student misconduct. The district's discipline policy begins with a student and parent pledge in addition to a statement of "character traits" that the district seeks to instill. The framing of behavioral expectations and corresponding responses are then framed in the context of these positive character traits. Particularly, the document is framed as protecting all members in "the exercise of their rights and responsibilities" (Anderson School District Five, 2014, p. 2).

Like the Madison County School District, the Anderson School District utilizes a tiered system to respond to student misconduct. They define three "levels" ranging from minor to serious infractions. Level 1 incorporates minor offenses such as dress code violations, disruptive behavior, and profanity. The list of recommended consequences includes both punitive and restorative measures. For instance, possible consequences include detention and in-school suspension but also include assignment to a mentoring program, a teacher conference, or referral to a peer mediation program. Level 2 infractions include physical aggression, major disruptive behavior, bullying, and intoxicating substances among others. At this level, the district includes more severe punitive measures such as out of school suspension and expulsion, but the restorative responses such as conferences and peer mediation are still present as possible consequences. The final tier, Tier 3, pertains to serious offenses such as weapons, major theft, and physical harm to others. This tier focuses solely on punitive measures recommending expulsion, alternative schools, and/or referral to law enforcement among others.

Despite not having an explicit zero tolerance policy, evidence suggests that members of the Anderson community, both within and outside of the school, often consider the mandatory expulsion policy to be a zero tolerance policy. A search for media articles in the local newspaper, the Independent Mail, revealed seven articles referencing zero tolerance discipline over the same number of years. The cases highlighted in the media generally dealt with serious violations of school rules. For instance, students were punished for infractions such as attempting to buy a handgun at school, or possession of knives and guns. In addition to weapons, students were also recommended for expulsion for drug possession. These infractions, including the firearm related ones which fall under the district's mandatory expulsion policy, were frequently referred to as zero tolerance policies in the media articles. In one article, an interviewed administrator even applied the term "zero-tolerance" to the description of the expulsion policies, suggesting an intermingling of terms even for school employees (Mayo, 2011, February 25, p. 1).

Despite the use of mandatory expulsion, the media articles revealed a diversity of approaches to discipline. One article highlighted an individual principal who had developed a restorative justice program in his high school several years before. The principal described the program as "...dealing with the breaking of school rules in a manner that focuses attention on problem solving by all people involved instead of just meting out punishment to guilty parties". This approach was also reflected by the words of the school's resource officer who described his work as trying to "be proactive in dealing with criminal misdemeanor behavior. Instead of just sending a teenager to the Department of Juvenile Justice when (teens) commit a lesser crime, we ask them to voluntarily enroll in 12 weeks of our program" (Jackson, 2008, August 31, p. 1).

Despite the emphasis on restorative approaches, school administrators noted that this approach did not reflect a softness on discipline and could co-exist with zero-tolerance approaches. The same principal who described his restorative justice program also said, "Don't think we are coddling kids that are breaking the rules. What we are doing is giving them a chance to correct their behavior by working with a guidance counselor on issues like anger management, peer relations and adherence to the school honor code. We will continue to have zero tolerance for drugs and weapons in this school" (Jackson, 2008, August 31, p. 1).

Even with the district's approach to restorative justice, specific cases suggest that the mandatory expulsion policies could still outweigh consideration of extenuating circumstances. For instance, in one case, a student was expelled for having a gun in his car on campus. The administrators noted that the gun was left in the car after a hunting trip and agreed that the student did not intend to harm anyone. Nevertheless, the student was given a one year expulsion.

In summary, Anderson School District's approach to discipline utilizes a tiered system with both restorative and punitive measures. The district has no explicit zero tolerance policy and utilizes mandatory expulsion only in the case of firearms as required by state and federal law. Interestingly, examination of the local media suggests that the term "zero tolerance" is often applied to the district's mandatory expulsion policy, despite not being codified in state law or district policy.

Burbank Unified School District, California - Explicit Zero Tolerance Policy and No-Mandated Expulsion Rule. The Burbank Unified School District (BUSD) is the largest district considered in the case study with almost 17,000 students. It serves a student population that is majority minority (54%) and most of its minority students are Hispanic. Of the districts considered, BUSD has the lowest percentage (30%) of students eligible for free and reduced

price lunch. The district discipline policy utilized in BUSD includes an explicit zero tolerance policy but does not include a mandated expulsion policy. Approximately 4% of districts examined in this study fall into this category. The state of California, in which the Burbank Unified School District resides, ranks slightly below the median for the number of juvenile arrests for violent crime but ranks in the top ten for juvenile arrests for drug related crimes (Puzzanchera, 2014). Like the state of South Carolina, California also requires certain serious offenses to be tried in adult court (Addie, Adams, & Firestine, 2011).

The BUSD resides in California, a state with no explicit zero tolerance policy but a broader than average mandatory expulsion law. Notably, the characteristics of the state laws are opposite of those of the district policy document which includes an explicit zero tolerance policy but no mention of mandatory expulsion. The mandatory expulsion law in the state is found in two sections, one referencing the federal Gun-Free School Act and another which adds additional offenses that require expulsion. The first statute states that:

> "The Gun-Free Schools Act of 1994, contained in Part F (commencing with Section 8921) of Subchapter XIV of Chapter 70 of Title 20 of the United States Code, requires each state receiving Elementary Secondary Education Act (ESEA) funds to have in effect a state law requiring expulsion from school, for not less than one year, a student who is determined to have brought a weapon to school" (CA Stats. 2001, c. 116, S.B.166).

The second portion of the mandatory expulsion statute reads as follows:

> "(a) Except as provided in subdivisions (c) and (e), the principal or the superintendent of schools shall recommend the expulsion of a pupil for any of the following acts committed at school or at a school activity off school grounds,

> unless the principal or superintendent finds that expulsion is inappropriate, due to the particular circumstance: (1) Causing serious physical injury to another person, except in self-defense. (2) Possession of any knife or other dangerous object of no reasonable use to the pupil. (3) Unlawful possession of any controlled substance listed in Chapter 2 (commencing with Section 11053) of Division 10 of the Health and Safety Code, except for the first offense for the possession of not more than one avoirdupois ounce of marijuana, other than concentrated cannabis. (4) Robbery or extortion. (5) Assault or battery, as defined in Sections 240 and 242 of the Penal Code, upon any school employee." (CA Stats. 2001 § 48915)

Despite being governed by state law requiring mandatory expulsion, the district policy document of the BUSD frames these offenses under the term "zero tolerance", a term not explicitly used in state law, and does not note that the punishment for violation of the rule is mandatory expulsion.

The BUSD' zero tolerance policy makes up a small portion of the district policy document. In two sentences, the document states that the school district maintains a zero tolerance policy to the following acts: possession of a firearm, brandishing a knife, sale of drugs, sexual assault, and possession of an explosive device. Unlike the Jackson-Madison County School System which attached their mandated expulsion policy to their zero tolerance policy, the BUSD' zero tolerance policy does not prescribe specific disciplinary actions to be taken in response to these acts of misconduct.

Like the district discipline policy for the Anderson School District, the policy document for the BUSD begins with a statement of goals that link discipline to respect for others and a safe learning environment. It states that the rules were developed with input from parents, teachers,

administrators, and students, signaling an interest in legitimacy and buy-in from numerous stakeholders.

Unlike the first two districts considered, the BUSD discipline policy does not specify a tiered system for discipline. While a list of prohibited activities are given in the document, they are organized by category (care of property, respect for students, etc.) rather than by severity of offense. Additionally, the recommended disciplinary actions are given as a group rather than in a manner aligned with specific behavioral infractions. A notable exception is that of graffiti and vandalism, to which the district recommends a response on the part of law enforcement.

The disciplinary actions outlined in the BUSD discipline policy extend a large level of autonomy to the classroom teacher. For instance, teachers are allowed at their sole discretion to "suspend a student from class for up to two days" (Burbank High School, 2014, p. 2). In the other districts considered, suspension tends to be under the authority of the principal or other administrative officer. In this regard, the disciplinary approach of BUSD may be characterized as decentralized.

For actions referred to the administrator, a number of punitive and several restorative approaches to discipline are recommended. The policy document outlines a number of punitive responses including detention, in-school suspension, out of school suspension, and Saturday school. In addition to these, however, students who frequent the office may also be referred to a "Student Study Team (SST) or Attendance Study Team (AST)". These teams consist of counselors, teachers, administrators, nurses, and other staff who meet with the student and parent to make plans to improve behavior and/or academics. The policy document states that such teams may recommend attendance contracts, counseling services, or other positive behavioral

interventions. Expulsion is only mentioned as an option once these approaches have been tried and have proven ineffective.

A search for the term "zero-tolerance" in the local newspaper, the *Burbank Leader*, yielded virtually no returns. In particular, only two references to the term with regard to school discipline were found. In one case, a number of student athletes were suspended after being caught consuming alcohol during an out of town sporting event. In the second of the articles, parents called for an increased use of zero tolerance against bullying in response to the victimization of an individual student. Neither article mentioned issues codified in state law or district policy.

In summary, the Burbank Unified School District's approach to student discipline is characterized by diffused responsibility. Much autonomy is given to teachers and even the district's zero tolerance policy does not include mandated responses, despite state law requiring mandatory expulsion for certain offenses. The district uses a balance of punitive and restorative approaches to discipline though, with the distributed nature of discipline, variation in approach across teachers would be expected. Unlike the other districts, the local media conversation has rarely, if at all, included discussions of school zero tolerance discipline.

Santa Fe Public Schools, New Mexico - No Explicit Zero Tolerance Policy and No-Mandated Expulsion Rule. The Santa Fe Public Schools (SFPS), located in New Mexico, enrolls the largest percentage of minority students (76%) of the four case study districts. The district serves a large Hispanic population with over 95% of its minority students identifying as Hispanic. The district discipline policy utilized in the Santa Fe Public Schools does not include an explicit zero tolerance policy nor does it include a mandated expulsion policy. Approximately 33% of districts examined in this study fall into this category. The state of New

Mexico ranks slightly below the median for arrests of juveniles for violent crime and is in the bottom ten states for fewest drug related arrests of juveniles (Puzzanchera, 2014). Offenses of murder, however, are required to be tried in adult court (Addie, Adams, & Firestine, 2011).

New Mexico does not have an explicit zero tolerance policy and only mandates expulsion for weapons. The state statute reads as follows:

> "In addition to other student discipline policies, each school district shall adopt a policy providing for the expulsion from school, for a period of not less than one year, of any student who is determined to have knowingly brought a weapon to a school under the jurisdiction of the local board. The local school board or the superintendent of the school district may modify the expulsion requirement on a case-by-case basis" (N.M.S.A. 1978, § 22-5-4.7)

Despite the presence of this mandatory expulsion law, the school board policy documents for the district do not mention mandatory expulsion.

Like the Burbank Unified School District, SFPS' discipline policy is revised on a regular basis with input from teachers, principals, parents, and staff. The policy document frames the disciplinary policies as being aimed at supporting the district's mission of college and career readiness.

The district's approach to discipline generally takes a positive and restorative approach. The district's policy document states that "As a district we emphasize and reward positive behavior. We also re-teach students who do not understand or exhibit appropriate positive social norms in the school environment" (Santa Fe Public Schools, 2014, p. 2). This was the most explicit statement of a positive approach to discipline demonstrated in any of the four case study districts.

Like the Burbank Unified School District, SFPS does not provide a tiered system of discipline in their policy document. Rather, they provide a listing of prohibited conduct under a series of expectation categories. These categories each frame behavior in the positive. For instance, one expectation category reads that "Students are expected to behave with respect for others and to promote respect for the emotional well-being of other students and staff" (Santa Fe Public Schools, 2014, p. 6). Underneath this positively framed expectation, specific actions such as "No student will bully another student" are listed (Santa Fe Public Schools, 2014, p. 6).

Underneath each behavior expectation category, the district policy document provides a series of potential administrative actions. Across expectation categories, the responses to misbehavior generally include a number of both punitive and restorative responses to misconduct. Punitive measures include detention and suspension while restorative measures include community service, counseling, and response to intervention (RTI). As might be expected, more serious offenses, such as those pertaining to weapons, tend to illicit stronger punitive measures and fewer restorative measures.

The district policy document provides guidance on when law enforcement should be involved in the correction of misbehavior. In particular, an explicit list of offenses, including weapons, drugs, gang involvement, bullying, hate crimes, and use of tobacco warrant the involvement of law enforcement. Despite the explicit listing of violations that entail law enforcement involvement, the policy document does not list specific offenses that result in severe in-school responses such as suspension or expulsion.

Of the case study districts, the Santa Fe Public Schools represented the district without an explicit zero tolerance or mandatory expulsion policy. A review of approximately ten media articles from the local newspaper, the *Santa Fe New Mexican*, over the last seven years revealed

that this approach to discipline was fairly new for the district. Like many districts nationwide, the Santa Fe school district had revised its school discipline policies in the 1990s to include a zero tolerance policy. A series of media articles from approximately four years ago revealed a district process to re-evaluate and rewrite the district's discipline policy. Criticisms of zero tolerance discipline from school district members included "The zero - tolerance rule doesn't allow a kid to make a legitimate mistake and learn from it. That's what a Code of Conduct should be about: not crime and punishment, but about the student learning from his mistakes and moving on" (Nott, 2010, June 17, p. 1). This sentiment was also expressed by the district's PTA president. The district rewrite of discipline policy resulted in policy that put the "stress on restorative justice methods for addressing discipline problems (an emphasis on accountability while ensuring safety" while still maintaining "strict enforcement of serious offenses in place of zero tolerance" (Nott, 2010, June 18, p. 1).

An interesting element of the media articles surrounding zero tolerance in the Santa Fe area was a notable lack of focus on actual cases in which a zero tolerance policy was utilized. Unlike the Anderson district, which included multiple reports of students bringing weapons to school and being expelled, the Santa Fe news search did not reveal any reports of individual cases in which zero tolerance policies were enacted. It is unclear whether this difference arose due to a lack of such events occurring in the Santa Fe schools or because of differential choices in reporting by the news outlet.

In summary, Santa Fe Public Schools does not have a zero tolerance approach to discipline or mandate expulsion for offenses in its district policy documents. The district frames its approach to discipline in a positive light, focusing on restorative approaches to correcting misconduct.

Case Study Summary

These case studies provide insight into the broader context of school discipline in a range of different contexts. Zero tolerance discipline and mandatory expulsion policies represent only a small portion of the approaches to discipline utilized by school districts, and given that such policies generally apply to more severe behavioral infractions, much of student misconduct is handled through the other components of the district's discipline policy.

In the districts examined, there was variation in the extent to which disciplinary responses were codified and the autonomy given to individual actors to carry out such responses. For instance, in the Burbank Unified School District, the vast majority of disciplinary control resided with teachers, going so far as to give them the authority to suspend a student for up to two days. In contrast, the Jackson-Madison County School System and Anderson School District provide tiered systems that link school response to particular behavioral infractions. In the case of the Jackson-Madison County School System, the policy document only listed teachers as exercising authority over the first tier of a four tier response system with the higher three tiers falling on the administration. Understanding the role of administrators and teachers in the implementation of discipline policy has important implications for policy as the entity exercising authority over disciplinary policy has the greatest discretion to make determinations regarding student punishment.

Districts also varied in their use of punitive or positive approaches to discipline. In the case studies, the district with an explicit zero tolerance approach to discipline and a mandatory expulsion policy was notably lacking strong positive responses to misconduct. This contrasted sharply with the Santa Fe School district, which had no zero tolerance policy nor a mandatory

expulsion policy. In the Santa Fe School district, there was an explicit focus on restorative measures of discipline, even for misconduct beyond minor offenses.

These case studies suggest that the adoption of zero tolerance or mandatory expulsion district discipline policy may be influenced by the particular characteristics of the district and context of the surrounding area. As suggested by the policy implementation literature, local contextual factors are expected to influence policy adoption and implementation (Walker, 1969). It is notable that the two districts with the most restorative approaches to discipline, namely Burbank and Santa Fe, chose not to include mandatory expulsion in their district policy documents despite residing in states with mandatory expulsion laws in the state statutes. Similarly, the media in each of these contexts reports on few cases of weapons or violence at school. It is possible that the characteristics of these districts and the local context of their environment affected the choices they made regarding the implementation of state disciplinary policy.

While the qualitative nature of the case studies does not allow me to ascertain whether such relationships exist across all school districts, these results do suggest the possibility that zero tolerance and mandatory expulsion policies are aspects of systems of school discipline that focus on punitive responses to discipline. Future research should test such a hypothesis with a larger, representative population.

Discussion

Zero tolerance approaches to discipline have garnered much discussion among policymakers in recent years. Despite the prominence of these policy conversations, ambiguity in the use of the term "zero tolerance" exists and could inhibit productive policy conversations around these policies. In this study, I find notable differences in the use of the term "zero

tolerance" across the domains of federal law, state law, district policy, and popular media portrayal. The results inform both explicit zero tolerance policies, those labeled as "zero tolerance", and implicit policies such as mandated expulsion policies that align with understandings of approaches to zero tolerance discipline.

I find a wide gap between the use of explicit zero tolerance policies and mandatory expulsion policies for both state laws and school district policy documents. In particular, few states (14%) and few school districts (12%) have explicit zero tolerance laws or policies while the majority of states (96%) and districts (66%) do have mandatory expulsion laws/policies. This suggests that, while states and districts may require zero tolerance types of discipline, they do not routinely label these laws or policies as zero tolerance. Consequently, reform focused on amending or repealing "zero tolerance" laws and policies may fail to address a number of zero tolerance laws/policies if focusing only on laws/policies that explicitly utilize the term "zero tolerance".

In addition to the gap between explicit zero tolerance laws/policies and mandatory expulsion laws/policies, I also find that when these laws/policies co-exist, they do not always represent the same disciplinary policy. Fewer than half of the state laws and district policies that are labeled zero tolerance mandate expulsion, though many of these states and districts have other policies that require expulsion. In other words, there is a disconnect between the way in which the federal Department of Education's Office of Civil Rights defines zero tolerance policies and the way in which states and school boards refer to such laws/policies. Specifically, the OCR defines such policies as those that require mandatory expulsion while over half of the state laws and district policies that use the term "zero tolerance" do not include mandatory expulsion.

With regard to mandatory expulsion laws/policies (the OCR definition of zero tolerance), I find that there is a relatively sizable gap between state law and stated district policy. In particular, nearly every state (96%) has a law that mandates expulsion for at least one behavioral offense. At a minimum, such laws tend to apply to firearms and/or weapon offenses. While such laws theoretically require school districts in the state to abide by the law and adopt a similar policy, only 66% of districts have a mandatory expulsion policy explicitly in their policy documents. The case study districts of Santa Fe Public Schools and the Burbank Unified School district exemplified this discrepancy insofar as both lacked mandatory expulsion policies despite being in states with laws requiring such a policy. This gap between state law and district policy is also reflected in the results of the regression analyses which suggest that the presence of a state mandatory expulsion law predicts only a 20-40% increase in the presence of a corresponding district policy after controlling for other characteristics of the school district.

These findings are consistent with the theoretical framework of policy implementation. In particular, the more frequent omission of written mandatory expulsion policies on the district level is consistent with a top-down view of policy implementation failure (Hogwood & Gunn, 1984). Under this perspective, the absence of mandatory expulsion policies in district policy documents represents a breakdown in the implementation of state law. In contrast, the tendency of the written policies to include a larger set of behavioral offenses is consistent with both a bottom-up implementation perspective in which local actors expand upon or amend policies to suit their contexts (Elmore 1980; Hjern, 1982).

The case study analyses suggest that the characteristics of individual school districts and the contextual factors of the locale may contribute to the way in which zero tolerance disciplinary polices are implemented at the school district level. The policy implementation

literature suggests that such characteristics influence implementation. In the case studies, the districts with more restorative approaches to discipline residing in communities with lower media reports of school violence were the ones that did not include mandatory expulsion policies in their district policy documents.

Though the presence of mandatory expulsion policies varies across levels of governance, the lack of a mandatory expulsion policy in a school district policy document does not necessarily mean that the district does not enforce such a policy or follow state law. Presumably, there are a number of state laws that districts comply with that are not explicitly stated in their policy documents but are followed in practice. It does suggest, though, that disconnects may exist between state law and the implementation of policy and that some students may be subject to disciplinary procedures codified in state law that are not clearly communicated in district materials. Consequently, implementation failure or modification of mandatory expulsion laws/policies may have direct implications for students.

This disconnect between state laws and stated district policies suggests a hypothesis regarding the relationship between state zero tolerance laws and student outcomes. In particular, one might expect to see smaller relationships between zero tolerance state laws and outcomes of interest than would be found between district or school zero tolerance policies and outcomes of interest. This diluted effect would be due to a lack of implementation of state laws by some districts. In other words, for a given student, the passage of a state zero tolerance law may be less likely to affect the disciplinary environment of the student than passage of a similar policy at the district, school, or classroom level. Such a hypothesis is consistent with the notion of teachers and principals as street-level bureaucrats exercising considerable discretion over their interactions with students (Lipsky, 1979). Similarly, this view aligns with the expected role of

bottom-up policy implementation in which modification by lower levels of governance is expected (Matland, 1995). The actual disciplinary environment experienced by students, therefore, may be more a product of the discretionary choices of these actors than it is of formal policies/laws taken at higher levels of government. In Chapter 3 of this dissertation, I explore the relationship between state level zero tolerance laws and aggregated student outcomes while in Chapter 4 I examine the relationship between school level zero tolerance policies and student outcomes. This hypothesis suggests that the latter may demonstrate more pronounced relationships.

The alignment of media portrayals differs with regard to explicit zero tolerance laws/policies and mandatory expulsion laws/policies. I find that the popular media emphasizes the application of zero tolerance discipline to minor offenses with over one third of media articles referencing minor offenses. This emphasis aligns somewhat closely with district explicit zero tolerance policies of which 25% include minor offenses. In contrast, explicit zero tolerance state laws and state and district mandatory expulsion laws/policies tend to include very little emphasis on minor offenses, instead focusing on severe behavioral infractions such as weapons, drugs, or assault. This result suggests that the cases of zero tolerance discipline that initiate severe responses for minor offenses, such as a suspension for bringing a butter knife to school, may best be addressed through alterations of district's explicit zero tolerance policies rather than through a focus on state law or mandatory expulsion laws/policies. In other words, the anecdotal cases which garner considerable media attention for their overuse of severe discipline for minor infractions may be reflective of bottom-up policy initiated by individual street level bureaucrats rather than written policy initiated by state or district actors (Lipsky, 1979; Matland, 1995).

Previous research has shown that minority students experience exclusionary disciplinary measures at higher rates than non-minority students (Skiba et al., 2002; Rocque, 2010; Rocque & Paternoster, 2011; Rafaelle-Mendez, 2013). Though limited to data from a single school district, work by Hoffman (2014) suggests that zero tolerance policies may be a contributor to these racial gaps in the use of exclusionary discipline. While the number of districts with explicit zero tolerance policies in the district policy document sample is too small to consider differences in explicit zero tolerance policies across district racial makeup, the results provide mixed evidence with regard to mandatory expulsion policies. In particular, I find that districts serving a large proportion of minority students are more likely to have mandatory expulsion policies for assault and drug offenses. This finding suggests that variation in the use of mandatory expulsion policies across districts may contribute to racial discipline gaps. Specifically, this finding does suggest an interesting hypothesis to be tested, namely that the impact of zero tolerance policies on racial disparities in discipline may vary by the offense to which the policy is applied. In particular, we might expect mandatory expulsion policies for assault and drug offenses to have a greater impact on racial disparities in discipline than mandatory expulsion policies for other offenses given that the policies for assault and drug offenses are more likely to be present in districts serving large proportions of minority students. In Chapter 3 of this dissertation, I examine differential impact of zero tolerance policies by infraction type and by race as well as interactions between the presence of a zero tolerance policy and the proportion of minority students in a district.

Limitations

While this study contributes to our understanding of zero tolerance discipline, limitations exist in the available data, the approach to data analysis, and, consequently, the conclusions that

can be drawn. First, this study explored only explicit zero tolerance and mandatory expulsion. While mandatory expulsion captures the OCR definition of zero tolerance, the term may also be applied to approaches to discipline that do not require expulsion. While out of the scope of this study, the exploration of mandatory suspension laws/policies and other mandated forms of discipline, such as in-school suspension or detention, would be useful for further understanding zero tolerance type approaches to discipline. In particular, such policies that require lower forms of discipline than expulsion may be more likely to be applied to more minor offenses. Understanding such policies would allow for a better assessment of the claim that zero tolerance policies result in severe discipline of students for minor offenses.

A second limitation is that this study can only address codified/written laws/policies and only those that appear in federal/state laws and school district policy documents. Discretion by street level bureaucrats (Lipsky, 1979) suggests that the actual policies enacted in practice may differ from those codified in law or policy. The design of this study, while providing important evidence on the codified laws/policies, cannot speak to this aspect of policy implementation. Future research that examines the alignment between codified school policy and educator practice will be important for understanding the degree to which the laws and policies in place relate to practice at the classroom level.

Finally, the available data and approaches to analysis limit the degree to which certain conclusions can be generalized. Given non-response by some school districts to requests for policy documents, the results of the district policy document analysis may not generalize to the population of school districts nationwide. For instance, charter school only districts were significantly less likely to appear in the sample. Furthermore, the results of the case study analysis, while providing important hypotheses for future research, are not able to be generalized

to all school districts with similar combinations of zero tolerance and mandatory expulsion policies. Despite these limitations, this work advances our understanding of zero tolerance school discipline and suggests directions for future research.

Conclusion

Zero tolerance school discipline policies, especially those implicitly defined, have become a ubiquitous feature of the conversation about school discipline policies over the last several decades. These policies, which mandate explicit and often severe responses for a set of misbehaviors, have garnered attention from policymakers and the public in recent years prompting many to call for their repeal (Divilio, 2014; U.S. Department of Justice & U.S. Department of Education, 2014). In particular, examples of these policies being applied in excessive or unreasonable manners coupled with suggestions that these policies may contribute to racial disparities in discipline (Hoffman, 2014; Kamenetz, 2014; Stucki, 2014) have intensified the debate regarding their continued use. Despite the prominent position of zero tolerance policies in conversations around school discipline, little empirical research has been conducted on the nature of these policies.

In this study, I have explored the defining features of zero tolerance school discipline policies from the perspective of federal law, state law, school district policy, and popular media portrayal. This analysis allows for a triangulation of the defining characteristics of zero tolerance discipline and an understanding of the potential misalignments that may exist in the use of the term across each of the three domains.

I find notable variation in the characteristics and characterization of zero tolerance discipline across and within each of the domains (federal law, state law, district policy, and media portrayal) and between explicit zero tolerance laws/policies and mandatory expulsion

laws/policies. In particular, the results of this study suggest that the majority of state laws and district policies do not utilize the term "zero tolerance" despite the majority of them having mandatory expulsion laws/policies in place. Furthermore, when the term is used, its use tends to differ from the Office of Civil Rights definition of zero tolerance. In particular, explicit zero tolerance district policies tend to not always include expulsion and are more likely to apply to minor behavioral infractions.

I find that the media's portrayal of zero tolerance discipline has tended to align with explicit zero tolerance district policies, focusing on the application of these policies to more minor offenses in addition to severe offenses. In contrast, mandatory expulsion laws/policies and state explicit zero tolerance policies tend to focus primarily on serious behavioral infractions without requiring the use of such discipline for more minor offenses.

As policymakers, educators, and researchers discuss potential reforms to zero tolerance discipline, it is critical that all stakeholders possess a clear understanding of the term's use in different contexts and, to the degree possible, seek to establish a common use of language around these policies. This study has demonstrated differences in the use of the term "zero tolerance" across different domains and perhaps larger disconnects between the use of explicit zero tolerance laws/policies and those that require mandatory expulsion. Given the relative rarity with which the term "zero tolerance" actually appears in state laws or district policy documents, I suggest that discussions of school discipline policies should utilize more precise language when identifying policies for discussion. For instance, policymakers might consider the relative merits of "mandatory expulsion policies for drug possession" or "suspension for a minor offense such as talking back" rather than the generic and ambiguous term of "zero tolerance". Such clarity of

language may contribute to more productive policy discussions and focused research moving forward.

Table 1. School district characteristics by analytic sample status

	Full Sample	Analytic Sample	Missing Handbook
	(1)	(2)	(3)
District grades served			
Primary	0.18	0.16	0.29
High school	0.06	0.05	0.09
Unified [a]	0.76	0.79	0.61
School structures			
Proportion of charter schools [a]	0.17	0.11	0.41
	(0.31)	(0.30)	(0.23)
Charter only district [a]	0.16	0.10	0.41
Total schools (#) [a]	6.33	7.11	2.65
	(9.95)	(10.29)	(3.61)
Total charter schools (#)	0.38	0.34	0.53
	(1.22)	(1.32)	(0.57)
Total staff [a]	404.33	459.18	132.87
	(720.97)	(746.21)	(272.79)
Pupil teacher ratio	15.05	15.10	14.80
	(9.76)	(10.00)	(8.46)
Student body			
Total students (#) [a]	3231.48	3654.03	1121.42
	(5969.50)	(6143.91)	(2997.23)
Free or reduced price lunch [a]	0.48	0.46	0.61
	(0.27)	(0.27)	(0.28)
Limited English proficient or English language learner	0.03	0.03	0.05
	(0.06)	(0.04)	(0.10)
Individualized education plan	0.14	0.14	0.16
	(0.12)	(0.11)	(0.15)
Student race			
Native American [a]	0.02	0.01	0.07
	(0.08)	(0.03)	(0.18)
Asian, Pacific Islander	0.02	0.02	0.02
	(0.04)	(0.03)	(0.05)
Black	0.13	0.12	0.19
	(0.20)	(0.20)	(0.21)
Hispanic	0.14	0.13	0.18
	(0.21)	(0.21)	(0.19)
White [a]	0.67	0.70	0.52
	(0.27)	(0.28)	(0.25)
Multi-race	0.02	0.02	0.02
	(0.05)	(0.05)	(0.04)
n	274	219	55

Note: [a] indicates a statistically significant ($p<0.05$) difference between columns (2) and (3) for a Welch's t-test. Results weighted to account for sampling strategy.

Table 2. School district characteristics by analytic sample status omitting charter only districts

	Full Sample (1)	Analytic Sample (2)	Missing Handbook (3)
District grades served			
Primary	0.13	0.13	0.17
High school	0.05	0.04	0.13
Unified	0.82	0.83	0.71
School structures			
Proportion of charter schools [a]	0.01	0.01	0.00
	(0.04)	(0.04)	(0.00)
Charter only district	0.00	0.00	0.00
Total schools (#) [a]	9.57	10.31	4.04
	(16.84)	(17.71)	(5.28)
Total charter schools (#) [a]	0.31	0.35	0.00
	(2.13)	(2.26)	(0.00)
Total staff [a]	636.87	690.24	233.40
	(1170.75)	(1227.61)	(409.13)
Pupil teacher ratio	15.88	16.21	13.27
	(15.82)	(16.63)	(5.79)
Student body			
Total students (#) [a]	5127.03	5505.69	2160.88
	(9241.33)	(9606.22)	(4779.89)
Free or reduced price lunch [a]	0.47	0.46	0.56
	(0.23)	(0.22)	(0.25)
Limited English proficient or English language learner	0.03	0.03	0.05
	(0.06)	(0.05)	(0.11)
Individualized education plan	0.15	0.14	0.19
	(0.11)	(0.09)	(0.20)
Student race			
Native American [a]	0.02	0.01	0.11
	(0.08)	(0.04)	(0.21)
Asian, Pacific Islander [a]	0.03	0.03	0.01
	(0.04)	(0.04)	(0.02)
Black [a]	0.11	0.12	0.03
	(0.18)	(0.19)	(0.04)
Hispanic	0.14	0.14	0.15
	(0.20)	(0.20)	(0.21)
White	0.68	0.68	0.70
	(0.27)	(0.27)	(0.28)
Multi-race [a]	0.02	0.02	0.01
	(0.04)	(0.04)	(0.02)
n	219	193	26

Note: [a] indicates a statistically significant ($p<0.05$) difference between columns (2) and (3) for a Welch's t-test. Results not survey weighted due to sampling strata with one observation.

Table 3. Explicit zero tolerance state laws descriptive statistics

	All States	States with EZT Policy
Explicit zero tolerance (EZT) law	0.14	1.00
EZT requires expulsion	0.06	0.43
EZT weapons only	0.02	0.14
EZT includes weapons	0.12	0.86
EZT includes drugs	0.02	0.14
EZT includes assault	0.04	0.29
EZT includes minor offenses	0.02	0.14
EZT allows discretion	0.04	0.29
EZT toy/facsimile weapon	0.00	0.00
n	50	7

Note: Means and proportions reported.

Table 4. State expulsion laws descriptive statistics

	All States
Law requires expulsion	0.96
Specifies length of expulsion	0.92
Weapons only	0.66
Includes weapons	0.96
Includes drugs	0.20
Includes assault	0.22
Includes minor offenses	0.02
Allows discretion	0.96
Includes toy/facsimile weapon	0.06
n	50

Note: Means and proportions reported.

Table 5. Explicit zero tolerance policy descriptive statistics for districts

	Analytic Sample	Districts with EZT
Explicit zero tolerance (EZT) policy	0.12	1.00
EZT requires expulsion	0.04	0.30
EZT includes weapons	0.09	0.72
EZT weapons only	0.05	0.38
EZT includes minor offenses	0.03	0.23
EZT allows discretion	0.02	0.20
EZT toy/facsimile weapon	0.03	0.25
n	219	27

Note: Means and proportions reported. Results weighted to account for sampling strategy.

Table 6. District mandated expulsion policies by subgroup

	Analytic Sample (1)	Low FRPL (0-31%) (2)	High FRPL (64-99%) (3)	Low Minority Students (0-9%) (4)	High Minority Students (54-100%) (5)	Charter District (6)	Non-Charter District (7)	Urban (8)	Suburban (9)	Rural (10)
Requires expulsion [b]	0.66	0.59	0.61	0.72	0.59	0.32	0.69	0.60	0.59	0.72
Includes weapons [bd]	0.65	0.58	0.61	0.70	0.59	0.32	0.67	0.62	0.54	0.72
Includes other serious offenses [ab]	0.30	0.24	0.31	0.15	0.40	0.09	0.34	0.36	0.33	0.28
Includes drugs [ab]	0.24	0.22	0.26	0.08	0.37	0.11	0.29	0.33	0.30	0.20
Includes assault [ab]	0.23	0.21	0.22	0.15	0.33	0.06	0.26	0.26	0.21	0.25
Includes minor offenses	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Allows discretion [b]	0.36	0.27	0.32	0.41	0.28	0.15	0.38	0.33	0.33	0.37
Includes toy/facsimile weapon [bc]	0.18	0.16	0.16	0.24	0.11	0.10	0.18	0.07	0.20	0.18
n	219	53	52	54	54	26	173	42	61	60

Note. No statistically significant differences were found between columns (2) and (3) or (8) and (10). [a] indicates a statistically significant difference (p<0.05) between columns (4) and (5) for a Welch's t-test. [b] indicates a statistically significant difference (p<0.05) between columns (6) and (7) for a Welch's t-test. [c] indicates a statistically significant difference (p<0.05) between columns (8) and (9) for a Welch's t-test. [d] indicates a statistically significant difference (p<0.05) between columns (9) and (10) for a Welch's t-test.

Table 7. USA Today media article portrayals of school zero tolerance policies by year

	Full Sample	1994-96	1997-99	2000-02	2003-05	2006-08	2009-11	2012-14
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Article portrays ZT as:								
Racial disparities [cde]	0.12	0.00	0.05	0.09	0.50	0.25	0.00	0.71
Fairness	0.03	0.00	0.02	0.09	0.13	0.00	0.00	0.00
Mandated expulsion	0.32	0.37	0.32	0.26	0.50	0.25	0.22	0.43
Weapons	0.53	0.68	0.59	0.43	0.38	0.25	0.61	0.29
Serious offenses	0.44	0.47	0.44	0.30	0.50	0.50	0.56	0.43
Drugs	0.27	0.26	0.20	0.13	0.38	0.50	0.50	0.29
Assault	0.23	0.37	0.20	0.17	0.50	0.25	0.17	0.14
Minor offenses	0.38	0.37	0.32	0.22	0.50	0.75	0.61	0.43
Allowed discretion [e]	0.11	0.21	0.10	0.05	0.13	0.00	0.17	0.00
Lack of discretion	0.14	0.00	0.07	0.18	0.25	0.25	0.33	0.14
Toy/facsimile weapon [ac]	0.24	0.42	0.10	0.18	0.00	0.25	0.50	0.29
n	120	19	41	23	8	4	18	7

Notes. [a] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (2) and (3). [b] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (3) and (4). [c] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (4) and (5). [d] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (7) and (8). [e] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (2) and (8). Statistical tests for differences between columns (5) and (6) and (6) and (7) yielded no significant differences.

Table 8. NY Times Media article portrayals of school zero tolerance policies by year

	Full Sample (1)	1997-99 (2)	2000-02 (3)	2003-05 (4)	2009-11 (5)	2012-14 (6)
Article portrays ZT as:						
Racial disparities [b]	0.19	0.00	0.11	0.00	0.67	0.25
Fairness	0.09	0.14	0.05	0.33	0.17	0.00
Mandated expulsion [a]	0.28	0.29	0.37	0.00	0.33	0.13
Weapons [abc]	0.33	0.43	0.42	0.00	0.50	0.00
Serious offenses [a]	0.35	0.29	0.42	0.00	0.33	0.38
Drugs [a]	0.23	0.29	0.21	0.00	0.17	0.38
Assault [a]	0.21	0.14	0.26	0.00	0.33	0.13
Minor offenses [b]	0.26	0.14	0.16	0.00	0.67	0.38
Allowed discretion	0.07	0.00	0.05	0.00	0.17	0.13
Lack of discretion	0.07	0.14	0.05	0.00	0.17	0.00
Toy/facsimile weapon	0.09	0.00	0.16	0.00	0.17	0.00
n	43	7	19	3	6	8

Notes. [a] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (3) and (4). [b] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (4) and (5). [c] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (5) and (6). Statistical tests for differences between columns (2) and (3) yielded no significant differences.

Table 9. Combined media article portrayals of school zero tolerance policies by year

	Full Sample (1)	1994-96 (2)	1997-99 (3)	2000-02 (4)	2003-05 (5)	2006-08 (6)	2009-11 (7)	2012-14 (8)
Article portrays ZT as:								
Racial disparities [f]	0.13	0.00	0.04	0.10	0.36	0.25	0.17	0.47
Fairness	0.05	0.00	0.04	0.07	0.18	0.00	0.04	0.00
Mandated expulsion	0.31	0.37	0.31	0.31	0.36	0.25	0.25	0.27
Weapons [ef]	0.48	0.68	0.56	0.43	0.27	0.25	0.58	0.13
Serious offenses	0.42	0.47	0.42	0.36	0.36	0.50	0.50	0.40
Drugs	0.26	0.26	0.21	0.17	0.27	0.50	0.42	0.33
Assault	0.23	0.37	0.19	0.21	0.36	0.25	0.21	0.13
Minor offenses	0.35	0.37	0.29	0.19	0.36	0.75	0.63	0.40
Allowed discretion [d]	0.10	0.21	0.08	0.05	0.09	0.00	0.17	0.07
Lack of discretion [a]	0.12	0.00	0.08	0.12	0.18	0.25	0.29	0.07
Toy/facsimile weapon [acef]	0.20	0.42	0.08	0.17	0.00	0.25	0.42	0.13
n	163	19	48	42	11	4	24	15

Notes. [a] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (2) and (3). [b] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (3) and (4). [c] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (4) and (5). [d] indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (5) and (6). e indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (7) and (8). f indicates a statistically significant difference ($p<0.05$) for a Welch's t-test between columns (2) and (8). Statistical tests for differences between columns (6) and (7) yielded no significant differences.

Table 10. Cross tabulation of district explicit zero tolerance and mandatory expulsion policies

	Explicit Zero Tolerance Policy	No-Explicit Zero Tolerance Policy	Total
Mandated Expulsion Policy	19	120	139
No-Mandated Expulsion Policy	8	72	80
Total	27	192	219

Table 11. Cross tabulation of state explicit zero tolerance and mandatory expulsion laws

	Explicit Zero Tolerance Law	No-Explicit Zero Tolerance Law	Total
Mandated Expulsion Law	5	43	48
No-Mandated Expulsion Law	2	0	2
Total	7	43	50

Table 12. State law, district policy, and media portrayal of EZT and ME

	Federal Law		State Laws		District Policies		Media Portrayals
	EZT	ME	EZT	ME	EZT	ME	EZT
Presence of law/policy [bc]	0.00	1.00	0.14	0.96	0.12	0.66	-
Conditional on presence of law/policy							
Requires expulsion [c]	-	1.00	0.43	1.00	0.30	1.00	0.31
Explicit zero tolerance [c]	-	0.00	1.00	0.06	1.00	0.04	1.00
Weapons only [ab]	-	1.00	0.14	0.69	0.38	0.54	-
Includes weapons [c]	-	1.00	0.86	1.00	0.72	0.98	0.48
Includes drugs [ab]	-	0.00	0.14	0.21	0.37	0.36	0.26
Includes assault [b]	-	0.00	0.29	0.23	0.45	0.35	0.23
Includes minor offenses [bc]	-	0.00	0.14	0.02	0.23	0.00	0.35
Allows discretion to remove expulsion [bc]	-	1.00	0.29	1.00	0.20	0.54	0.10
Toy/facsimile weapon [ab]	-	0.00	0.00	0.06	0.25	0.27	0.20
n	1	1	50/7	50/48	219/27	219/139	163

Note: Means and proportions reported. District estimates are weighted to account for sampling strategy.
[a] represents a significant (p <0.05) difference between state and district EZT for a t-test. [b] represents a significant difference between state and district ME. [c] represents a significant difference between district EZT and district ME.

Table 13. Regressions predicting district mandated expulsion policies from state mandated expulsion laws

	(1)	(2)	(3)	(4)
	Any	Weapons	Drugs	Assault
Bivariate (Corresponds to below state mandated expulsion)	0.470*	0.459*	0.387**	0.364**
	(0.182)	(0.182)	(0.094)	(0.096)
Mandates expulsion for at least one offense	0.277			
	(0.233)			
Weapons		0.205		
		(0.235)		
Drugs			0.255*	
			(0.117)	
Assault/Physical Violence				0.370**
				(0.097)
Pupil teacher ratio	0.006**	0.006**	0.004**	0.001
	(0.002)	(0.002)	(0.001)	(0.002)
Primary	-0.271*	-0.252*	-0.136	-0.030
	(0.107)	(0.108)	(0.103)	(0.082)
High School	0.029	0.040	-0.000	0.019
	(0.184)	(0.184)	(0.090)	(0.089)
Total students (#)	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Proportion Native American	-1.402*	-1.326*	-0.524	-0.728
	(0.615)	(0.617)	(0.363)	(0.408)
Proportion Asian, Pacific Islander	-0.570	-0.348	0.422	0.379
	(0.864)	(0.854)	(0.600)	(0.581)
Proportion Black	-0.026	0.027	0.109	0.086
	(0.195)	(0.196)	(0.170)	(0.170)
Proportion Hispanic	-0.247	-0.218	0.309	0.375
	(0.235)	(0.235)	(0.200)	(0.193)
Proportion Multi-race	-0.154	-0.064	-0.450	-0.926*
	(0.907)	(0.884)	(0.521)	(0.447)
Urban	-0.139	-0.137	0.025	-0.044
	(0.119)	(0.116)	(0.101)	(0.088)
Suburban	-0.073	-0.153	0.108	-0.044
	(0.090)	(0.094)	(0.086)	(0.073)
Town	-0.055	-0.071	0.061	-0.030
	(0.083)	(0.082)	(0.074)	(0.068)
Individualized education plan	-0.772	-0.752	-0.419*	-0.080
	(0.458)	(0.449)	(0.186)	(0.135)
Free or reduced price lunch	0.122	0.083	0.059	-0.205
	(0.196)	(0.198)	(0.208)	(0.185)
Limited English proficient or English language learner	0.096	0.018	-0.403	-0.393
	(0.778)	(0.779)	(0.473)	(0.497)
Observations	219	219	219	219
R-squared	0.201	0.214	0.243	0.303

Note. Standard errors in parentheses.
** $p<0.01$, * $p<0.05$

Table 14. Characteristics of case study school districts

	Explicit Zero Tolerance Policy	No-Explicit Zero Tolerance Policy
Mandated Expulsion Rule	Madison County Schools, TN Enrollment: approx 13,000 White: 34% Black: 60% Hispanic: 4% Other: 2% FRPL: 74% 8% of sample districts	Anderson School District, SC Enrollment: approx 12,500 White: 57% Black: 35% Hispanic: 4% Other race: 4% FRPL: 55% 55% of sample districts
No-Mandated Expulsion Rule	Burbank Unified Schools, CA Enrollment: approx 16,600 White: 46% Black: 3% Hispanic: 38% Other: 13% FRPL: 30% 4% sample of districts	Santa Fe Public Schools, NM Enrollment: approx 14,000 White: 24% Black: <1% Hispanic: 71% Other race: 4% FRPL: 69% 33% of sample districts

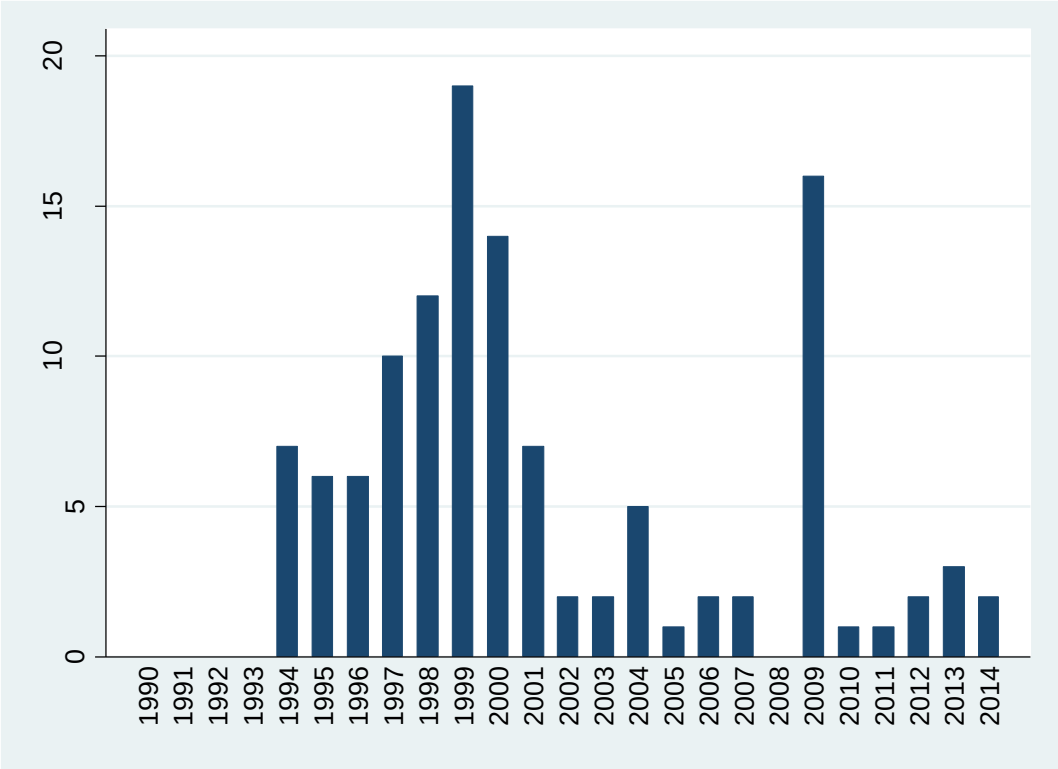

Figure 1. Number of USA Today media articles on school zero tolerance discipline per year (n=120)

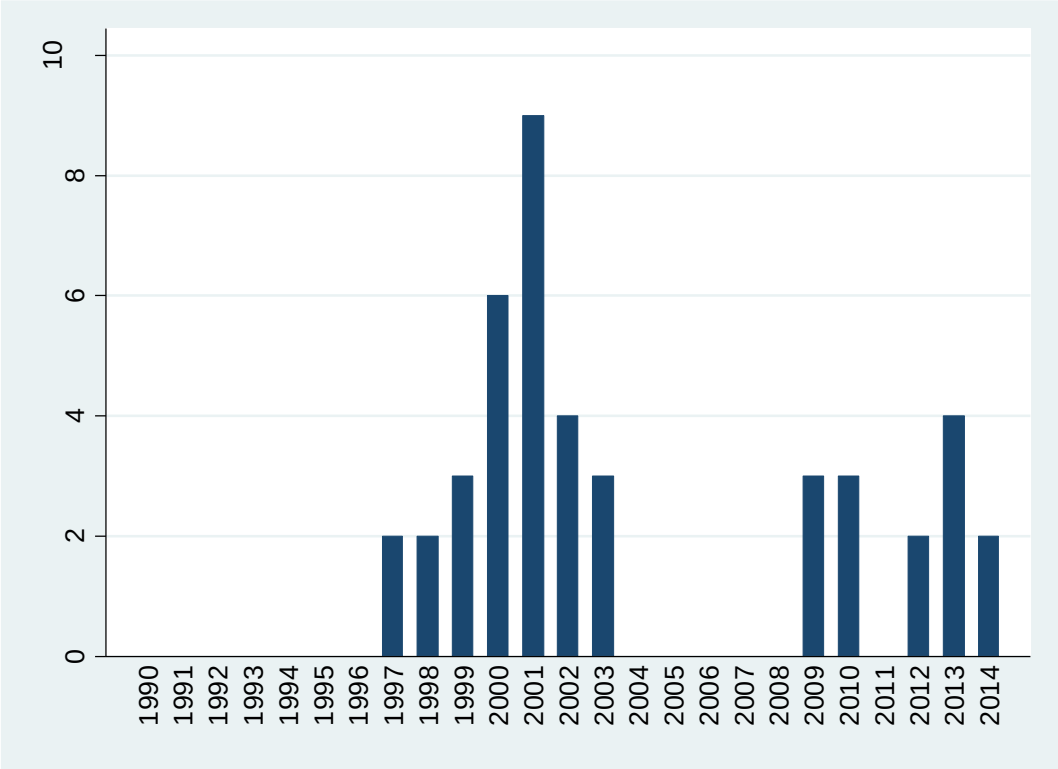

Figure 2. Number of *NY Times* media articles on school zero tolerance discipline per year (n=43)

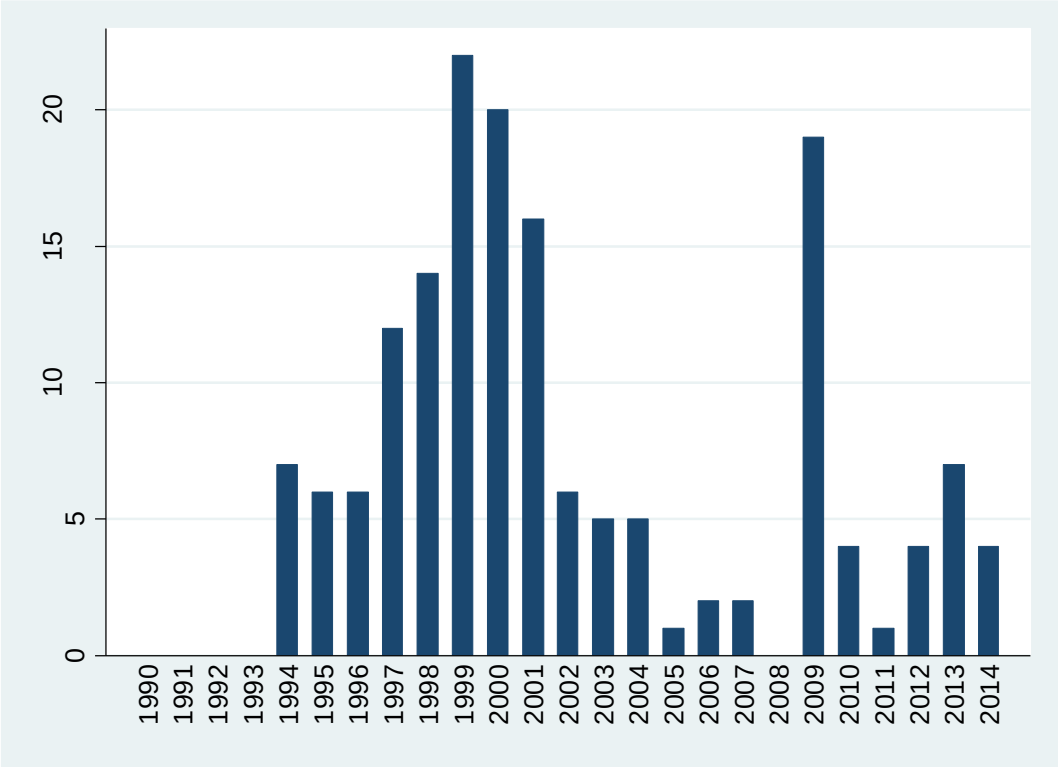

Figure 3. Number of combined media articles on school zero tolerance discipline per year (n=163)

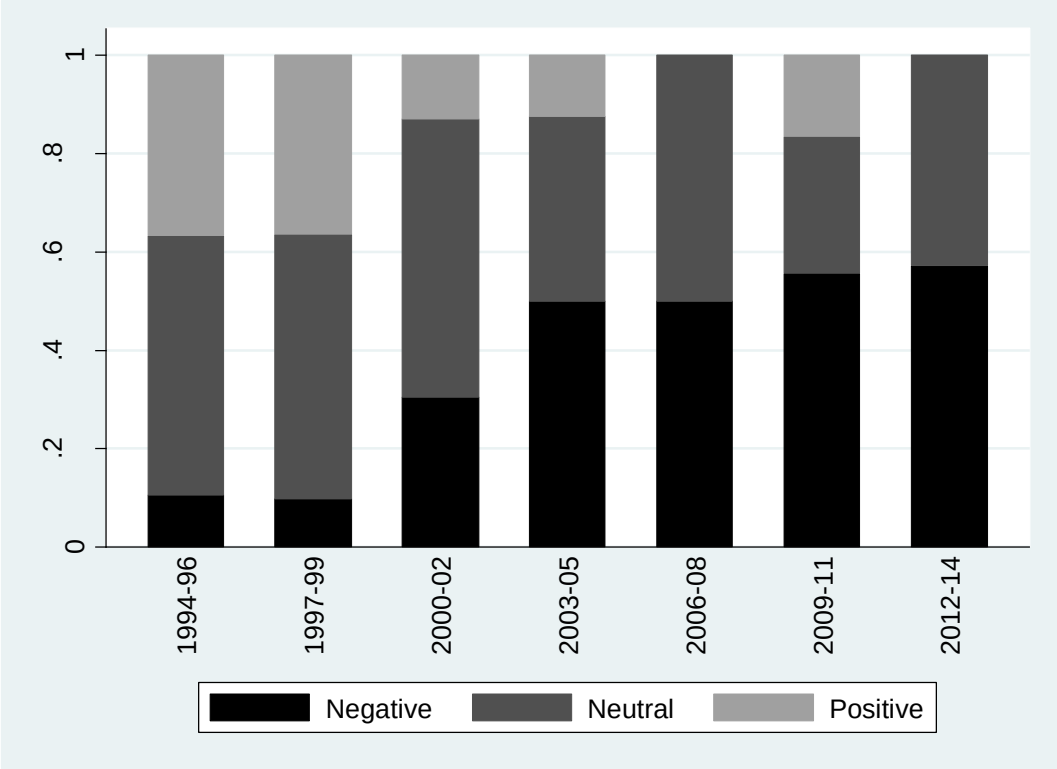

Figure 4. *USA Today* media article view of school zero tolerance policies over time

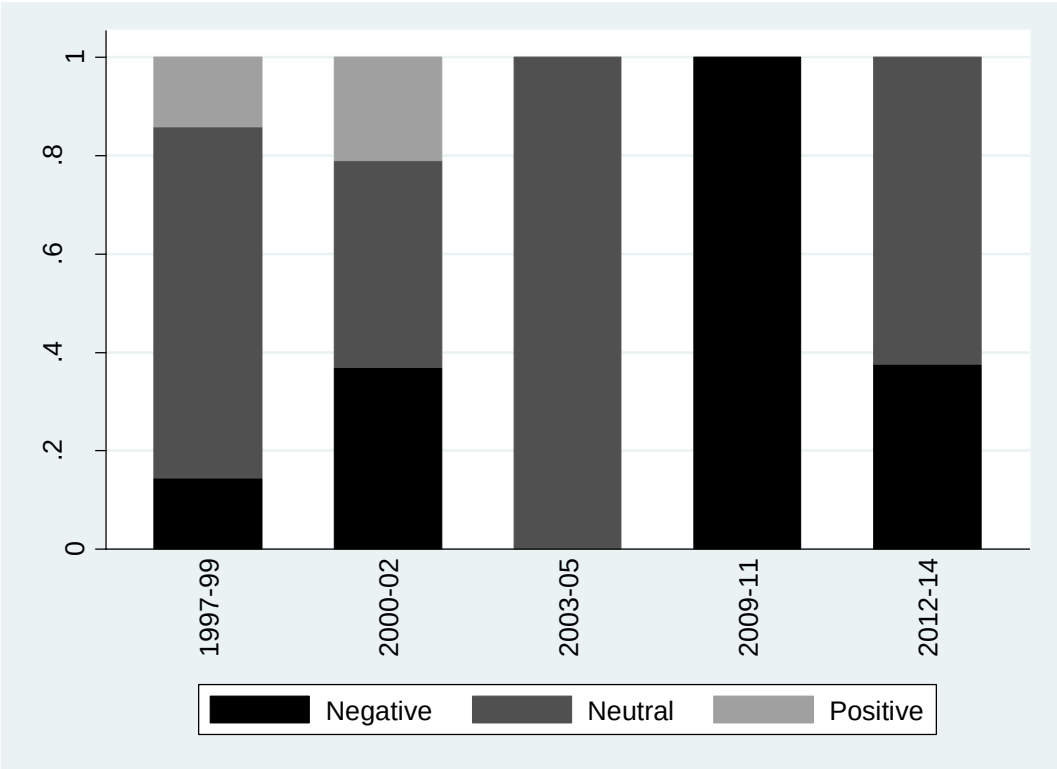

Figure 5. *NY Times* media article view of school zero tolerance policies over time

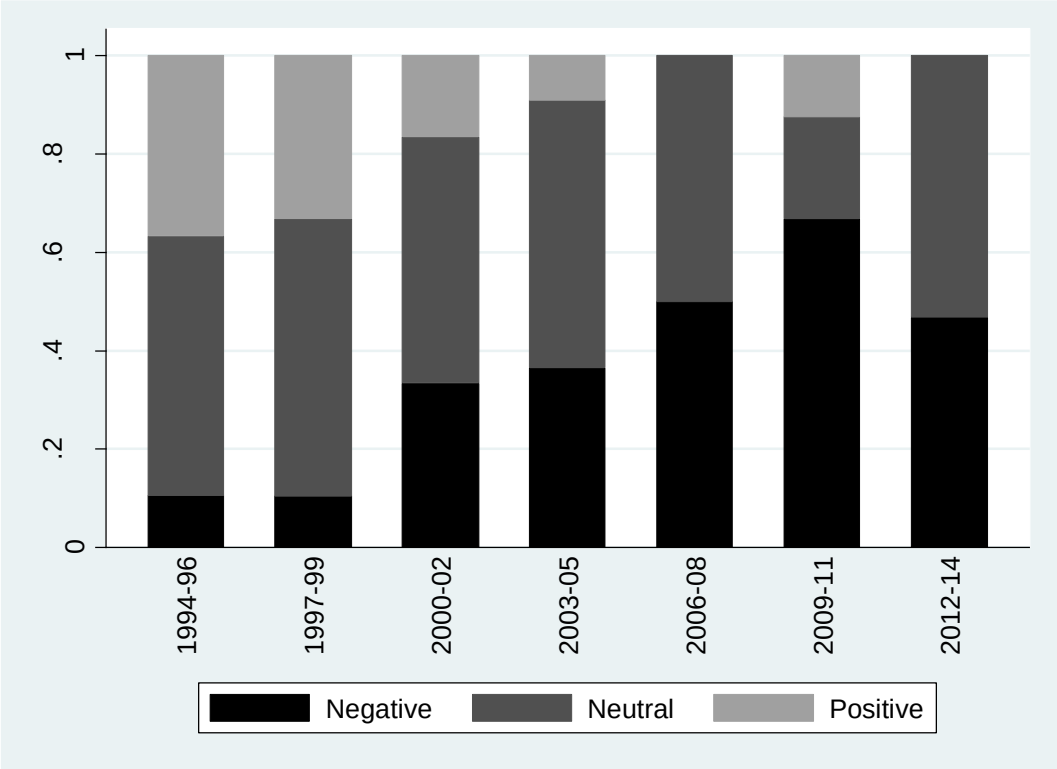

Figure 6. Combined media article view of school zero tolerance policies over time

CHAPTER 3

STATE ZERO TOLERANCE LAWS: IMPLICATIONS FOR EXCLUSIONARY DISCIPLINE, DROPOUT, BEHAVIOR, AND LEADER AUTONOMY

Introduction

School discipline is a necessary component of a functioning school environment; however, recent evidence suggests that current approaches to school discipline may have negative outcomes for students and schools. One particular type of school discipline policy, namely those policies deemed "zero tolerance", has received increasing critical attention from both the media and federal government (U.S. Department of Justice & U.S. Department of Education, 2014). Zero tolerance school discipline policies are generally considered to be those that mandate certain consequences, typically severe consequences, for specified offenses, regardless of circumstances. For instance, zero tolerance policies may dictate that a student caught with a weapon at school be expelled for a year regardless of circumstances or the student's previous behavioral record. These policies became widespread and codified in state law during the 1990s, in large part in response to the federal Gun-Free School Act of 1994 which mandated expulsion for firearm offenses (Heaviside, Rowand, Williams, & Farris, 1998).

One of the primary criticisms of zero tolerance discipline is that such policies do not produce equitable outcomes for all students. Recent research has demonstrated significant gaps in disciplinary rates by race. For example, data from the Civil Rights Data Collection finds that the suspension rate for Black students (16%) is over three times as large as that for White students (5%) (U.S. Department of Education Office for Civil Rights, 2014). These numbers are troubling given that suspensions and expulsions have been linked to future disciplinary infractions, decreased academic achievement, and school dropout (Arcia, 2006; Marchbanks,

Blake, Booth, Carmichael, Seibert, & Fabelo, 2015; Rafaelle-Mendez, 2013). Research suggests that these racial disparities in discipline do not just represent differences in behavioral infractions but may be reflective of differential use of disciplinary procedures and policies on the part of school personnel (Skiba et al., 2002; Rocque, 2010; Skiba et al., 2011). While these policies were originally conceived as a way to reduce arbitrary and potentially biased application of discipline, emerging evidence suggests that they may exacerbate racial discipline gaps (Hoffman, 2014).

Despite the prominent calls for the repeal of these policies, zero tolerance is a relatively understudied area of school discipline and few studies have explored the relationship between such policies and racial discipline gaps. A 2008 report written by a task force from the American Psychological Association concluded that, at the time, there were virtually no studies of zero tolerance disciplinary policies (American Psychological Association Zero Tolerance Task Force, 2008). While several studies have emerged since this time (Matjasko, 2011; Hoffman, 2014), they are limited by imprecise measures of zero tolerance (Matjasko, 2011) and a sample of a single school district (Hoffman, 2014). Given the current policy discussions over school discipline and the calls to repeal zero tolerance policies, there is a need for further research exploring the impacts of zero tolerance policies on student and school outcomes.

The purpose of this paper is to assess the impact of state mandated zero tolerance discipline on student suspensions overall and by race, on school leaders' perceptions of control over school discipline policy, on school leaders' perceptions of problem behaviors, and on district dropout rates. I address the following three research questions:

1) How have state zero tolerance laws, namely those laws that mandate expulsion for a certain offense, changed over time?

2) What is the relationship between state zero tolerance discipline laws and rates of exclusionary discipline (suspensions), school leaders' perceptions of control over disciplinary policy, school leaders' perceptions of problem behaviors, and district dropout rates?

3) Does this relationship vary by student demographic characteristics such as minority status?

Answering these research questions has important implications for our understanding of the effects of zero tolerance discipline. Results of this study have the potential to inform educational leaders such as school administrators, boards of education, and state policymakers. Additionally, this study fills major gaps in the research literature by providing empirical evidence on the effects of zero tolerance school discipline laws and policies.

Theoretical Framework

Theories exist for both the effectiveness and ineffectiveness of zero tolerance discipline in schools. In this section, I put forth competing theories that provide a foundation for considering why zero tolerance policies may or may not be successful at reducing student misbehavior. Specifically, I draw on the criminological concept of deterrence theory (a subset of rational choice theory) as a theoretical justification for the use of zero tolerance discipline but then juxtapose this with theory on adolescent risk-taking which suggests that zero tolerance discipline may not achieve desired outcomes.

Deterrence theory provides the theoretical foundation of zero tolerance policies and severe punishment more generally. This theory was described by classical philosophers in the 1800s (Beccaria, 1764/1983; Bentham 1776/1967) though the underpinnings of the theory were undoubtedly intuited by earlier purveyors of justice. In short, deterrence theory suggests that the

presence of punishments will serve to deter actors from committing infractions. The more certain and severe the punishment attached to an infraction, the less likely an individual will be to commit the action. Modern application of rational choice theory to studies of crime has resulted in deterrence theory being framed under this broader framework (Piliavin, Gartner, Thornton, & Matsueda, 1986; Paternoster, 1989); however, the study of deterrence in criminology far predates the application of rational choice theory (Akers, 1990). This theory dominated the field of criminology throughout the eighteenth century before yielding to views that saw crime as arising from sociological contexts rather than individual choice and focused on more rehabilitative forms of criminal justice (Wilson, 1975; Cordella & Siegel, 1996).

Following the publication of the Martinson Report (Martinson, 1974; Lipton, Martinson, & Wilks, 1975), which questioned the effectiveness of rehabilitative treatment, the 1970s and 1980s saw a resurgence of the study of deterrence theory in the field of criminology and a renewed use of punishments motivated by this theory in the American criminal justice system (Pratt, Gau, & Franklin, 2011). Motivated in part by the application of rational choice theory from economics to the study of crime (Becker, 1974), a resurgence in interest in deterrence theory emerged. Influential work by James Q. Wilson (1975) argued for forceful responses to crime in order to deter individuals from choosing to commit criminal acts. The American criminal justice system responded with increased use of incarceration and various "get tough" policies on drugs and other offenses (e.g., Spelman, 2000).

In the context of schools, the rational choice view of deterrence theory suggests that policies such as zero tolerance, which clearly delineate punishments and often attach severe punishments to infractions, will serve to prevent students from breaking school rules. Deterrence theory suggests that punishment for infractions should be certain, swift, and severe (Dilulio,

2005), though according to Beccaria (1764/1983) not more so than is necessary to deter the crime. The Department of Education's Office of Civil Rights defines a zero tolerance policy as follows:

> "A zero tolerance policy is a policy that results in mandatory expulsion of any student who commits one or more specified offenses (for example, offenses involving guns, or other weapons, or violence, or similar factors, or combinations of these factors). A policy is considered "zero tolerance" even if there are some exceptions to the mandatory aspect of the expulsion, such as allowing the chief administering officer of an LEA to modify the expulsion on a case-by-case basis." (Office of Civil Rights, 2014).

The elements of certainty and severity are clearly present in the definition of a zero tolerance policy insofar as the punishment is "mandated" and regards one of the most extreme forms of school punishment, expulsion. Consequently, under the deterrence theory of action, school zero tolerance policies should theoretically prompt students to choose not to commit behavior infractions.

The deterrence theory justification for zero tolerance discipline relies on the assumption that the individuals are rational actors who both have access to the necessary information and can process such information to arrive at the optimal decision regarding their action. While such an assumption may not apply to the youngest of students, such as those in elementary schools, research suggests that students who have reached adolescence do in fact have the ability to reason and, in fact, do so at a level that is comparable to adults (Reyna & Farley, 2006). Adolescents tend to assess the risks and consequences of various actions in ways that are not dissimilar from adults (Beyth-Marom, Austin, Fischoff, Palmgren, & Jacobs-Quadrel, 1993).

Furthermore, interventions aimed at improving adolescent knowledge of risks and consequences have largely produced few changes in actions (Ennett, Tobler, Ringwall, & Flewelling, 1994; Trenholm, Devaney, Fortson, Quay, Wheeler, & Clark, 2007).

Despite adolescents' ability to reason and their understanding of the risks of certain actions, there exist theoretical reasons to believe that the deterring effect of zero tolerance policies will not result in decreases in unwanted student behavior. First, younger students such as those in elementary school do not possess the developed reasoning ability and knowledge base of adolescents and therefore violate the assumptions of deterrence theory. Even for adolescents, emerging research from neuroscience and developmental psychology suggest that adolescents are prone to risk-taking behavior despite their developed ability to reason (Reyna & Farley, 2006).

Bioecological theory suggests that students are influenced by the contextual factors surrounding their development (Bronfenbrenner & Morris, 2005). Peers provide one such contextual factor that has been shown to have a particularly pronounced influence on the decision-making of adolescent youth. For instance, experimental evidence of a simulated driving task demonstrates that adolescents, as compared to adults, partake in significantly higher risk-taking behaviors when observed by peers as compared to young adults and adults (Gardner & Steinberg, 2005). A growing body of evidence suggests that neurobiological characteristics of the adolescent brain may be associated with a disproportionate focus on rewards rather than costs of actions when in the presence of peers (Doremus-Fitzwater, Varlinskaya, & Spear, 2010; Chein, Albert, O'Brien, Uckert, & Steinberg, 2011).

Steinberg (2008) advances a framework suggesting that adolescents and teenagers experience increased needs for reward-seeking, especially in the presence of peers, while not

having developed cognitive control systems, a necessary component for self-regulation. He suggests that beginning with the pubertal transition, neurological changes in dopaminergic pathways and oxytocin receptors increase the adolescent's desire for rewards in the presence of peers (Steinberg, 2008). This reward seeking behavior peaks at around age 15, coinciding with the early years of high school. Simultaneously, adolescents are only beginning to develop the cognitive control components of the prefrontal cortex and across cortical area connections that are related to the ability to inhibit impulsive behavior (Steinberg, 2008). Under this framework, recognizing undesirable actions as a somewhat "inevitable" component of the adolescent experience and responding in ways that are educative and restorative may be more effective than zero tolerance discipline.

While criminal infractions increase through early adulthood (Marvell & Moody, 1997), research suggests that early misbehavior is predictive of later infractions. Loeber & Dishion (1983) review the literature on male delinquency and find that conduct disorder in early childhood is a significant predictor of later criminal activity. Furthermore, rates of criminal infractions are greater for males, individuals from low-SES backgrounds, and minorities (Ellis, Beaver, & Wright, 2009). This suggests that the influence of childhood infractions on later life crime may disproportionately affect these subgroups.

Literature Review

A strong body of evidence suggests negative impacts of exclusionary discipline (suspension and expulsion) on student outcomes and strong evidence for the disproportionate use of disciplinary measures for minority students; however, the body of evidence on actual zero tolerance policies is lacking.

From Criminal Justice to School Discipline

To the extent that school discipline policies reflect broader societal criminal justice systems, lessons regarding the effectiveness of punitive measures in schools such as zero tolerance may be gleaned from an examination of the literature on criminal justice. In fact, James Q. Wilson noted this parallel in the 1970s when he described increases in school violence following increases in societal violence (1976). The appropriateness of this comparison in more recent contexts is furthered by the use of the term "zero tolerance" in criminal justice prior to its use in the school context. Numerous researchers have documented the massive increase in incarceration rates in the United States over the last several decades (e.g., Spelman, 2000). This increase has coincided with the "war on drugs" and general "get tough" on crime policies.

Following the theory of action of deterrence theory, the increased likelihood of incarceration as a consequence for violating the law would be predicted to decrease incidences of crime. While several studies have found small negative relationships between increased incarceration and crime rates (Ekland-Olson, Kelly, & Eisenberg, 1992; Levitt, 1995), the majority of studies suggest that increased incarceration has had no appreciable effect on crime rates (Marvell & Moody, 1995; Spelman, 2000; Currie, 1998; Lynch, 1999). Lynch (1999) examines the relationship between imprisonment and crime rates between 1972 and 1993 and finds no statistically significant relationship. This lack of relationship holds true for even serious crimes such as those involving guns (Marvell & Moody, 1995). Furthermore, research suggests that not only do severe punishments such as imprisonment have no deterring effect on crime, but that, for the individuals who are punished, incarceration increases the likelihood of recidivism (Jonson, 2013). Taken as a whole, this work suggests that the theoretical framing of deterrence theory does not generally hold in the broader context of criminal justice.

Suspensions/Expulsions

In the school context, much attention has been given to the use of severe punishments such as suspension and expulsion, collectively referred to as exclusionary discipline (U.S. Department of Education Office for Civil Rights, 2014). While not always used consistently, the term "suspension" typically refers to shorter periods (ex. less than 10 days) of exclusion from school while "expulsion" refers to longer exclusions (ex. a semester or year). Research shows that suspensions increase as students move from elementary school to middle and high school (Arcia, 2006). A body of research suggests that the use of suspensions does not decrease future misbehavior (Rafaelle-Mendez, 2013) and has negative consequences for the students who are suspended. Suspension is predictive of smaller academic gains in reading (Arcia, 2006) and increased later life anti-social behavior (Hemphill et al., 2006). Evidence from an international comparative study also suggests that suspensions are predictive of early adolescent tobacco use (Hemphill et al., 2012). Finally, suspensions are predictive of dropping out of school (Marchbanks et al., 2015) and also predict later interactions with the juvenile justice system (Costenbader, & Markson, 1998).

One limitation of many of these studies is a lack of focus on the school level policy that prompted the use of suspension/expulsion. Instead, these studies typically focus on the impact of being suspended rather than the impact of a school policy on the likelihood of being suspended. Furthermore, these studies fail to explore the extent to which school disciplinary policies influence overall school misbehavior levels. It could be the case that the use of suspensions and expulsions has a negative impact on the students who are punished but that the threat of such punishment has a deterring effect on student misbehavior overall. If such a deterrent effect

decreased school misbehavior substantially, it could potentially offset the negative effects of suspension on students who violate the rules.

Zero Tolerance

The term "zero tolerance" originated outside of the school setting. In the mid-1980s, law enforcement began applying the term to criminal offenses, specifically those associated with the "war on drugs" (Richards, 2004). Prompted by increased media attention on school violence, the application of the term began to emerge in some school district discipline policies. Schools applied the zero tolerance approach to weapons, drugs, fighting, and other student misbehavior (Richards, 2004).

The federal Gun-Free School Act of 1994 (GFSA) emerged as a federal response to school violence. The GFSA, which prompted national adoption of zero tolerance approaches to discipline, was enacted as a part of the Goals 2000: Educate America Act and subsequently reauthorized by the 2002 No Child Left Behind Act (Richards, 2004). The GFSA requires any state receiving federal funding to adopt a state law requiring school districts to expel, for an entire year, any student found to have brought a firearm to school. The current language of the GFSA reads as follows:

> "(1) IN GENERAL- Each State receiving Federal funds under any title of this Act shall have in effect a State law requiring local educational agencies to expel from school for a period of not less than 1 year a student who is determined to have brought a firearm to a school, or to have possessed a firearm at a school, under the jurisdiction of local educational agencies in that State, except that such State law shall allow the chief administering officer of a local educational agency to modify

such expulsion requirement for a student on a case-by-case basis if such modification is in writing." (U.S. Department of Education, 2014)

The term "firearm" originally applied to guns but was subsequently amended by state laws to include a wider array of weapons (Richards, 2004; Skiba & Knesting, 2001). A notable component of the federal legislation is its explicit reference to the possibility of case-by-case modification by the chief administering officer or superintendent. Such discretion means that, despite the popular perception of rigid adherence to prescribed punishments, school districts do have some leeway to take into account extenuating circumstances when administering punishment under these laws.

The influence of the GFSA is felt through its ties to the Elementary and Secondary Education Act (ESEA), the primary source of federal funding for schools. The GFSA states that all ESEA funds will be withheld from schools not complying with the GFSA. Consequently, states rapidly adopted legislation aligning with the GFSA and, in some cases, expanded upon the term "firearm" to ensure compliance with the federal legislation. As a result, by the end of the 1990s, nearly every school district in the country reported having a zero tolerance policy for serious offenses such as weapons (Heaviside, Rowand, Williams, & Farris, 1998).

Prior research on zero-tolerance policies is limited. In the mid-2000s, the American Psychological Association (APA) convened a task force whose purpose was to collect and review the evidence on school zero-tolerance policies. While their findings suggest that exclusionary discipline is not effective at reducing student misbehavior, the review noted a lack of explicit research on zero-tolerance policies. Much of the work reviewed explored the impact of severe disciplinary actions such as suspension or expulsion (American Psychological Association Zero Tolerance Task Force, 2008). While suspension and expulsion are certainly

associated with many zero tolerance policies, they can be used in contexts that lack a zero tolerance approach to discipline. Particularly, zero tolerance differs from other discipline policies in that it implies a rigid conformity to pre-determined punishments.

In much of the literature on zero tolerance, the term is used broadly to characterize an ethos or school climate characterized by the use of severe discipline and punitive measures generally. For instance, Skiba (2000) characterizes zero tolerance discipline as the application of severe disciplinary measures to offenses regardless of the severity of offense but goes on to include the use of school security measures such as metal detectors and cameras in the description of zero tolerance. While elements such as security measures may often appear in conjunction with zero tolerance policies and may constitute a "zero tolerance approach" or "zero tolerance school climate", such elements are distinct from a zero tolerance discipline policy. Likewise, the use of exclusionary disciplinary techniques such as suspension or expulsion may be a part of zero tolerance policies but may also be used in systems of tiered discipline or systems that focus on restorative justice prior to the use of exclusionary discipline. While recognizing the role of these other characteristics of schools, this study focuses on zero tolerance discipline policies, namely those that require a severe and certain response to behavioral infractions.

In one of the few studies that addresses this form of discipline, Matjasko (2011) utilized the nationally representative National Longitudinal Study of Adolescent Health (Add Health) survey to explore the impact of severe disciplinary policies on student outcomes of concurrent and later life criminal behavior. Utilizing HLM, the author found that severe disciplinary policies weakly predict decreases in student misconduct, a finding that leads the author to conclude that zero tolerance policies are not effective at reducing misconduct (Matjasko, 2011).

While this finding does not offer support for increased use of zero tolerance policies, it also does not align with the claims in the popular media (e.g., NYTimes Editorial Board, 2014) that zero tolerance policies are increasing student infractions.

There are several limitations to Matjasko's (2011) study. It does not utilize a true measure of zero-tolerance policies rather focusing on the severity of discipline. While related to zero-tolerance, the author is unable to tease out the consistency with which these punishments are applied. A second limitation is that this study only examined outcomes of crime/misbehavior. Within the school context, other outcomes such as academic performance, attendance, and graduation are also of interest. Finally, the literature points to the importance of race in differential rates of punishment. While included in Matjasko's regressions as a control variable, the interaction between student race and disciplinary policies is not explicitly examined. Questions remain as to whether school level policies of severe punishment are more prominent in schools serving largely minority students and whether these policies affect minorities disproportionately.

Federal law requires that the administration of discipline within schools take place in a manner that does not discriminate on the basis of a number of student characteristics. Title IV of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000c et seq) prohibits schools from discriminating on the basis of student characteristics including race, color, religion or national origin. In addition, Title VI prohibits discrimination in the distribution of Federal financial assistance based on similar student characteristics (Title VI, 42 U.S.C. §§ 2000d et seq). Taken together, Title IV and Title VI are meant to provide protection against discrimination across a range of school activities, from academics and athletics to discipline. Despite these legal provisions, mounting evidence suggests that the use of school disciplinary procedures varies systematically

across a number of these student demographic categories (Rocque & Paternoster, 2011; Rafaelle-Mendez, 2013).

In particular, a large body of research has documented disproportionate use of severe disciplinary policies for minority students (Skiba et al., 2002; Rocque, 2010). This finding holds across grade levels (Rocque & Paternoster, 2011; Rafaelle-Mendez, 2013). One question of interest to researchers has been the degree to which this disproportionate punishment results from differences in student misbehavior. These differences could be in the frequency of infractions or the types and severity of infractions. If it was the case that non-White students committed infractions at a higher rate than their White peers, then this disproportionate level of punishment might be justified. Some evidence has been found that accounting for prior misbehavior may explain the racial gap in elementary school suspensions (Wright, Morgan, Coyne, Beaver, & Barnes, 2014); however, other studies which account for the frequency of student misbehavior find minority status to be a positive predictor of severe punishments (Skiba et al., 2002; Rocque, 2010). Even in studies that examine punishments allotted for the same offenses, minority students are more severely punished (Skiba et al., 2011). Furthermore, research suggests that this disproportionate use of severe punishment for minorities may have long lasting impacts.

In the one study that most directly examines the impact of zero tolerance policies, the author finds that zero tolerance policies disproportionately affect Black students (Hoffman, 2014). Hoffman explores outcomes associated with expansion of zero tolerance in an urban district. Capitalizing on an abrupt shift in district policy that mandated the use of zero tolerance, he utilizes a difference-in-differences analysis to estimate the impact on minority students. The study finds that the expansion of the zero tolerance policy resulted in a near doubling of

expulsions for Black students compared to less than a 20% increase for Hispanic students and an approximately 40% increase for White students (Hoffman, 2014). These increases represent nearly 50 more Black students being recommended for expulsion per year in the district than other races despite Black students making up less than a quarter of the students in the district (Hoffman, 2014). While Hoffman's work suggests that zero tolerance policies may exacerbate racial disparities in discipline, his data draws only from a single school district and is not generalizable to the broader American education system.

Concern over the disproportionate influence of school discipline on minority students has prompted recent attention from the U.S. Department of Justice and the U.S. Department of Education. In early 2014, the departments authored a joint Dear Colleague Letter on the Nondiscriminatory Administration of School Discipline. In addition to summarizing the research on the variation in school discipline across racial groups, the document also offers practical guidance for districts to address the issue and to ensure compliance with federal law (U.S. Department of Justice & U.S. Department of Education, 2014). While not explicitly addressing zero tolerance policies, the departments' list of recommendations does call for individualized responses to misbehavior, a decrease in the use of severe discipline such as suspension, differentiation between first time and repeat offenders, and a decrease in the use of law enforcement officers for student discipline (U.S. Department of Justice & U.S. Department of Education, 2014). Such suggestions run counter to the typical intent and implementation of zero tolerance policies.

Summary

The research base on exclusionary disciplinary policies such as suspension and expulsion supports the claim that these policies predict negative outcomes for the students who experience

the punishment (Arcia, 2006; Marchbanks et al., 2015). These negative outcomes present themselves both in the immediate academic environment as well as in later life outcomes (Hemphill et al., 2012; Costenbader, & Markson, 1998). Furthermore, research suggests that Black students are disproportionately affected by severe discipline (Rocque & Paternoster, 2011; Rafaelle-Mendez, 2013) and that this disproportionate use of discipline may not be accounted for solely by differences in misbehavior (Skiba et al., 2002; Rocque, 2010). Coupled with the negative outcomes associated with exclusionary disciplinary problems, these racial disparities suggest that Black students' academic and life outcomes are being disproportionately impacted by school discipline in negative ways.

While studies of severe discipline suggest that it may not decrease student misbehavior as predicted by deterrence theory (Matjasko, 2011) and examinations of zero tolerance policies suggest a possible link to the disproportionate use of exclusionary disciplinary policies against Black students (Hoffman, 2014), the evidence base on zero tolerance policies is lacking. In particular, the estimates of the impact of zero tolerance on racial equity in discipline come from a study of a single school district (Hoffman, 2014). Given that racial dynamics vary by context (e.g., region or makeup of school personnel), it is possible that the influence of zero tolerance could vary across school districts.

Furthermore, the available evidence on zero tolerance policies is generally limited to examining outcomes of student discipline such as suspensions. As previously noted, the theoretical framework of deterrence theory suggests that it is possible that zero tolerance policies increase the use of suspensions while driving down the presence of student misbehavior. Consequently, examination of a broader set of outcomes is necessary to have a fuller understanding of the impact of zero tolerance discipline.

This study contributes to our understanding of zero tolerance discipline by examining the effect of zero tolerance laws on suspensions for a nationally representative set of school districts. Additionally, this study examines outcomes other than exclusionary discipline by exploring the extent to which zero tolerance discipline impacts principals' perceptions of control over school discipline policy, the extent to which principals perceive certain behavioral offenses to be a problem in their school, and school district dropout rates.

Data

For this study, I compile data from surveys conducted by the National Center for Education Statistics (NCES) and the Office of Civil Rights (OCR) data collection as well as original data drawn from archival searches of state law. For the independent variables, namely state zero tolerance laws mandating expulsion, I conducted a longitudinal search (1989-2013) of state statutes for all fifty states using the Westlaw legal database. In particular, I searched for statutes containing the terms "school" and "expel" or "expulsion". I then coded these statutes for whether the law applied only to firearms or weapons, whether it included other offenses (such as drug or assault), whether they included minor offenses (cheating, disrespect, etc.), and whether the policy allowed discretion on the part of the superintendent. The data set generated encompasses the year of each law's passage, changes in the offenses to which the zero tolerance discipline law is applied, and changes in the presence of superintendent discretion.

State mandated expulsion laws focus almost exclusively on serious behavior infractions. Table 1 shows descriptive statistics for state mandated expulsion laws for the 2013 year. As shown, with the exception of two states (Massachusetts and Hawaii), all states have statutes that explicitly mandate expulsion for bringing a firearm or weapon to school. Massachusetts has a law recommending expulsion for weapons offenses, but the language does not explicitly mandate

expulsion. The other state without such a law, Hawaii, has a single school district that is contiguous with the state. Consequently, many of the statutes regarding schools take the form of district policy rather than state law.

While a few states have similar policies for drug offenses (20%) and for violent acts such as assault (22%), the majority of states only have a mandated expulsion law for weapon or firearm offenses. Only one state, Maine, applies mandated expulsion to a minor offense, in this case "willful disobedience". In line with the language of the Federal Gun-Free School Act, nearly all states that have a mandated expulsion law for firearms or weapons also have a clause that extends discretion to the superintendent or school board to modify the terms of the expulsion on a case-by-case basis.

While nearly ubiquitous today, mandatory expulsion laws have varied in the timing of their adoption by states and have been largely influenced by the federal passage of the Gun-Free School Act. Figure 1 displays the proportion of states with mandated expulsion laws for various offenses from 1989 to present. As shown, only a handful of states had mandatory expulsion laws in the early 1990s and these laws applied to a variety of offenses including firearms, assault, and drugs. After passage of the federal Gun-Free School Act, mandatory expulsion laws for firearms increased dramatically and, previously non-existent laws regarding the broader category of weapons became common. Laws regarding assault and drug offenses increased during this time period though not to the same degree as firearms or weapons.

The independent variables utilized in this study include those shown in Figure 1. In my primary analyses, I utilize a binary indicator for whether a state has any mandated expulsion law. I also disaggregate the mandated expulsion law into individual dummy variables representing

mandatory expulsion laws for particular offenses (weapons, firearms, assault, and drugs).

Suspensions

For the dependent variables in this study, I utilize data from the U.S. Department of Education's Office of Civil Rights (OCR) data collection, multiple iterations of the Schools and Staffing Survey (SASS), and data from the National Center for Education Statistics Common Core of Data (CCD). The OCR has collected data from 1968 until present on a variety of issues relevant to their efforts to ensure equal educational opportunities for minority students. The data is generally collected at two-year intervals for a stratified random sample of school districts and schools. The stratification in the sampling design ensures that districts with over 25,000 students are guaranteed to be included in the sample. Consequently, the nation's largest school districts consistently appear in the dataset over time. In addition to their biennial random samples, the OCR periodically conducts a census of all of the nation's school districts. I focus on data from 1989 to 2005. On average, the OCR data contains information for approximately 5,000 school districts per year across this time period with the exception of 1999 in which the data represents a census of all school districts.

Ideally, I would have data on both expulsions and suspensions allowing for an examination of the impact of mandatory expulsion laws on both expulsion and suspension rates. While newer iterations of the OCR data collection have collected data on expulsions and zero tolerance expulsions in particular, the collection of such data did not begin until state zero tolerance laws were nearly ubiquitous in the 2000s. Consequently, I focus on the outcome of suspensions which has been consistently collected at the district level over the past several decades. The lack of expulsion rate data represents a significant limitation of this study. The units of analysis for the portion of the study examining suspensions are school district years.

The OCR data provides suspension data for a nationally representative set of school districts at two year intervals from 1976 to present. This suspension data is disaggregated by race allowing for sub-analyses of these groups. I couple the OCR data with school district data from the NCES' Common Core of Data to calculate proportions of students suspended overall and by race. For consistency in the sample across racial subgroup analyses, I restrict my sample to districts that have at least one student for each racial group analyzed. Additionally, I remove a small number of districts with suspension proportions out of the possible range (>1). The final sample contains 36,650 district-years.

Figure 2 shows the proportion of suspensions both overall and by race from 1989 until 2005 as both a total and disaggregated by student race. Examining the proportion of students suspended per subgroup, as shown in Figure 3, shows that the proportion of Black students suspended is over twice the size as that for White or Hispanic students. Asian students are the least likely racial subgroup to be suspended.

Control over Discipline and Perceptions of Behavior

The second set of dependent variables utilized in this study comes from the Schools and Staffing Survey. The Schools and Staffing Surveys collect information from nationally representative sets of school administrators at various time intervals between 1987 and 2011. In contrast to the OCR data, the SASS data includes individual principal and school level data. As a part of the survey, principals rate the degree of influence that several different stakeholders have over school disciplinary policy. Additionally, they rate the degree to which a number of different behavioral infractions are a problem at their school. I utilize data for principal rated control over school discipline policy and principal rated problem behaviors within their schools.

For the purposes of this study, I focus on the SASS iterations for the years 1990, 1993, 1999, 2003, and 2007. SASS iterations from 1987 and 2011 were omitted due to non-inclusion of portions of the variables of interest in the surveys. The SASS surveys measure principal perceptions of control over school discipline through a scale ranging from "no influence" to "a great deal of influence" though the number of items on the scale varies across iterations of the SASS. I recode the SASS variables to a three item scale where 0 represents "no influence", 1 represents "some influence", and 2 represents "a great deal of influence".

Principal perception of problem behaviors for the 1990 through 2007 SASS iterations were coded as an ordinal variable with 1 representing "not a problem", 2 representing a "minor" problem, 3 representing a "moderate" problem, and 4 representing a "serious" problem. For the 2003 and 2007 iterations, principals had response options ranging from never happens to happens daily. I recoded these response items such that "never happens" corresponds to "not a problem", "happens on occasion" corresponds to "minor problem", "happens at least once a month" corresponds to "moderate problem", and "happens at least once a week" or "happens daily" correspond to "serious" problem. While the adjustments made to both the control and problem measures complicates easy descriptive interpretation of changes in these measures over time, the use of year fixed-effects in the analysis as described in the methods section adjusts for year specific changes as a result of the change in survey items and allows for their use in regression analyses.

Dropout Rates

The final set of dependent variables considered in this analysis were district level dropout rate data. District dropout rate data has been collected on a yearly basis since 1991 by the National Center for Education Statistics (NCES) as a supplement to the Common Core of Data.

The dropout data contains grade level event dropout data for grades 7 through 12. The event dropout rate represents the proportion of students dropping out each year where a dropout is an individual who was enrolled in the district in the prior school year and was not enrolled at the beginning of the next school year. Furthermore, the student must not have graduated, completed an approved educational program, transferred to a different school district, been expelled, or died (U.S. Department of Education, 2015). The status of students was evaluated on October 1st of each year. The literature suggests advantages to the use of cohort dropout rates that track groups of students over multiple years; however, the data available from the NCES does not allow for the creation of such measures (Allensworth & Easton, 2001). The district reported event dropout rates for each grade between 7th and 12th grade are shown in Figure 3. As shown, dropout rates decreased slightly from the late 1990s through the early 2000s. As expected, event dropout rates in the high school years (9th-12th grades) are significantly higher than those in the middle school years (7th and 8th grades).

Unlike the suspension data collected from the OCR, the dropout data is not nationally representative. Instead, districts have opted to report the data to NCES. Furthermore, data from districts in certain states are omitted due to differential reporting standards. The degree of missing data changes across time. For instance, in the first year of data collection, dropout rates are only available for districts in 12 states. In contrast, the 2004 iteration includes data for districts in all except one state. Furthermore, beginning in 2002, the NCES limited reporting of dropout data to districts with more than 1,000 students (Sable, Gaviola, & Hoffman, 2007). Table 2 shows descriptive statistics of the control variables included in models estimating the relationship between mandatory expulsion laws and the dropout rate broken down by the

availability of data on the 12th grade dropout rate. Given these characteristics of the data, results of the analyses examining the dropout data are not generalizable beyond the sample considered.

Methods

The primary methodological approach utilized in this study exploits state level variation in timing and application of zero tolerance laws to identify the relationship between state zero tolerance laws and the outcomes of interest. I utilize a state and year fixed-effects model in which changes in state zero tolerance law within state are utilized to predict the outcomes of interest while holding constant any time-invariant aspects of the state and any year specific effects. The general model takes the following form:

$$Y_{ist} = \beta_0 + \beta_1 ZT\_LAW_{st} + \beta_2 S_{ist} + \alpha_t + \gamma_s + \varepsilon_{ist} \quad (1)$$

In Equation 1, *Y* represents a given outcome for school or district *i* in state *s* at time *t* as a function of a whether a state has a zero tolerance discipline law (*ZT_LAW*). I model this regression equation with both a single indicator variable for the presence of a state zero tolerance law and with multiple dummy variables indicating zero tolerance laws for different offenses. I also include a vector (*S*) of time-variant district or school characteristics such as student body racial composition, percentage of free/reduced lunch eligible students, school size, and urbanicity. The specific time-varying control variables for each model are explicitly given in the section addressing the given outcome. The α_t term represents year fixed-effects. Finally, γ_s introduces state fixed-effects through a series of state dummy variables. The coefficient of interest is β_1 which represents the relationship between the presence of a state zero tolerance law and the outcome of interest. For suspension and dropout rates, Equation 1 is modeled through ordinary least squares regressions and through generalized linear model (GLM) regressions. I employed a form of GLM advanced by Papke and Wooldridge (1996) appropriate for fractional

dependent variables such as the proportions of students suspended or that dropped out. These models combine a logit model with a binomial model to predict values of 0 and 1 as well as proportional values in between (Baum, 2008). For outcomes of principal perception of control over discipline policy and perceived problem behaviors, I utilize ordered logistic regression models to account for the non-continuous nature of the outcomes. Given the repetition of some districts/schools over time, I conducted a test for serial correlation as described by Wooldridge (2010). Given evidence of possible serial correlation, I cluster standard errors by district to account for serial correlation in the longitudinal data.

The primary threat to the internal validity of this and all observational studies is the possibility of omitted variable bias. In particular, it is possible that the presence of a state mandated expulsion law is correlated with other aspects or laws of the state that are themselves related to the outcome of interest. Omitted variables have the potential to bias estimated coefficients. I attempt to mitigate the threat of omitted variable bias through the inclusion of time-variant district characteristics, state fixed-effects, and year fixed-effects. Each of these sets of control variables addresses different potential sources of bias.

The time-varying district characteristics control for aspects of districts that change over time. For instance, characteristics of a district such as its size or the proportion of economically disadvantaged students may be related to the proportion of students suspended by the district. The inclusion of these characteristics as control variables addresses such time-varying district characteristics. The state-fixed effects implicitly control for any time-invariant aspect of states. For instance, a high poverty state, such as Mississippi, may have a greater frequency of disciplinary problems and may also be an earlier adopter of a state zero tolerance law. Alternatively, a state that adopts a state zero tolerance law may also be more likely to have other

laws regarding student discipline in statutes. To the extent that such characteristics of the state do not change over time, the state fixed-effects controls for their presence. Finally, the year fixed-effects control for general temporal trends in the outcomes over time that affect all states. If, for instance, there was a spike in the use of suspensions in the years following a highly publicized event such as the Columbine shooting, the year-fixed effect will account for such a trend.

While the use of district controls, state fixed-effects, and year-fixed effects address many of the potential sources of omitted variable bias, they do not entirely eliminate the threat. In particular, the possibility remains that there could be time-varying aspects of states or districts that coincide with the passage of state mandated expulsion laws that are not captured by the set of controls used.

Results

In this section, I present the results of the fixed-effect models for each of the outcomes of interest. In short, the results suggest that state mandated expulsion laws are predictive of increased use of exclusionary discipline (suspensions), increases in principals' perceptions of control over discipline policy by school boards and teachers, no decreases in principals' perceptions of the presence of problem behaviors, and mixed results for dropout rates. Furthermore, the results suggest a differential impact of state zero tolerance laws on White and Black students. Given that the dataset utilized varies by outcome examined, I present the results for each outcome separately.

Suspensions

I find the presence of state mandated expulsion laws to be predictive of increases in the proportion of students suspended reported by school districts. Table 3 provides descriptive

statistics on the time-varying district controls utilized in the regression models predicting the proportion of suspensions. Table 4 presents results from regression models predicting the proportion of all students in a district suspended from the presence of any mandated expulsion law. In this case, the independent variable is a binary indicator of whether the state has a mandatory expulsion law for firearms, weapons, drug offenses, and/or assaults. Column 1 of Table 4 shows the unadjusted relationship between a mandated expulsion law and the proportion of all students suspended, suggesting that districts in states with such laws expel, on average, approximately 1.2 percent more students per year. It is possible, however, that this unadjusted relationship represents unobserved characteristics of districts or states that are correlated with the presence of a state mandated expulsion law and are also correlated with the proportion of students suspended. To account for such potential selection bias, I add time-varying district controls, state fixed-effects, and year fixed-effects. The final, fully controlled model is shown in column 5. After accounting for year effects, time-invariant aspects of states, and the observable time-varying characteristics of districts, I find that the presence of a state mandated expulsion law predicts a 0.004 (0.4%) increase in the proportion of students suspended. For the average sized school district (7,177 students) in the sample in 2005, this increase would equate to approximately 29 more students suspended per year. The final model utilized in column 5 represents the fully specified model utilized in the remaining analyses presented in this section.

The research suggests that exclusionary discipline disproportionately affects certain subgroups of students, specifically racial minorities, and that zero tolerance discipline policies may potentially exacerbate this disparity (Skiba et al., 2002; Rocque, 2010; Hoffman, 2014). I explore this possibility by running models that predict the proportions of students of a given race suspended. Table 5 presents results of regressions predicting the proportion of students of

various racial subgroups suspended from the presence of a state zero tolerance law. The outcome variables vary across each column of Table 5 such that each of the columns represents the proportion of students of that racial subcategory suspended. As shown, the largest relationship is seen for Black students. While the difference between White and Black students does not reach traditional levels of statistical significance (p=0.11), the magnitude of the coefficient for the proportion of Black students suspended is nearly four times as large as that for White students. The results of these regressions also suggest an increase in the proportion of Hispanic students suspended when in a school with a state mandated zero tolerance law.

To further explore the relationship between state zero tolerance laws and outcomes for racial subgroups, I explore a series of models that include interaction terms between the presence of a state zero tolerance law and the proportion of students in a school district that are Black as well as an interaction term with the proportion of students in the school district that are Hispanic. These models explore the degree to which the differential effect on students of color is explained by differential rates across districts serving larger proportions of minority students or whether the differential effect is unrelated to district demographics. As shown in Table 6, I find that the interaction between a state zero tolerance law and an increasing proportion of Black students in a school district is positive and statistically significant. Interestingly, the interaction with the proportion of Hispanic students in a district is statistically significant in the negative direction. These results suggest that as the proportion of Black students in a district increases, the presence of a state zero tolerance law predicts a greater proportion of suspensions but that the opposite trend is true as the proportion of Hispanic students in a school district increases.

As a component of many state mandated expulsion laws, state provisions provide a clause granting discretion to a school's superintendent to modify the expulsion on a case-by-case basis.

Table 7 provides results from a regression including a binary indicator of whether a state includes a provision for such discretion on the part of the superintendent. As shown, superintendent discretion is predictive of decreases in the proportion of White students suspended. The coefficient on the proportion of Black students suspended is in the positive direction though not statistically significant. This suggests that superintendent discretion may be applied differentially by race.

While nearly all states have at least one mandatory expulsion law, the offenses to which these laws apply vary. I explore differences in the relationship between mandatory expulsion laws for different behavioral infractions and the outcome of interest by examining models in which the independent variable is disaggregated by behavioral offense. In particular, I disaggregate the mandatory expulsion variable into binary indicators for whether or not the offense applies to weapons, firearms, drugs, or assaults. I omit minor offenses as the law applies to only a single state. Table 8 presents results from regressions predicting total suspensions and suspensions by subgroup for the disaggregated mandatory expulsion variable. As before, the outcome variable varies across column such that each model predicts the proportion of students of a given race suspended. As shown, the largest impact is for weapons related offenses. The coefficients on assault and drugs are statistically no different from zero. Mandated expulsion for firearms consistently predicts decreases in the proportion of students suspended across all racial subgroups.

Given the proportional nature of the outcome variable, I conducted a sensitivity analysis in which I utilized generalized linear models appropriate for fractional dependent variables (Baum, 2008; Papke & Wooldridge, 1996). Versions of Tables 4 through 8 utilizing generalized linear models are shown in Appendix A. Specifically, Tables A1 through A5 show results

predicting the logged odds ratio of proportion of students suspended and the corresponding, exponentiated changes in the odds ratio. The odds ratios can be interpreted as the predicted changes in the odds ratio in the presence of a mandated expulsion state law. As shown, the generalized linear models produced results that largely aligned in direction and significance with the results of the ordinary least squares regressions. A notable exception was in the case of models interacting the presence of a mandated expulsion law with the proportion of the student body that is Black or Hispanic and in models examining the interaction with superintendent discretion. In the ordinary least squares models (Table 6), the interaction term between a state mandatory expulsion law and the proportion of Black students in the district was positive and significant while in the GLM model (Appendix Table A3) this relationship was statistically insignificant and in the opposite direction. Likewise, in the OLS models interacting a state mandated expulsion law with superintendent discretion the interaction term for White students is negative while, in the GLM models, the interaction term is statistically insignificant. The literature documents complexities of modeling interaction terms in generalized linear models that arise due to implicit interactions in the link function (Tsai & Gill, 2013). As a result, it is unclear whether the differences in the interaction terms across the OLS and GLM models reflect better or worse estimates of the interaction terms. Given this limitation and the easier interpretation of coefficients from an OLS model, I chose to retain the OLS models as my primary analysis. Specifically, results of the GLM model can only be interpreted as a change in the logged odds ratio or a change in the odds ratio whereas the results of the OLS model can be interpreted as changes in the proportion of students in the district that were suspended. While I discuss results based on the estimates of the interaction terms in the OLS models, I include caveats that such results are not always robust to modeling through generalized linear models.

The results of the OLS and GLM models suggest that state mandated expulsion laws are predictive of higher levels of exclusionary discipline as measured by suspensions. Furthermore, of the different types of mandated expulsion laws, those applying to the broader category of weapons appear to drive the relationship between mandated expulsion laws and total suspensions. Furthermore, it appears that discretion on the part of the superintendent and racial makeup of the district may predict differential rates of suspension by race though this result is not robust to the different estimation strategies. In the next section, I consider the impact of mandated expulsion laws on principals' perceptions of control over discipline.

Control over School Discipline Policy

In the second set of models, I draw on data from multiple iterations of the Schools and Staffing Survey to address the relationship between state mandatory expulsion laws and perceptions of control over school discipline policy. While decisions regarding school discipline policy are traditionally made at the school or district level, state mandated expulsion laws potentially remove some of this local autonomy. I test this hypothesis directly by exploring the relationship between state mandated expulsion laws and principals' reports of control over school discipline policy for four stakeholder groups, namely teachers, principals, school boards, and states.

Table 9 provides descriptive statistics on each of the control variables included in the models run using the Schools and Staffing Survey data. The unit of analysis in these models are individual principals/schools. As shown, I control for a number of time-variant principal and school characteristics.

Table 10 presents results from ordered logistic regression models predicting principal rated control over discipline policy for each of these four groups. As shown, the presence of a

state mandatory expulsion law for any offense predicts significant increases in the principal rated level of control of school boards and teachers over discipline policy. Changes in state and principal control are both statistically insignificant.

As with the measures of exclusionary discipline, I also explore the relationship between mandated expulsion laws and control over discipline for a disaggregated set of independent variables. Table 11 presents results from ordered logistic regressions predicting control of discipline policy for each of the stakeholders. Both firearms and weapons mandated expulsion laws demonstrate a strong positive relationship with principals' perceptions of school board's control over school discipline policy. Assaults and drug mandatory expulsion laws are positive predictors of state control over discipline policy while the positive relationship between mandatory expulsion laws and teacher control appears to be driven by laws related to assaults.

These results suggest that state adoption of mandatory expulsion laws decrease the autonomy that principals feel over setting school discipline policy by shifting perceived control to school boards and to teachers. Such a result is consistent with anecdotal evidence in which principals report that zero tolerance policies lessen their authority to make decisions regarding appropriate disciplinary procedures (Danielson, 2001; Norton, 2013).

Student Behavioral Infractions

The underlying theory of zero tolerance approaches to discipline suggests that severe and certain punishments will deter individuals from committing infractions of the rules (Dilulio, 2005). Ultimately, the success of zero tolerance laws and policies should be measured by the degree to which they reduce student misbehavior. Even if zero tolerance laws or policies increase the use of exclusionary discipline, as suggested by previously presented analysis and other work (Hoffman, 2014), such an increase may be justified if overall levels of misbehavior

and infractions are decreased. Unfortunately, behavioral data collected by schools and districts tends to focus on measures of the schools' response to the behavior, such as a suspension, rather than on the frequency of the behavior itself. In this section, I attempt to circumvent this issue by focusing on principals' perceptions of problem behaviors rather than measures of school responses to such behavior.

In addition to rating the influence of different stakeholders on school discipline policy, principal respondents on the Schools and Staffing Survey were also asked to rate the degree to which a series of different behavioral infractions are a problem at their school. In particular, I examine the relationship between state mandated expulsion laws and principal rated problems of physical conflict, robbery, vandalism, alcohol, drugs, weapons, and disrespect. Table 12 presents results of ordered logistic regression models predicting each of these problem behaviors. As shown, mandatory expulsion laws exhibit a statistically significant and positive relationship with vandalism, robbery, and weapons offenses and statistically insignificant relationships with each of the other problem behaviors.

To further explore these relationships, I examined models using the disaggregated independent variable. Table 13 presents results from these models. Portions of the table shaded in grey represent areas in which each mandated expulsion law explicitly targets. For instance, for mandated expulsion laws pertaining to assault, one would expect the outcome to be most strongly related to problems of physical conflict. I find that state mandated expulsion laws for firearms offenses are not significantly related to changes in the perception of weapons being a problem within schools though such laws for weapons actually increase the perceived problem of such infractions. Drug related expulsion laws do not decrease the perception of drug or alcohol

related misbehavior. The only mandated expulsion law which exhibits a statistically significant decrease in the expected area is that pertaining to assaults.

Across all of the mandated expulsion categories, laws pertaining to assault predict the most consistently negative relationship with behavioral outcomes. Laws pertaining to weapons, firearms, and drugs generally show non-statistically significant relationships with principals' perceptions of problem behaviors.

While the relationships discerned in this analysis of principal rated problem behaviors provide valuable insight into the relationship between state mandated expulsion laws and student behavioral outcomes, caution must be exercised in interpreting the results. Given that the outcome variables are principals' perceptions of problem behaviors, it is possible that mandated expulsion laws result in increases in perceptions of problems in the absence of actually creating more instances of such problem behaviors. In particular, this may be the case with minor behavioral offenses. Given that such offenses may have previously been dealt with at the classroom level, mandated expulsion laws may have shifted the onus of dealing with these issues onto the principal thereby increasing his exposure to these issues and perception of the degree to which they are a problem. As a result, the estimates may be biased in the positive direction. This means that the estimates on state mandated expulsion laws for assaults may underrepresent the degree to which such laws decrease physical conflicts and other offenses.

Dropout Rates

The event dropout rate represents the proportion of students enrolled in the previous year who drop out of school. Research suggests that experiencing exclusionary discipline is predictive of higher rates of dropout (Marchbanks, Blake, Booth, Carmichael, Seibert, & Fabelo, 2015). I examined the relationship between state zero tolerance laws and the event dropout rate

by predicting the event dropout rate at each grade level between 7th and 12th grade. The results vary by grade and model specification, but suggest a potentially null or positive effect on dropout rates for earlier grades and a potentially negative effect on dropout rates for 12th grade. In this section, I present the evidence that supports these findings.

I ran regressions controlling for progressively more potentially confounding factors, building to the fully specified models reported throughout the remainder of the results. Table 14 shows results from the building up of the model specifications. Column 1 shows the relationship between the binary indicator for state mandated expulsion for any offense and the 12th grade event dropout rate controlling only for a binary indicator of whether or not the reported dropout rate conformed to NCES standards. In Column 2, I add a set of time varying district characteristics. Columns 3 and 4 add year and state fixed effects respectively while the final column implements district fixed effects. As shown, the relationship between a state mandatory expulsion law and the 12th grade event dropout rate is initially positive, with the presence of the law predicting higher rates of dropout. After controlling for state fixed effects, this relationship becomes negative in magnitude and, with district fixed effects, becomes statistically significantly negative. The final model suggests that the presence of a state mandated expulsion policy predicts a lower dropout rate in the 12th grade after controlling for observable district characteristics, year effects, and time-invariant district characteristics. In the remaining results presented, I focus on model specifications shown in Columns 4 and 5, namely those with state fixed effects and those with district fixed effects. I also run models with a consistent sample across grades, as shown in Table 14, and variants of these models in which I maximize the sample size within each grade. The former allows for a consistent comparison of the effect of

state mandated expulsion across grades while the latter allows for maximum information within grade level to be utilized for the estimates.

Tables 15 and 16 shows results from regressions on a consistent sample across grades predicting the event dropout rate for grades seven through twelve from the presence of a state mandatory expulsion law. Table 15 shows results from models including a district fixed effect. In these models, I find no relationship between the presence of a state mandatory expulsion law and the event dropout rate for grades seven through eleven. For twelfth grade, however, I find a statistically significant and negative relationship. Table 16 shows results utilizing a state fixed effect rather than a district fixed effect. The results of these regressions show no significant relationships; however, the coefficient for the twelfth grade model (Column 6) is negative in direction while the coefficients for prior grades are positive in direction. These result suggest that the presence of a state mandatory expulsion law may decrease the event dropout rate for twelfth grade.

In the next set of analyses, I ran regressions in which I maximized the data available for each grade level. These regression results correspond to those in Tables 15 and 16; however, the sample size varies across grade level outcome. Results of these regressions are shown in Tables 17 and 18. As shown, for models with a district fixed effect (Table 17), I observe null relationships between the presence of a state mandatory expulsion law and the event dropout rate for grades seven through 10, but negative and significant relationships for grades eleven and twelve. In models utilizing the state fixed effect rather than the district fixed effects (Table 18), I find statistically significant positive relationships between the presence of a state mandatory expulsion law and the event dropout rate for grades eight through ten, suggesting that the presence of a mandatory expulsion law increases dropouts for these grades.

I conducted a sensitivity analysis on the event dropout rate data by running versions of the state fixed effect model utilizing a generalized linear model approach for fractional outcomes advanced by Papke and Wooldridge (1996). This approach mirrors that utilized previously when examining the suspension rate data. Data limitations prevented this analytic approach from being applied to the models utilizing a district fixed effect. Specifically, the number of districts precluded the inclusion of individual district dummy variables. Consequently, I applied this approach only to those models utilizing state fixed effects.

Appendix B contains results of regressions predicting the event dropout rate for each grade using a consistent sample (Table B1) and using the maximum sample size within grade (Table B2). As shown, the estimated effects in the consistent sample are insignificant across grade levels, thought the magnitude of the coefficients shifts from positive to negative for twelfth grade. In the models with the sample maximized within grade, a significant and positive result is found for tenth grade while the results for other grades are statistically insignificant. These results, while not perfectly aligning with the non-GLM models, again suggest a possible positive relationship between a state mandated expulsion law for early grades and a potentially negative relationship for twelfth grade.

Discussion

I find that state zero tolerance laws predict an increased use of exclusionary discipline as measured by proportion of students suspended, an increased perception of school board and teacher control over disciplinary policy, few appreciable decreases in school leaders' perceptions of problem behaviors, and potentially greater rates of dropout in the earlier years of high school. Furthermore, state zero tolerance laws appear to differentially affect students of color thereby contributing to racial discipline gaps. In this section, I discuss the findings for each outcome in

more detail and place the findings in the context of the policy environment and previous research.

Previous research has shown that experiencing a suspension or expulsion is predictive of negative outcomes for the students involved. In particular, being suspended or expelled predicts lower academic achievement, an increased likelihood for involvement in the criminal justice system, and increased propensity for unhealthy habits such as smoking (Arcia, 2006, Hemphill et al., 2006 Costenbader, & Markson, 1998). The results of this study suggest that the presence of any mandated expulsion law predicts a 0.004 increase in the proportion of students suspended. When disaggregated by type of mandated expulsion law, those that require expulsion for weapons appear most predictive of increases in student suspensions. To the extent that the suspended students are at greater risk of academic failure and other negative outcomes, this increase in suspensions is an undesirable impact of zero tolerance laws.

In interpreting the impact of mandated expulsion laws on the proportion of students suspended, consideration should be given to the potential displacement effect from suspensions to expulsions. In an ideal study, it would be desirable to measure the impact of mandated expulsion laws on both expulsion and suspension rates; however, the data available only allowed for an examination of suspension rates. As previously noted and as suggested by the literature (Hoffman, 2014), there are advantages to examining suspensions as the outcome of a mandated expulsion law rather than directly examining the impact on expulsions. Specifically, examining suspensions potentially avoids the complications of examining whether a policy that mandates expulsions increases expulsion. By examining an alternative measure of disciplinary action, namely suspensions, I avoid merely measuring an outcome that is built into the intervention. Nevertheless, there exists the potential for a displacement in which actions that previously

resulted in suspension now result in expulsion. Such displacement would reduce the measured number of suspensions, even if the number of behavioral infractions remained unchanged. If both expulsion and suspension rate data were available, such displacement could be measured directly; however, the absence of expulsion rate data prevents such an analysis.

Nevertheless, I argue that the concern regarding displacement from suspensions to expulsions is mitigated for several reasons. First, such displacement would be expected to decrease the estimated impact of mandatory expulsion on the proportion of suspensions. Given that the models examined generally find a positive relationship between mandatory expulsion laws and suspension rates, the estimated coefficients may be interpreted as lower bounds of the relationship between mandatory expulsion laws and the actual rate of behavioral infractions. Secondly, the number of expulsions, on average, is fewer than one tenth of the number of suspensions (Civil Rights Data Collection, 2015). Consequently, changes in the proportion of suspensions are likely driven by changes in the approach to discipline, such as harsher penalties for offenses that did not previously warrant suspension, than merely from a shifting between the use of suspensions and expulsions.

As previously noted, however, the theoretical framework of deterrence theory, which underlies zero tolerance approaches to discipline suggests that certain and severe punishments will deter individuals from breaking rules. It is possible then, that while zero tolerance laws subject more individuals to exclusionary discipline, these laws may actually decrease overall misbehavior and thereby improve the learning environment of the schools. I do not, however, find this to be the case. Instead, I find that mandated expulsion laws predict either no change, or in the case of weapons, robbery, and vandalism, increases in principals' perceptions of problem behaviors. Even when disaggregated by type of mandated expulsion law, most mandated

expulsion laws are not predictive of decreases in principals' perceptions of problem behaviors. The one notable exception are laws pertaining to physical assaults which are generally predictive of decreases in perceived problems across numerous behavioral outcomes.

Much of the current policy discussion around zero tolerance policies pertains to their relationship with disproportionalities in discipline by student race. While research clearly demonstrates that such disproportionalities exist (Skiba et al., 2002; Rocque, 2010), only one study has attempted to link zero tolerance policies to these disproportionalities (Hoffman, 2014). Like Hoffman (2014), who finds that increased use of zero tolerance approaches by a single school district resulted in higher rates of suspensions for Black students, I find that state mandated zero tolerance laws predict larger increases in the proportion of Black students suspended than White students. These laws do not, however, predict significant enough differences between the two groups to explain the entire Black-White discipline gap. In 2005, the Black-White suspension gap in the data was about 5 percentage points while the differential impact between Blacks and Whites of state zero tolerance laws is approximately 0.5 percentage points suggesting that the presence of such laws may only explain approximately 10% of the Black-White discipline gap. Finally, the results of this study suggest that the relationship between such laws and suspension rates may differ by the racial composition of the school district. In particular, state mandated expulsion laws predict greater rates of suspension of Black students in districts serving larger proportions of Black students. Conversely, such laws predict decreased rates of suspensions of Hispanics in districts serving larger percentages of Hispanic students. Further exploring the ways in which districts serving large numbers of Hispanic students approach discipline may suggest findings for mitigating the impact in districts with a high proportion of Black students.

Next, the results of this study speak to the role of governance in school policy. Results presented here demonstrate that state mandated expulsion laws increase the perceived role of school boards and teachers in the setting of school discipline policy. Given, however, that additional discretion on the part of the superintendent is predictive of increases in suspensions and greater racial gaps in suspension rates, merely reducing state intervention in discipline policy may not necessarily be effective. Rather, a more effective approach may be to utilize state mandated discipline that does not involve as severe or exclusionary approaches to discipline. Such an approach could potentially reduce suspensions while also reducing the discretion that can lead to inequitable application of school discipline.

Finally, I find mixed results regarding the relationship between mandatory expulsion laws and high school dropout rates. The results indicate that such laws may increase dropout rates in the earlier years of high school while decreasing the rate in the later years, especially 12th grade. The finding for the 12th grade year may reflect the prior removal of students that were less likely, on average, to graduate from high school. In other words, the mandatory expulsion laws may result in at-risk students dropping out of school in the early years of high school thereby reducing dropouts that would have occurred during the later years.

Limitations

Each of the analyses completed in this study are limited by the data or methodology employed. In this section, I briefly consider a number of these limitations. With regard to disciplinary outcomes, a major limitation of this study is the lack of available data on school district expulsion rates. Given that the laws under examination mandate expulsion, ideal data would allow for an estimation of the impact on both expulsion and suspension rates. Having such data would allow for a better estimation of the degree to which these laws may contribute to

the displacement of punishment from one form to the other. In addition to the lack of expulsion data, the suspension data available admits of its own limitations. In particular, the suspension rate data is aggregated at the district level resulting in less precision than would be present with student level data. Furthermore, certain methodological approaches, such as a student fixed effect, that could potentially control for confounding factors are unavailable with aggregated data.

As previously discussed, the fractional nature of both the suspension and dropout rate data pose modeling challenges. While I have attempted to address this issue through the use of both traditional OLS and GLM models, the literature suggests potential tradeoffs in the use of each. In particular, while the GLM model may more appropriately model the fractional outcome in the primary models (Papke & Wooldridge, 1996), they may not be as appropriate when including interaction terms (Tsai & Gill, 2013).

For outcomes of principal perceptions of problem behaviors and perceived control over school discipline policy, a primary limitation is that the outcomes are just that, perceptions. Of true policy interest would be the impact of the state zero tolerance law on overall levels of misconduct in the school environment. A principal's perception of misconduct could be influenced by the policies/laws in place. For instance, such laws could cause more of certain behaviors to be reported to the principal even if their occurrence decreased. Consequently, the estimated effects of the state zero tolerance laws on such perceptions may not accurately reflect the true impact on levels of misconduct.

For models predicting school dropout rates, this study is limited in its generalizability. Given that the reporting of dropout rates by many districts did not occur, especially in the earliest years of the data, the results cannot generalize nationally. Consequently, the estimated effects of

state zero tolerance laws on dropout rates should be considered representative only of schools similar to the sample.

Finally, the methodology utilized in this paper controls for a number of potentially confounding variables but does not entirely preclude the possibility of omitted variable bias. In particular, the design of this analysis cannot control for time-varying characteristics of states that changed concurrently with adoption of a state mandatory expulsion law. For instance, if a state also adopted another discipline law at the same time as the mandatory expulsion policy, the models used in this study would confound the effect of both programs. Given that the adoption of the state laws was driven in large part by action of the federal government, I argue that this risk is minimized.

Conclusion

Racial disproportionalities in the use of exclusionary discipline coupled with mounting evidence suggesting that the use of such discipline contributes to negative outcomes for students has led to recent policy discussions regarding the rollback of zero tolerance laws and policies (U.S. Department of Justice & U.S. Department of Education, 2014). This study expands on the only previous study of this topic (Hoffman, 2014) by providing empirical evidence regarding the relationship between such zero tolerance laws and the use of suspensions in schools for a nationally representative set of school districts. Furthermore, this study provides initial evidence on the relationship between state zero tolerance laws and other important outcomes such as control over school discipline policy, the presence of actual problem behaviors, and high school graduation rates. In doing so, this study provides evidence in an area where the research has previously been lacking. Such evidence is important as the federal and state governments along with individual school districts consider revisions to their school discipline policies.

The findings of this study suggest that state zero tolerance laws, those that mandate expulsion, are predictive of increases in the proportion of students that school districts suspend, that such laws increase control over discipline policies of entities other than the principal, that such laws do not reduce the perception of problem behaviors in the school environment, and that such laws may increase dropout rates during the early years of high school. Specifically, state mandatory expulsion laws predict a 0.4 percent increase in suspensions and a nearly four times larger increase in the rate of suspension of Black students than White students. In line with previous research (Hoffman, 2014), Black students appear to be disproportionately impacted by the presence of state zero tolerance laws though the impact only accounts for a small percentage of the Black-White suspension gap.

Taken as a whole, the results of this study suggest that zero tolerance laws on the part of states are not an effective mechanism for improving schools. The increased exposure to exclusionary discipline suggests that more students are subject to the negative outcomes associated with being suspended or expelled while, in the view of principals, not reducing overall levels of misbehavior in schools. In other words, these policies appear to result in more students being suspended and dropping out without improving the learning environment of those students who remain in the school. Furthermore, given a disproportionate impact on students of color, these policies appear to contribute to racial gaps in discipline.

The results of this study suggest that state policymakers would be wise to consider revisions to state mandated expulsion laws and that such revisions should be carefully designed so as not to contribute to racial disparities in the use of exclusionary discipline. Consequently, state policymakers should consider discipline policies that do not rely on exclusionary discipline. Furthermore, given that state zero tolerance laws do not explain the majority of the Black-White

gap, both state and local policymakers should take proactive steps towards reducing inequities in school discipline beyond simply revising zero tolerance laws and policies.

Table 1. State expulsion laws descriptive statistics for 2013

	All States
Law requires expulsion	0.96
Firearms	0.76
Weapons	0.56
Firearms or Weapons	0.96
Drugs	0.20
Assault	0.22
Minor offense	0.02
Discretion	0.96
Includes toy/facsimile weapon	0.06
N	50

Note: Proportions reported.

Table 2. State laws and district characteristics by missingness of 12th grade dropout data

	Non-Missing	Missing
State mandatory expulsion laws		
Weapons [a]	0.42	0.21
	(0.49)	(0.41)
Firearms [a]	0.67	0.43
	(0.47)	(0.50)
Drugs [a]	0.10	0.13
	(0.29)	(0.33)
Assault [a]	0.15	0.21
	(0.36)	(0.41)
Discretion [a]	0.73	0.50
	(0.44)	(0.50)
District characteristics		
Proportion Hispanic [a]	0.06	0.09
	(0.14)	(0.17)
Proportion Black [a]	0.09	0.06
	(0.18)	(0.15)
Proportion White [a]	0.81	0.81
	(0.25)	(0.26)
Proportion Asian [a]	0.01	0.02
	(0.03)	(0.04)
Proportion Native American	0.03	0.03
	(0.11)	(0.12)
Proportion free or reduced price lunch [a]	0.23	0.20
	(0.20)	(0.24)
Lowest grade offered [a]	0.51	0.36
	(2.02)	(1.64)
Highest grade offered [a]	12.00	9.42
	(0.08)	(3.11)
Full time equivalent teachers [a]	220.11	127.02
	(798.31)	(670.63)
Enrollment [a]	3817.77	2246.25
	(15098.77)	(12937.24)
n (average)	92,860	79,900

Note. Means and standard deviations reported. Sample size varies between variables due to missingness. Average sample size of variables shown. [a] denotes statistically significant ($p<0.05$) difference for a Welch's t-test between non-missing and missing observations.

Table 3. Mean and standard deviations for district level control variables for suspension regressions

	Full Sample	1989	1991	1993	1996	1997	1999	2001	2003	2005
Racial proportions of district										
Hispanic	0.099	0.085	0.074	0.083	0.082	0.092	0.098	0.109	0.121	0.124
	(0.177)	(0.166)	(0.150)	(0.166)	(0.163)	(0.168)	(0.174)	(0.185)	(0.193)	(0.195)
Black	0.105	0.098	0.100	0.117	0.103	0.121	0.086	0.115	0.107	0.111
	(0.178)	(0.160)	(0.171)	(0.182)	(0.178)	(0.187)	(0.161)	(0.192)	(0.182)	(0.188)
White	0.754	0.780	0.789	0.768	0.775	0.746	0.776	0.731	0.725	0.716
	(0.255)	(0.238)	(0.235)	(0.243)	(0.245)	(0.250)	(0.245)	(0.268)	(0.267)	(0.273)
Asian	0.025	0.025	0.022	0.021	0.022	0.023	0.023	0.027	0.027	0.029
	(0.050)	(0.049)	(0.043)	(0.046)	(0.043)	(0.048)	(0.049)	(0.053)	(0.053)	(0.055)
American Indian	0.017	0.012	0.015	0.010	0.017	0.017	0.017	0.019	0.020	0.020
	(0.066)	(0.058)	(0.066)	(0.043)	(0.062)	(0.067)	(0.062)	(0.072)	(0.076)	(0.076)
Number of students by race (100s)										
Hispanic	13.359	14.139	12.481	11.489	14.775	13.864	8.880	15.795	16.557	16.202
	(109.365)	(118.854)	(116.211)	(110.341)	(131.671)	(116.406)	(83.644)	(121.100)	(118.460)	(98.670)
Black	14.632	18.824	17.742	16.864	19.490	17.275	8.870	15.516	14.604	13.560
	(89.280)	(114.364)	(108.849)	(102.069)	(114.989)	(99.586)	(66.112)	(90.047)	(83.242)	(62.953)
White	40.857	52.900	49.653	43.749	49.584	46.843	30.315	41.230	39.233	37.548
	(75.019)	(90.192)	(88.645)	(84.160)	(90.892)	(80.541)	(57.272)	(75.154)	(69.992)	(65.104)
Asian	3.461	4.097	3.654	3.301	4.137	3.789	2.279	3.940	3.932	3.689
	(29.577)	(33.746)	(32.055)	(30.800)	(36.479)	(32.278)	(22.667)	(32.203)	(31.626)	(23.958)
American Indian	0.696	0.692	0.797	0.552	0.816	0.764	0.509	0.806	0.781	0.768
	(3.258)	(3.418)	(3.973)	(2.843)	(3.646)	(3.264)	(2.596)	(3.631)	(3.230)	(3.434)

Note. Table continued on next page

Table 3 Continued

	Full Sample	1989	1991	1993	1996	1997	1999	2001	2003	2005
District characteristics										
Free or reduced price lunch	0.226	0.065	0.166	0.214	0.222	0.227	0.213	0.258	0.268	0.301
	(0.201)	(0.130)	(0.188)	(0.202)	(0.201)	(0.196)	(0.187)	(0.203)	(0.206)	(0.199)
District size (1000s)	7.301	9.065	8.433	7.595	8.880	8.253	5.085	7.729	7.511	7.177
	(24.803)	(29.563)	(28.609)	(27.013)	(30.917)	(26.985)	(18.873)	(26.241)	(24.911)	(19.299)
Full time teachers (100s)	4.113	4.760	4.436	3.978	4.598	4.628	2.989	4.404	4.510	4.342
	(13.011)	(16.168)	(14.925)	(14.060)	(16.359)	(14.768)	(10.712)	(11.289)	(12.487)	(10.923)
Lowest grade offered	0.312	0.274	0.246	0.227	0.262	0.283	0.386	0.321	0.342	0.314
	(1.605)	(1.518)	(1.438)	(1.383)	(1.487)	(1.541)	(1.783)	(1.605)	(1.675)	(1.596)
Highest grade offered	11.563	11.600	11.553	11.531	11.585	11.666	11.488	11.588	11.577	11.576
	(1.315)	(1.269)	(1.336)	(1.354)	(1.282)	(1.159)	(1.414)	(1.272)	(1.298)	(1.300)
n	36650	2310	2740	3320	2790	3800	8280	4230	4400	4790

Note. Standard deviations in parentheses. Means for 1999 vary due to differential sampling strategy.

Table 4. Results from regressions predicting proportion of students suspended per district per year

	Proportion of Students Suspended				
	(1)	(2)	(3)	(4)	(5)
Mandated expulsion for any offense	0.012**	0.006**	0.006**	0.006**	0.004**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
District controls		X	X	X	X
State fixed-effects			X		X
Year fixed-effects				X	X
Observations	36,650	36,650	36,650	36,650	36,650
R-squared	0.018	0.291	0.363	0.297	0.370

Note. Standard errors clustered by district to account for serial correlation

** $p<0.01$, * $p<0.05$

Table 5. Regression coefficients and standard errors for fixed-effects models predicting proportion of students suspended overall and by race from presence of any state mandated expulsion law

	(1)	(2)	(3)	(4)	(5)
Proportion of students in category suspended:	Total	White	Black	Hispanic	Asian
Mandatory expulsion for any offense	0.004**	0.002	0.007*	0.005**	-0.003
	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)
District control variables	X	X	X	X	X
State fixed-effects	X	X	X	X	X
Year fixed-effects	X	X	X	X	X
Observations	36,650	36,650	36,650	36,650	36,650
R-squared	0.370	0.243	0.133	0.074	0.032

Notes. Standard errors in parentheses clustered by district to account for serial correlation.

** $p<0.01$, * $p<0.05$

Table 6. Regression coefficients and standard errors for fixed-effects models predicting proportion of students suspended overall and by race from presence of any state mandated expulsion law with district race interactions

Proportion of students in category suspended:	(1) Total	(2) White	(3) Black	(4) Hispanic	(5) Asian
Mandatory expulsion for any offense	0.002	0.002	0.005	0.005*	-0.003
	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)
Mandatory expulsion for any offense * Proportion Black	0.026**	0.004	0.035**	0.016*	0.011
	(0.006)	(0.005)	(0.009)	(0.007)	(0.008)
Mandatory expulsion for any offense * Proportion Hispanic	-0.020**	-0.006	-0.014	-0.022**	-0.009
	(0.005)	(0.004)	(0.012)	(0.007)	(0.005)
Proportion Black	0.116**	0.053**	0.109**	0.028**	0.016*
	(0.006)	(0.005)	(0.009)	(0.007)	(0.007)
Proportion Hispanic	0.043**	0.023**	0.062**	0.047**	0.018**
	(0.006)	(0.004)	(0.012)	(0.007)	(0.005)
District control variables	X	X	X	X	X
State fixed-effects	X	X	X	X	X
Year fixed-effects	X	X	X	X	X
Observations	36,650	36,650	36,650	36,650	36,650
R-squared	0.371	0.243	0.134	0.075	0.032

Notes. Standard errors in parentheses clustered by district to account for serial correlation.
** $p<0.01$, * $p<0.05$

Table 7. Regression coefficients and standard errors for fixed-effects models predicting proportion of students suspended overall and by race from presence of any state mandated expulsion law and superintendent discretion

Proportion of students in category suspended:	(1) Total	(2) White	(3) Black	(4) Hispanic	(5) Asian
Mandatory expulsion for any offense	0.004*	0.004*	0.007	0.008**	-0.000
	(0.002)	(0.001)	(0.004)	(0.003)	(0.002)
Superintendent discretion	-0.000	-0.003*	0.001	-0.003	-0.003
	(0.002)	(0.002)	(0.004)	(0.003)	(0.003)
District control variables	X	X	X	X	X
State fixed-effects	X	X	X	X	X
Year fixed-effects	X	X	X	X	X
Observations	36,650	36,650	36,650	36,650	36,650
R-squared	0.370	0.243	0.133	0.074	0.032

Notes. Standard errors in parentheses clustered by district to account for serial correlation.
** $p<0.01$, * $p<0.05$

Table 8. Regression coefficients and standard errors for fixed-effects models predicting proportion of students suspended overall and by race from disaggregated state mandatory expulsion laws

Proportion of students in category suspended:	(1) Total	(2) White	(3) Black	(4) Hispanic	(5) Asian
Weapons	0.003**	0.002	0.002	0.006**	-0.002
	(0.001)	(0.001)	(0.003)	(0.002)	(0.001)
Firearms	-0.005**	-0.006**	-0.005	-0.005*	-0.004**
	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)
Drugs	-0.001	-0.000	-0.000	0.004	-0.001
	(0.002)	(0.002)	(0.004)	(0.003)	(0.002)
Assault	0.002*	0.002*	0.005	0.006**	0.000
	(0.001)	(0.001)	(0.003)	(0.002)	(0.001)
Weapons	0.003**	0.002	0.002	0.006**	-0.002
	(0.001)	(0.001)	(0.003)	(0.002)	(0.001)
Firearms	-0.004**	-0.005**	-0.004	-0.004*	-0.005**
	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)
Drugs	-0.002	-0.001	-0.002	0.001	-0.000
	(0.002)	(0.002)	(0.004)	(0.003)	(0.002)
Assault	0.002	0.002	0.004	0.005**	-0.000
	(0.001)	(0.001)	(0.003)	(0.002)	(0.001)
District control variables	X	X	X	X	X
State fixed-effects	X	X	X	X	X
Year fixed-effects	X	X	X	X	X
Observations	36,650	36,650	36,650	36,650	36,650
R-squared	0.370	0.244	0.133	0.075	0.032

Notes. Standard errors in parentheses clustered by district to account for serial correlation. Horizontal dashed lines separate different regressions.
** $p<0.01$, * $p<0.05$

Table 9. Means and standard deviations for district, school, and principal control variables for Schools and Staffing Survey

	90	93	99	03	07
Regional characteristics					
Urban	0.23	0.24	0.24	0.25	0.24
	(0.61)	(0.63)	(0.65)	(0.67)	(0.67)
Northeast	0.17	0.17	0.17	0.16	0.17
	(0.57)	(0.57)	(0.57)	(0.56)	(0.59)
Midwest	0.29	0.29	0.28	0.28	0.26
	(0.67)	(0.66)	(0.69)	(0.68)	(0.65)
South	0.33	0.33	0.33	0.34	0.35
	(0.62)	(0.66)	(0.67)	(0.72)	(0.75)
West	0.21	0.21	0.22	0.22	0.23
	(0.63)	(0.64)	(0.63)	(0.65)	(0.61)
Principal characteristics					
Principal experience (years)	9.34	8.66	8.97	7.76	7.50
	(11.67)	(11.31)	(11.65)	(10.71)	(9.98)
Principal experience at school (years)	5.71	4.96	5.01	4.34	4.23
	(8.69)	(7.59)	(8.02)	(6.98)	(7.35)
Novice principal	0.09	0.08	0.08	0.08	0.09
	(0.42)	(0.38)	(0.39)	(0.42)	(0.44)
School characteristics					
Primary	0.74	0.75	0.78	0.78	0.77
	(0.51)	(0.49)	(0.47)	(0.54)	(0.54)
Secondary	0.26	0.25	0.22	0.22	0.23
	(0.51)	(0.49)	(0.47)	(0.54)	(0.54)
Combined	0.05	0.04	0.04	0.07	0.07
	(0.23)	(0.22)	(0.20)	(0.29)	(0.31)
Free school lunch (%)	34.33	31.80	40.42	44.43	46.56
	(37.31)	(29.14)	(42.19)	(45.69)	(46.32)
Minority students (%)	26.24	27.93	32.60	38.24	40.75
	(43.94)	(47.62)	(50.49)	(56.39)	(54.88)
School enrollment	504.24	516.45	537.20	543.12	539.37
	(435.14)	(435.40)	(493.47)	(553.46)	(538.17)
District characteristics					
District enrollment	8993.00	9044.00	9252.00	7796.00	7296.00
	(219457.59)	(251291.59)	(229467.24)	(226248.80)	(231755.99)
District minority students (%)	25.99	28.01	30.07	34.72	37.19
	(42.30)	(44.69)	(45.42)	(52.43)	(48.36)

Note. Sample sizes vary by variable due to missing data patterns.

Table 10. Results from ordered logistic regressions predicting principal rated influence of entities on control over discipline policy

	(1) Teachers	(2) Principal	(3) Boards	(4) State
Mandatory expulsion for any offense	0.219**	0.078	0.243**	0.112
	(0.076)	(0.083)	(0.075)	(0.079)
District time-varying controls	X	X	X	X
State fixed-effects	X	X	X	X
Year fixed-effects	X	X	X	X
Observations	42,380	42,380	42,380	42,380

Note. Standard errors in parentheses
** $p<0.01$, * $p<0.05$

Table 11. Results from ordered logistic regressions predicting principal rated influence of entities on control over discipline policy

	(1) Teachers	(2) Principal	(3) Boards	(4) State
Weapons	0.012	-0.087	0.116*	0.056
	(0.058)	(0.064)	(0.056)	(0.060)
Firearm	-0.023	-0.057	0.204**	0.055
	(0.065)	(0.071)	(0.063)	(0.067)
Drugs	-0.008	0.003	0.134	0.315**
	(0.085)	(0.093)	(0.083)	(0.089)
Assault	0.221**	0.129	0.031	0.209**
	(0.064)	(0.074)	(0.061)	(0.067)
Weapons	0.006	-0.095	0.113*	0.033
	(0.058)	(0.065)	(0.057)	(0.061)
Firearm	0.019	-0.037	0.219**	0.103
	(0.067)	(0.074)	(0.066)	(0.069)
Drugs	-0.080	-0.019	0.108	0.252**
	(0.089)	(0.099)	(0.086)	(0.094)
Assault	0.232**	0.130	0.056	0.199**
	(0.069)	(0.079)	(0.066)	(0.071)
District time-varying controls	X	X	X	X
State fixed-effects	X	X	X	X
Year fixed-effects	X	X	X	X
Observations	42,380	42,380	42,380	42,380

Note. Standard errors in parentheses. Horizontal dashed lines separate different regressions.

** $p<0.01$, * $p<0.05$

Table 12. Results from ordered logistic regressions predicting principal rated perceptions of problem behaviors in schools

	(1) Weapons	(2) Drugs	(3) Alcohol	(4) Physical Conflict	(5) Disrespect	(6) Robbery	(7) Vandalism
Mandatory expulsion for any offense	0.181*	0.037	-0.142	0.071	0.019	0.164*	0.364**
	(0.082)	(0.083)	(0.082)	(0.075)	(0.071)	(0.077)	(0.081)
District time-varying controls	X	X	X	X	X	X	X
State fixed-effects	X	X	X	X	X	X	X
Year fixed-effects	X	X	X	X	X	X	X
Observations	42,380	42,380	42,380	42,380	42,380	42,380	42,380

Note. Robust standard errors in parentheses

** $p<0.01$, * $p<0.05$

Table 13. Results from ordered logistic regressions predicting principal rated perceptions of problem behaviors in schools

	(1) Weapons	(2) Drugs	(3) Alcohol	(4) Physical Conflict	(5) Disrespect	(6) Robbery	(7) Vandalism
Weapons	0.120	0.033	-0.032	0.060	0.006	0.048	0.105
	(0.062)	(0.061)	(0.060)	(0.057)	(0.055)	(0.057)	(0.058)
Firearm	0.173*	0.078	0.007	0.057	0.024	0.033	0.167*
	(0.070)	(0.069)	(0.069)	(0.064)	(0.061)	(0.065)	(0.067)
Drugs	-0.042	0.031	0.209*	0.037	0.022	0.040	0.040
	(0.089)	(0.086)	(0.087)	(0.081)	(0.080)	(0.082)	(0.082)
Assault	-0.351**	-0.129	-0.200**	-0.145*	-0.151*	-0.047	-0.071
	(0.070)	(0.067)	(0.071)	(0.062)	(0.061)	(0.062)	(0.063)
Weapons	0.135*	0.033	-0.043	0.063	0.010	0.048	0.109
	(0.062)	(0.061)	(0.061)	(0.058)	(0.055)	(0.058)	(0.058)
Firearm	0.108	0.059	-0.025	0.031	-0.005	0.026	0.161*
	(0.074)	(0.072)	(0.071)	(0.067)	(0.064)	(0.068)	(0.070)
Drugs	0.040	0.077	0.303**	0.072	0.067	0.047	0.044
	(0.095)	(0.090)	(0.093)	(0.085)	(0.084)	(0.087)	(0.087)
Assault	-0.342**	-0.130	-0.238**	-0.149*	-0.159*	-0.049	-0.051
	(0.076)	(0.072)	(0.076)	(0.066)	(0.066)	(0.066)	(0.068)
District time-varying controls	X	X	X	X	X	X	X
State fixed-effects	X	X	X	X	X	X	X
Year fixed-effects	X	X	X	X	X	X	X
Observations	42,380	42,380	42,380	42,380	42,380	42,380	42,380

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

Table 14. Coefficients and standard errors from district fixed effects regressions predicting district dropout rates for grade 12 for a consistent sample from mandatory expulsion

	(1)	(2)	(3)	(4)	(5)
Mandatory expulsion for any offense	0.002*	-0.000	0.008**	-0.001	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
District controls		X	X	X	X
Year fixed effects			X	X	X
State fixed effects				X	
District fixed effects					X
Observations	77,047	77,047	77,047	77,047	77,047
R-squared	0.001	0.046	0.049	0.108	0.007
Number of districts					10,533

Note. Standard errors clustered by district
** $p<0.01$, * $p<0.05$

Table 15. Coefficients and standard errors from district fixed effects regressions predicting district dropout rates by grade for a consistent sample from mandatory expulsion

	Grade Level					
	7th	8th	9th	10th	11th	12th
	(1)	(2)	(3)	(4)	(5)	(6)
Mandatory expulsion for any offense	-0.000	0.000	0.000	-0.001	-0.002	-0.002*
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
District controls	X	X	X	X	X	X
Year fixed effects	X	X	X	X	X	X
District fixed effects	X	X	X	X	X	X
Observations	77,047	77,047	77,047	77,047	77,047	77,047
R-squared	0.002	0.004	0.023	0.023	0.015	0.007
Number of districts	10,533	10,533	10,533	10,533	10,533	10,533

Note. Standard errors clustered by district

** $p<0.01$, * $p<0.05$

Table 16. Coefficients and standard errors from state fixed effects regressions predicting district dropout rates by grade for a consistent sample from mandatory expulsion

	Grade Level					
	7th	8th	9th	10th	11th	12th
	(1)	(2)	(3)	(4)	(5)	(6)
Mandatory expulsion for any offense	0.000	0.001	0.001	0.001	0.000	-0.001
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
District controls	X	X	X	X	X	X
Year fixed effects	X	X	X	X	X	X
State fixed effects	X	X	X	X	X	X
Observations	77,047	77,047	77,047	77,047	77,047	77,047
R-squared	0.075	0.094	0.250	0.200	0.149	0.108

Note. Standard errors clustered by district
** $p<0.01$, * $p<0.05$

Table 17. Coefficients and standard errors from district fixed effects regressions predicting district dropout rates by grade for the maximum sample per grade from mandatory expulsion

	Grade Level					
	7th	8th	9th	10th	11th	12th
	(1)	(2)	(3)	(4)	(5)	(6)
Mandatory expulsion for any offense	0.000	0.000	0.000	-0.001	-0.002**	-0.003**
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
District controls	X	X	X	X	X	X
Year fixed effects	X	X	X	X	X	X
District fixed effects	X	X	X	X	X	X
Observations	93,517	94,304	89,618	90,826	91,547	91,894
R-squared	0.001	0.002	0.017	0.019	0.016	0.006
Number of districts	13,043	13,045	11,809	11,774	11,757	11,718

Note. Standard errors clustered by district
** $p<0.01$, * $p<0.05$

Table 18. Coefficients and standard errors from state fixed effects regressions predicting district dropout rates by grade for the maximum sample per grade from mandatory expulsion

	Grade Level					
	7th	8th	9th	10th	11th	12th
	(1)	(2)	(3)	(4)	(5)	(6)
Mandatory expulsion for any offense	0.001	0.001*	0.001*	0.002*	0.001	-0.000
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
District controls	X	X	X	X	X	X
Year fixed effects	X	X	X	X	X	X
State fixed effects	X	X	X	X	X	X
Observations	93,517	94,304	89,618	90,826	91,547	91,894
R-squared	0.060	0.073	0.197	0.167	0.137	0.109

Note. Standard errors clustered by district
** $p<0.01$, * $p<0.05$

Appendix A:

Table A1. Results from regressions predicting number of suspensions per district per year

	Proportion of Students Suspended									
	(1)	Odds Ratio	(2)	Odds Ratio	(3)	Odds Ratio	(4)	Odds Ratio	(5)	Odds Ratio
Mandated expulsion for any offense	0.226**	1.253	0.128**	1.137	0.127**	1.135	0.137**	1.147	0.093**	1.098
	(0.014)		(0.013)		(0.013)		(0.023)		(0.022)	
District controls			X		X		X		X	
State fixed-effects					X				X	
Year fixed-effects							X		X	
Observations	36,650		36,650		36,650		36,650		36,650	

Note. Standard errors clustered by district to account for serial correlation
** $p<0.01$, * $p<0.05$

Table A2. Regression coefficients and standard errors for fixed-effects models predicting proportion of students suspended overall and by race from presence of any state mandated expulsion law

	(1)		(2)		(3)		(4)		(5)	
Proportion of students in category suspended:	Total	Odds Ratio	White	Odds Ratio	Black	Odds Ratio	Hispanic	Odds Ratio	Asian	Odds Ratio
Mandatory expulsion for any offense	0.093**	1.098	0.068**	1.071	0.105**	1.111	0.117**	1.124	-0.031	0.969
	(0.022)		(0.024)		(0.033)		(0.039)		(0.069)	
District control variables	X		X		X		X		X	
State fixed-effects	X		X		X		X		X	
Year fixed-effects	X		X		X		X		X	
Observations	36,650		36,650		36,650		36,650		36,650	

Notes. Standard errors in parentheses clustered by district to account for serial correlation.
** $p<0.01$, * $p<0.05$

Table A3. Regression coefficients and standard errors for fixed-effects models predicting proportion of students suspended overall and by race from presence of any state mandated expulsion law with district race interactions

	(1)		(2)		(3)		(4)		(5)	
Proportion of students in category suspended:	Total	Odds Ratio	White	Odds Ratio	Black	Odds Ratio	Hispanic	Odds Ratio	Asian	Odds Ratio
Mandatory expulsion for any offense	0.128**	1.137	0.098**	1.103	0.103**	1.108	0.122**	1.130	-0.036	0.964
	(0.025)		(0.026)		(0.039)		(0.047)		(0.080)	
Mandatory expulsion for any offense * Proportion Black	-0.048	0.953	-0.129	0.879	0.091	1.096	0.212	1.236	0.224	1.251
	(0.072)		(0.077)		(0.084)		(0.128)		(0.300)	
Mandatory expulsion for any offense * Proportion Hispanic	-0.397**	0.673	-0.174	0.841	-0.160	0.852	-0.416**	0.660	-0.373	0.689
	(0.094)		(0.097)		(0.143)		(0.116)		(0.224)	
Proportion Black	1.743**	5.714	1.020**	2.772	1.148**	3.152	0.531**	1.700	0.733*	2.081
	(0.081)		(0.085)		(0.091)		(0.137)		(0.308)	
Proportion Hispanic	0.889**	2.432	0.494**	1.638	0.730**	2.076	0.816**	2.262	0.673**	1.960
	(0.101)		(0.103)		(0.148)		(0.120)		(0.221)	
District control variables	X		X		X		X		X	
State fixed-effects	X		X		X		X		X	
Year fixed-effects	X		X		X		X		X	
Observations	36,650		36,650		36,650		36,650		36,650	

Notes. Standard errors in parentheses clustered by district to account for serial correlation.

** $p<0.01$, * $p<0.05$

Table A4. Regression coefficients and standard errors for fixed-effects models predicting proportion of students suspended overall and by race from presence of any state mandated expulsion law and superintendent discretion

	(1)		(2)		(3)		(4)		(5)	
Proportion of students in category suspended:	Total	Odds Ratio	White	Odds Ratio	Black	Odds Ratio	Hispanic	Odds Ratio	Asian	Odds Ratio
Mandatory expulsion for any offense	0.084**	1.088	0.094**	1.099	0.093*	1.098	0.140**	1.150	-0.000	1.000
	(0.028)		(0.030)		(0.040)		(0.053)		(0.117)	
Superintendent discretion	0.015	1.015	-0.040	0.961	0.019	1.019	-0.035	0.966	-0.045	0.956
	(0.028)		(0.029)		(0.039)		(0.050)		(0.110)	
District control variables	X		X		X		X		X	
State fixed-effects	X		X		X		X		X	
Year fixed-effects	X		X		X		X		X	
Observations	36,650		36,650		36,650		36,650		36,650	

Notes. Standard errors in parentheses clustered by district to account for serial correlation.
** $p<0.01$, * $p<0.05$

Table A5. Regression coefficients and standard errors for fixed-effects models predicting proportion of students suspended overall and by race from disaggregated state mandatory expulsion laws

	(1)		(2)		(3)		(4)		(5)	
Proportion of students in category suspended:	Total	Odds Ratio	White	Odds Ratio	Black	Odds Ratio	Hispanic	Odds Ratio	Asian	Odds Ratio
Weapons	0.057**	1.058	0.041*	1.042	0.031	1.031	0.116**	1.123	-0.088	0.916
	(0.019)		(0.020)		(0.031)		(0.041)		(0.070)	
Firearms	-0.045*	0.956	-0.068**	0.934	-0.021	0.979	-0.068	0.934	-0.065	0.937
	(0.021)		(0.022)		(0.033)		(0.041)		(0.072)	
Drugs	-0.035	0.966	-0.026	0.975	-0.020	0.980	0.015	1.015	-0.033	0.968
	(0.035)		(0.036)		(0.049)		(0.063)		(0.110)	
Assault	0.050*	1.051	0.048	1.049	0.067	1.069	0.099**	1.104	0.053	1.054
	(0.025)		(0.028)		(0.035)		(0.036)		(0.077)	
District control variables	X		X		X		X		X	
State fixed-effects	X		X		X		X		X	
Year fixed-effects	X		X		X		X		X	
Observations	36,650		36,650		36,650		36,650		36,650	

Notes. Standard errors in parentheses clustered by district to account for serial correlation.
** $p<0.01$, * $p<0.05$

Appendix B

Table B1. Coefficients and standard errors from state fixed effects regressions predicting district dropout rates by grade for a consistent sample from mandatory expulsion

	Grade Level					
	7th	8th	9th	10th	11th	12th
	(1)	(2)	(3)	(4)	(5)	(6)
Mandatory expulsion for any offense	0.034	0.054	0.014	0.024	0.012	-0.027
	(0.075)	(0.057)	(0.027)	(0.024)	(0.022)	(0.023)
District controls	X	X	X	X	X	X
Year fixed effects	X	X	X	X	X	X
State fixed effects	X	X	X	X	X	X
Observations	77,047	77,047	77,047	77,047	77,047	77,047

Note. Standard errors clustered by district
** $p<0.01$, * $p<0.05$

Table B2. Coefficients and standard errors from state fixed effects GLM regressions predicting district dropout rates by grade for the maximum sample per grade from mandatory expulsion

	Grade Level					
	7th	8th	9th	10th	11th	12th
	(1)	(2)	(3)	(4)	(5)	(6)
Mandatory expulsion for any offense	0.105	0.107	0.051	0.064**	0.033	0.003
	(0.076)	(0.056)	(0.027)	(0.023)	(0.020)	(0.021)
District controls	X	X	X	X	X	X
Year fixed effects	X	X	X	X	X	X
State fixed effects	X	X	X	X	X	X
Observations	93,517	94,304	89,618	90,826	91,547	91,894

Note. Standard errors clustered by district

** $p<0.01$, * $p<0.05$

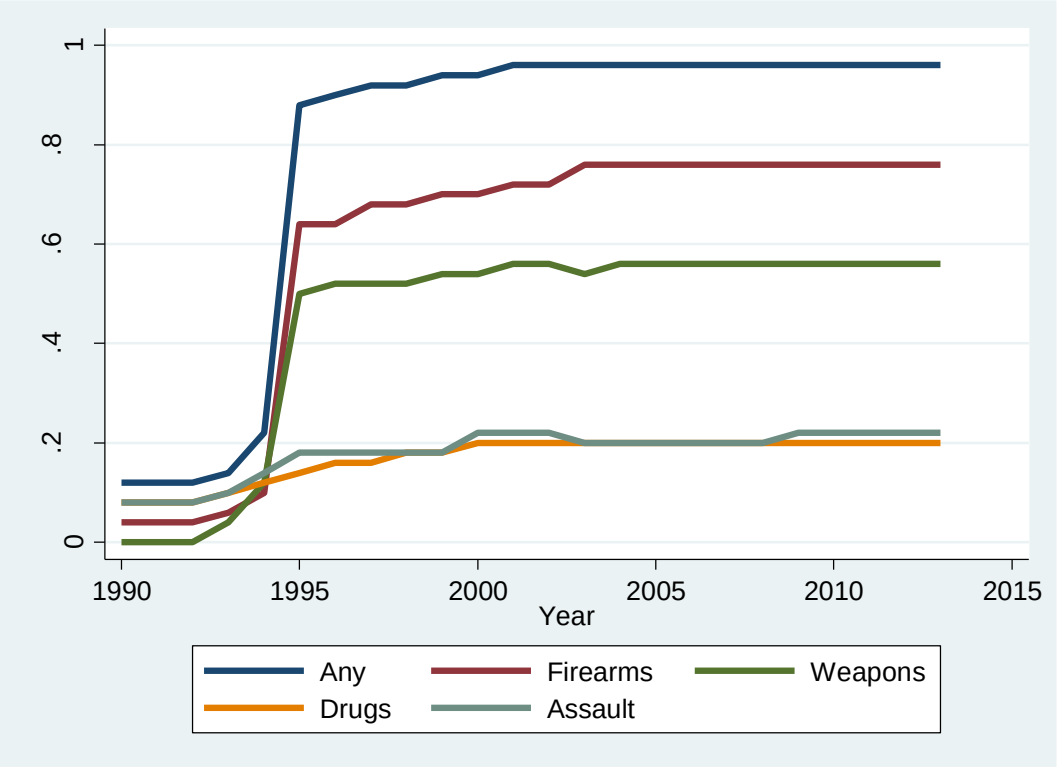

Figure 1. State adoption of mandatory expulsion laws over time

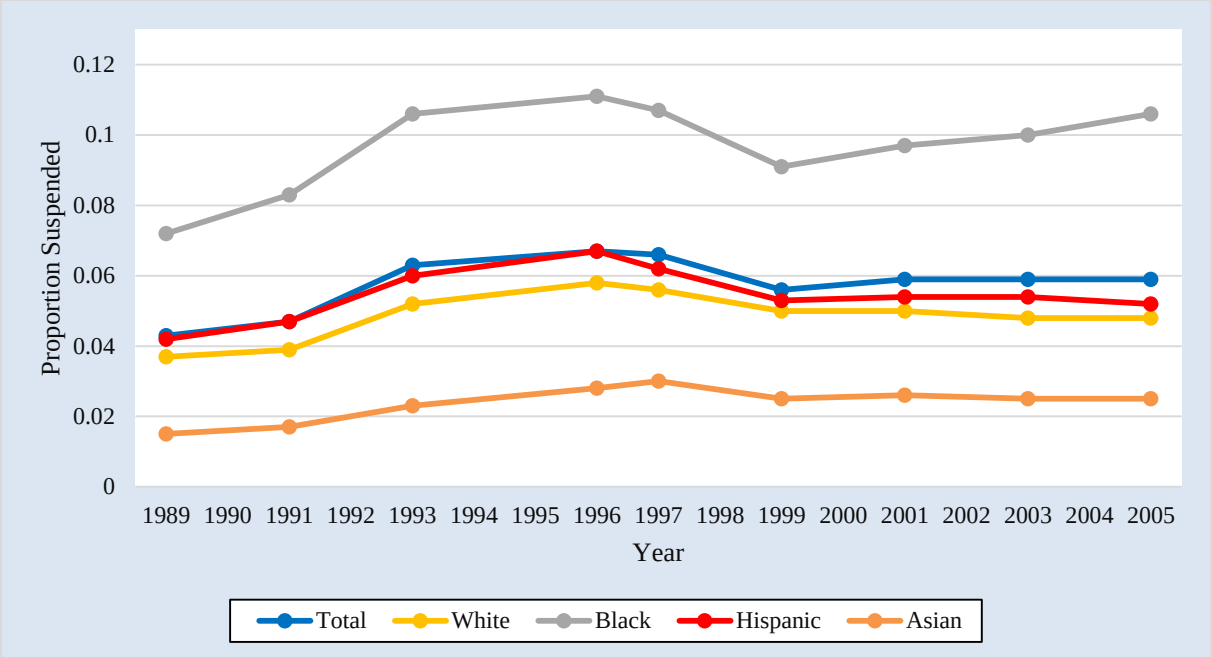

Figure 2. Proportion of students suspended per district per year overall and by race

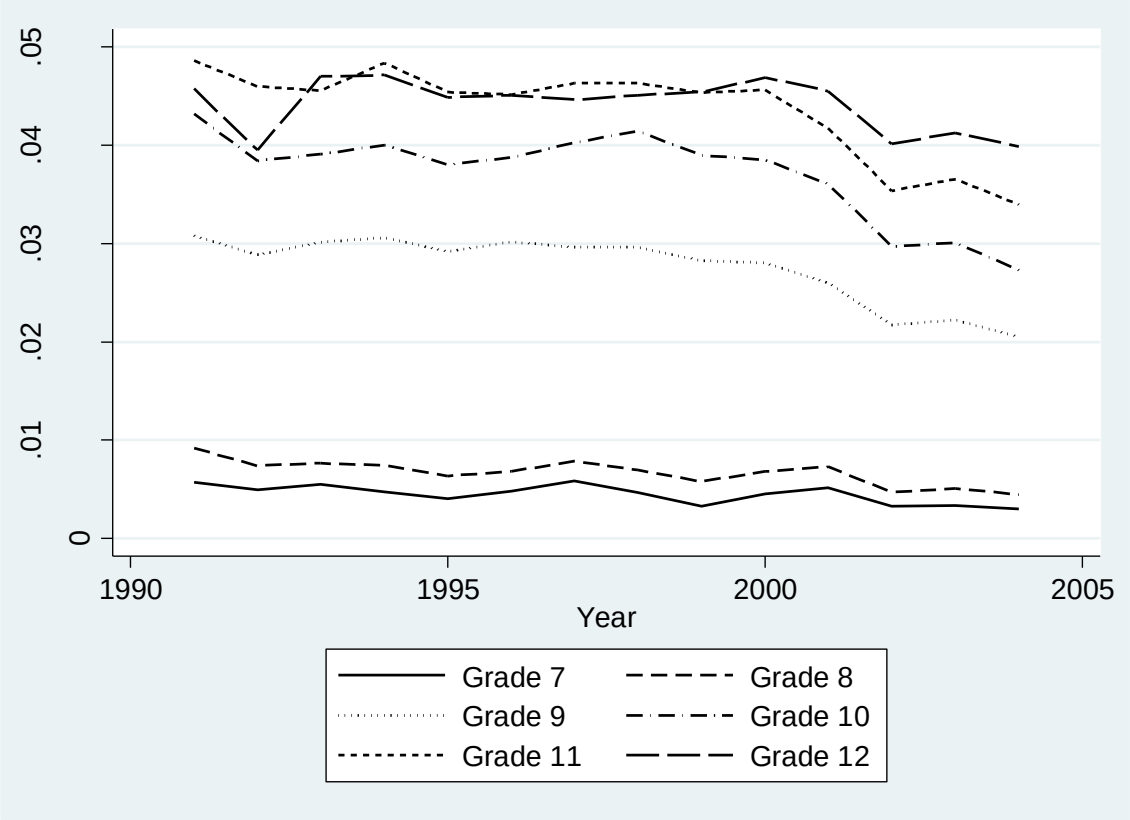

Figure 3: Dropout rates for districts over time and by grade

CHAPTER 4

ZERO TOLERANCE POLICIES: IMPLICATIONS FOR STUDENT OUTCOMES AND DISCIPLINARY EQUITY

Introduction

School safety and student discipline are a concern for a range of education stakeholders. Parents consistently cite school safety as a prominent concern when choosing schools, and teachers recognize that a safe and orderly classroom is necessary for student learning (Friedman, Bobrowski, & Geraci, 2006). While dealing with student discipline and maintaining a safe environment has always been a concern of educators, recent decades have seen changes in the approach to handling school discipline. Paralleling the increased use of harsh sentencing and "get tough" policies in the criminal justice system, schools have shifted towards zero tolerance policies and increased use of exclusionary disciplinary methods such as suspension (Heaviside, Rowand, Williams, & Farris, 1998).

Originating in the Gun-Free Schools Act of 1994 and responding to nationally prominent events such as the school shooting at Columbine, the use of zero tolerance policies gained traction in the 1990s (Richards, 2004). Recently, however, the use of these policies and related exclusionary disciplinary measures have come under criticism (U.S. Department of Justice & U.S. Department of Education, 2014). Anecdotally, stories of extreme uses of zero tolerance policies, such as a school suspending a child for bringing an apple peeler to the lunch room or categorizing a nail file as a weapon, have prompted responses from parents, policymakers, and researchers (Bobic, 2014; Ayers, Dohrn, & Ayers, 2001). Additionally, criticism of zero tolerance policies have been

bolstered by mounting evidence suggesting that exclusionary disciplinary policies such as suspension and expulsion are associated with negative student outcomes (Arcia, 2006; Costenbader, & Markson, 1998; Hemphill et al., 2006). Finally, the documentation of the disproportionate use of exclusionary discipline for minority youth has introduced concerns around racial equity into the discussion (Rafaelle-Mendez, 2013; Rocque, 2010; Rocque & Paternoster, 2011; Skiba et al., 2002).

Despite the increased attention to zero tolerance, little empirical research has directly examined this approach to discipline. A review by a task force of the American Psychological Association (American Psychological Association Zero Tolerance Task Force, 2008) noted that as of 2008 there were no studies that specifically examined zero tolerance discipline policies. While the evidence demonstrates the negative outcomes of exclusionary discipline in general (Arcia, 2006; Costenbader, & Markson, 1998; Balfanz, Byrnes, & Fox, 2015), little research has examined its use in the context of zero tolerance policies. Consequently, it is important to extend the literature to specifically examine this form of discipline.

The purpose of this study is to expand upon the current literature by exploring the relationship between zero tolerance type disciplinary policies and a range of student outcomes for a nationally representative sample of students. I address the following research questions:

3-1) What is the relationship between zero tolerance approaches to discipline and student outcomes including misbehavior, suspension, academic achievement, attendance, dropout, and interactions with the criminal justice system?

3-2) Do these relationships vary for zero tolerance disciplinary approaches that are applied to major offenses (weapons, drugs, violence, etc.) versus the application of these approaches to minor offenses (disrespect, skipping class, profanity, etc.)?

3-3) Are the aforementioned relationships moderated by student race?

Existing research (Hoffman, 2014) tends to examine the impact of zero tolerance type disciplinary policies on the outcome of exclusionary discipline (suspensions and expulsions). Suspensions and expulsions are among the most common components of zero tolerance approaches to discipline and, consequently, might be expected to rise even if this approach to discipline was decreasing overall misbehavior. By considering measures of misbehavior and suspensions/expulsions separately, the current study can begin to provide evidence for whether or not zero tolerance type policies are achieving the goal of decreased student misbehavior, even if doing so requires an increase in the use of suspensions and expulsions.

Current media and policy discussions around school discipline often frame a number of policies as zero tolerance (Stucki, 2014; Kamenetz, 2014). Such categorization of policies as zero tolerance represents a shift from the initial laws that focused on guns and weapons and dictated mandatory expulsions (Richards, 2004). My second research question addresses this distinction by exploring the impact of zero tolerance type discipline for major (guns, weapons, violence, drugs, etc.) and minor (profanity, skipping class, cheating, etc.) offenses.

The final research question addresses issues of racial equity in discipline. Prior research suggests that minorities are disproportionately affected by exclusionary

discipline (Rocque & Paternoster, 2011; Rafaelle-Mendez, 2013) and that zero tolerance policies may contribute to such disproportionate discipline (Hoffman, 2014). Consequently, there exists a strong impetus to explore these relationships further, and, in doing so, my work contributes to a further understanding of potential inequities in student discipline.

While some of these outcomes have been addressed in previous work, such as Matjasko's (2011) study of criminal outcomes or Hoffman's (2014) examination of implications of zero tolerance for racial equity on exclusionary discipline, this study is the first to examine a broad set of outcomes using nationally representative data. In doing so, the proposed study seeks to demonstrate the fuller implications of such policies and allows for a richer understanding of zero tolerance disciplinary policy.

Theoretical Framework

Zero tolerance discipline relies on the theoretical framework of deterrence theory, a subset of rational choice theory. Deterrence theory holds that punishments, or the threat thereof, will serve to deter rational actors from engaging in misconduct. The more certain and severe the punishment, the less likely the actor is to engage in the behavior (Beccaria, 1764/1983; Bentham 1776/1967). In the case of zero tolerance school discipline, the mandatory nature of the punishment represents the certainty while the attachment of suspension or expulsion ensures severity of punishment.

Over the last several decades, deterrence theory has experienced a resurgence in the criminological literature (Becker, 1974). James Q. Wilson (1975) argued for forceful responses to crime in order to deter individuals from choosing to commit criminal acts.

Concurrently, the American criminal justice system increased the use of incarceration and various "get tough" policies on drugs and other offenses (e.g., Spelman, 2000).

While the body of research on zero tolerance discipline in education is underdeveloped, a large body of research from criminology suggests that the underlying concept of deterrence theory may be flawed. The majority of studies suggest that increased incarceration has had no appreciable effect on crime rates (Marvell & Moody, 1995; Spelman, 2000; Currie, 1998; Lynch, 1999). This lack of relationship holds true for even serious crimes such as those involving guns (Marvell & Moody, 1995). Furthermore, research suggests that not only do severe punishments such as imprisonment have no deterring effect on crime, but that, for the individuals who are punished, incarceration increases the likelihood of recidivism (Jonson, 2013). Such evidence from the criminological literature suggests that zero tolerance discipline may not be effective at improving school outcomes and may actually contribute to negative outcomes.

Literature Review

In the school context, much attention has been given to the use of severe punishments such as suspension and expulsion, collectively referred to as exclusionary discipline (U.S. Department of Education Office for Civil Rights, 2014). The term "suspension" typically refers to shorter periods (ex. less than 10 days) of exclusion from school while "expulsion" refers to longer exclusions (ex. a semester or year). Research suggests that the use of suspensions does not decrease future misbehavior (Rafaelle-Mendez, 2013) and has negative consequences for the students who are suspended. Suspension is predictive of smaller academic gains in reading (Arcia, 2006) and

increased later life anti-social behavior (Hemphill et al., 2006). Importantly, suspensions are predictive of dropping out of school (Marchbanks et al., 2015) and also predict later interactions with the juvenile justice system (Costenbader, & Markson, 1998).

Prior research on zero-tolerance policies is limited. In the mid-2000s, the American Psychological Association (APA) convened a task force whose purpose was to collect and review the evidence on school zero-tolerance policies. While their findings suggest that exclusionary discipline is not effective at reducing student misbehavior, the review noted a lack of explicit research on zero-tolerance policies.

In the one study that most directly examines the impact of zero tolerance policies, the author finds that zero tolerance policies disproportionately affect Black students (Hoffman, 2014). Hoffman explores outcomes associated with expansion of zero tolerance in an urban district. Capitalizing on an abrupt shift in district policy that mandated the use of zero tolerance, he utilizes a difference-in-differences analysis to estimate the impact on minority students. The study finds that the expansion of the zero tolerance policy resulted in a near doubling of expulsions for Black students compared to less than a 20% increase for Hispanic students and an approximately 40% increase for White students (Hoffman, 2014). These increases represent nearly 50 more Black students being recommended for expulsion per year in the district than other races despite Black students making up less than a quarter of the students in the district (Hoffman, 2014). While Hoffman's work suggests that zero tolerance policies may exacerbate racial disparities in discipline, his data draws only from a single school district and is not generalizable to the broader American education system.

One limitation of many of these studies, with the exception of Hoffman's work (2014), is a lack of focus on the school level policy that prompted the use of suspension/expulsion. Instead, these studies typically focus on the impact of being suspended rather than the impact of a school policy on the likelihood of being suspended. Furthermore, these studies fail to explore the extent to which school disciplinary policies influence overall school misbehavior levels. It could be the case that the use of suspensions and expulsions has a negative impact on the students who are punished but that the threat of such punishment has a deterring effect on student misbehavior overall. If such a deterrent effect decreased school misbehavior substantially, it could potentially offset the negative effects of suspension on students who violate the rules. Addressing both of these gaps in the literature, this study utilizes nationally representative data and focuses on principals' reported approaches to discipline.

Data

The data utilized for this study were drawn from the National Education Longitudinal Study of 1988 (NELS). The NELS dataset represents a nationally representative cohort of eighth grade students who were first surveyed in the spring of 1988. The participants were subsequently surveyed in a series of four follow-up surveys as follows: 10^{th} grade (1990), 12^{th} grade (1992), two years post expected high school graduation (1994) and eight years post expected high school graduation (2000). The NELS study consisted of questionaries' for students, parents, teachers, and school administrators. Achievement tests in reading, mathematics, social studies, and science were administered at each of the three school age waves (8^{th}, 10^{th}, and 12^{th} grades).

For several reasons, NELS represents a unique and appropriate dataset to explore the relationship between zero tolerance policies and student outcomes. First, the school administrator questionnaires in both 8th and 10th grade include questions that probe disciplinary decisions for various offenses. While not explicitly a measure of zero tolerance policies, the responses to these questions provide a proxy for zero tolerance approaches to discipline and represent a far more robust measure of approaches to discipline than is available in other comparable datasets. For instance, reviews of the more recent High School Longitudinal Study of 2009, Education Longitudinal Study of 2002, and others revealed no questions related to approaches to discipline. Ironically, even topical surveys such as the School Survey on Crime and Safety do not provide measures of zero tolerance or comparable measures of approaches to discipline. The one nationally representative survey that included questions pertaining to zero tolerance was the Principal/School Disciplinarian Survey on School Violence of 1996/97; however, this dataset is cross-sectional in nature and does not include student level data.

The second benefit of the use of the NELS data is the availability of variation in approaches to discipline. As of 1997, nearly 90% of schools implemented a form of zero tolerance for serious offenses (Heaviside, Rowand, Williams, & Farris, 1998). Collected in the late 80s and early 90s, the NELS data predates federal legislation on zero tolerance and the accompanying surge in the adoption of zero tolerance policies. As a result, this data provides more variation in approaches to discipline and may consequently be better suited than newer data to address the questions of interest.

Zero Tolerance Measures

As previously mentioned, school administrators of the 8th and 10th grades responded to questions inquiring about the approach to discipline for thirteen different offenses. For each offense, the administrator chose the typical disciplinary procedure for the first occurrence and for repeat occurrences. Possible responses in 8th grade were "no action/warning", "minor action", "suspension", and "expulsion". In the 10th grade questionnaire, possible responses were "no action", "detention", "in-school suspension", "out of school suspension", "transferred to another school", and "expulsion". For the sake of consistency across grades, I recoded the 10th grade responses such that "no action" corresponded to "no action/warning", "detention" corresponded to "minor action", "ISS" and "suspension" corresponded to "suspension", "expulsion" corresponded to "expulsion", and "transferred from school" was dropped. Given the lack of background controls available for the 8th grade year, I focus on the experience of 10th graders, controlling for their baseline characteristics in 8th grade.

Table 1 shows each of the offenses that administrators responded to along with the respective means for their responses to the first and repeat offenses. The means represent a Likert scale in which 0 represents "no action/warning" and 3 represents "expulsion". While the magnitude of the means is not directly interpretable, higher values represent a disciplinary response that is more severe. As expected, administrators reported disciplinary responses that were more severe for repeat offenses than for the first offense. The most severe disciplinary responses were associated with injuring a teacher followed by weapon and drug offenses. The least severe disciplinary responses were associated with cheating, disturbing class, and the use of profanity.

From these continuous measures of administrator response to a behavioral infraction, I created binary indicators representing whether or not an administrator utilized a form of exclusionary discipline (suspension or expulsion). Table 2 shows the proportion of students in schools with administrators using suspensions and expulsions for each offense type. As expected, principals consistently utilized exclusionary discipline at a significantly higher rate for repeat offenses than for first offenses and utilized expulsions more for repeat offenses than for the first offense. Almost all principals reported utilizing exclusionary discipline on the first offense for injuring a teacher, using/possessing drugs, using/possessing alcohol, and possessing weapons. The behavior infractions least likely to result in exclusionary discipline were the use of profanity, disturbing the class, and cheating.

Given the various uses of the term "zero tolerance", I explore three different operationalizations of the term. In "Definition 1", I define zero tolerance policies as policies that are both severe (require suspension or expulsion) and consistent (implement the same response for both first time and repeat offenses). In other words, for a given behavior infraction, if the administrator reported utilizing suspension or expulsion for both the first and for repeat offenses and the administrator reported utilizing the same punishment for both first and repeat offenses then the administrator is coded as applying a "Definition 1" zero tolerance type disciplinary procedure to that offense. For example, a principal who said that he responds to a weapon infraction with a suspension on the first offense and a suspension on repeated offenses would be coded as utilizing a "Definition 1" zero tolerance approach to discipline because the response is both severe and consistent across offenses. In contrast, a principal who reports utilizing detention for

both first and repeat offenses would not be coded as utilizing a "Definition 1" zero tolerance approach to discipline because the response is not severe, despite being consistent across repeat offenses. Additionally, a principal who reports utilizing suspension for a first offense and expulsion for a second offense would not be coded as using a "Definition 1" zero tolerance approach to discipline because the response is not consistent across repeat offenses, despite being severe.

In my second operationalization of zero tolerance or "Definition 2", I define a zero tolerance policy as one that aligns with the US Department of Education's Office of Civil Right's definition which states that a zero tolerance policy is "a policy that results in mandatory expulsion of any student who commits one or more specified offenses (for example, offenses involving guns, or other weapons, or violence, or similar factors, or combinations of these factors)" (Office of Civil Rights, 2014). Following this definition, I code a "Definition 2" zero tolerance policy as one in which the administrator reports utilizing expulsion for both the first and repeat offenses of a given behavioral infraction. Unlike "Definition 1" which categorizes as zero tolerance cases where an administrator reports suspending a student for the first and repeat instances of a given infraction, "Definition 2" would not count such a response as zero tolerance.

In my third and final operationalization of zero tolerance or "Definition 3", I drop the requirement that zero tolerance discipline be consistent across first and repeat offenses and only require that the response be severe (utilize suspension or expulsion). Under this definition, an administrator that reports suspending a student for their first offense and expelling the student for a repeat offense would be considered zero tolerance.

Table 3 shows the proportion of students in schools with zero tolerance approaches to discipline for each behavior infraction and for each definition of zero tolerance. As shown, administrators report the lowest level of zero tolerance response under Definition 2, which requires expulsion for both first and repeat offenses. In contrast, administrators report the greatest use of zero tolerance discipline under Definition 3, which only required that the response be severe (use exclusionary discipline). The behavior infractions that were most likely to elicit a zero tolerance type response were injuring a teacher, possessing a weapon, and drug offenses. Cheating, disturbing class, and the use of profanity were the least likely offenses to elicit a zero tolerance type response.

In addition to the three definitions of zero tolerance, I utilize three different approaches to creating the independent variable of interest. In the first approach, I summed the binary zero tolerance variables for each offense creating a continuous measure of zero tolerance ranging from 0 to 13. This continuous zero tolerance measure can be interpreted as the number of behavior infractions for which a zero tolerance type approach to discipline is applied. On average, students went to schools in which seven of the thirteen offenses were dealt with in "Definition 1" zero tolerance manners, 3 offenses were dealt with in "Definition 2" zero tolerance manners, and 11 offenses were dealt with in "Definition 3" zero tolerance manners.

In my second approach to creating the independent variable, I factor analyzed the thirteen indicators of zero tolerance discipline for each definition to create a factor analyzed variable representing the school's zero tolerance discipline. Figures 1-3 show Scree plots of the associated eigenvalues for the factors that emerged. For all three

definitions, only one factor emerged with an eigenvalue above one. As shown, the Scree plots for Definitions 1 and 2 clearly showed a single factor while the Scree plot for Definition 3 suggested a possible second factor. In each case, however, I generated a single variable representing the latent factor for each definition of zero tolerance.

My final approach to creating independent variables of zero tolerance involved focusing on individual offenses. In this case, I retained the binary indicator of zero tolerance for each of the three definitions for a select group of behavioral offenses including weapons, drug possession, drug use, and physical assaults. These offenses were isolated due to their potential use in an instrumental variables model which potentially yields more convincing casual estimates.

In addition to creating these three measures of zero tolerance, I also created measures representing the number of major and minor behavior infractions for which administrators applied a zero tolerance approach to discipline. Offenses categorized as minor included cheating, verbal abuse, theft, disturbing class, and profanity. Offenses categorized as major included injuring a student, possessing alcohol, possessing drugs, possessing weapons, using alcohol, using drugs, smoking, and injuring a teacher. As a result, the continuous measure of zero tolerance for minor offenses ranges from 0 to 5 while the continuous measure of zero tolerance for major offenses ranges from 0 to 8. Again, each of these measures can be interpreted as the number of major or minor behavior infractions for which a zero tolerance approach to discipline is applied. As expected, administrators report utilizing zero tolerance approaches to discipline for more than twice as many (5) major offenses than minor offenses (2).

Student Demographic and Background Controls

The students sampled by NELS represent United States 8th graders in 1988. As shown in Table 4, the sample consists of an even number of males and females. The percentage of Black students (13%) is consistent with contemporary percentages while the percentage of Hispanic students (10%) has likely increased since the NELS sample. The student demographic and background variables shown in Table 4 represent those utilized as background controls in subsequent regression analyses.

School Characteristics

The NELS data set provides a rich set of school level variables. Table 5 shows school level variables included in my analysis. Specifically, school level variables include measures of school wide characteristics such as the percentage of students eligible for free and reduced price lunch, the percentage of minority students, the percentage of students receiving remedial instruction, socio-economic status composite (father/mother education, occupation, and income), the percentage of students with limited English proficiency, and the percentage of White teachers.

Outcome Measures

This study explores the relationship between zero tolerance discipline and a number of student outcomes. The first outcome of interest consists of severe disciplinary procedures (suspension). Given that such severe disciplinary tools are associated with the zero tolerance approach to discipline, the study of these outcomes is somewhat mechanical. As a result, a second set of outcomes represents other measures of student misbehavior such as “getting in trouble”, “skipping class”, “being late to class”, and “getting in a fight” that are not built into the zero tolerance approach to discipline in the

same manner as suspensions. In addition, I examine student achievement scores in reading, math, science, and history as well as indicators of dropping out and absences.

Table 6 shows means and standard deviations of each of the outcome variables. On average, students in the sample were suspended less than one fifth of a time per year and placed on in-school suspension less than one-third of a time per year. Being arrested was a very rare event.

Methods

To examine the relationship between zero tolerance policies and student outcomes, I utilize ordinary least squares regression (OLS) models that take the following general form:

$$1)\ Outcome_i = \alpha_1 + \beta_1 Zero\_Tol_{F1} + \beta_2 Child_i + \beta_3 Fam_i + \beta_4 School_{iF1} + \beta_5 Ach_{iBY} + \beta_6 Behavior_{iBY} + e_{iK}$$

Where $Outcome_i$ is the outcome of interest for child i measured in the first follow-up (10^{th} grade). $Zero\_Tol_{iF1}$ is a measure of school zero tolerance at the first follow-up (F1) or 10^{th} grade year. I run separate models for each of the three definitions of zero tolerance discipline and for each of the three approaches to modeling the independent variable. Specifically, for each of the three definitions, I run models where $Zero\_Tol_{iF1}$ is a continuous measure of the number of offenses to which a zero tolerance approach is taken, models where $Zero\_Tol_{iF1}$ is a factor analyzed latent variable of zero tolerance, and models where $Zero\_Tol_{iF1}$ is a binary indicator of zero tolerance for specific offenses. $Child_i$ and Fam_i are sets of child background and family characteristics measured at the base year and included to control for individual differences that might correlate with school zero tolerance and student outcomes. $School_{iF1}$ is a set of school characteristics

included to control for school composition factors such as the percentage of free and reduced price lunch eligible students, and students requiring academic remediation. Ach_{iBY} represents base year (8^{th} grade) measures of student academic achievement in mathematics, reading, social studies, and science. $Behavior_{iBY}$ represents base year measures of student reported behavior including measures of the frequency with which the student was sent to the office for behavioral infractions, sent to the office for academic reasons, received an attendance warning, received a grade warning, received a behavior warning, or was involved in a fight. Finally, α_1 is a constant, and e_{iK} is a stochastic error term. For models in which the independent variable is a binary indicator of zero tolerance response to a single offense, I include continuous measures of administrator responses to other behavioral infractions to control for the disciplinary approaches to other behavioral infractions. I estimate separate models for each of the outcomes of interest.

The coefficient of interest in Equation 1 is β_1 which if modeled correctly can be interpreted as the relationship between increasing levels of zero tolerance approaches to discipline and student outcomes. The empirical strategy for reducing bias in the estimate of β_1 is to include potential confounding measures of student, family, and school characteristics in the model of the form shown in Equation 1. It is worth noting that while the inclusion of a robust set of control variables reduces the threat of omitted variable bias, the threat is not entirely eliminated. Consequently, the estimates produced through this strategy should be interpreted as adjusted correlations rather than causal estimates.

Given the concerns about omitted variable bias, I apply an instrumental variables approach to the examination of zero tolerance discipline to a subset of behavioral offenses. Given variation in state laws requiring mandatory expulsion in 1990, I utilize the presence of a state mandatory expulsion law as an instrument for whether or not an administrator reports utilizing a zero tolerance approach to discipline. This analysis is limited to examining zero tolerance approaches under the Office of Civil Right's definition or what I call "Definition 2", namely policies that mandate expulsion. Furthermore, I am only able to apply this approach to infractions for which a state law requiring mandatory expulsion existed in 1990. Consequently, I apply the instrumental variable approach to offenses of weapons, drugs, and assault. The instrumental variables approach takes the form shown in equations 2 and 3 where equation 2 represents the first stage equation predicting the use of zero tolerance from the excluded instrument of the presence of a state mandatory expulsion law and equation 3 represents the second stage equation in which the instrumented for measure of zero tolerance predicts the outcomes of interest.

2) $Zero\_Tol_{F1} = \alpha_1 + \beta_1 State\_Law_{F1} + \beta_2 Child_i + \beta_3 Fam_i + \beta_4 School_{iF1} + \beta_5 Ach_{iBY} + \beta_6 Behavior_{iBY} + \beta_7 Discipline_{iF1} + e_{iK}$

3) $Outcome_i = \alpha_1 + \beta_1 Zero\_Tol_{F1} + \beta_2 Child_i + \beta_3 Fam_i + \beta_4 School_{iF1} + \beta_5 Ach_{iBY} + \beta_6 Behavior_{iBY} + \beta_7 Discipline_{iF1} + e_{iK}$

In addition to the control variables included in equation 1, the instrumental variables approach also includes a vector $Discipline_{iF1}$ which represents the set of continuous measures of discipline for all of the behavioral infractions other than the one being instrumented for. The instrumental variable approach offers a plausibly more causal

estimate of the impact of zero tolerance discipline by removing potential sources of omitted variable bias. In particular, this approach identifies the effect of interest off variation imposed by state laws. As a result, two schools that are similar in characteristics but happen to reside in different states may employ different disciplinary consequences only as a result of the applicable state law. As a result, this approach plausibly removes potentially confounding variables at the school level.

I address my second research question, specifically whether or not the relationship between zero tolerance type discipline approaches and student outcomes varies depending on whether or not the zero tolerance approach is applied to major versus minor behavior infractions. I estimate a model that takes the following form:

4) $Outcome_i = \alpha_1 + \beta_1 Zero\_Tol\_Major_{F1} + \beta_2 Zero\_Tol\_Minor_{F1} + \beta_3 Child_i + \beta_4 Fam_i +$

$\beta_5 School_{iF1} + \beta_6 Ach_{iBY} + \beta_7 Behavior_{iBY} + e_{iK}$

This model varies from equation 1 only to the extent that it includes two continuous measures of zero tolerance, one for major behavior infractions and for minor behavior infractions. The coefficients of interest are β_1 and β_2 which, if modeled correctly, can be interpreted as the relationship between applying a zero tolerance approach to one more major or minor behavior infraction and the outcome of interest.

I then assess the degree to which student race moderates the relationship between zero tolerance discipline and student outcomes. Given that the research finds disparate rates of discipline between Black and White students (Rocque, 2010; Skiba, Michael, Nardo, & Peterson, 2002), I examine the interaction between the measures of zero tolerance discipline and the indicator for Black student race. This analysis addresses the

third research question of this study. The model estimated to address this question takes the following form:

5) $Outcome_i = \alpha_1 + \beta_1 Zero\_Tol_{F1} + \beta_2 Child_i + \beta_3 Black_i + \beta_4 Zero\_Tol_{F1} * Black_i + \beta_5 Fam_i + \beta_6 School_{iF1} + \beta_7 Ach_{iBY} + \beta_8 Behavior_{iBY} + e_{iK}$

In this model, the coefficient of interest is β_4 which, if modeled correctly, can be interpreted as the differential effect of zero tolerance discipline on student outcomes for Black students. In short, this interaction term assesses the moderating effect of being Black on the relationship between zero tolerance discipline and student outcomes, allowing for examination of racial equity in discipline.

Results

Primary Analyses

In general, I find little discernible relationship between principal reported use of zero tolerance discipline and student outcomes. This lack of significant relationship holds across each of the definitions of zero tolerance and across each of the methods of generating the independent variable.

The first method of generating the zero tolerance variable consisted of creating a continuous variable of the count of the number of offenses for which a principal utilized a zero tolerance approach to discipline. Table 7 shows results of regressions predicting each of the outcome variables for each of the three definitions of zero tolerance. The horizontal lines separate regressions for each of the three approaches to defining zero tolerance. All of the regressions include student background characteristic controls and school controls. In general, there are few significant results across outcome variables and across definitions of zero tolerance. Definition 1 predicts a significantly greater number

of arrests and Definition 3 predicts a significantly higher number of in-school suspensions; however, these results are unique to the individual definition and may be due to chance given the number of statistical tests performed.

The second method of generating the zero tolerance variable consisted of creating a factor analyzed latent variable representing zero tolerance discipline for each of the three definitions of zero tolerance. Table 8 shows results from regressions predicting each of the outcomes from the factor analyzed zero tolerance variables. As with the continuous measures of zero tolerance, I find few statistically significant relationships between the factor analyzed variables and the outcomes of interest. As with the continuous measure of zero tolerance, the factor analyzed variable for Definition 1 of zero tolerance predicts a statistically significant increase in the number of arrests; however, as before, this relationship does not hold for the other two definitions of zero tolerance.

The third approach to generating independent variables involved a focus on zero tolerance approaches to specific offenses. In this approach, the independent variable was a measure of zero tolerance discipline for the offense of weapon possession, drug possession, drug use, or physical assaults. As before, the zero tolerance approach to each offense was operationalized using each of the three definitions of zero tolerance. In addition to the student and school controls included in the first two approaches, these models also included continuous measures of disciplinary responses to the other behavioral offenses covered in the survey.

Results from regressions predicting student outcomes from each of the indicators of zero tolerance discipline for the specific offenses are shown in Tables 9 through 12.

As before, separate regressions for each definition of zero tolerance are divided by horizontal lines. As shown, results suggest that after controlling for student, school, and disciplinary responses to other offenses, the use of a zero tolerance approach to discipline for each of the disciplinary infractions under examination did not predict significant relationships with the dependent variables of interest.

Major and Minor Infractions

The second research question focused on the relationship between the use of zero tolerance discipline for major offenses or minor offenses and the student outcomes of interest. I examined this question by creating continuous measures of zero tolerance discipline applied to major and minor offenses for each of the three definitions. Regressions shown in Table 13 include both indicators and coefficients may be interpreted as changes in the dependent variable for a one unit increase in the number of major or minor behavioral infractions to which a zero tolerance approach is applied.

As in the results for zero tolerance approaches as a whole, I found few significant relationships between the use of zero tolerance discipline for major or minor offenses and the outcomes of interest. One exception was for models predicting the number of in-school suspensions from zero tolerance Definitions 1 and 3 applied to minor offenses. In both cases, these models yielded positive and statistically significant relationships.

Race Interactions

The third research question focused on the differential impact of zero tolerance discipline on student outcomes for subgroups of students. Of particular interest were Black students given prior evidence that this group of students disproportionately experiences exclusionary discipline (Rocque, 2010; Skiba, Michael, Nardo, & Peterson,

2002). Table 14 shows results of regressions predicting student outcomes from the presence of the continuous measure of zero tolerance interacted with an indicator for whether the student was Black. As in other regression results, I separate results for each definition of zero tolerance with horizontal lines. Table 15 shows results from models interacting the latent variable measure of zero tolerance discipline for each definition with the indicator for Black student. Both Table 14 and Table 15 indicate no significant interaction between the zero tolerance measures and the Black race indicator.

Student Fixed Effect Sensitivity Analysis

In addition to the primary analyses, I also explored a subset of outcomes utilizing a student fixed effects model. The NELS data includes principal survey items for both the 8th grade and the 10th grade years. Both of those years also include the outcomes of number of fights, number of absences, whether the student dropped out before the next follow-up, and subject area achievement scores. I utilized a student fixed effects model identifying the relationship between changes in the disciplinary approach experienced by a student and the outcomes of interest. This approach controls implicitly for any time-invariant characteristic of the students. Table 16 shows results of these fixed-effects regression models using the continuous measure of zero tolerance for each of the zero tolerance definitions. As in other analyses, the results generally show no consistent significant relationship between the measures of zero tolerance discipline and the outcomes of interest.

Instrumental Variables Sensitivity Analysis

In my final sensitivity analysis, I utilized an instrumental variables approach to identifying the relationship between principal reported disciplinary approaches and the

outcomes of interest. Given the non-experimental nature of this study, the goal is to reduce the potential for omitted variable bias in order to better approximate the true relationship between the key independent variable and the outcomes of interest. An instrumental variable approach allows for a closer approximation of a causal relationship by identifying the effect of interest off exogenous variation in the independent variable caused by the instrumental variable.

I utilize the presence of a state mandatory expulsion law as a source of arguably exogenous variation in principals' reported responses to behavioral infractions. At the time of the NELS survey, several states had mandatory expulsion laws for behavioral offenses including weapons, assault, and drug offenses. Table 17 shows the proportion of states with such mandatory expulsion laws. As shown, at the time of the survey, approximately 20% of states had some mandatory expulsion law on the books. These laws required school districts to expel students who violated the designated offense. As a result, they likely influenced the disciplinary decisions made by principals. To the extent that two principals working in similar conditions varied only in their being in a state with or without such a mandatory expulsion law, the presence of such a law may be thought to be unrelated to other contributors to student outcomes. In other words, such laws may be exogenous sources of variation in principals' reported disciplinary responses.

After running a series of preliminary analyses with the instrumental variables approach, the diagnostic statistics, such as the first stage F-statistic, revealed the instruments to be most appropriate for Definition 2 of zero tolerance and for the models examining an individual behavioral offense such as weapons or drugs. This finding is unsurprising given that the second definition of zero tolerance requires expulsion, as do

the state laws used as instruments, and because the state laws are specific to individual offenses. Consequently, I show results of instrumental variable regressions in which the presence of a state mandatory expulsion law is used to instrument for the indicator of Definition 2 zero tolerance for the offenses of weapons, drug possession, drug use, and physical assaults.

Table 18 shows results of these instrumental variable models along with their associated first stage F-statistic. As shown, the F-statistics indicated that the instrument was most valid with the weapon and drug offenses. The first stage F-statistic fell under the traditional benchmark of 10 for physical assaults. The results of the instrumental variables analyses generally fall in line with those of the non-instrumented models to the extent that they predominantly find null results. A few exceptions are seen in the models estimating the relationship between Definition 2 zero tolerance for weapons and outcomes. These models suggest that zero tolerance for weapons may increase the number of absences or late/missed classes for students.

Discussion

The results of this study suggest a lack of a consistent and significant relationship between measures of zero tolerance discipline and a wide range of student outcomes. While several statistically significant results were found, they did not consistently hold across definitions of zero tolerance or across approaches to modeling the relationship between zero tolerance discipline and the student outcomes of interest. Consequently, the few significant results found may reflect artifacts of the number of statistical tests run rather than true relationships of policy interest. In this section, I review the lack of

significant findings, situate these findings within the extant literature, and speculate as to the potential reasons for the null results.

In these analyses, I explored the relationship between principal reports of zero tolerance discipline and a range of student outcomes. Given the ambiguity of the term zero tolerance, I explored three different definitions of zero tolerance in order to capture different operationalizations of the term. The first definition consisted of policies that were severe and consistent, utilizing either suspension or expulsion and using the same punishment for both first and repeat offenses. The second definition adhered to the definition of zero tolerance put forth by the US Department of Education's Office of Civil Rights, namely one that requires expulsion for both first and second offenses. The third definition captured disciplinary approaches that were severe but not necessarily consistent, namely those where the principal reported utilizing suspension or expulsion for first and repeat offenses but not necessarily the same response for both first and repeat offenses.

In addition to exploring multiple definitions, I utilized three different methodological approaches. The first was a continuous measure of the number of behaviors to which the principal reported a zero tolerance response. The second was a latent variable created from the measures of zero tolerance response to each infraction. The final approach was to focus on principal reported zero tolerance responses to individual offenses, such as bringing a weapon to school, while controlling for their disciplinary responses to other behavioral infractions. This third approach lent itself to the use of an instrumental variable approach in which I utilized the presence of a state

mandatory expulsion law as an instrument for the principals' reported approaches to discipline.

With each of these definitions and methodological approaches, I explored a variety of student outcomes including disciplinary responses (such as suspensions), behavioral outcomes (such as the number of fights), academic outcomes (such as mathematics test scores), and engagement measures (such as absences). Across definitions, methodological approaches, and outcomes, I generally find no significant relationships.

When confronted with null results, one possible explanation is that the study simply lacked the statistical power to identify relationships between key independent and dependent variables. While of concern in studies with smaller sample sizes, this concern is largely mitigated by the size (n=16,430) of my sample. A statistical power analysis revealed a detectable effect size, f^2, of 0.0004. Given an effect size of 0.085 in the first regression shown in Table 7, the sample size was appropriately powered to allow for identification of even substantively small relationships between the predictor and outcome variables.

One interpretation of these findings would be that the use of zero tolerance discipline does not significantly impact student outcomes relative to its non-use. Given the paucity of research on zero tolerance (American Psychological Association Zero Tolerance Task Force, 2008), I cannot immediately reject this conclusion; however, I argue that there are reasons to suspect this is not the case. First, the emerging body of research on zero tolerance discipline, including the second essay of this dissertation and the work by Hoffman (2014), suggests that, at the least, there is a relationship between its

use and the use of exclusionary discipline (ex. suspensions). Furthermore, such a relationship would be expected insofar as zero tolerance policies, as defined in this study, tend to include the use of suspension as part of the policy. The lack then of a significant finding for the relationship between zero tolerance and the measures of suspension or in-school suspension suggests a failure to identify what would be expected to be an existing relationship.

A second reason for suspecting that the lack of significant results does not represent a true lack of relationship comes through my analysis of the relationship between severity of discipline and student outcomes. While the literature has not examined zero tolerance policies in any detail, there is a strong body of research that suggests a negative relationship between exclusionary discipline (suspensions or expulsions) and a variety of student outcomes including dropout, and academic achievement (Arcia, 2006; Costenbader & Markson, 1998; Hemphill et al., 2006; Marchbanks, 2013). As a robustness check, I ran models (not shown) in which I predicted student outcomes from a continuous measure of severity of discipline rather than from the measures of zero tolerance. In these models, I summed principals' raw reports of disciplinary responses for each behavioral infraction in order to create a measure in which higher values represented more severe responses. As with the regression results for zero tolerance, I found no significant relationships between severity of discipline and student outcomes. Given the established nature of these relationships in the literature, this lack of finding suggests not that the use of zero tolerance policies produces different outcomes from the use of severe discipline but rather that characteristics of the data are preventing the identification of true relationships.

Given the non-intuitive null results, I explore several possible explanations for why the data may not be sensitive enough to identify true effects. The lack of significant relationships may be explained in part by discrepancies between the reported and actual approaches to discipline exercised by principals. For instance, a principal may report that she disciplines a physical fight with a suspension; however, in practice, she may exercise greater levels of discretion depending on the circumstances of the altercation or the individual student involved. This is to say that what may appear as a zero tolerance approach to discipline in her response to the survey, may, in practice, involve such discretion that it no longer appears to be a zero tolerance approach to discipline. If such discrepancies between the reported and actual approaches to discipline are not systematically misreported, then this scenario represents a case of classical measurement error. Such error results in attenuation of the estimated coefficients which could result in an increased probability of finding null results (Bound, Brown, & Mathiowetz, 2001).

A second explanation for the null results may be temporal changes in the relationship between discipline and student outcomes. The data in the NELS was collected in 1990, a period pre-dating the wide adoption of mandatory expulsion laws/policies and generally prior to the increased use of zero tolerance discipline. It is possible that the implications of experiencing a disciplinary event may have changed over time such that the impacts have become more negative. Such a temporal explanation could explain why null results are found in this study while the second essay of this dissertation finds a significant relationship between mandatory expulsion policies and student suspensions.

Another explanation for the lack of relationships may be found in the student level nature of the data and the relatively low incidence of some of the behavioral infractions. There are over 1,600 different schools represented in the 10th grade year of the NELS data such that, on average, approximately ten students appear in the sample for each school. As a result, for any given principal, the data only contains a small portion of the students in his or her school. Furthermore, out of the students in the school, only a small portion would be expected to be caught breaking the rules. While some of the infractions asked about in the NELS may occur more frequently, such as profanity or disturbing class, the majority are fairly low frequency events. For instance, less than 20% report being in a fight and over fifty percent of the sample did not report being in trouble at all during the school year. As a result, the percentage of students experiencing disciplinary sanctions is relatively low. Less than 8% of the sample reports being suspended and less than 13% reports being in in-school suspension. To the extent that a principal's approach to discipline influences student outcomes through misbehavior and the application of the disciplinary approach to the misbehaving students, the majority of the students in the sample who are not caught breaking the rules may be expected to be unaffected by the disciplinary approaches utilized by the principal. As a result, while the disciplinary approach utilized by the principal may have significant impacts on the punishments given to and the outcomes of students who are caught breaking school rules, such an impact may be washed out by null impacts on students who are not caught breaking the rules.

Finally, the null findings of this study may be partially explained by a misattributed focus on the principal as the key predictor of discipline within a school.

While principals are generally responsible for disciplinary actions such as suspension and expulsion, much autonomy for discipline may reside with teachers or vice principals. Particularly for minor offenses, teachers generally handle the choice to discipline and exercise control over the type of discipline administered. Even for more severe offenses, such as fighting or weapons, in which the principal is likely to become involved, the teacher still exercises control over whether to report the incident to the principal and may exercise control over how the case is presented to the principal and whether or not exclusionary discipline such as a suspension is recommended. For instance, one could imagine a case in which two students are observed engaging in "slap-boxing" behavior in the hallway. Whether this behavior is interpreted as playful behavior among two peers that is correctable by a verbal reprimand or whether it is interpreted as a physical fight suitable for suspension may be a decision made entirely by the observing teacher. Consequently, the relevance of the principal's approach to discipline would be conditional on the teacher's approach to discipline.

This explanation of the null findings is consistent with literature on the role of street-level bureaucrats. Lipsky (1977) utilized the term "street level bureaucrat" to refer to the public sector individuals who interact with clients on a day to day basis. In terms of school disciplinary policy, teachers represent the street level bureaucrats whose roles place them in nearly constant contact with students, the clientele of the education system. As street level bureaucrats, teachers make decisions regarding the implementation of policies passed down from higher levels of governance, such as the principal, school board, or state. The choices teachers make regarding which policies to enforce, how to enforce them, and for whom to enforce them ultimately contribute to the making of the

true, carried out public policy in the classroom (Lipsky, 1977). In the context of this study, principals' reported approaches to discipline may not align with the discipline policy implemented by their teachers. As a result, the relationship between a principal's reported approach to discipline and student outcomes may be mitigated by the implementation choices made by individual teachers.

Each of these explanation for the null results may contribute to the lack of significant findings in this study. While this study does not allow for directly testing the contribution of each of these reasons to the null findings, suggestions may be made for future research based on these findings. First, given the possibility of a mismatch between principal reports of disciplinary responses and the practiced disciplinary policy, future research should explore the degree to which principals' reported approach to discipline aligns with their practiced approaches to discipline. Exploration of administrative data on student infractions combined with a principal survey containing survey items similar to those in the SASS would allow an exploration of the degree of alignment between pronounced and practiced approaches to discipline. Secondly, given the possibility of temporal differences in the relationship between disciplinary approaches and student outcomes, future research should explore this relationship further using datasets from different time periods. Additionally, researchers may consider conducting a meta-analysis of existing research on the topic and exploring whether the timing of studies relates to the relationships found. Next, given the possibility that low incidence of misbehavior and disciplinary response may have contributed to a washing out of the effects of discipline, future research should replicate this study using a larger, administrative data set containing more students from individual schools. A larger

sample size such as this might allow for the identification of the effects on these low incident events. Finally, given the role teachers play in the implementation of discipline policy, future research should explore the extent to which teacher reported disciplinary procedures align with those of the school leader and the relative strength each has at predicting student outcomes.

Conclusion

The purpose of this study was to expand upon the current literature by exploring the relationship between zero tolerance type disciplinary policies and a range of student outcomes for a nationally representative sample of students. I explored the extent to which principal reported zero tolerance disciplinary approaches predicting student behavioral, academic, and attainment outcomes. Additionally, I explored the extent to which student race moderated this relationship and whether relationships between variables varied for minor and major offenses. I examined three different definitions of zero tolerance discipline, each representing a way the term is utilized in the literature or practice, and operationalized each of these variables in three different ways, one focusing on a continuous measure of the number of behaviors to which a zero tolerance approach is applied, another using a factor analyzed version of the zero tolerance measure, and the third focusing on individual behavioral infractions. The relationships between zero tolerance discipline and the outcomes of interest were explored through a robust set of analyses including ordinary least squares regression, student fixed-effects models, and an instrumental variable approach.

The findings of this study largely suggested null relationships between principal reported approaches to discipline and a variety of student level outcomes. Rather than

interpreting these results as suggesting that approaches to discipline do not matter, I suggest a number of possible explanations for the lack of significant findings. Specifically, I posit that the null findings may be a product of a mismatch between principal reports of disciplinary responses and the practiced disciplinary policy, may be a product of temporal differences in the relationship between disciplinary approaches and student outcomes, may be a product of the low incidence of misbehavior and disciplinary response, or may be a product of the discretion teachers utilize in implementing school discipline policy. Each of these possibilities presents avenues for future study of school discipline.

Table 1. Mean and standard deviations of principal rated responses to 1st and repeat behavioral offenses

	1st Offense	Repeat Offense
Cheating	1.31	1.86
	(0.94)	(1.05)
Injuring a Student	2.20	2.63
	(0.97)	(0.79)
Possessing Alcohol	2.23	2.65
	(0.86)	(1.03)
Possessing Drugs	2.42	2.78
	(1.16)	(0.85)
Possessing Weapons	2.66	2.91
	(0.93)	(0.52)
Using Alcohol	2.27	2.72
	(0.86)	(0.89)
Using Drugs	2.39	2.80
	(1.03)	(0.88)
Smoking	1.84	2.17
	(0.87)	(0.93)
Verbal Abuse	2.07	2.48
	(0.91)	(1.11)
Injuring Teacher	2.82	2.93
	(0.76)	(0.53)
Theft	2.21	2.58
	(0.90)	(0.91)
Disturbing Class	1.61	2.16
	(0.99)	(0.80)
Profanity	1.69	2.13
	(0.97)	(0.89)
n	16430	16430

Note. Principal rated responses range from 0 (no response) to 3 (expulsion)

Table 2. Principal reported suspension and expulsions for first and repeat offenses by offense type

	1st Offense		Repeat Offense	
	Suspension	Expulsion	Suspension	Expulsion
Cheating	0.32	0.01	0.70	0.08
	(0.84)	(0.14)	(1.08)	(0.62)
Injuring a Student	0.75	0.23	0.37	0.63
	(1.00)	(0.99)	(0.98)	(0.95)
Possessing Alcohol	0.75	0.24	0.35	0.65
	(0.85)	(0.85)	(1.02)	(1.06)
Possessing Drugs	0.57	0.43	0.22	0.77
	(1.11)	(1.11)	(0.98)	(0.99)
Possessing Weapons	0.33	0.66	0.08	0.92
	(0.87)	(0.86)	(0.53)	(0.53)
Using Alcohol	0.71	0.28	0.29	0.71
	(0.91)	(0.96)	(0.96)	(0.95)
Using Drugs	0.60	0.39	0.20	0.80
	(0.96)	(0.95)	(0.77)	(0.76)
Smoking	0.76	0.04	0.75	0.21
	(0.95)	(0.33)	(0.78)	(0.79)
Verbal Abuse	0.81	0.13	0.51	0.48
	(0.90)	(0.83)	(0.90)	(1.01)
Injuring Teacher	0.18	0.82	0.06	0.94
	(0.62)	(0.62)	(0.49)	(0.49)
Theft	0.73	0.24	0.42	0.58
	(0.77)	(0.77)	(1.03)	(0.97)
Disturbing Class	0.54	0.04	0.77	0.19
	(0.84)	(0.45)	(0.85)	(0.78)
Profanity	0.63	0.03	0.81	0.16
	(0.96)	(0.44)	(0.65)	(0.58)
n	16430	16430	16430	16430

Note. Proportions and standard deviations reported

Table 3. Proportion of students subject to zero tolerance discipline by offense and by zero tolerance definition

	Definition 1	Definition 2	Definition 3
Cheating	0.25	0.00	0.31
	(0.95)	(0.10)	(0.92)
Injuring a Student	0.53	0.20	0.97
	(1.41)	(0.88)	(0.33)
Possessing Alcohol	0.54	0.22	0.98
	(0.92)	(0.85)	(0.39)
Possessing Drugs	0.60	0.40	0.99
	(1.00)	(1.13)	(0.39)
Possessing Weapons	0.72	0.65	0.99
	(0.74)	(0.83)	(0.22)
Using Alcohol	0.53	0.26	0.99
	(0.95)	(0.86)	(0.27)
Using Drugs	0.55	0.38	0.99
	(0.90)	(0.85)	(0.29)
Smoking	0.62	0.03	0.79
	(0.99)	(0.34)	(0.83)
Verbal Abuse	0.56	0.11	0.93
	(1.00)	(0.62)	(0.58)
Injuring Teacher	0.85	0.80	1.00
	(0.71)	(0.70)	(0.09)
Theft	0.58	0.21	0.96
	(0.91)	(0.73)	(0.57)
Disturbing Class	0.44	0.03	0.57
	(0.87)	(0.33)	(0.83)
Profanity	0.53	0.02	0.66
	(0.84)	(0.27)	(0.89)
n	16430	16430	16430

Table 4. Student, family, and school background characteristics

Female	0.50
	(0.81)
Asian, Pacific Islander	0.04
	(0.25)
Hispanic	0.10
	(0.44)
Black	0.13
	(0.65)
American Indian	0.04
	(0.27)
Number of siblings	2.27
	(2.73)
Father's education (years)	13.26
	(5.17)
Mother's education (years)	12.98
	(4.96)
Student expected education attainment (years)	15.61
	(2.88)
Father expected education attainment (years)	15.88
	(3.02)
Mother expected education attainment (years)	15.94
	(3.21)
Ever repeated a grade	0.16
	(0.66)
Family size	4.63
	(2.55)
Divorced parents	0.11
	(0.58)
Married parents	0.79
	(0.76)
Limited English Proficient	0.02
	(0.23)
Sent to office for behavior	0.57
	(1.67)
Sent to office for work	0.17
	(1.01)
Received attendance warning	0.18
	(1.00)
Received grade warning	0.64
	(1.56)
Received behavior warning	0.38
	(1.59)
Got in fight	0.38
	(1.44)
Reading achievement	52.60
	(22.37)
Math achievement	52.70
	(21.84)
Science achievement	52.81
	(24.28)
History achievement	53.00
	(23.95)
n	16,430

Table 5. School background characteristics

Grades 6-12	0.09
	(0.68)
Grades 9-12	0.86
	(0.64)
Urban	0.28
	(0.79)
Suburban	0.40
	(0.79)
Minority students (percentage)	27.13
	(81.10)
Free and reduced price lunch (percentage)	21.67
	(45.93)
SES Composite	-0.01
	(1.28)
White students (percentage)	70.93
	(52.14)
Single parent students (percentage)	29.47
	(33.86)
Limited English Proficient (percentage)	6.32
	(14.59)
Remedial Math (percentage)	8.61
	(18.21)
Remedial Reading (percentage)	8.46
	(18.63)
White teachers (proportion)	0.90
	(0.28)
Public school	0.90
	(0.58)
Student teacher ratio	23.75
	(16.32)
n	16,430

Note. Means and standard deviations reported

Table 6. Means and standard deviations of outcome measures

	Mean (SD)
# Suspensions	0.17 (1.46)
# Arrests	0.08 (10.00)
# ISS	0.31 (1.70)
# In Trouble	1.32 (3.49)
# Skipped Class	1.35 (3.78)
# Late to Class	2.87 (4.90)
# Fights	0.21 (0.74)
Reading Ach	53.41 (29.38)
Math Ach	53.57 (29.11)
Science Ach	53.76 (30.81)
History Ach	53.96 (30.31)
Dropped Out	0.11 (0.62)
# Absences	4.87 (8.15)
n	16,430

Table 7. Coefficients and standard errors from regressions predicting outcomes from count of infractions with zero tolerance response by definition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	# Suspensions	# Arrests	# ISS	# In Trouble	# Skipped Class	# Late to Class	# Fights	Reading Ach	Math Ach	Science Ach	History Ach	Dropped Out	# Absences
Count of Infractions with ZT (Def 1)	0.003	0.007**	0.010	0.008	0.021	0.017	0.003	-0.107	-0.071	-0.086	-0.093	-0.002	0.033
	(0.004)	(0.003)	(0.006)	(0.009)	(0.013)	(0.015)	(0.002)	(0.094)	(0.092)	(0.098)	(0.094)	(0.002)	(0.026)
Count of Infractions with ZT (Def 2)	0.002	0.002	-0.001	-0.001	-0.007	-0.003	0.003	-0.124	-0.131	-0.105	-0.104	0.000	0.041
	(0.007)	(0.003)	(0.007)	(0.013)	(0.014)	(0.006)	(0.002)	(0.095)	(0.095)	(0.103)	(0.101)	(0.002)	(0.030)
Count of Infractions with ZT (Def 3)	0.006	0.007	0.027*	0.017	0.000	-0.014	0.007	-0.164	-0.159	-0.074	-0.169	0.003	0.015
	(0.008)	(0.004)	(0.012)	(0.019)	(0.027)	(0.034)	(0.005)	(0.198)	(0.180)	(0.201)	(0.185)	(0.004)	(0.050)
Student and School Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Observations	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430

Note. Standard errors clustered by 8th grade school. Separate regressions shown in each row.
** p<0.01, * p<0.05

Table 8. Coefficients and standard errors from regressions predicting outcomes from zero tolerance latent variables response by definition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	# Suspensions	# Arrests	# ISS	# In Trouble	# Skipped Class	# Late to Class	# Fights	Reading Ach	Math Ach	Science Ach	History Ach	Dropped Out	# Absences
Definition 1													
Latent Variable	0.009	0.023*	0.016	0.009	0.071	0.056	0.006	-0.304	-0.244	-0.362	-0.325	-0.007	0.090
	(0.015)	(0.009)	(0.019)	(0.031)	(0.040)	(0.046)	(0.007)	(0.292)	(0.289)	(0.311)	(0.312)	(0.005)	(0.081)
Definition 2													
Latent Variable	0.007	0.005	-0.003	-0.003	-0.020	-0.027	0.010	-0.375	-0.419	-0.364	-0.362	-0.000	0.118
	(0.018)	(0.010)	(0.021)	(0.038)	(0.041)	(0.051)	(0.007)	(0.283)	(0.283)	(0.309)	(0.297)	(0.005)	(0.087)
Definition 3													
Latent Variable	0.007	0.009	0.026	0.013	-0.050	-0.051	0.009	-0.347	-0.334	-0.251	-0.381	0.000	-0.063
	(0.015)	(0.007)	(0.025)	(0.044)	(0.056)	(0.069)	(0.009)	(0.462)	(0.463)	(0.462)	(0.446)	(0.008)	(0.101)
Student and School Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Observations	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430

Note. Standard errors clustered by 8th grade school. Separate regressions shown in each row.
** p<0.01, * p<0.05

Table 9. Coefficients and standard errors from regressions predicting outcomes from zero tolerance for weapons possession by definition

	(1) # Suspensions	(2) # Arrests	(3) # ISS	(4) # In Trouble	(5) # Skipped Class	(6) # Late to Class	(7) # Fights	(8) Reading Ach	(9) Math Ach	(10) Science Ach	(11) History Ach	(12) Dropped Out	(13) # Absences
ZT Weapon Poss (Def 1)	0.002	0.001	-0.050	-0.019	-0.026	-0.011	-0.013	-0.373	-0.467	-0.254	-0.409	0.005	-0.084
	(0.060)	(0.018)	(0.044)	(0.119)	(0.109)	(0.138)	(0.021)	(0.683)	(0.706)	(0.721)	(0.711)	(0.014)	(0.198)
ZT Weapon Poss (Def 2)	0.009	0.000	-0.065	-0.052	-0.053	-0.057	-0.010	-0.354	-0.447	-0.253	-0.374	0.005	-0.090
	(0.061)	(0.019)	(0.041)	(0.110)	(0.123)	(0.140)	(0.019)	(0.673)	(0.693)	(0.706)	(0.750)	(0.016)	(0.181)
ZT Weapon Poss (Def 3)	-0.002	-0.038	-0.122	0.307	0.221	0.311	-0.009	1.021	1.614	2.111	-0.242	0.003	-1.318
	(0.079)	(0.057)	(0.345)	(0.199)	(0.238)	(0.608)	(0.071)	(1.480)	(1.195)	(1.523)	(1.685)	(0.061)	(0.730)
Student and School Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Other Discipline Infraction Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Observations	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430

Note. Standard errors clustered by 8th grade school. Separate regressions shown in each row.
** p<0.01, * p<0.05

Table 10. Coefficients and standard errors from regressions predicting outcomes from zero tolerance for drug possession by definition

	(1) # Suspensions	(2) # Arrests	(3) # ISS	(4) # In Trouble	(5) # Skipped Class	(6) # Late to Class	(7) # Fights	(8) Reading Ach	(9) Math Ach	(10) Science Ach	(11) History Ach	(12) Dropped Out	(13) # Absences
ZT Drug Poss (Def 1)	-0.026	0.013	-0.034	-0.008	-0.012	-0.022	-0.014	0.489	0.479	0.171	0.484	-0.000	-0.015
	(0.037)	(0.019)	(0.047)	(0.089)	(0.115)	(0.158)	(0.020)	(0.960)	(0.959)	(1.037)	(1.079)	(0.017)	(0.218)
ZT Drug Poss (Def 2)	-0.012	-0.001	-0.056	0.048	0.030	0.000	-0.015	0.583	0.296	-0.167	0.311	0.007	0.111
	(0.051)	(0.022)	(0.051)	(0.110)	(0.127)	(0.154)	(0.024)	(1.127)	(1.172)	(1.179)	(1.243)	(0.021)	(0.287)
ZT Drug Poss (Def 3)	-0.055	-0.001	0.071	-0.304	-0.282	-0.519	-0.042	1.342	2.019	1.924	1.114	-0.000	-0.493
	(0.353)	(0.102)	(0.256)	(0.756)	(0.508)	(0.644)	(0.122)	(3.897)	(4.110)	(3.752)	(3.441)	(0.084)	(1.502)
Student and School Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Other Discipline Infraction Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Observations	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430

Note. Standard errors clustered by 8th grade school. Separate regressions shown in each row.
** p<0.01, *
p<0.05

Table 11. Coefficients and standard errors from regressions predicting outcomes from zero tolerance for drug use by definition

	(1) # Suspensions	(2) # Arrests	(3) # ISS	(4) # In Trouble	(5) # Skipped Class	(6) # Late to Class	(7) # Fights	(8) Reading Ach	(9) Math Ach	(10) Science Ach	(11) History Ach	(12) Dropped Out	(13) # Absences
ZT Drug Use (Def 1)	0.002	0.019	0.028	-0.038	-0.050	0.054	-0.011	-0.197	-0.074	0.120	-0.157	-0.029	0.011
	(0.068)	(0.027)	(0.073)	(0.181)	(0.265)	(0.244)	(0.042)	(1.004)	(1.273)	(1.213)	(1.337)	(0.029)	(0.327)
ZT Drug Use (Def 2)	-0.033	0.014	-0.010	-0.146	-0.093	0.071	-0.030	-0.478	-0.459	-0.174	-0.389	-0.033	0.160
	(0.160)	(0.038)	(0.124)	(0.343)	(0.365)	(0.406)	(0.061)	(1.971)	(2.416)	(2.317)	(2.516)	(0.037)	(0.530)
ZT Drug Use (Def 3)	0.021	0.049	0.136	0.067	-0.342	-0.204	0.067	-3.711	-3.040	-3.016	-3.931	-0.022	-1.173
	(0.136)	(0.081)	(0.245)	(0.531)	(0.738)	(0.830)	(0.100)	(4.183)	(4.580)	(4.032)	(4.011)	(0.089)	(1.150)
Student and School Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Other Discipline Infraction Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Observations	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430

Note. Standard errors clustered by 8th grade school. Separate regressions shown in each row.
** p<0.01, * p<0.05

Table 12. Coefficients and standard errors from regressions predicting outcomes from zero tolerance for assaults by definition

	(1) # Suspensions	(2) # Arrests	(3) # ISS	(4) # In Trouble	(5) # Skipped Class	(6) # Late to Class	(7) # Fights	(8) Reading Ach	(9) Math Ach	(10) Science Ach	(11) History Ach	(12) Dropped Out	(13) # Absences
ZT Assault (Def 1)	-0.002	-0.007	-0.025	-0.004	-0.042	0.012	-0.006	-0.343	-0.124	-0.109	0.077	0.001	0.023
	(0.039)	(0.016)	(0.040)	(0.063)	(0.079)	(0.108)	(0.015)	(0.541)	(0.565)	(0.573)	(0.570)	(0.010)	(0.201)
ZT Assault (Def 2)	0.000	0.007	0.010	0.031	0.092	0.189	-0.009	-0.307	0.238	0.554	0.203	0.005	0.165
	(0.047)	(0.021)	(0.053)	(0.099)	(0.122)	(0.139)	(0.022)	(0.745)	(0.729)	(0.833)	(0.812)	(0.016)	(0.245)
ZT Assault (Def 3)	0.004	0.009	0.013	0.155	-0.094	-0.119	0.051	-1.647	-1.534	-1.541	-1.649	0.003	0.160
	(0.169)	(0.062)	(0.107)	(0.376)	(0.342)	(0.488)	(0.054)	(2.472)	(2.389)	(2.127)	(2.462)	(0.033)	(0.551)
Student and School Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Other Discipline Infraction Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Observations	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430

Note. Standard errors clustered by 8th grade school. Separate regressions shown in each row.
** p<0.01, * p<0.05

Table 13. Coefficients and standard errors from regressions predicting outcomes from count of infractions with zero tolerance response for minor and major infractions by definition

	(1) # Suspensions	(2) # Arrests	(3) # ISS	(4) # In Trouble	(5) # Skipped Class	(6) # Late to Class	(7) # Fights	(8) Reading Ach	(9) Math Ach	(10) Science Ach	(11) History Ach	(12) Dropped Out	(13) # Absences
Count of Major Infractions with ZT (Def 1)	0.003	0.007	-0.006	-0.005	0.015	0.020	0.000	-0.079	-0.068	-0.132	-0.068	-0.002	0.034
	(0.009)	(0.004)	(0.008)	(0.017)	(0.018)	(0.023)	(0.003)	(0.131)	(0.134)	(0.144)	(0.151)	(0.002)	(0.042)
Count of Minor Infractions with ZT (Def 1)	0.001	0.007	0.033*	0.026	0.020	0.001	0.006	-0.123	-0.043	0.026	-0.078	-0.001	0.016
	(0.011)	(0.004)	(0.015)	(0.025)	(0.026)	(0.035)	(0.005)	(0.172)	(0.180)	(0.208)	(0.196)	(0.004)	(0.066)
Count of Major Infractions with ZT (Def 2)	0.008	0.003	-0.002	0.003	-0.021	-0.003	0.003	-0.139	-0.178	-0.141	-0.139	0.000	0.043
	(0.010)	(0.005)	(0.011)	(0.019)	(0.021)	(0.010)	(0.004)	(0.148)	(0.147)	(0.160)	(0.160)	(0.003)	(0.050)
Count of Minor Infractions with ZT (Def 2)	-0.021	-0.002	0.003	-0.015	0.048	-0.004	0.003	-0.038	0.079	0.049	0.053	0.001	0.015
	(0.024)	(0.007)	(0.026)	(0.042)	(0.059)	(0.022)	(0.010)	(0.324)	(0.377)	(0.390)	(0.356)	(0.010)	(0.148)
Count of Major Infractions with ZT (Def 3)	-0.007	0.000	-0.011	0.016	-0.121	-0.093	0.009	-0.504	-0.465	-0.438	-0.643	-0.004	-0.204
	(0.036)	(0.012)	(0.049)	(0.078)	(0.109)	(0.165)	(0.019)	(0.877)	(0.892)	(0.828)	(0.828)	(0.016)	(0.221)
Count of Minor Infractions with ZT (Def 3)	0.007	0.008	0.031**	0.016	0.021	-0.004	0.006	-0.108	-0.107	-0.020	-0.089	0.004	0.050
	(0.009)	(0.005)	(0.011)	(0.023)	(0.032)	(0.043)	(0.006)	(0.190)	(0.194)	(0.205)	(0.198)	(0.004)	(0.066)
Student and School Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Observations	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430

Note.
** p<0.01, * p<0.05

Table 14. Coefficients and standard errors from regressions predicting outcomes from count of interactions with zero tolerance response by definition interacted with indicator for Black student race

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	# Suspensions	# Arrests	# ISS	# In Trouble	# Skipped Class	# Late to Class	# Fights	Reading Ach	Math Ach	Science Ach	History Ach	Dropped Out	# Absences
Count of Infractions with ZT (Def 1)	0.003	0.008**	0.011*	0.007	0.020	0.013	0.002	-0.088	-0.042	-0.029	-0.031	-0.001	0.034
	(0.004)	(0.003)	(0.006)	(0.011)	(0.015)	(0.016)	(0.002)	(0.096)	(0.092)	(0.094)	(0.095)	(0.002)	(0.024)
Def 1 * Black	-0.001	-0.005	-0.008	0.006	0.014	0.030	0.010	-0.178	-0.268	-0.525	-0.573	-0.004	-0.011
	(0.010)	(0.005)	(0.037)	(0.035)	(0.035)	(0.070)	(0.007)	(0.300)	(0.279)	(0.336)	(0.322)	(0.006)	(0.105)
Black	-0.053	-0.028	0.086	-0.305	-0.875**	-0.402	-0.064	-1.917	-0.971	0.258	1.984	0.006	-1.517
	(0.098)	(0.045)	(0.305)	(0.311)	(0.273)	(0.610)	(0.064)	(2.628)	(2.529)	(3.051)	(2.920)	(0.054)	(0.839)
Count of Infractions with ZT (Def 2)	0.003	0.003	-0.000	-0.001	-0.000	-0.002	0.003	-0.114	-0.103	-0.071	-0.084	0.001	0.035
	(0.007)	(0.004)	(0.006)	(0.015)	(0.015)	(0.005)	(0.002)	(0.100)	(0.095)	(0.101)	(0.106)	(0.002)	(0.027)
Def 2 * Black	-0.004	-0.006	-0.007	0.000	-0.052	-0.009	-0.001	-0.088	-0.243	-0.294	-0.178	-0.002	0.056
	(0.010)	(0.005)	(0.034)	(0.033)	(0.035)	(0.023)	(0.009)	(0.344)	(0.326)	(0.369)	(0.310)	(0.006)	(0.121)
Black	-0.047	-0.044	0.046	-0.261	-0.566**	-0.025	0.014	-2.998	-2.177	-2.751	-1.823	-0.016	-1.800**
	(0.068)	(0.031)	(0.150)	(0.194)	(0.208)	(0.111)	(0.041)	(1.599)	(1.539)	(1.732)	(1.606)	(0.029)	(0.480)
Count of Infractions with ZT (Def 3)	0.005	0.007	0.027**	0.016	0.004	-0.007	0.008	-0.118	-0.106	-0.029	-0.155	0.004	0.019
	(0.008)	(0.005)	(0.010)	(0.020)	(0.027)	(0.035)	(0.004)	(0.186)	(0.181)	(0.193)	(0.182)	(0.004)	(0.052)
Def 3 * Black	0.009	0.001	-0.001	0.014	-0.036	-0.065	-0.006	-0.444	-0.495	-0.428	-0.134	-0.010	-0.038
	(0.027)	(0.009)	(0.056)	(0.060)	(0.069)	(0.118)	(0.023)	(0.611)	(0.511)	(0.681)	(0.605)	(0.013)	(0.231)
Black	-0.164	-0.074	0.030	-0.426	-0.348	0.573	0.083	1.744	2.570	1.026	-0.930	0.087	-1.165
	(0.300)	(0.107)	(0.653)	(0.670)	(0.768)	(1.409)	(0.264)	(7.094)	(6.004)	(7.904)	(6.923)	(0.148)	(2.572)
Student and School Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Observations	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430

Note.

** p<0.01, * p<0.05

Table 15. Coefficients and standard errors from regressions predicting outcomes from count of interactions with zero tolerance response by definition interacted with indicator for Black student race

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	# Suspensions	# Arrests	# ISS	# In Trouble	# Skipped Class	# Late to Class	# Fights	Reading Ach	Math Ach	Science Ach	History Ach	Dropped Out	# Absences
Definition 1 Latent Variable	0.011	0.025*	0.023	0.011	0.067	0.042	0.004	-0.235	-0.143	-0.161	-0.109	-0.007	0.091
	(0.016)	(0.010)	(0.018)	(0.036)	(0.044)	(0.053)	(0.007)	(0.304)	(0.289)	(0.297)	(0.304)	(0.005)	(0.085)
Def 1 * Black	-0.020	-0.021	-0.066	-0.027	0.041	0.143	0.017	-0.662	-0.963	-1.924	-2.076	-0.005	-0.003
	(0.032)	(0.018)	(0.121)	(0.117)	(0.100)	(0.221)	(0.024)	(0.937)	(0.884)	(1.170)	(1.106)	(0.021)	(0.309)
Black	-0.059	-0.064**	0.026	-0.259	-0.761**	-0.176	0.011	-3.275**	-3.008**	-3.718**	-2.350*	-0.026	-1.592**
	(0.060)	(0.022)	(0.074)	(0.139)	(0.137)	(0.210)	(0.028)	(1.021)	(1.007)	(1.184)	(1.120)	(0.021)	(0.291)
Definition 2 Latent Variable	0.009	0.007	-0.001	-0.003	-0.005	-0.021	0.010	-0.342	-0.337	-0.239	-0.279	0.001	0.095
	(0.020)	(0.011)	(0.019)	(0.043)	(0.043)	(0.046)	(0.007)	(0.300)	(0.287)	(0.307)	(0.310)	(0.005)	(0.078)
Def 2 * Black	-0.015	-0.014	-0.013	-0.002	-0.120	-0.052	-0.001	-0.283	-0.681	-1.035	-0.684	-0.010	0.185
	(0.030)	(0.015)	(0.099)	(0.097)	(0.095)	(0.188)	(0.024)	(0.938)	(0.891)	(1.006)	(0.852)	(0.018)	(0.341)
Black	-0.059	-0.064**	0.021	-0.261	-0.754**	-0.168	0.013	-3.318**	-3.051**	-3.789**	-2.451*	-0.025	-1.599**
	(0.060)	(0.023)	(0.073)	(0.140)	(0.141)	(0.211)	(0.028)	(1.013)	(0.998)	(1.174)	(1.111)	(0.021)	(0.291)
Definition 3 Latent Variable	0.004	0.009	0.027	0.014	-0.056	-0.038	0.011	-0.352	-0.307	-0.261	-0.432	0.001	-0.072
	(0.016)	(0.006)	(0.021)	(0.045)	(0.059)	(0.066)	(0.008)	(0.459)	(0.465)	(0.464)	(0.452)	(0.006)	(0.106)
Def 3 * Black	0.039	-0.002	-0.007	0.003	0.076	-0.166	-0.022	0.091	-0.317	0.155	0.636	-0.006	0.130
	(0.048)	(0.030)	(0.111)	(0.159)	(0.190)	(0.262)	(0.052)	(1.684)	(1.355)	(1.715)	(1.379)	(0.040)	(0.346)
Black	-0.062	-0.065**	0.021	-0.262	-0.762**	-0.164	0.012	-3.305**	-3.051**	-3.827**	-2.482*	-0.026	-1.597**
	(0.060)	(0.023)	(0.074)	(0.138)	(0.139)	(0.213)	(0.028)	(1.009)	(0.991)	(1.169)	(1.100)	(0.020)	(0.294)
Student and School Controls	X	X	X	X	X	X	X	X	X	X	X	X	X
Observations	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430	16,430

Note.

** p<0.01, * p<0.05

Table 16. Coefficients and standard errors from regression models utilizing student fixed effects

	(1) # Fights	(2) # Absences	(3) Dropped Out	(4) Reading Ach	(5) Math Ach	(6) Science Ach	(7) History Ach
Count of Infractions with ZT (Def 1)	0.002	-0.033	-0.002	-0.078	-0.068	-0.026	-0.034
	(0.003)	(0.022)	(0.002)	(0.091)	(0.084)	(0.096)	(0.090)
Count of Infractions with ZT (Def 2)	0.007	0.037	0.003	0.132	0.114	0.283**	0.217*
	(0.004)	(0.029)	(0.001)	(0.082)	(0.080)	(0.086)	(0.087)
Count of Infractions with ZT (Def 3)	0.004	-0.007	0.001	-0.028	-0.050	0.152	0.073
	(0.005)	(0.037)	(0.002)	(0.143)	(0.128)	(0.144)	(0.143)
Student Fixed Effect	X	X	X	X	X	X	X
Year Fixed Effect	X	X	X	X	X	X	X
School Controls	X	X	X	X	X	X	X
Observations	25,350	24,058	25,355	25,355	25,355	25,355	25,355
Number of Students	15,970	15,498	15,973	15,973	15,973	15,973	15,973

Note. Standard errors in parentheses are clustered at the base year school level
** p<0.01, * p<0.05

Table 17. 1990 Mandatory suspension and expulsion laws

	Proportion of States
At least one offense	0.20
Weapons	0.08
Drugs	0.10
Assault	0.10

Table 18. Results from regressions predicting outcomes for definition 2 continuous measures of zero tolerance instrumented for by mandatory expulsion state laws

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	# Suspensions	# Arrests	# ISS	# In Trouble	# Skipped Class	# Late to Class	# Fights
ZT for weapon possession (Def 2)	0.004	-0.322	-0.562	-0.338	1.197*	1.673*	-0.280
	(0.343)	(0.318)	(0.385)	(0.417)	(0.575)	(0.659)	(0.371)
First stage F-statistic	20.69	20.69	20.69	20.69	20.69	20.69	20.69
ZT for drug possession (Def 2)	-0.014	-0.563	-0.868	-0.456	1.907	2.449	-0.437
	(0.568)	(0.468)	(0.640)	(0.647)	(1.247)	(1.648)	(0.552)
First stage F-statistic	129.67	129.67	129.67	129.67	129.67	129.67	129.67
ZT for drug use (Def 2)	-0.057	-2.139	-3.239	-1.710	7.321	9.408	-1.601
	(2.215)	(2.548)	(3.084)	(2.944)	(6.549)	(8.156)	(2.460)
First stage F-statistic	574.69	574.69	574.69	574.69	574.69	574.69	574.69
ZT for assaults (Def 2)	-0.815	-8.644	-4.224	-8.902	9.422	15.589	0.831
	(18.210)	(416.013)	(184.823)	(399.649)	(451.551)	(749.608)	(49.126)
First stage F-statistic	8.12	8.12	8.12	8.12	8.12	8.12	8.12
Observations	15,870	15,870	15,870	15,870	15,870	15,870	15,870

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

Table 18 Cont'd. Results from regressions predicting outcomes for definition 2 continuous measures of zero tolerance instrumented for by mandatory expulsion state laws

	(8)	(9)	(10)	(11)	(12)	(13)
	Reading Ach	Math Ach	Science Ach	History Ach	Dropped Out	# Absences
ZT for weapon possession (Def 2)	16.203	15.553	15.854	16.061	-0.009	7.119**
	(12.056)	(11.502)	(12.471)	(12.820)	(0.156)	(2.572)
First stage F-statistic	20.69	20.69	20.69	20.69	20.69	20.69
ZT for drug possession (Def 2)	25.499	24.220	24.076	25.849	-0.022	10.988
	(18.042)	(17.572)	(18.819)	(19.155)	(0.265)	(6.861)
First stage F-statistic	129.67	129.67	129.67	129.67	129.67	129.67
ZT for drug use (Def 2)	97.151	92.611	92.216	98.643	-0.065	41.931
	(104.160)	(100.741)	(106.012)	(111.480)	(1.019)	(33.918)
First stage F-statistic	574.69	574.69	574.69	574.69	574.69	574.69
ZT for assaults (Def 2)	424.370	409.395	386.156	424.863	-0.468	112.508
	(19,833.020)	(19,209.938)	(18,170.042)	(19,986.344)	(13.643)	(5,398.192)
First stage F-statistic	8.12	8.12	8.12	8.12	8.12	8.12
Observations	15,870	15,870	15,870	15,870	15,870	15,870

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

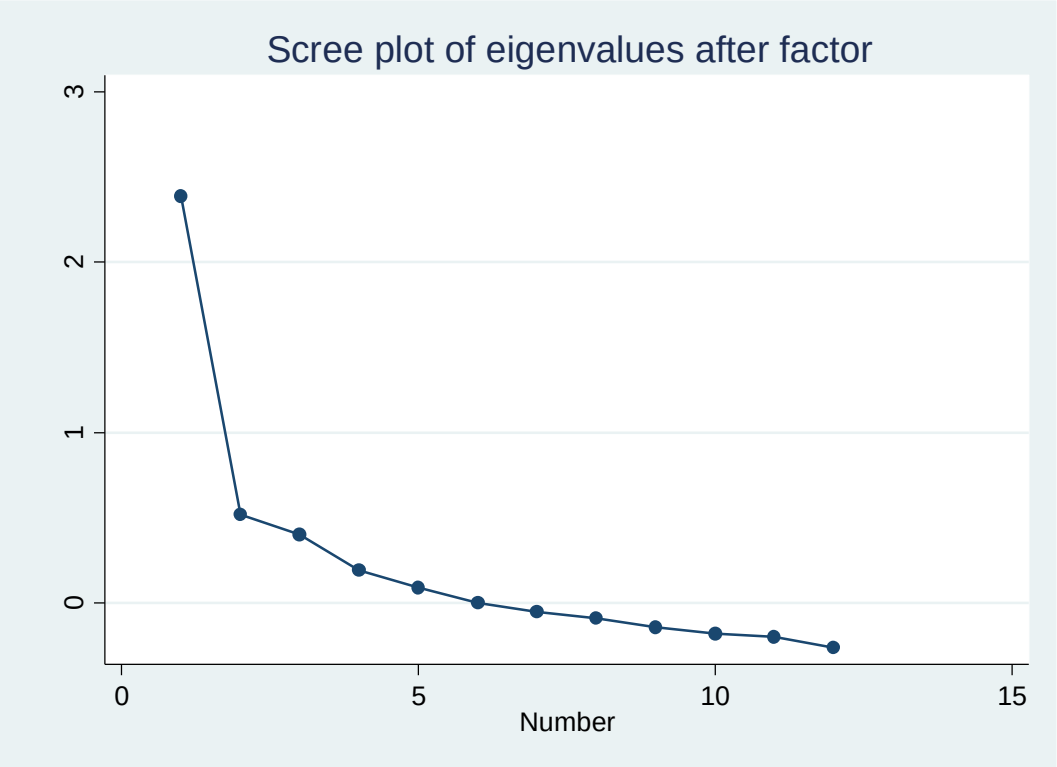

Figure 1. Scree plot for Definition 1

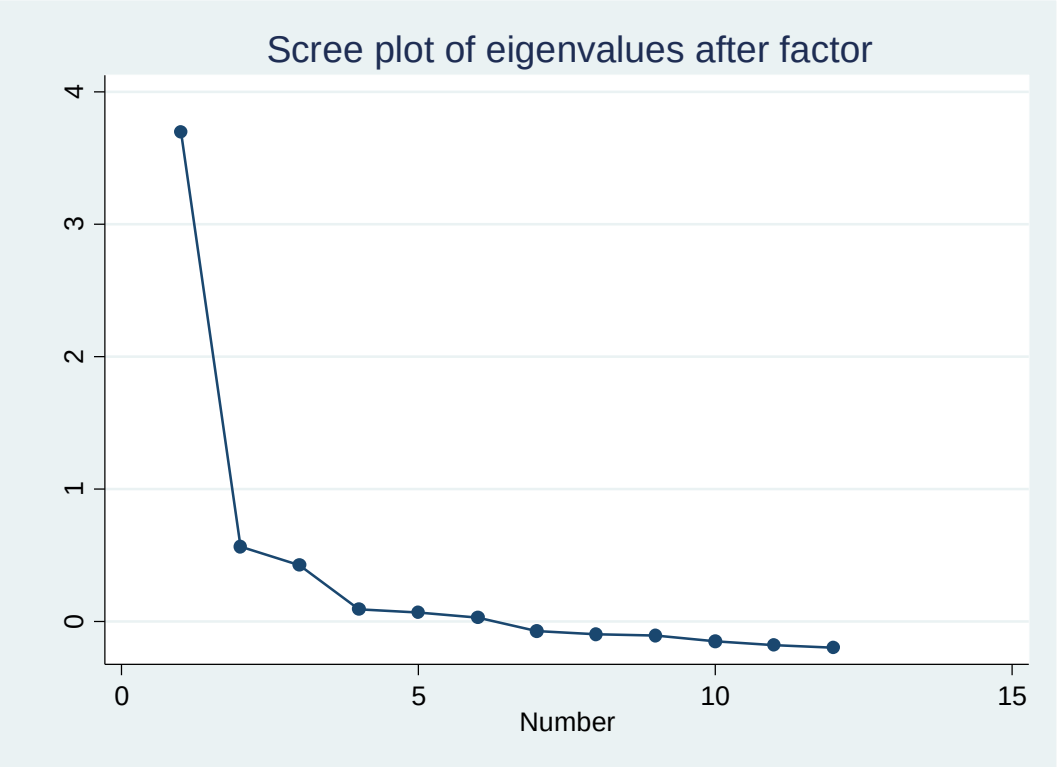

Figure 2. Scree plot for Definition 2

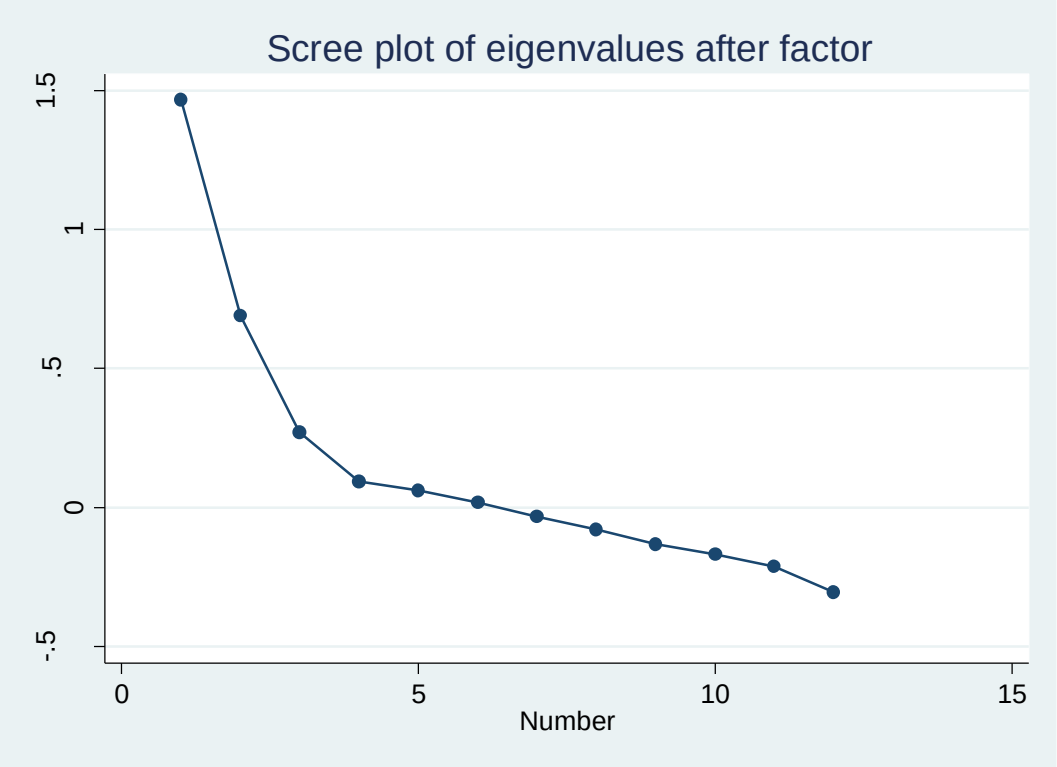

Figure 3. Scree plot for Definition 3

CHAPTER 5

GENERAL DISCUSSION, CONCLUSIONS, AND DIRECTIONS FOR FUTURE RESEARCH

Introduction

Student discipline has increasingly become an issue of policy concern as evidence mounts that severe forms of discipline, especially those that exclude students from the learning environment, are detrimental to student outcomes (Arcia, 2006; Marchbanks, Blake, Booth, Carmichael, Seibert, & Fabelo, 2015; Costenbader, & Markson, 1998). Furthermore, increased awareness of racial disparities in discipline have raised concerns of equity in the use of discipline in schools (Rocque, 2010; Shollenberger, 2015; Skiba et al., 2002). This dissertation contributes to our understanding of zero tolerance discipline, a form of discipline that has garnered significant criticism in contemporary policy discussions of school discipline. The work presented provides some of the first empirical evidence on zero tolerance while pointing to important next steps for both research and practice. In this section, I review the findings of this dissertation while situating their contribution in the extant literature on school discipline. Following this, I review the implications of my findings for policymakers and educators. I conclude with directions for future research.

Summary of Findings

Defining "Zero Tolerance": Law, Policy, and Perception

While the term "zero tolerance" has entered the colloquial vocabulary of schooling, imprecision in its use has set the stage for potential miscommunications around school disciplinary policy. Examples of this imprecision in language abound.

For instance, the US Department of Education's Office of Civil Rights defines a zero tolerance policy as one which mandates a year-long expulsion for violation of certain, severe offenses (Office of Civil Rights, 2014). In contrast, the Advancement Project applies the term to any punitive measure employed by schools in the course of discipline (Advancement Project, 2010). Others, including leading researchers in the area of discipline, have utilized the term to describe the school environment at large, expanding zero tolerance beyond the realm of discipline to include the use of school safety measures such as metal detectors or security cameras (Skiba, 2000; Skiba & Knesting, 2001).

While each of the components captured by these different uses of the term zero tolerance are undoubtedly important elements of the schooling experience to consider, the application of a single term to each may result in ambiguity regarding the specific policies and practices under discussion. Given recent calls to revise or remove zero tolerance policies (U.S. Department of Justice & U.S. Department of Education, 2014), it is critical that all stakeholders have a clear, unambiguous understanding of how the term is used.

My first essay contributes to this important policy discussion by providing evidence on the use of the term "zero tolerance" in the legal, district policy, and public realms. Despite the prevalence with which principals report using zero tolerance discipline (Heaviside, Rowand, Williams, & Farris, 1998), I find that very few school districts (approx. 12%) codify a policy that utilizes the term "zero tolerance". Similarly, I find that state law rarely utilizes the term "zero tolerance" to refer to state laws concerning student discipline. In other words, the use of such explicit zero tolerance laws and policies is relatively rare.

While explicit zero tolerance laws/policies are rare, I find that states and districts do codify disciplinary approaches that may be considered to be zero tolerance in nature. For instance, virtually every state and over sixty percent of districts include mandatory expulsion policies that, while not necessarily labeled "zero tolerance", do align with the use of the term by entities such as the US Department of Education (Office of Civil Rights, 2014). Nevertheless, these mandatory expulsion laws/policies differ significantly in content as compared to the explicit zero tolerance laws/policies. In particular, the latter are less likely to require expulsion and are more likely to apply to minor offenses.

I find that the media's portrayal of zero tolerance policies/laws aligns closest with those laws and policies that are explicitly labeled zero tolerance. Specifically, the media commonly focuses on zero tolerance discipline applied to minor offenses and does not exclusively utilize the term for expulsions. Furthermore, I find that the attitude towards zero tolerance discipline has shifted significantly over the last several decades with attitudes increasingly becoming negative in nature.

The case studies suggest that the contextual factors of a district may contribute to the use of zero tolerance discipline, insofar as the districts with mandatory expulsion or explicit zero tolerance policies were also those that utilized largely punitive systems of discipline. The case studies also demonstrated greater media attention and reporting on zero tolerance violations in districts that utilized such policies. These case studies suggest that exploring the broader approach to discipline of school districts may be an important next step for understanding zero tolerance discipline.

Given the increasingly negative outlook on zero tolerance policies and calls to reform such policies, the findings of this essay have important implications for educators

and policymakers moving forward. First, simply reforming or removing laws and policies labeled "zero tolerance" may result in many districts and states dodging reform. Given that nearly 90% of districts and states do not have policies or laws explicitly referred to as zero tolerance, these entities could either avoid reform by claiming that they are already free of such policies/laws or, if willing to reform, may find it difficult to identify the policies/laws that are in need of revision. Secondly, the disconnect between explicit zero tolerance laws/policies and mandatory expulsion laws/policies suggests that policymakers should look beyond modifying or removing mandatory expulsion laws. In particular, given that mandatory expulsion laws/policies generally focus on severe behavioral infractions such as weapons or assaults, the removal of these laws/policies may leave much of the disciplinary environment unchanged.

The findings of this essay suggest that many of the approaches to discipline that are perceived as problematic may be products of decisions by individual teachers and principals rather than policy or law codified in official documents. In other words, despite not being codified, "zero tolerance" approaches to discipline likely appear in many of the 88% of school districts that do not explicitly include such a policy in their policy document. These approaches, however, may be bottom up "policies" that originate through the actions of the individual actors in schools rather than through written policy (Lipsky, 1979). If true, this implies that reform of school discipline may not be as simple as removing zero tolerance policies, but rather will require coherent efforts to reform the practices of teachers and principals and to support their use of more restorative approaches to discipline.

State Zero Tolerance Laws: Implications for Exclusionary Discipline, Attainment, Behavior, and Leader Autonomy

While the findings of my first essay suggest the importance of looking beyond codified discipline laws and policies, my results nevertheless suggest that nontrivial gains can be made through reform of mandatory expulsion laws. These state laws represent zero tolerance approaches to discipline as defined by the US Department of Education's Office of Civil Rights (Office of Civil Rights, 2014). In my second essay, I examine the relationship between these laws and district level outcomes of suspension rates, dropout rates by grade, principal reported behavior problems, and principal reports of autonomy over school discipline. I find that the presence of a mandated expulsion law predicts an increase in the use of suspensions and a potential increase in dropout rates in the early years of high school while not decreasing the perception of problem behaviors in the school environment and potentially decreasing the relative influence of school leaders over disciplinary policy.

These findings bolster emerging research on zero tolerance, provide new evidence on the relationship between zero tolerance discipline and student outcomes, and generally align with findings regarding exclusionary/severe discipline at large. In particular, the only study which explicitly examines the relationship between zero tolerance policies and the use of exclusionary discipline (Hoffman, 2014) draws on evidence from a single school district finding that zero tolerance increases the use of zero tolerance and does so disproportionately for Black students. My findings regarding the use of suspensions align with this finding while expanding the generalizability to a nationally representative set of school districts. This important finding demonstrates that the negative impacts of

zero tolerance are widespread and not limited to a particular locale and suggests that reform at the state or federal level may be appropriate.

In addition to showing that zero tolerance laws increase the use of exclusionary discipline, I push beyond this finding to address overall impacts on the schooling environment. In particular, proponents of zero tolerance or severe discipline generally may argue that while such policies result in the removal of some students from the school environment, they improve the learning environment for the remaining students in a way that justifies any negative impacts experienced by those excluded. My findings, however, do not support this claim. Instead, I find that, in the view of principals, the presence of a state zero tolerance law results in no changes or, for some infractions, increases in the degree to which they are perceived as a problem.

Furthermore, I find evidence that academic attainment outcomes may be affected by zero tolerance policies. The literature has established that experiencing exclusionary discipline, such as a suspension, increases a students' probability of dropping out of high school. For instance, Balfanz, Byrnes, and Fox (2015) find that being suspended once in 9th grade nearly doubles a student's chances of dropping out. Other, more conservative estimates, suggest that experiencing in-school suspension or a more severe form of discipline is predictive of a nearly 25% increase in the probability of dropping out of school (Marchbanks, Blake, Booth, Carmichael, Seibert, & Fabelo, 2015). The results of my analysis expand these findings by suggesting that similar relationships hold between zero tolerance laws and dropout rates.

Zero Tolerance Policies: Implications for Student Outcomes and Disciplinary Equity

While my second essay suggests that discipline policies leveraged by higher levels of governance, specifically the state, have detectable impacts on student outcomes, my first essay suggests that differences in implementation at lower levels of governance may impact the way such policies (or laws in this case) get implemented at levels of governance closer to the classroom. Given this potential importance of policymakers and educators working closer to the classroom level, my third essay explores the relationship between the reported approaches to discipline of one such policymaker, namely the principal, and a variety of student level outcomes.

I anticipated strong relationships between principal reported approaches to discipline and student outcomes; however, the results of the analyses revealed few significant relationships between a principal's reported approaches to zero tolerance discipline and student outcomes. This finding was robust to different operationalizations of zero tolerance and different estimation techniques. The lack of significant findings of my third essay suggest possible avenues for future research on zero tolerance discipline. Specifically, I posit that the null findings may be a product of a mismatch between principal reports of disciplinary responses and the practiced disciplinary policy, may be a product of temporal differences in the relationship between disciplinary approaches and student outcomes, may be a product of the low incidence of misbehavior and disciplinary response, or may be a product of the discretion teachers utilize in implementing school discipline policy. Each of these possibilities presents avenues for future study of school discipline.

Summary of Contributions

In short, my dissertation contributes to the emerging body of literature on zero tolerance discipline in several ways. First, it points to the need for clear operationalization of the term "zero tolerance" when being used in both the research and policy environment. Specifically, I demonstrate misalignments between the use of the term in different legal and policy contexts and the implications for policymakers. Second, I provide what is, to my knowledge, the first empirical nationally representative evidence of the relationship between zero tolerance laws and several outcomes including suspension rates and graduation rates. While the literature on exclusionary discipline has explored these relationships, my study is the first to use national data to focus particularly on zero tolerance laws, differentiating them from the use of exclusionary discipline in contexts that may not be zero tolerance, such as a tiered disciplinary system that builds to the use of exclusionary discipline. My findings suggest that, like exclusionary discipline in general, zero tolerance laws produce negative outcomes for students. Finally, my third essay suggests that self-reported disciplinary approaches by principals are not highly predictive of student outcomes. This finding suggests that future research and policymakers might focus efforts on understanding the implementation of discipline policy by teachers at the classroom level rather than in the administrative offices of principals.

Implications and Policy Recommendations

The potential costs of zero tolerance discipline cannot be overlooked. Zero tolerance laws increase the use of exclusionary discipline which, in turn, increase dropout rates and result in high economic costs to society. Estimates from Texas suggest that

reducing the dropout rate by even less than 1% would result in an over 30 million dollar savings over a cohort of student's lifespan (Marchbanks et al., 2015). Zero tolerance discipline therefore has serious economic costs to society. More troubling still, these costs are disproportionately born by some of the most disadvantaged groups of students. In particular, my estimates suggest that state zero tolerance laws disproportionately impact Black students. As a result, zero tolerance discipline may serve to perpetuate systematic social stratification.

The findings of this study suggest several possible actions by policymakers and educators. First, consideration should be given to clarifying the use of the term "zero tolerance" in current policy discussions. Policymakers, educators, and researchers alike should utilize more precise language that clearly identifies the policies or practices under discussion. Secondly, the findings suggest the need to revise or remove state zero tolerance laws. While severe offenses such as weapons or assaults certainly require disciplinary reactions on the part of schools, the evidence suggests that approaches which emphasize keeping students in the learning environment and utilizing restorative or positive approaches to behavior modification may be more promising. Finally, the findings of this dissertation suggest the need to look beyond zero tolerance laws and policies. In particular, the disciplinary practices of many districts appear to not be codified in their policy documents and, while state zero tolerance laws appear to contribute to racial disparities in discipline, they leave much of the racial discipline gap unexplained. Consequently, schools should look beyond policy and focus on addressing the practices and structures that contribute to excessive and disproportionate uses of

discipline. In particular, addressing issues of implicit racial bias on the part of teachers and administrators may be a necessary step for fully addressing the racial discipline gap.

Directions for Future Research

The work and findings presented in this dissertation suggests a number of next steps for research on zero tolerance school discipline. In this final section, I outline a few possible next steps for research.

Given the case study findings of the first essay which suggested a possible relationship between the broader approaches to discipline by districts and their use of zero tolerance or mandatory expulsion policies, future research should explore this relationship with a larger set of districts. In particular, understanding the contextual factors that prompt a district to utilize zero tolerance discipline may provide insight into the most effective means by which to repeal such policies. Future research should explore the characteristics of districts and their contextual environment that predict use of zero tolerance disciplinary procedures.

A second thread of future research would be that focusing on the impact of other operationalizations of zero tolerance. My first study demonstrates that the use of zero tolerance and mandatory expulsion varies across level of government and across school districts. While my second study focuses on the impacts of one type of zero tolerance, namely state mandatory expulsion laws, understanding the impact of other forms of zero tolerance is also needed. In particular, research might focus on the impact of district adopted zero tolerance that utilizes suspension rather than expulsion or policies that focus on minor offenses as opposed to major offenses.

Next, the null findings of my third study suggest that the influence of school discipline may be largely driven at the classroom level rather than at the administrator level. Consistent with the literature on street level bureaucrats (Lipsky, 1979), it is possible that the discretion utilized by teachers may drive disciplinary rates and disparities in schools. Future research should attempt to delve into the classroom environment, examining classroom policies/rules and the implementation of school policies by teachers. A qualitative approach of observations may be particularly well suited to address this aspect of zero tolerance discipline.

Finally, given recent attention to disparities in the broader societal criminal justice system and suggestions that a school to prison pipeline is contributing to such disparities, future work on zero tolerance discipline should strive to provide further evidence on the link between such policies and student experiences with the criminal justice system. The results of my first essay suggest that the policies implemented by some districts may explicitly require the use of criminal justice system. Understanding the prevalence of such policies and the implications for student outcomes is important for addressing the school to prison pipeline.

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